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**URINARY INCONTINENCE IN HOSPITAL IN-PATIENTS;
A NURSING PERSPECTIVE**

by

Francine M. Cheater, M.A. (Hons), RGN.

**Thesis submitted to the University of Nottingham
for the degree of Doctor of Philosophy,
February 1990**

"There are few symptoms more unpleasant and more feared,
few which require more of our help and understanding."

(Isaacs 1979)

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ABSTRACT

Urinary incontinence is a common health problem with not only physical, but also far-reaching psychological and social implications for the sufferer, her family and carers. Assisting patients with meeting their eliminatory needs is a fundamental part of nursing care. Incontinence is encountered in almost every sphere of clinical practice and is a problem with which nurses are often directly concerned. Nurses, in association with other members of the health care team, have considerable potential to help patients regain continence, or when this is not possible, to ensure that the individuals concerned, and their relatives or carers, can cope effectively with the problem, both physically and psychologically. This is an area of nursing care, however, which to date has attracted little research.

The studies undertaken in this thesis sought to examine the nursing assessment and management of the care of patients with urinary incontinence in acute medical and care of the elderly wards. The research comprises of a sequence of studies which examined the problem from a number of perspectives. Methods of data collection included nurse and patient self-reports, the examination of nursing and medical documentation, direct observation and self-completed questionnaires.

Findings indicated that urinary incontinence was common in acute medical and care of the elderly wards, and that a considerable proportion of patients had indwelling catheters to manage the problem. Nurses were not always aware of patients' incontinence problems and their assessments concerning important aspects of the symptom were frequently unreliable. Further inadequacies in nurses' assessments, as well as in the management of the care of patients with incontinence, were identified from an examination of the nursing and medical records, and observations of verbal hand-over reports.

Qualified nurses and learners appeared ill-informed about the causes of incontinence, and the majority had little knowledge of the range of factors which need to be considered to ensure that a systematic assessment of the problem is carried out. Despite considerable scope for the provision of rehabilitative care for incontinence sufferers, many nurses appeared to have a limited appreciation of their potential for initiating such care. Evidence collected from the nursing and medical records, the verbal hand-over reports and nurses' questionnaires, suggested that the management of patients with incontinence still focuses predominantly on measures which aim to contain the problem with little attention being given to rehabilitative interventions. A considerable proportion of the charge nurses, and the majority of the other qualified nursing staff, stated they had not received any continuing in-service education relevant to the promotion of continence or management of incontinence since their basic training.

Nurses exhibited positive attitudes, overall, towards the management of incontinence but their responses indicated that a number of common misconceptions surrounding the problem persist. The enrolled nurses demonstrated significantly less positive attitudes towards the management of patients with incontinence than other grades of nurses. Similarly, the nursing staff who worked in the slow-stream rehabilitation care of the elderly wards showed significantly less positive attitudes towards incontinence than the nurses working in other types of wards.

The implications of the findings of these studies for nursing practice, education and further research are discussed.

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INTRODUCTION

INTRODUCTION

Simpson (1981) stated that "the study of nursing practice is fundamental to all nursing studies". Urinary incontinence is a wide-spread clinical problem, and traditionally one with which nurses have long been directly concerned. This area of practice, however, has attracted surprisingly little research from a nursing perspective.

Incontinence, to the less thoughtful, probably falls into the category of a not particularly funny music hall joke; it is, however, a health problem which has not only physical, but far-reaching psychological and social implications for the sufferer, her family and carers. Until recently, the magnitude of the problem had been greatly under-estimated. The precise number of individuals affected in the United Kingdom remains unknown, but it has been suggested that upwards of three million people may suffer from the complaint (Smith 1982).

Despite government policies for increased community care (Griffiths 1988) incontinence will continue to remain a major problem in hospital and other institutional settings. Indeed, future demographic changes, in particular the projected rise in the proportion of the "very elderly", are likely to mean an increase in the number of incontinent people who are admitted to hospital.

Recent methodological advances in diagnosis and treatment, the establishment of continence clinics, the development of the continence adviser role and specialist nursing courses on the subject are helping to dispel the long-held misconception that urinary incontinence is a chronic and irremediable problem. It has become increasingly recognised that assessment of the problem is vital if effective management is to be established.

The background to this thesis is derived from the premise that nurses have considerable therapeutic potential to help patients regain continence, or when this is not possible, to ensure that individuals can cope effectively with the problem, both physically and psychologically. Incontinence is encountered in almost every area of clinical nursing. Indeed, it is a problem which may be first recognised by the nurse during the course of her day-to-day delivery of nursing care. Efforts to restore continence or ameliorate incontinence are a collaborative process involving the patient, relatives, informal carers, medical, nursing and paramedical personnel. The nurse, however, has a pivotal role within the health care team. Contact between patient and nurse is closer and more prolonged than that of other health care professionals. Thus the nurse is optimally placed to educate the patient in relevant preventive care, or where incontinence is already a problem, to provide appropriate support, in addition to observing important features for its assessment and evaluating management outcomes.

This thesis attempts to examine several aspects of the nursing assessment and management of patients with urinary incontinence in acute medical and health care of the elderly wards. To this end, the research presented comprises of a series of studies each addressing questions raised by earlier studies in the sequence, which progressively takes the problem a little further. These findings should provide the foundation from which others can pursue further, much needed research in the area, and food for thought for all practising nurses and nurse educators, in whose sphere the prevention and management of incontinence is an important part of patient care.

PREFACE

As males comprise a minority of the nursing workforce, the nurse is referred to in the female gender. Urinary incontinence is a symptom to which women are particularly susceptible, and in comparison with men, they comprise a larger proportion of the hospital in-patient elderly (65 years and older) population, thus the patient is also referred to in the female gender.

Throughout this thesis, the word "incontinence" refers specifically to urinary incontinence unless otherwise stated.

EXPLANATION OF ABBREVIATIONS USED

DGH	District General Hospital
UTH	University Teaching Hospital
HCE	Health Care of the Elderly
DHSS	Department of Health and Social Security
RCN	Royal College of Nursing
U.K.C.C.	United Kingdom Central Council
Vs	Versus
CN	Charge Nurse/Sister
SN	Staff Nurse (Registered General Nurse)
EN	Enrolled Nurse
NL	Nurse Learner
Rehab.	Rehabilitation
Pat.	Patient
Id.	Identified
≥	More than or equal to
≤	Less than or equal to
>	More than
<	Less than
S.D.	Standard Deviation
d.f.	Degree(s) of freedom
\bar{X}	Mean
χ^2	Chi-Squared
K-W	Kruskal-Wallis one-way analysis of variance

CHAPTER 1

A REVIEW OF THE LITERATURE

CHAPTER 1

A REVIEW OF THE LITERATURE

1.1 INTRODUCTION

It was not until recently that the true extent of the problem of urinary incontinence was realised. In the last decade, considerable interest in the problem has been generated and there is an abundance of literature now available on the subject. Increasing research has served to define the extent and nature of the problem, identify shortcomings in health service provision, improve methods of diagnosis, evaluate current methods of treatment and has helped in the development of new techniques of management. Additionally, a small number of studies have sought to evaluate the psychological and social consequences of the condition upon the sufferer and her family or carers.

Normal bladder function is discussed first, and is followed by the difficulties in defining incontinence, and a review of studies which have sought to examine the extent of the problem. In the following section, the causes of incontinence are outlined, and the physical, psychological and economic consequences of incontinence are considered. Current methods of assessment, treatment and management of urinary incontinence are reviewed, and finally the nurse's role in the care of patients who are incontinent is discussed.

In addition to the main literature review, each of the studies described in this thesis begins with a brief overview of the literature relevant to the particular aspect under investigation.

1.2 NORMAL BLADDER FUNCTION

1.2.1 The definition of normal bladder function

The definition of normal bladder function is problematic since the boundaries of what constitutes "normality" are wide (Norton 1986). Urodynamic values and patterns are not well defined so that even the most objective measurements of bladder function have, to date, failed to adequately determine the limits of normal variation (Torrens 1984). The International Continence Society Standardisation of Terminology Committee has defined bladder dysfunction but not normal bladder function (Bates et al 1975). Any attempt at definition is constrained by a lack of sufficient research-based evidence obtained from healthy individuals in the population at large.

The dilemma of defining continence was highlighted by Hodgkinson (1970) who attempted to determine what might be considered as normal and abnormal. He stated that in the male the standard for normal urinary continence was absolute voluntary control but questioned whether this was true for females, in view of the prevalence of stress incontinence in apparently "normal" females. The problem of defining urinary incontinence is not addressed here but in section 1.3.1 of the literature review.

A very broad definition of normal bladder function has been offered by Feneley (1986) who stated that it is the ability to store and void urine at will, in suitable places and at convenient times. This definition includes the ability for "anticipatory micturition", when the bladder is emptied in the absence of any sensation of the need to do so (Norton 1986). Additionally, urine loss does not occur if micturition has been delayed, during exercise, coughing or standing up, or during sleep (Norton 1986, Stanton 1978). On completion of voiding significant residual urine, defined by Stanton (1978) as being less than 50 millilitres, should not be present in the bladder. In the elderly, in whom bladder emptying may be less efficient (Eastwood 1979), a higher limit of up to 100 millilitres may be accepted as normal (Norton 1986).

Micturition does not conform to a uniform pattern, however, but exhibits a wide variation from infancy to old age and between one individual and the next (Feneley 1986). There is evidence to show that patterns of micturition alter with age (Brocklehurst 1984b, Abrams, Feneley and Torrens 1983, Brocklehurst ^{et al} 1971) (discussed in more detail in section 1.4.5 of the literature review). Nocturia, for example, defined as being woken at night by the need to micturate, has been reported to increase with age (Abrams, Feneley and Torrens 1983, Brocklehurst ^{et al} 1971). Thus age, as well as other factors, needs to be considered when attempting to define normal variations in bladder function.

In most adults, the bladder will hold a maximum of 400-600 millilitres of urine at capacity (Norton 1986, Brocklehurst 1985, Stephenson and Wein 1984, Abrams, Feneley and Torrens 1983), although many individuals micturate before this volume is reached. Stanton (1978) stated that an individual with normal bladder function should experience the first sensation to void at 150-200 millilitres and a strong desire to void at 450-500 millilitres capacity. In a cystometric study of 10 healthy female subjects, Ulmsten, Andersson and Persson (1977) found that the first desire to void was at approximately 300 millilitres bladder volume.

Shah (1984) stated that it was generally accepted that normal individuals void less than seven times a day. The distribution of urinary frequency in 3,276 patients (age range 5-84 years) attending the Clinical Investigations Unit in Bristol has been reported by Abrams, Feneley and Torrens (1983). These patients attended the clinic for investigations of bladder dysfunction, thus findings may not be representative of the general population. The range of voids per day (defined as rising from bed to falling asleep at night) was wide and found to be from 1 to 20 with a mean frequency of 8 times a day. The investigators concluded that normal diurnal frequency was probably between 4 and 8 times per day. There was little difference in frequency with age or sex. Wilkinson (1978) compared the frequency of micturition in 96 males (mean age 59.6 years) from a general practice population who did not have frequency, with 98 males (mean age 61.5 years) referred to a urodynamic clinic for investigations of prostatic enlargement. A large overlap between the

asymptomatic and symptomatic groups was observed but the difference in frequency was statistically significant. The mean diurnal frequency of micturition for asymptomatic men was 7.9 times compared with 11.2 times in the symptomatic group. Thus, these findings for "normal" men are comparable with those of Abrams, Feneley and Torrens (1983). Larsson and Victor (1986) in Sweden, studied the frequency of micturition in 141 "normal" healthy female volunteers with a mean age of 43.6 years (range 19-81 years). The mean frequency per 24 hours was found to be 5.9 (range 3-11 times); a lower rate than previously reported for males in the two studies mentioned earlier. As with Abrams, Feneley and Torren's (1983) findings, no age related changes in the frequency of micturition were demonstrated.

The above review of the literature highlights the difficulties of attempting to determine normal bladder function, and further research is needed to better elucidate and define the limits of acceptable variation in healthy individuals. At present, it is probably wisest to heed Norton's (1986) suggestion and define "normal" as the absence of any problem of the individual. This may be what the patient, rather than the doctor, or other health professionals, considers to be normal (Abrams, Feneley and Torrens 1983).

1.2.2 Acquisition of continence

Acquisition of continence is a complex skill which occurs early in childhood and becomes intricately woven into adult behaviour (Wells 1984). In the normal infant, the incomplete development of the central nervous system results in an automatic spinal reflex for both bladder and bowel (Norton 1986, Millard 1979). The infant's bladder empties automatically anywhere and at any time (Norton 1986, Brocklehurst 1967) apparently neither producing bladder fullness sensations nor awareness of voiding (Muellner 1960).

The issue of whether continence is learned or developed spontaneously as a process of natural maturation, or is the result of an interaction between the two, has been reviewed by Smith and Smith (1987). Findings

were inconclusive and the authors thought it likely that maturation and learning were both necessary for the acquisition of continence.

In many countries, it is the custom for a child between three and six months to begin to acquire appropriate urination behaviour under parental instruction (Willington 1975a). The basis for toilet training relies on the presentation of one or more sensory stimuli in favourable circumstances to produce bladder or rectal evacuation (Willington 1975a). Newson and Newson (1963) found that 83% of mothers in England had started toilet training before the infant was 12 months old, this finding being comparable with an earlier American study in which it was found that females had started training on average at nine months and males at 12 months (Scoe 1933). Early toilet training has been criticised by those who consider it would be more successful from 20 months onwards when the child can understand (Azrin and Foxx 1974).

The range of skills needed to acquire continence are considerable (Morgan 1981) and can only progress according to the stage of development of the child's central nervous system (Willington 1975a). Wilson (1965) carried out studies of enuretic children and reported that the age at which toilet training was started seemed to make no difference to the incidence of enuresis. Similar findings have been reported by Newson and Newson (1968). At about two years of age, with full development of the cerebral cortex, conscious inhibition appears (Willington 1975a) and as physical maturation continues, sensations of bladder fullness and imminent voiding are perceived and the ability to briefly inhibit urination is acquired (Norton 1986, Brocklehurst 1967, Muellner 1960). Bladder capacity increases and successful toileting develops gradually by trial and error (Willington 1975a). By the age of five or six years, 80-90% of children have both day and night bladder control (Goldstein 1977, Newson and Newson 1968, Brazelton 1962) and continence becomes subconscious and automatic in most circumstances (Norton 1986, Brocklehurst 1967). Equally significant at this time, children have acquired a complex set of cultural cleanliness and modesty rules (Wells 1984).

1.2.3 The lower urinary tract; mechanisms of control

Hald (1975) stated that any study of urinary incontinence is, by definition, also a study of normal continence mechanisms. In spite of a large amount of research, and advances in diagnostic techniques, however, many factors which influence the control of bladder function are still not fully understood (Brocklehurst 1984a, Powell 1983, Feneley 1980, Yeates 1976).

The lower urinary tract is composed of the bladder and the urethra which form a functional unit (Bates et al 1979). The principle functions of the bladder are storage and evacuation of urine (Bradley and Scott 1978). Urine is conveyed from the kidneys via the ureters, which enter the bladder obliquely (Gosling and Chilton 1984, Boyarsky et al 1979, Lich, Howerton and Amin 1978). In the newborn the bladder is ovoid and lies chiefly in the abdomen, adjacent to the ventral abdominal wall, whilst in the adult, when emptied, it lies totally in the pelvis assuming an oval, pear-shaped or circular form (Boyarsky et al 1979, Gutman 1977). The bladder consists of the detrusor and trigone muscles which have been extensively described by Tangagho, Smith and Meyer (1968) and Woodburne (1961). The detrusor muscle forms the smooth muscle of the fundus of the bladder and consists of a meshwork of interlacing fibres mounted upon the trigone muscle of the bladder (Gosling and Chilton 1984, Powell 1983, Feneley 1980). The trigone is the triangular area between the two ureteric orifices and the bladder neck (Crane, David and Hackler 1978) and has been identified as two distinct layers (Gosling and Chilton 1984) superimposed upon the detrusor muscle (Boris and Cormarr 1971). Tanagho (1978) and Woodburne (1961) suggested that the detrusor muscle fibres are continued into the urethra as longitudinal fibres and form the main part of the urethral wall. Donker, Drees and Van Ulden (1976), however, were unable to support this finding. The capacity for urine storage is assured by the distensibility of the epithelial, muscular and connective tissue components of the detrusor muscle (Mundy 1984, Bradley and Scott 1978). During the storage phase of bladder function, sensory impulses are initiated by stimulation of both tension receptors located in the layers of collagen surrounding the smooth muscle bundles (Bradley et al

1975) and stretch receptors in the pelvic floor musculature (Bradley and Scott 1978).

The smooth muscle of the bladder neck is histologically and pharmacologically distinct from the detrusor (Kluck 1980) and Gosling and Chilton (1984) suggested it should be considered as a separate functional unit. The bladder neck differs in males and females (Feneley 1986). In males, the smooth muscle cells form a complex circular collar which extends distally to surround the pre-prostatic portion of the urethra, while in females, morphologically distinct smooth muscle bundles extend obliquely or longitudinally into the urethral wall (Gosling and Chilton 1984). It was traditionally believed that the bladder neck was held closed by an "internal sphincter" (Kohlraush 1854) but now most regard this concept as untenable since no demonstrable anatomical internal sphincter has ever been established (Mundy 1984, Crane, David and Hackler 1978, Zinner 1965, Green 1963, Woodburne 1961). The accumulation of circular or oblique muscle fibres passing from the bladder into the urethra should, according to Woodburne (1965), be thought of as an opening mechanism rather than a sphincter. The functional anatomy of the bladder neck has been examined radiologically by Hutch (1972), who referred to the muscles at the bladder neck as the "base-plate". He demonstrated that the floor of the bladder converts to a cone or funnel during voiding.

The urethra in the male is approximately 18-23 centimetres long (Lich, Howerton and Amin 1978) and in the female four centimetres (Tanagho 1975). The urethra serves as a conduit for urine, as well as for products of the genital system in the male (Lich, Howerton and Amin 1978) and extends from the bladder to the external surface of the body at the meatus (Tanagho 1978). The urethra is a muscular tube (Tanagho 1978) which primarily consists of inner longitudinal and outer circular layers of collagenous tissue that binds fibres of smooth and striated muscle around the urethra (Tanagho 1975). Adequate compression of the mucosal folds of the urethra provide a watertight closure for maintaining continence which must be sufficient to resist any increase in intra-abdominal pressure transmitted to the bladder during urine storage

(Feneley 1986). The external urethral sphincter is composed of striated muscle and allows voluntary closure of the urethra (Woodburne 1961) and functions to interrupt voiding (Wheatley 1983, Turner-Warwick 1968, Peterson et al 1962).

The chief support of the bladder is the pelvic floor (Lich, Howerton and Amin 1978). The pelvic floor muscles form a hammock comprising of the levator ani, which subdivides into the pubococcygeus and ileococcygeus, and the coccygeus (Chilton 1984) through which the urethra, vagina in females, and the rectum pass (Sampsel, Brink and Wells 1989). These muscles are attached posteriorly to the back of the sacrum and coccyx to the base of the spine and at the front on to the superior pubic ramus (Blannin 1986). As the urethra passes through the pelvic floor to the perineum, it is supported and surrounded by the periurethral part of the pelvic floor muscles (Chilton 1984), the proximal urethra being an intra-abdominal structure. This permits pressure from a cough or sneeze to be transmitted equally to both the bladder and the urethra and facilitates the maximum transmission of increased pressure to all sides of the proximal urethra (Sampsel, Brink and Wells 1989) thus maintaining an intraurethral pressure that is greater than the bladder pressure (Lapides 1982).

The nerves supplying the bladder form the vesical plexus and consist of both sympathetic and parasympathetic components (Gosling and Chilton 1984). Denny-Brown and Robertson (1933) showed that the bladder and the urethra were reciprocally innervated, relaxation of the urethra occurring with contractions of the bladder and with relaxation of the bladder the urethra resumes its normal tone. The detrusor muscle is parasympathetically innervated (Palmer 1982) and detrusor contractions are initiated by cholinergic neurotransmission (Diokno 1973). In the bladder wall itself are stretch receptors which relay information about the state of the bladder via both the parasympathetic sensory nerves (Bors 1956) and the pudendal nerve centrally to the brain (Feneley 1986).

Bladder neural control has long been thought to be via a sacral micturition reflex, through the parasympathetic nerves to a centre in the

second, third and fourth sacral segments of the spinal cord (Denny-Brown and Robertson 1933). The sacral centre alone, however, is not sufficient for complete reflex filling and emptying (Bradley 1976), but is modulated centrally by the inhibitory and facilitatory influence of the higher centres of the nervous system (Feneley 1980, Bradley 1976). Discrete portions of the frontal lobe (Andrew and Nathan 1965), the thalamus (McCleod 1958), basal ganglia (Lewin, Dillard and Porter 1967) and limbic system (Edvardsen and Ursin 1968), among other areas of the brain, have been implicated (Bradley and Scott 1978). Feneley (1986) maintains that the main influence of the brain, however, is to suppress detrusor contractions.

Normal bladder emptying is the result of a sustained bladder contraction which raises the intravesical pressure to overcome the resistance of the urethra (Yeates 1976). Bladder function may be thought of in terms of cycles of filling and emptying (Powell 1983, Yeates 1976). Urine production by the kidneys is continuous and the bladder normally fills at an average rate of approximately one millilitre per minute (Mundy 1984). The lower urinary tract changes excretion from a continuous to an intermittent process by storing urine until a certain volume is reached; this volume is then rapidly and completely voided away from the body surface at a suitable time and a suitable place, and the storage phase of the cycle starts again (Mundy 1984). Yeates (1976) has classified micturition as comprising of three phases:

- i) Filling to the time of desire to void;
- ii) Voluntary postponement;
- iii) Emptying.

During the filling phase, the detrusor muscle accommodates to an increasing volume of urine without any significant rise in pressure (Boyarsky et al, 1979 Bradley and Scott 1978, Tanagho 1978). During the initial filling phase, no sensation is detected; as filling continues, a vague sensation becomes more distinct in the pelvis or perineum but is easily ignored (Mundy 1984). Throughout the filling phase, continence is maintained so long as the pressure within the bladder is lower than the urethral pressure (Wein 1986, Powell 1983).

At approximately 200-250 millilitres capacity (Powell 1983, Brocklehurst 1978) an awareness of distention and a mild desire to void is normally experienced. Sensory impulses reach the sacral cord (S 2-4) and travel to centres in the brain stem, other sub-cortical centres and the cortex (Hald 1975). There is a gradual increase in the urethral pressure as bladder filling occurs (Wein 1986). If the time or the place is not suitable for micturition, there follows a phase of postponement during which evacuation is suppressed by voluntary inhibition (Yeates 1976). Powell (1983) noted that this phase must be long enough to allow for completion of the essential preliminary requirements before micturition takes place, ie. a selection of a socially acceptable place, the locomotory activity of getting there, and adopting a satisfactory micturition posture.

Micturition appears initially to be inhibited unconsciously from the region of the basal ganglia, but with increased stimulation, breakthrough to the cerebral cortex produces a desire to void (Yeates 1976).

This awareness of the potential onset of micturition allows reinforcements of the unconscious inhibition by conscious inhibitory impulses from the frontal lobe (Andrew and Nathan 1964). When a suitable place for micturition has been selected, sustained contraction of the detrusor muscle raises intravesical pressure which overcomes the resistance of the urethra and voiding occurs (Wein 1986). Micturition begins by relaxation of the voluntary muscles of the pelvic floor (Harrison 1983). As a result, the bladder neck descends, and when a certain critical point is reached, the bladder neck opens (Vincent 1966). Contraction of the trigone muscle opens the bladder outlet further and tends to shorten the urethra whilst contraction of the detrusor follows this, further opening the bladder outlet and increasing intravesical pressure; this is accompanied by relaxation of the external sphincter (Brocklehurst 1978).

1.3 URINARY INCONTINENCE; THE SCALE OF THE PROBLEM

1.3.1 The definition of urinary incontinence

Smith and Smith (1987) stated that incontinence is difficult to define as it is not a simple all-or-nothing at all phenomenon. An abundance of definitions are thus to be found in the literature.

Urinary incontinence is often defined according to the appropriateness of the location in which urine is excreted. Thus, Yeates (1976) defined incontinence as "the passing of urine in an undesirable place". Issues are therefore raised about what constitutes an "acceptable" place. Norton (1986) stated that it is society's rules which determine what is and what is not an acceptable place for excretion, so that urine passed into clothing, the bed or on the ground, or into the wrong receptacle is usually called incontinence. Norton (1986), however, pointed out that these rules are often quite arbitrary. A person who relieves himself behind a tree rarely invites public censure, whereas a person who urinated in a crowded street would.

In the United States, Mitteness (1987) suggested that incontinence sufferers may re-define the meaning of incontinence depending on whether urine loss is "visible" to others, either by eye (soiled clothing, floor or furniture) or by nose (the smell of urine). Thus, in her study of 30 elderly incontinent people living in the community, 41% considered it acceptable to urinate on the floor in their own homes, but that this was not acceptable behaviour in public places. Similarly, Millard (1979) raises the question as to whether elderly people who use unsuitable receptacles such as sinks and bins in which to micturate, because they cannot locate the correct place, should be regarded as incontinent. Whilst these receptacles may be inappropriate, they are considered better than the alternative, which is wetting themselves.

A further difficulty with defining incontinence in terms of suitability of place was highlighted by Smith and Smith (1987). They stated that problems of toilet behaviour, for example, adult males who spray urine

around the toilet as well as in it, are not regarded as incontinent, despite the men failing to consistently urinate into the appropriate receptacle.

A simple definition for incontinence was proposed by Wilson (1976) who stated that:

"As far as the nurse is concerned a patient is incontinent when he is wet".

The inadequacy of such a definition, however, in the light of the discussion above, is immediately apparent. The International Continence Society Standardisation Committee considered the consequences of incontinence and defined it as:

"A condition in which involuntary urine loss is a social or hygienic problem and is objectively demonstrable." (Bates et al 1975)

Incontinence is thus defined in terms of the degree to which it presents a problem to the sufferer herself, as well as to those around her. The threshold at which the individual considers incontinence to be a problem, however, is variable (Feneley 1986, Norton 1986). Feneley (1986) noted that the occasional loss of urine to one person may be an inconvenience, whereas to another it is a disaster. In a study by Thomas et al (1980), which aimed to define the prevalence of incontinence in the community (discussed in detail in section 1.3.2.1), individuals who had slight or minimal leakage of urine did not consider it a problem. Studies by Norton (1982) and Norton et al (1988), however, found that severity of urine loss did not correlate with perceived psycho-social impact in women attending continence clinics.

The need to identify specific criteria in order that incontinence can be labelled "clinically" significant was stressed by Mohide (1986). There are, to date, no established values for volume or frequency of urine loss which constitute "incontinence" (Feneley 1986, Norton 1986) and in the

light of the above discussion, a consensus of agreement between sufferers, carers and health professionals would be difficult to achieve.

The wide range of operational definitions used in studies designed to estimate the prevalence of incontinence have made comparisons between them difficult. Definitions have ranged from defining the type of problem, for example stress or urge incontinence (Milne et al 1972, Brocklehurst et al 1971), frequency of urine loss within a given period of time, for example twice or more a month (Thomas et al 1980), within the last year (Yarnell and St. Leger 1979), or "ever" (Wolin 1969), quantity of urine loss, for example wet pads or clothes (McGrother et al 1987), or objectively in terms of perineal pad weight, a weight gain in excess of one gram is generally regarded as evidence of urine loss (Walsh and Mills 1981). A number of studies have included in the definition of incontinence the use of specific aids and appliances such as sheath drainage systems (Sullivan and Lindsay 1984, Ouslander, Kane and Abrass 1982); others have excluded indwelling catheters (Sullivan and Lindsay 1984) and some have failed to adequately define whether or not such aids were included within the definition of incontinence (Clarke et al 1979, Wells 1975a).

1.3.2 The prevalence of urinary incontinence

"True incontinence of urine is a defect met with almost entirely in children, although the examination of men in the Great War disclosed the fact that the disability extended into adult life more frequently than was supposed".

(Hatrack 1929)

Attempts to measure the prevalence of incontinence have been hampered by under-reporting (Thomas et al 1980, Feneley et al 1979). Incontinence sufferers may not come to the attention of health professionals, while clinicians themselves may not actively elicit information concerned with continence status (see section 1.6.1).

Prevalance is a ratio of the number of individuals with a condition as a percentage of the total sample studied at one particular time (point

prevalence) or during a given time period (Abramson 1984, Knox 1979, Roberts 1977). It was not until comparatively recently that the prevalence of urinary incontinence in adults was fully appreciated. A number of studies have been carried out in community and institutional settings to establish the extent and the nature of the problem.

Estimates of the prevalence of incontinence vary widely, however, and interpretation and comparisons of results from different studies are therefore difficult to make. The wide range of definitions of incontinence used (as discussed in section 1.3.1), differences in samples, study settings and methods of data collection are all likely to contribute to the variations in the results obtained. Williams (1983) commented that important information such as the description of functional and mental status of subjects included in such studies was often insufficiently documented. Response rates are not always reported and difficulties with obtaining reliable data about incontinence, particularly in the elderly, have also been highlighted (Smith et al 1975, Milne 1970).

Considering the limitations outlined above, a review of recent prevalence studies of urinary incontinence is presented. Although the research for this thesis was undertaken within a hospital environment, it is important that the problem of incontinence is perceived in a wider context. Thus, prevalence data from community, as well as institutional studies, are included. Community and institutional studies are discussed separately.

1.3.2.1 Community Studies

The well known study by Thomas et al (1980) is generally regarded as providing the most reliable estimate of urinary incontinence in the community, in the U.K. The health and social services personnel in two London boroughs with an estimated population of 359,000 were asked to identify those people aged 15 years and older who were known to be incontinent. Information concerning the method of data collection or the response rate achieved in this part of the study was not reported. In an effort to measure the extent of "unrecognised" incontinence, a postal

questionnaire was also sent to all those aged five years or older on the lists of 12 general practitioners - a total population of 22,430, in five different localities. "Regular" incontinence was defined as "the involuntary excretion or leakage of urine in inappropriate places or at inappropriate times twice or more a month, regardless of the quantity of urine lost". An 89% response rate to the questionnaire was reported. The results are shown in Table 1. The great disparity between the number of people who were known to be incontinent compared to those who were not, is immediately apparent. Of those respondents to the questionnaire whose incontinence was moderate or severe (moderate/severe defined as needing extra laundry, pads or expenses; some restriction in activities; help needed from others) between one fifth and one third of cases were receiving any health or social service support for the problem. The prevalence of incontinence increased with increasing age (after 35 years) and was more common in women than in men. It is suggested in this study that the true prevalence of urinary incontinence is approximately 8.5% in women and 1.6% in men aged 15-64 years, and 11.6% in women and 6.9% in men aged 65 and over.

A study of a random sample of 1,280 people aged 70 years or over interviewed at home reported a prevalence of incontinence in females of 18.1% and 7.3% in males, with approximately 5.0% suffering incontinence on a daily basis (Vetter, Jones and Victor 1981). The prevalence of some degree of incontinence reported for a sub-sample of respondents aged 74 years and over, in the study by Thomas et al, was 17.6% in males and 30.1% in females. Thus, the prevalence of incontinence in people aged 70 years or more, reported by Vetter et al, appears considerably lower than that reported for an approximately comparable age group by Thomas et al.

A recent survey of urinary dysfunction in 1,097 elderly people aged 75 years and over at home, by McGrother et al (1987), reported that 5.3% of males and 6.5% of females suffered "major" incontinence (defined as difficulty in control of micturition leading to wetting of clothing or incontinence pads). It is unclear from the way in which the results are reported, however, precisely how many people experienced some degree of incontinence. In an earlier study by Brocklehurst et al (1968), a higher

Table 1

Prevalence of urinary Incontinence
in the Community

(Thomas et al. 1980)

Urinary Incontinence	Male		Female		Age
	n	%	n	%	
Recognised	73	0.05	172	0.1	15-64
	236	0.8	561	1.2	65>
Unrecognised	7659	1.6	7761	8.5	15-64
	1102	6.9	1562	11.6	65>

prevalence of incontinence was reported. Of 557 people aged 65 years of age or older who were interviewed in their own homes, 17% of males and 23% of females conceded to having some degree of incontinence.

Yarnell et al (1981) reported a much higher prevalence of incontinence, in a random sample of 1,000 women (18 years or over) who were interviewed at home. Forty five percent admitted some degree of urinary incontinence in the previous 12 months, the severity of incontinence increasing slightly with age. The authors suggested, however, that "significant" incontinence (defined as causing social incapacity or urinary problems) in the female general population was likely to be between 3.5% and 7.1%; figures lower than those reported by Thomas et al.

In the United States, Teasdale et al (1988) reported that previous studies of the prevalence of incontinence may have underestimated the true extent of the problem. Of 599 elderly people (65 years and over) who completed a questionnaire while attending a retirement convention, a third (37% females, 22% males) experienced some degree of urinary incontinence, with 12% of the sample experiencing episodes three or more times a week which increased in frequency with increasing age. Although the sample is not representative of all elderly people living in the community, the authors concluded that the findings indicated that incontinence was a major problem even in the healthy, ambulant elderly. Similar prevalence rates for incontinence have been reported by Diokno et al (1986), also in the United States, who found that 30% (18.9% males; 37.7% females) of their sample of 1,955 elderly people interviewed (60 years of age or older) had experienced incontinence on at least six days of the previous year.

In Sweden, Iosif, Henriksson and Ulmsten (1981) found that of 2,000 women (aged 21-70 years) attending a gynaecological health programme, 540 (27%) admitted that they suffered involuntary loss of urine.

Few studies have been carried out which have investigated the prevalence of incontinence specifically in young women. Two studies in the United States, of young, healthy nulliparous females found that approximately

half admitted to episodes of incontinence, between 5% (Nemir and Middleton 1954) and 16% (Wolin 1969), on a "frequent" (term undefined) or daily basis. It should be noted, however, that investigators in both the above studies restricted their definition to include only stress incontinence. These figures are comparable to those of Yarnell et al (discussed above) for women of all ages (17-75 years or older) while Thomas et al (1980) found that approximately a quarter of women aged between 25 and 34 years of age reported some degree of involuntary urine loss.

In summary, reported prevalence rates of urinary incontinence in people living in the community range from 2% in men and 9% in women aged between 5-64 years, between 7%-19% in males, and 12%-38% in females aged 65 years and over. Prevalence rates reported for younger women (17-25 or older) have indicated that up to 50% may suffer some degree of stress incontinence, between 5-16% on a "frequent" or daily basis. Incontinence appears to affect more women than men and increases in prevalence with age.

1.3.2.2 Institutional Studies

The majority of studies designed to estimate the prevalence of incontinence in institutional populations have been carried out in care settings for elderly people (Table 2). In comparison with the prevalence rates found in community studies, urinary incontinence is reported to be much more common in institutions.

Institutional populations are likely to contain a high proportion of people with conditions which predispose to incontinence (for example, acute illness, cerebrovascular disease, and other conditions causing chronic physical and mental impairment) which are discussed further in section 1.4 of the literature review. There is also evidence to suggest that the institutional environment itself may predispose a person to incontinence (section 1.4). Incontinence is frequently cited as a precipitating cause of institutionalisation of an elderly person (McCormick and Burgio 1984, Ouslander, Kane and Abrass 1982, Williams and

Table 2

**Prevalence of urinary incontinence;
Hospital Surveys**

INVESTIGATOR	Total n	Total Percentage Incontinent	Male		Female		Type of Ward/setting	Age	Country
			n	%	n	%			
Isaacs and Walkey (1964)	522	43	274	40.1	248	46.0	Long stay	60>	Scotland
Willington (1969)	900	12.4	411	15.8	489	12.9	Not stated	60>	England
Wells (1975a)	42	53.0	-	-	-	-	Assessment	65>	England
Wells (1975a)	184	76.0	-	-	-	-	Continuing care	65>	England
Alexander & Eldon (1979)	92	53.0	-	-	-	-	Long stay	65>	England
Jewett et al. (1981)	277	38.3	130	36.0	147	40.0	Long-term care	65>	Canada
Ouslander, Kane and Abrass (1982)	842	50.0	-	-	-	-	Nursing Homes	65>	United States
Egan et al. (1983)	1,475	6.0	-	-	-	-	General	5-64	England
Egan et al. (1983)	910	16.6	-	-	-	-	General	65>	England
Egan et al. (1983)	246	28.9	-	-	-	-	Acute HCE*	65>	England
Wade, Sawyer and Bell (1983)	119	78.2	-	-	-	-	Long stay	65>	England
Sullivan and Lindsay (1984).	315	19.0	152	24.0	163	15.0	Acute units**	65>	United States

** Acute units eg. ENT, General Medicine, Intensive care. Does not include wards for the elderly.

* Health care of Elderly

Pannill 1982, Brocklehurst 1978, Willington 1976, Shuttleworth 1970), or as a factor which may prevent discharge (Ouslander 1986). Shuttleworth (1970) stated that incontinence was a contributory factor in up to one fifth of hospital admissions to wards for the elderly, but it is unclear how this estimate was derived. A survey by Smallergeran (1985), in the United States, found that 13% of 288 elderly people were admitted to nursing homes as a direct result of incontinence. In most studies of the prevalence of incontinence in institutions, the information collected does not differentiate between patients admitted as a direct result of incontinence and those admitted for other reasons but who are also incontinent of urine.

For the purposes of this review, prevalence data are confined to studies carried out in hospitals (and in one case, nursing homes) and exclude those carried out in psychiatric and mental handicap facilities, or residential homes.

As can be seen in Table 2, results vary considerably between studies. Comparison between studies, however, needs to take account of the specific care settings in which they have been carried out; it is not always possible to obtain this information from the published reports.

A survey by Egan et al (1983) examined the prevalence of incontinence in patients five years of age and over in all wards (except maternity) in two London teaching hospitals. A one-day census was used on three separate occasions during the year and information was obtained from the nursing staff. The definition of incontinence was the same as that used by Thomas et al (1980). Patients with "temporary" indwelling catheters were excluded, although the authors do not define what constituted a temporary catheter. The response rate was not reported. Between 9% and 10% of the patients in the general wards were incontinent compared with between a quarter and a third of the patients in acute wards for the elderly. Proportionately more females than males were incontinent amongst patients aged 5-64 years and 65 years and over.

An earlier study by Willington (1969) reported a much lower prevalence of "established" incontinence of 12.5% in 900 consecutive admissions of elderly people to hospital, compared to 35.5% of men and 32.1% of women who were assessed as incontinent on admission. Willington does not specify the type of wards to which patients were admitted. Established incontinence was defined as incontinence which persisted after admission, although it is not clear how long after admission the follow-up data were collected. No differences between the prevalence of incontinence in males and females were found.

In contrast, MacPhee and Roberts (1987) found 55% of 201 patients admitted to acute/rehabilitation wards for the elderly were incontinent on admission and, of those patients who survived three months later, 60% remained incontinent. It is unclear from their study whether indwelling catheters were included in their definition of incontinence. Wells (1975a) reported a prevalence of incontinence of 53% in patients in acute care of the elderly wards. As with the above study, it is unclear whether indwelling catheters were included in her definition of incontinence.

In the United States, Sullivan and Lindsay (1984) assessed the prevalence of incontinence in all patients aged 65 years and over admitted to all acute care units in a university hospital. They included patients with sheath drainage appliances but excluded the use of indwelling catheters in their definition of incontinence. An overall prevalence rate of incontinence of 19% was reported, ranging from no reported incontinence in a surgical intensive care unit (perhaps due to the use of indwelling catheters) to 75% in a burns unit. Significantly more men than women were identified as incontinent, but the prevalence of incontinence among females may have been underestimated by including sheath drainage appliances (only used in males) but not indwelling catheters in the definition of incontinence (the only alternative drainage system in females).

When studies in long stay-wards for the care of the elderly were reviewed, less variation in the reported prevalence rates of incontinence

were found. A study by Isaacs and Walkey (1964) reported that 43% of elderly patients in long-stay wards were incontinent, half being incontinent at least once a day. Alexander and Eldon (1979) found that 53% of patients in similar types of wards were incontinent. In the United States, Ouslander, Kane and Abrass (1982) found that half of the elderly residents in seven nursing homes surveyed were reported to be incontinent, their definition of incontinence including patients with indwelling catheters. In Canada, Jewett et al (1981) reported a prevalence of incontinence of 38% in elderly people in a long-term care hospital, without differences in prevalence between the sexes having been recorded. Patients with indwelling catheters were excluded, however, which may explain the lower prevalence rate obtained.

Wade, Sawyer and Bell (1983) compared the levels of dependency of patients in private nursing homes, residential homes and hospital long-term care wards. They found the prevalence of incontinence to be highest in the hospital wards in which 78.2% of patients were reported to be incontinent. Of the incontinent patients, 40.3% were sometimes incontinent ("sometimes" was not defined), 27.7% were always incontinent and 10.1% had indwelling catheters. A similarly high prevalence rate was reported by Wells (1975a) who found that 70% of the patients in continuing care wards were considered to be incontinent by the nursing staff.

In conclusion, in spite of the difficulties in comparing results from different studies, it can be seen that incontinence is a common problem in hospital patients, particularly the elderly. Prevalence rates for younger patients (aged 5-64 years) are between 9-10% in general wards. Approximately 19% of elderly patients admitted to acute units (excluding care of the elderly wards) are incontinent, and for the acute care of the elderly wards the prevalence is between 12.5% and 53%. In long-term care wards, the reported prevalence of incontinence ranges from 38-78%.

1.3.3 Demographic projections; implications for incontinence

It is acknowledged that there has been a marked growth in the proportion of elderly people in Britain's population (Victor 1987, Rossiter and Wicks 1982, Paillard 1981, Department of Health and Social Security 1978). In the last 20 years up to 1981, the number of people aged 65 years or over increased by one third (Central Statistical Office 1981). In 1981, the decennial census showed that the elderly population (ie. of pensionable age) of Great Britain constituted 17.7% (approximately nine million people) of the total resident population (Victor 1987). The demographic changes projected for the future not only include an increase in the proportion of the elderly, but among those elderly, a marked increase in the proportion of the "very old" (85 years and over) (Victor 1987, Clarke 1984, Paillard 1981). Between 1981 and 2001 it is predicted that there will be a 60% increase in the fraction of the population over 85 years (Victor 1981). The Office of Population Censuses and Surveys (1983) showed that 1% of those aged under 75 years compared to 19% of those aged 85 and over were resident in institutions.

As the prevalence of urinary incontinence appears to increase with age, particularly in the very elderly (section 1.3.2.1), projected demographic changes indicate a likely increase in the number of incontinent individuals, with consequent implications for health care services. Comparative studies in 1976 and 1979 (Donaldson, Clarke and Palmer 1983) to assess functional capacity in people aged 65 years and over have already indicated such a trend. There was a greater proportion of the elderly in acute hospital wards in 1979 than in 1976, and levels of incapacity, including urinary and faecal incontinence, had also increased.

1.4 CAUSES OF INCONTINENCE

1.4.1 Classification of incontinence

There are a variety of causes and types of incontinence and this has led to a number of attempts at classification. One of the earliest endeavours at classification was quoted by Allen (1749) referring to Etmuller:

"The cause of an involuntary discharge of urine is a deficiency in the constriction of the sphincter of the bladder, by a palsy, contusion, by staying too long in cold water, by a difficult labour, and sometimes it happens to women in their last months of their going with child."

A number of classification schemes to identify voiding disturbances, including incontinence, have since been described (Wein 1981, Krane and Sirosky 1979, Gibbon 1976, Kendall and Karrafin 1974, Borrs and Comarr 1971,), based predominantly on neurological or functional categories. Each has its shortcomings, some are very complex, and all are limited to specific clinical specialties. A simple functional classification scheme proposed by Wein (1981) is based upon whether the deficit produced is primarily one of the filling-storage phase of micturition or of the emptying phase. This method has been criticised, however, for failing to take into account circumstances in which failure to store and to empty co-exist, for example detrusor-sphincter dyssynergia (Krane and Sirosky 1984). Others have distinguished between passive incontinence (caused by weakness of the bladder outlet) and active incontinence (caused by overactivity of the bladder mechanism) (Yeates 1976, Gleason, Bottaccini and Reilley 1974).

Such attempts to develop a classification for incontinence have rarely accounted for causes other than those of physiological origin. Psychological and social factors may also play a part in determining continence, or lack of it, in many patients. With specific reference to the patient with neurological bladder dysfunction, Boyarksy et al (1979)

emphasised the importance of holistic care. They proposed a model which considered the physiological, psychological and sociological functions of the individual in his environment. Rottkamp (1985) constructed a model which attempted to examine psychological, social and biological factors and their relationship to urinary dysfunction following a stroke.

Incontinence has also been classified as transient or established (Parnill 1987, Brocklehurst 1985), acute or persistent (Ouslander 1986), apparent or "true" (Newman 1962) and spurious or central (Willington 1975c). In essence, these terms serve to distinguish incontinence in the context of, and perhaps caused by, acute illness, adverse drug effects, sudden immobility, and infection, from incontinence which is primarily the result of physiological bladder disturbance.

Norton (1986) utilised a simple scheme for considering the main causes of incontinence which were classified into three broad categories; physiological bladder dysfunction, factors affecting the individual's ability to cope with bladder function, and factors directly influencing bladder functioning. These are described in detail below. She stressed that these categories were intimately related and often overlapped. This scheme would seem to be particularly appropriate to nursing, allowing sufficient scope and flexibility to encompass physiological, functional, environmental, psychological and social dimensions which nurses need to consider if they are to adequately assess and help patients with urinary incontinence. An overview of the main causes of incontinence are thus presented according to Norton's classification (Figure 1).

1.4.2 Physiological bladder dysfunction

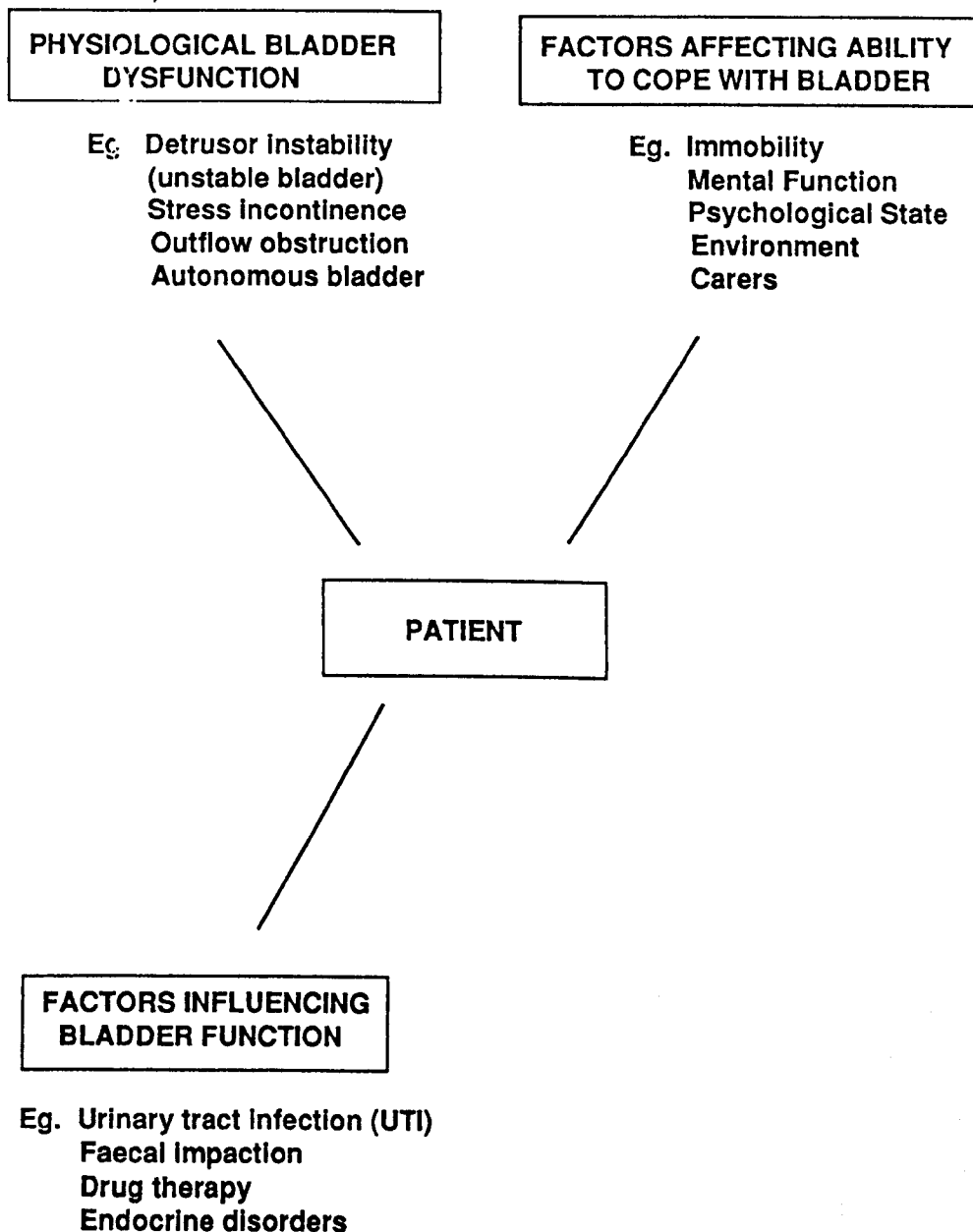
Any discussion of causes of incontinence is hampered by wide differences in terminology; thus, where possible, terms adopted by the International Continence Society are used.

Physiological bladder dysfunction may be classified into four main types; detrusor instability, genuine stress incontinence, outflow obstruction, and autonomous bladder (Figure 1) (Norton 1986).

Figure 1

**CAUSES AND PREDISPOSING FACTORS
OF URINARY INCONTINENCE**

(adapted from Norton 1986)



1.4.2.1 Detrusor instability

Normally the bladder contracts during voluntary voiding and at no other time, this controlled behaviour being referred to as "stable" (Turner-Warwick 1984). Detrusor instability is the term used to describe the objectively demonstrated contraction of the detrusor, occurring either spontaneously or on provocation, during bladder filling, while the patient is attempting to inhibit micturition (Bates et al 1978). Individuals with this condition normally experience symptoms of urgency (a strong desire to void), persistent frequency, and nocturia, and where the detrusor contraction is sufficient, urge incontinence (a strong desire to void with involuntary loss of urine) and enuresis (Pannill 1987, Abrams, Feneley and Torrens 1983, Fernie et al 1983, Overstall, Rounce and Palmer 1980, Cantor and Bates 1980, Farrar et al 1975). Residual volumes in excess of 100 millilitres are common (Eastwood 1979, Brocklehurst and Dillane 1966a) and bladder capacity is reduced (Fleigner and Gleinng 1979).

Detrusor instability is claimed to be the commonest cause of incontinence in the elderly (Farrar 1984, Williams and Pannill 1982, Castleden and Duffin 1981, Fossberg, Sander and Beisland 1981, Hilton and Stanton 1981, Eastwood 1979, Field 1979, Gleason, Bottaccini and Bentley 1976, Brocklehurst and Dillane 1966b). Between 39% and 75% of elderly ^{incontinent} patients have been reported as having the condition (Ouslander et al 1986, Eastwood and Warrell 1984, Castleden, Duffin and Asher 1981, Hilton and Stanton 1981, Brocklehurst and Dillane 1966b).

Detrusor instability may arise when a defective central inhibitory mechanism leads to loss of the normally inhibiting impulses from the cortical bladder centre. These impulses normally modulate activity in the sacral reflex arc which controls micturition. Loss of these inhibitory impulses leads to inappropriate activation of the sacral reflex arc and the bladder begins to contract before micturition is voluntarily initiated, so causing incontinence (Norton 1986, Johnson 1980, Overstall, Rounce and Palmer 1980, Brocklehurst 1978a).

The underlying causes of detrusor instability are varied. Sensory input from the bladder may be increased in intensity (sensory urgency), for example as a result of acute infection, stones, faecal impaction or prostatic enlargement (Wheatley 1983, Brocklehurst 1978b). In the elderly, neurological causes are common, for example strokes, Alzheimers disease, Parkinson's disease, incomplete spinal cord lesions and brain tumours (Farrar 1984, Wheatley 1983, Williams and Pannill 1982, Philp 1981, Brocklehurst and Dillane 1966b, Murnaghan 1961). It has also been suggested that age-related brain changes in general might cause the majority of the elderly people to suffer from some degree of detrusor instability (Norton 1986, Brocklehurst 1984b).

"Idiopathic" detrusor instability occurs in the absence of detectable pathology (Brocklehurst 1984a, Bates et al 1979). It is thought that emotional or psychological problems can manifest as urological symptoms (Brocklehurst 1985, Abrams, Feneley and Torrens 1983, Willington 1975d, Margolis 1965, Newman 1962) and that idiopathic detrusor instability may in some cases be psychosomatic in origin (Frewin 1972). The successful treatment of detrusor instability with placebo therapy, bladder training or hypnotherapy tends to support this view (Frewin 1978). Yarnell et al (1981) found that neuroticism was associated with symptoms of urge and combined urge and stress incontinence in females; the extent to which this can be implicated in causation of incontinence, however, is unknown as neuroticism might well have arisen as a consequence of being incontinent.

1.4.2.2 Genuine stress incontinence

Genuine stress incontinence is defined as involuntary loss of urine when the bladder pressure exceeds the maximum urethral pressure but in the absence of detrusor activity (Bates et al 1975). "Stress incontinence" is a symptom which is the patient's statement of involuntary urine loss and a sign which denotes the observation of involuntary urine loss from the urethra immediately upon an increase in abdominal pressure (Bates et al 1975).

In patients so affected, small amounts of urine loss usually occur immediately with the onset of physical exertion or coughing (Parnill 1987, Norton 1986). It is important that genuine stress incontinence is distinguished from detrusor instability, however, as a movement or a cough may cause involuntary urine loss in both situations (Norton 1986, Brocklehurst 1978a), in the latter condition acting as a stimulus to a detrusor contraction.

Stress incontinence is rare in males; it can arise as a complication following prostatic surgery or occur in high-pressure chronic retention (Brocklehurst 1984b, Abrams, Feneley and Torrens 1983). Stress incontinence, however, is common in women and Stanton (1984) attributes this to a fundamental anatomical weakness in the female partly associated with the evolutionary change from horizontal to vertical position. In the vertical position, the urethra leaves the bladder at the point of maximal gravitational force and lacks the buttressing support of the symphysis.

The prevalence of stress incontinence is difficult to determine due to its variable level of tolerance and definition. As discussed previously in section 1.3.2.1, community-based studies relying upon subjective reporting of symptoms have indicated that approximately 50% of young, healthy nulliparous women experienced some degree of stress incontinence (Wolin 1969, Nemir and Middleton 1954). Fifty seven percent of women between 45-64 years have been found to experience stress incontinence (Brocklehurst et al 1972) while in elderly females (65 years or older) between 12% and 17% were identified as having the symptom (Brocklehurst et al 1971, Yarnell et al 1981).

Results obtained from urodynamic studies of elderly women vary widely. Interpretations of studies are limited by highly selected samples as well as lack of comparative data for continent women. Of 263 consecutive admissions of patients 65 years and older to a urology clinic, 16% of the females and 2% of the males were shown to have genuine stress incontinence following urodynamic investigation (Ouslander et al 1986); a prevalence comparable to those for elderly women discussed previously.

Of 75 elderly women consecutively investigated at a continence clinic, none were shown to have stress incontinence following urodynamic investigation (Castleden, Duffin and Asher 1981). In contrast, a study by Diokno, Wells and Brink (1987) of 200 women consecutively attending an out-patient clinic showed that 77% had genuine stress incontinence.

Stress incontinence is usually associated with bladder outlet incompetence because of weakness of the supporting pelvic muscles (Wheatley 1983, Brocklehurst 1978a). The bladder should be situated within the abdominal cavity to allow equal transmission of any increase in abdominal pressure (Stanton 1984). The intra-abdominal location of the bladder, adequate urethral support beneath the pubic bone, and the angle of the pelvic floor to the urethra are important determinants of outlet resistance (Wheatley 1983). If the pelvic tissue relaxes, the effects of gravity pull the organs downward (Sampsel, Brink and Wells 1989). An alteration in the anatomical relationship between the bladder and the urethra and their muscular supports can then result in stress incontinence (Norton 1986, Stanton 1984).

Pregnancy, parturition, obesity, the menopause, and conditions associated with impaired innervation of the pelvic floor have been implicated as causal factors (Snooks et al 1984, Wheatley 1983, Stanton, Kerr-Wilson and Harris 1980, Thomas et al 1980, Yarnell et al 1981, Hodgkinson 1970, Francis 1960). A study of the factors associated with incontinence by Yarnell et al (1981) did not establish any relationship between stress incontinence and perineal damage during childbirth and it was suggested that parity was a far more important aetiological factor. Hodgkinson (1970), however, maintained that there was no correlation with number of vaginal deliveries and either the occurrence or severity of stress incontinence. Electrophysiological investigation of pelvic floor innervation in women post-natally, by Snooks et al (1984), indicated that nerve damage, rather than overstretched muscles, may be the cause of incontinence.

Inadequate levels of oestrogen in post-menopausal women may lead to atrophy of muscles, ligaments and fascia involved with sphincteric

control in post-menopausal women (Stanton 1984) and consequent stress incontinence. Obesity, chronic cough and habitual straining at stool may aggravate the problem (Norton 1986, Parks et al 1966).

1.4.2.3. Outflow obstruction

The obstruction of outflow of urine during voiding may be caused by, among other factors, prostatic enlargement, bladder neck hypertrophy, urethral stenosis or stricture, and severe constipation (Norton 1986, Brocklehurst 1984b, Turner-Warwick 1984, Abrams, Feneley and Torrens 1983). Abrams, Feneley and Torrens (1983) suggested that outflow obstruction may also be caused by psychological or emotional factors which can lead to inhibition of urethral relaxation.

Outflow obstruction is associated with hesitancy, poor urinary stream, and post-micturition dribble (Norton 1986, Brocklehurst 1984b, Turner-Warwick 1984). A slow stream and hesitancy of micturition have been shown to be associated with proven outflow obstruction following urodynamic investigation (Abrams and Feneley 1978). Other symptoms such as nocturia, frequency, urge micturition and urgency incontinence are also commonly associated with obstruction, most often as a result of unstable detrusor contractions (Turner-Warwick 1984). Turner-Warwick estimated that 75-80% of males with outflow obstruction had secondary symptoms of frequency, urgency and nocturia. Of 318 males aged between 45-85 years attending a urodynamic clinic, 17% had obstruction alone while 40% were diagnosed as having obstruction and detrusor instability (Abrams, Feneley and Torrens 1983). Overstall, Rounce and Palmer (1980) reported a higher proportion with both outflow obstruction and detrusor instability; 80% of elderly men attending a urodynamic clinic having both conditions.

In severe cases, the detrusor contraction is unsustainable and leaves a large residual volume of urine which gradually builds up, the bladder becomes progressively distended and in some leading to overflow incontinence (Brocklehurst 1984b, Abrams, Feneley and Torrens 1983). The commonest cause of outflow obstruction is prostatic enlargement (Norton

1986, Abrams, Feneley and Torrens 1983, Yeates 1976) which increases with age in men over the age of 55 years (Abrams, Feneley and Torrens 1983). Bladder outflow obstruction is rare in females; of 2124 females who attended a urodynamic clinic, 3.7% were so diagnosed (Abrams, Feneley and Torrens 1983).

1.4.2.4 Autonomous bladder

In the autonomous bladder, the detrusor muscle is underactive and fails to provide a sustained or adequate voiding contraction during micturition (Norton 1986). The condition is usually caused by damage to the peripheral nerves to the bladder or by damage to the lower spinal cord (Norton 1986). The sensation of bladder filling may be absent or reduced (Robinson 1984a); the bladder often increases in capacity and large residual volumes of urine (500-2,000 millilitres) may accumulate and result in overflow incontinence (Norton 1986, Mundy and Blaivas 1984, Castleden, Duffin and Asher 1981). Diabetic neuropathy, particularly in middle or old age, pelvic injuries, lesions of the cauda equina, multiple sclerosis and Herpes Zoster are some of the causes (Mundy and Blaivas 1984, Wheatley 1983, Brocklehurst 1978a).

1.4.3 Factors affecting ability to cope with bladder

The precise role of factors such as impaired mobility, diminished mental awareness or environmental limitations as predisposing or causal factors of incontinence is relatively unknown. The association between impaired mobility and incontinence, for example, may be connected with poor physical health, mental impairment, inaccessible toilets and lack of carers, factors which may cumulatively predispose towards the problem.

A number of institutional and community surveys of elderly people were concerned with the relationship between incontinence and such factors. Comparisons between studies, however, are hindered by different methods of data collection, widely varying and sometimes inadequately described patient samples and, in some cases, lack of data about continent individuals with which to compare findings.

1.4.3.1 Immobility and related factors

Physical restrictions which impede access to the toilet are likely to induce incontinence, either directly or in association with other factors such as detrusor instability or diuretic therapy (Green 1986, Norton 1986, Kennedy 1984, Brocklehurst 1984a, Robinson 1984a, Williams and Pannill 1982, Field 1979, Millard 1979, Isaacs and Walkey 1964). A number of studies of elderly institutionalised patients have reported a relationship between level of mobility and continence status (Sier, Ouslander and Orzeck 1987, McCormick et al 1985, Fernie et al 1983, Ouslander, Kane and Abrass 1982, Isaacs and Walkey 1964). Similar findings have been reported in studies of elderly people living in the community (Resnick et al 1986, Vehkalahi and Kivelda 1985, Vetter et al 1981).

In contrast to these studies, Castleden, Duffin and Asher (1981) did not find any relationship between level of mobility and incontinence in a study of 100 elderly people consecutively assessed in a continence clinic. They concluded that mobility was not an important factor in the causation of incontinence in the elderly. It should be noted, however, that their sample was highly selected; all patients were attending a continence clinic and the majority were mobile.

In addition to limited mobility, associated factors such as poor manual dexterity, poor eyesight, and unsuitable clothing and footwear are frequently cited as adversely affecting an individual's functional ability for independent toileting (Norton 1986, Whitehead, Burgio and Engel 1984, Millard 1979).

1.4.3.2 Mental State

The association between impaired mental function and incontinence is well documented (Sier, Ouslander and Orzeck 1987, Berrios 1986, Campbell, Reinken and McCosh 1985, Ouslander, Kane and Abrass 1982, Arie, Clarke and Slattery 1976, Brocklehurst and Dillane 1966b, Isaacs and Walkey 1964, Brocklehurst 1951). In contrast, Castleden, Duffin and Asher

(1981) in the study mentioned previously, found little relationship between mental test scores and incontinence. Differences between the findings of this study and those mentioned above are likely to be the result of biases in sample selection. The study by Castleden, Duffin and Asher (1981) comprised of patients attending a continence clinic, the majority of whom were mobile, whereas in the majority of the other studies, mentioned above, samples comprised of hospital or nursing home in-patients.

Mental impairment associated with dementia and cerebrovascular disease has been shown to be positively correlated with incontinence, the severity of the incontinence being related to degree of mental impairment (Barer 1989, Borrie et al 1987, Berrios 1986, Brocklehurst et al 1985, Campbell, Reinken and McCosh 1985, Brocklehurst and Dillane 1966b). Vetter et al (1981) found that clinical anxiety and depression were also much more common in incontinent than continent people living in the community. As previously discussed, it is difficult to know whether anxiety and depression are secondary to incontinence or whether they are factors in its causation. In addition, it is unclear from the study by Vetter et al (1981) whether anxiety or depression existed independently or co-existed, or resulted from, other mental impairment such as dementia or cerebrovascular disease.

Conditions causing impaired mental functioning may have a direct effect on bladder function by damage to cortical centres controlling micturition. This damage is normally due to Alzheimer's disease, vascular dementia or a stroke (Berrios 1986, Campbell, Reinken and McCosh 1985, Arie, Clarke and Slattery 1976, Brocklehurst and Dillane 1966b). The cognitive impairment and disinhibition found in these conditions may indirectly affect continence as a result of inability to remember or locate the toilet, lack of appreciation of impending need to empty bladder or of the social need to do so (Norton 1986, Brocklehurst 1984a, Robinson 1984a).

1.4.3.3 Psychological state

The influence of psychological factors upon bladder function is well documented although their role in the causation of incontinence is unclear (Ory, Wyman and Yu 1986, Scott 1985, Wells 1984, Abrams, Feneley and Torrens 1983, Frewin 1979, Stone and Judd 1978, Brocklehurst 1973, Sutherland, 1971, Willington 1969, Margolis 1965, Newman 1962, Schwartz and Stanton 1950). Sutherland (1971) stressed that without an adequate consideration of psychological aspects, neither the understanding of incontinence nor its treatment are complete. Wells (1984) warned, however, against prematurely attributing incontinence to an emotional disorder in the absence of consideration of other causal mechanisms. Specific symptoms such as urinary retention (Abrams, Feneley and Torrens 1983, Margold 1965) and urge or urge incontinence (Frewin 1972, 1979) have been attributed, in some circumstances, to be psychosomatic in origin. Frewin (1979) stated that 80% of female patients with symptoms of urge incontinence attending gynaecology out-patient clinics belonged to this group, though further data to substantiate his claim have not been reported.

Newman (1962) suggested that incontinence was a symptom of emotional breakdown in elderly institutionalised patients. Willington (1969) attributed the cause of psychologically induced incontinence to a loss of learned conditioned reflexes. He indicated the importance of negative stimuli such as lack of privacy or uncomfortable toileting positions, which exert a strong inhibitory effect on voiding behaviour, and positive stimuli, such as appropriate staff attitudes and the use of appropriate clothing that help maintain continence. Scott (1985) and Sutherland (1971) identified incontinence, in some cases, to be the result of patients' psychological coping reactions, or of defence mechanisms manifest in regressive, overly dependent, rebellious or attention-seeking behaviour.

1.4.3.4 Environmental factors

The physical design, layout and facilities afforded by the environment, in both community and institutional settings, are considered to be important determinants of continence or incontinence (Norton 1986, Brink and Wells 1986, Hu 1982, Williams and Pannill 1982, Millard 1979). Thus, bed and chair height, the proximity to mobility aids, the provision of a working call bell system, and the location and accessibility of toilet facilities, among other factors, have been identified (Brink and Well 1986, Hu 1982, Calder 1976).

A Scottish home and health department report (1970) recommended that toilets be no more than 12 metres from orientated, continent elderly individuals. The rationale upon which this recommendation was based is not, however, made explicit. Interestingly, Vehkalhi and Kivelda (1985), and Vetter et al (1981), in surveys of the elderly living in the community, found no relationship between incontinence and location of toilet. The recommended toilet to patient ratio is 1:6 or 1:4 in wards in which patients are more dependent (Chamberlain and Stowe 1982). An investigation of ward facilities of 246 long-stay hospital wards by Norton (1967) showed that 68% of the toilets were unsatisfactory in size and design. Wells (1975a), in an investigation of 13 care of the elderly wards, found that 83% of the toilets were too small for a wheelchair, only one ward had the recommended number of toilets and 43% of the patients' beds were further than 12 metres from the toilet. More recently, Chamberlain and Stowe (1982) assessed the bathroom and toilet facilities of 21 surgical and medical wards. They found the ratio of toilets to patients highly variable ranging from 1:4 to 1:16. Of 65 toilets inspected, 14 (22%) had room for a wheelchair and an attendant with the door closed, and only two wards had raised toilet seats.

The effects of improving the physical environment have received little systematic research. Smith and Smith (1987) highlighted the need for studies to establish the extent to which incontinence can be accounted for by general environmental factors. Chanfreau-Rona et al (1984) made simple environmental adaptations to the ward environment to increase the

sensory cues to enable elderly female psychiatric patients to visit the toilet. No measurable improvement of continence was observed after a two week period. It is doubtful, however, whether this was a sufficient length of time to allow for any changes in behaviour to occur.

Anecdotal evidence describing the move of a group of elderly patients from a hospital ward to bungalow accommodation has highlighted beneficial changes in both their mental and physical functioning, which included "a great reduction in incontinence" (Adams 1979, Davies 1979, Northwood 1979).

1.4.3.5 Carers

It is frequently claimed that carers' low expectations and negative attitudes may be responsible for causing or exacerbating incontinence (Mittens 1987, Miller 1985a, Miller 1985b, Tarrier et al 1983, Arie, Clarke and Slatterly 1976, Calder 1976, Isaacs 1976, Willington 1969, Schwartz and Stanton 1950). This was vividly portrayed in a published letter in the Nursing Times written by a 22 year old man who was admitted to hospital for investigations of "mild" urinary incontinence.

"I was taken into a treatment room by a young male nurse who explained that they were going to try some incontinence aids, and he gave me a pair of plastic pants

When I felt the need to urinate and attempted to find the toilet, an auxiliary nurse escorted me back to my chair and said in a loud voice, "it's ok, you've waterproof pants on".....

After four days in that place I had "progressed" to wearing adult all-in-one diapers ... and was readily wetting myself instead of using the toilet...

After seven days I had regressed to being totally dependent on aids.....

I went into hospital, a good looking 21-year-old with self respect and confidence. I am now totally incontinent of urine and rely on baby's underwear.

(Collodine 1987)

Brody (1977) stated that routine giving of care is less demanding on staff than the encouragement of self-care and that the former fosters

dependency. Observational studies investigating the nursing care of elderly people in hospital (Wright 1984, Baker 1978, Wells 1975a, Norton et al 1962) found that nurses focused on soiling rather than measures to encourage continence and that many nursing practices, such as routine ward toileting, frequently encouraged incontinence. Isaacs (1976) and Baker (1978) suggested that attending to individual patient requests for toileting does not readily fit into the ward routine, while the cleaning and changing of incontinent patients can occur at a time convenient to the nursing staff. Sutherland (1971) stated that many nursing procedures encouraged patient dependency. Evidence to suggest that patient dependency can be nurse-induced has been reported by Miller (1985a). She carried out a study to compare two different styles of nursing care, traditional task orientated nursing and individualised nursing care. She found that where traditional task allocation nursing was carried out, patients were significantly more physically dependent (which included incontinence) than patients in wards in which individualised nursing care took place. Similar, although anecdotal findings, have been reported by Savage and Widdowson (1974a and 1974b) in a psychiatric ward for elderly patients. Changes in work pattern from a rigid routine to more flexible individualised nursing was reported to produce a decrease in episodes of incontinence.

Bridgewater and Christie (1974) described difficulties in changing staff attitudes to incontinence in a male psychiatric ward. They described the staff as paternal, affectionate but defeatist. A new implemented toileting programme was poorly accepted; staff resented the change and were anxious that the workload would be increased as a result of the new procedure.

1.4.4 Factors influencing bladder function

1.4.4.1 Urinary tract infection

Acute urinary tract infection is frequently cited as causing or predisposing to transient urinary incontinence (Norton 1986, Ouslander 1986, Brocklehurst 1978a, Helps 1977). An acute infection is thought to

sensitise the stretch receptors in the bladder, and, in an elderly person, present as incontinence associated with urgency (Ouslander 1986, Brocklehurst 1978a). The precise role of urinary tract infection as a causal factor of incontinence, however, remains uncertain (Abrutyn, Boscia and Kaye 1988, Ouslander 1986, Brocklehurst et al 1968), particularly in the elderly where asymptomatic bacteriuria is common (Nicolle and Ronald 1983, Brocklehurst et al 1977, Akhatar et al 1972, Brocklehurst et al 1968, Walkey et al 1967, Sourander 1966). Sourander (1966) reported an association between bacteriuria and incontinence but Brocklehurst et al (1968) and Yarnell et al (1981) found no such relationship.

Brocklehurst (1984b) maintained that chronic bacteriuria in many elderly people is probably secondary to residual urine associated with bladder dysfunction and treatment will not affect incontinence which is likely to recur.

Incontinent individuals may restrict their fluid intake (Norton 1986). Norton et al (1986) found that 70% of the incontinent women in their sample practised fluid restriction. Low fluid intake may predispose toward urinary tract infection (and constipation), and concentrated urine itself may irritate the bladder causing sensory urgency and frequency (Norton 1986). Spangler, Risley and Bilyew (1984) reported that when they tested the specific gravity of urine specimens of 16 incontinent elderly nursing home residents, four were found to be dehydrated.

1.4.4.2 Faecal impaction

Willington (1980) claimed that the most common cause of incontinence in the elderly was chronic constipation although this is not substantiated by research. Elderly people are known to be particularly prone to constipation, and consequent faecal impaction. Constipation in the elderly arises from increased colonic transit time, drug therapy such as analgesics, diuretics and anticholinergics (section 1.4.4.3), reduced mobility (Tallis and Norton 1985, Avery-Jones and Godding 1972) and low fluid intake (Norton 1986).

The precise mechanisms by which constipation may lead to incontinence of urine have not, however, been examined. It is postulated that severe constipation or faecal impaction may cause urinary incontinence by compressing the bladder and urethra leading to outflow obstruction, retention of urine and overflow (Norton 1986, Brocklehurst 1985, Tallis and Norton 1985). Abdominal and rectal distention is also thought to precipitate detrusor instability in some circumstances (Tallis and Norton 1985). Evidence from a study by O'Reagan, Yasbeck and Schick (1985) indicated that severe constipation can cause unstable detrusor contractions. Investigations of 47 children with chronic constipation, recurrent urinary tract infection and enuresis and/or encopresis showed that all had unstable bladder contractions following urodynamic investigation. Elimination of constipation resulted in cessation of urinary tract infection, enuresis and encopresis in the majority of individuals. The authors postulated that compression of the bladder due to faecal pressure might trigger unstable detrusor contractions. Faecal loading may stretch the pelvic floor muscles and precipitate stress incontinence (Norton 1986, Parks et al 1966).

1.4.4.3 Drug therapy

Many different types of drugs have been reported to adversely affect bladder function (Shimp 1988, Norton 1986, Paillard and Resnick 1984, Perkash 1982, Williams and Parnill 1982, Brocklehurst 1978a).

As polypharmacy is common in the elderly, they may be particularly prone to drug induced incontinence (Shimp 1988, Green 1986). A recent study by Keister and Creason (1989) of 84 elderly incontinent females in nursing homes found that 70% were taking a drug having the potential to cause urinary incontinence. Yarnell and St Leger (1979) in a study of a random sample of 388 elderly people living in the community found increased drug use was positively related to prevalence of incontinence although they did not specify the nature of the drugs used. In contrast, a study of 437 elderly patients admitted to a long-term care hospital found that incontinent patients were receiving slightly fewer diuretic and sedative drugs than those who were continent (Jewett et al 1981). A study of 363

elderly patients admitted to medical and surgical wards by Sier, Ouslander and Orzeck (1987) found no difference between continent and incontinent individuals in the use of anticholinergic, psychotropic or diuretic drug therapy. A study of elderly, predominantly community dwelling individuals, however, found that incontinence was significantly related to the use of diuretics (Vehkalahti and Kivelda (1985).

Diuretics, particularly the rapid-acting loop diuretics, can cause frequency, urge and urge incontinence (Ouslander 1986, Brocklehurst 1984a, Paillard and Resnick 1984, Willington 1975c).

Reduction in bladder contractility and retention of urine may be caused by anticholinergic, antidepressant, anti-Parkinsonian, phenothiazine and antihistamine drugs (Perkash 1982, Williams and Pannill 1982, Brocklehurst 1978a).

Beta blockers (eg. propranolol) can increase urethral pressure and cause voiding difficulties leading to retention of urine (Norton 1986, Perkash 1982). Progesterone can lower urethral resistance and cause stress incontinence (Perkash 1982). Norton (1986) stated that diazepam may also lower urethral resistance. Psychotropic, sedative and hypnotic drugs may cause over-sedation, confusion and immobility which can reduce an individual's response to micturition cues or ability to get to the toilet (Paillard and Resnick 1984, Norton 1986, Williams and Pannill 1982, Willington 1975c). Castleden and Davies (1987) reported that 55% of those aged 85 years given 10 milligrams of nitrazepam at night were found to be sedated the next day; it is not clear whether this is a clinical observation or a research finding.

Alcohol may also cause frequency, urgency, sedation, confusion and immobility (Ouslander 1986, Paillard and Resnick 1984), all of which may predispose to urinary incontinence. Beverages such as coffee, tea and cocoa contain caffeine, a diuretic, which stimulates micturition (Brink 1988).

1.4.4.4 Endocrine Disorders

The effect of diabetic neuropathy on bladder function has been discussed in section 1.4.2.4. Diabetes mellitus and insipidus may also cause polyuria with consequent effects on bladder function (Norton 1986).

Oestrogen deficiency in post-menopausal women causes atrophic changes in the vagina and urethra which may cause or exacerbate incontinence (Brocklehurst 1984b, Robinson 1984a). Cardozo et al (1986) found that the level of circulating oestrodial in post-menopausal women negatively correlated with symptoms of urgency, thus leading them to conclude that oestrogen withdrawal influenced lower urinary tract function.

Hilton and Stanton (1981) found that 37% of 100 incontinent elderly women attending a continence clinic had atrophic vaginitis. Robinson (1984b) reported a much higher figure in her study. She found that 77% of 219 women attending a continence clinic (mean age 79 years) had atrophic vaginal mucosa when examined, and of these, 81% of the clinical diagnoses were histologically confirmed. She found that a third of the patients who were treated with oestrogen alone, 53% of those on oestrogen and other drugs such as anticholinergic and/or antibiotic therapy, and 44% of those treated without oestrogen, with or without other drug treatment, became dry. She concluded that oestrogen deficiency may contribute to incontinence in the presence of other factors but it was not a major cause of incontinence in its own right.

1.4.5 The effect of ageing on bladder function

Whilst it is generally assumed that bladder function diminishes with increasing age, current knowledge about age changes in the lower urinary tract and the neurological mechanisms controlling micturition is scanty (Brocklehurst 1984b). Little information concerning bladder function in "normal" elderly people is available (Brocklehurst 1984b, Abrams, Feneley and Torrens 1983). A progressive deterioration of renal function and structure has been shown to accompany ageing (Anderson and Brenner 1987).

Brocklehurst (1985) stated that the main histological changes with age are diminished thickness of bladder epithelium and some replacement of smooth urethral muscle by connective tissue. Trabeculation and diverticulae of the bladder, in both sexes, are common (Staskin 1986, Brocklehurst 1985). Cystometric studies by Brocklehurst and Dillane (1966a) in 40 elderly, continent females found that bladder capacity and compliance, as well as the ability to postpone voiding were diminished. Post-voiding residual urine was increased to more than 100 millilitres in 73%, and 42% of the women leaked urine during bladder filling. Staskin (1986) suggested that fibrotic changes induced by radiation, chronic infection, interstitial disease, chronic overdistention and long-term use of indwelling catheters may be contributory factors which reduce bladder compliance. The closing pressure of the urethra is also diminished in elderly females, which Brocklehurst (1982) has suggested may be related to replacement of the smooth muscle by collagen. Oestrogen depletion may also affect the urethral closing mechanism, and can lead to stress incontinence (Staskin 1986, Brocklehurst 1982). Staskin (1986) stated that it is generally accepted that benign prostatic hypertrophy is a pathological condition associated with ageing in men.

According to Brocklehurst (1982), the most important age associated change in control of bladder function is that which occurs within the central nervous system. The long and complex nerve tracts might be affected by what Brocklehurst (1984b) termed "neuronal fall-out" in the neo-cortex and cerebellum. This may affect cortical inhibition of spinal reflex activity, allowing spontaneous bladder contractions to occur causing urgency and diminished bladder capacity, both of which predispose towards incontinence (Brocklehurst 1982). Whether these alterations in central nervous control reflect true ageing changes or are associated with age-related disease (eg. Alzheimer's disease, cerebrovascular disease) remains unclear.

There is evidence that the pattern of micturition alters with age. Brocklehurst et al (1971) and more recently Hale et al (1986), among others, have found nocturia to be a very common symptom in elderly men

and women living in the community. Nocturia appears to become more common and severe with increasing age (Brocklehurst et al 1971).

Resnick and Yalla (1985) and Manley (1984a) stated that the elderly are more susceptible to incontinence than younger people because of the additional pathological, physiological, pharmacological and psychological factors from which they are at risk. Brocklehurst (1985) suggested that there are factors which lead to inefficient and impaired bladder function with which an elderly person can cope provided her environment is undisturbed. There are also a number of precipitating factors, however, which may tilt the balance so that the elderly person with impaired bladder control is no longer able to maintain continence.

1.5 CONSEQUENCES OF INCONTINENCE

1.5.1 Physical implications

Problems related to the skin and urinary tract infections are the two most commonly cited complications of urinary incontinence (Norton 1986, Ouslander, Kane and Abrass 1982, Willington 1975e). Willington (1975e) reported that patients with urinary incontinence who were immobile were four times more likely to develop a pressure sore than those who were continent. Urine (and/or faecal) contamination of the skin can cause skin irritation and provide a damp, warm environment in which bacteria can proliferate (Norton 1986, Malone-Lee, Pluck and Exton-Smith 1984). Dermatitis is the commonest type of skin reaction; the dermis becomes red and swollen and the epidermal cells become separated by oedema (Malone-Lee, Pluck and Exton-Smith 1984).

A survey of 172 incontinent elderly men found that 50% had skin eruptions, 20% small erosions and 2.5% pressure sores (Koskard 1964). Hu et al (1984) in a study of 33 incontinent nursing home residents found that 50% had rashes or skin redness and 3.0% had pressure sores; 35% of the patients required skin medication and related nursing care. Ouslander, Kane and Abrass (1982) in a study of 842 elderly nursing home

residents found that skin breakdown and urinary tract infection occurred in 45% of the patients with incontinence; these problems being more common in patients with indwelling catheters. These studies do not, however, compare their findings with matched samples of continent patients.

Complications associated with the use of indwelling catheters are well documented and will not be considered here (Burkitt and Randall 1987, Platt 1982, Warren et al 1982, Ekelund 1979, Garibaldi et al 1974).

The risks, if any, regarding the use of body worn pads, or pads and pants do not appear to have been evaluated. Norton (1986) suggested that women wearing incontinence pads have an increased risk of acquiring a urinary tract infection but does not substantiate the claim. There is evidence, however, that male sheath drainage systems may cause severe skin damage when used incorrectly (Jayachandan et al 1985), and may also cause urinary tract infection (Ouslander, Greengold and Chen 1987).

A study by Norton (1981) on the effects of urinary incontinence upon the lifestyles of 55 women attending a urodynamic clinic identified that smell was perceived to be a problem by 47.3% of the sample. In the United States, Mitteness (1987), in a study of 30 elderly incontinent people living in the community, reported that smell was considered by the sufferers to be one of the most stigmatising components of the problem.

1.5.2 Psycho-social implications

The sufferer

Urinary incontinence is assumed to have far reaching adverse psycho-social consequences for the sufferers, their families and carers (Herzog and Fultz 1988, Norton et al 1988, Mitteness 1987, Wyman et al 1987, Ory, Wyman and Yu 1986, Wells 1984, Cantanzaro 1981, Norton 1981, Sutherland 1971). Wells (1984) suggested that incontinent individuals may become preoccupied with toileting frequently, checking their clothing continually for possible signs of leaking urine, and carrying additional

clothing. Herzog and Fultz (1988) stated that incontinent people may never feel at ease and may always be on guard, since an episode of incontinence may occur with little or no forewarning. Lowered self-esteem, embarrassment and shame have been associated with the condition; feelings which are likely to leave the incontinence sufferer feeling vulnerable and self-conscious (Herzog and Fultz 1988, Norton et al 1988, Norton 1981). Indeed, losing control over a basic bodily function, such as continence, may give rise to a sense of helplessness and demoralisation (Herzog and Fultz 1988).

The personal impact of incontinence was graphically portrayed by Pay (1987). She stated:

"For a woman paraplegic coping with incontinence is by far the most daunting problem, outstripping the limitations on mobility posed by life in a wheel-chair, which popular misconception sees as the greatest handicap".

Studies by Norton (1981) and Norton et al (1988) identified considerable emotional and social distress in women who were either incontinent or suffering other bladder dysfunction.

Norton (1981) administered a questionnaire to 55 women (mean age 50 years) attending a urodynamic clinic. All respondents considered that incontinence had affected at least one sphere of their daily life; the major problems were in social and mental well-being and included sexual difficulties. The severity of incontinence was not associated with perceived psycho-social impact.

Norton et al (1988) similarly examined the effect incontinence, or urinary symptoms of urge and/or frequency, had upon 201 females (16-86 years) consecutively assessed in a continence clinic. Forty eight percent reported feeling odd and different because of their bladder problems, two fifths felt less attractive and a quarter avoided other people. Forty percent avoided sexual activity, two thirds attributing this to their urinary problems. More than half reported that urinary symptoms affected their work. A study cited by Herzog and Fultz (1988)

demonstrated a relationship between incontinence and diminished participation in sports, exercise and active hobbies among older men. Mitteness (1987), in the study discussed previously, reported that self-imposed social isolation, as a result of being incontinent, can be devastating to the individual concerned. Several incontinent individuals in her sample (the precise number is not reported) mourned the loss of intimate personal relationships with members of the opposite sex. They wished to have such relationships but felt that their incontinence was an insurmountable barrier.

Vetter, Dee and Victor (1981) found that elderly incontinence sufferers were less likely to visit, or be visited, by friends than those who were continent. Cantanzaro (1981) explored the personal and social implications of bladder dysfunction in middle-aged adults with multiple sclerosis (the number of subjects is not reported). Shame and feeling different were the predominant emotions described.

The relatives/carers

The care of individuals with incontinence is an aesthetically unpleasant and time consuming task (Ory, Wyman and Yu 1986, Norton et al 1962).

Noelker (1983), in the United States, studied 614 families who were looking after elderly relatives and found that incontinence was significantly associated with the carers' reports of stress (conflict with relatives, restriction of activities). Carers found care-giving burdensome. An earlier study by Sanford (1975), in the U.K, found that the majority of supporters of elderly relatives at home tolerated urinary incontinence surprisingly well, although this was not the case for faecal incontinence. Schwartz (1977) examined the personal reactions to the problem in those suffering incontinence. He reported that a "mutual pretence" between sufferer and nurse existed whereby each saw the other as unconcerned about the problem. Incontinence may be viewed by some carers as a normal result of ageing (Herzog and Fulton 1988, Mitteness 1987). As a consequence, health professionals, relatives and patients

themselves, may subscribe to the notion that not much can be done to alleviate the problem (Herzog and Fulton 1988).

There is evidence to suggest that nurses' attitudes may be related to the characteristics of the patients for whom they care. Studies have shown that nurses do not value as highly those patients who place extra demands on them by soiling themselves or the environment, compared to patients who do not exhibit such behaviour (Hardy 1981, Brown 1971). In the United States, a study by Brown (1971) examined nurses' attitudes towards nursing elderly patients in hospital, and found that the highest correlations were achieved between negative attitude scores and environmental soiling behaviour. Hu et al (1984) analysed the reactions of nursing home staff towards the care of incontinent patients by means of an incontinence stress index. Of 156 nurses and nursing aides who participated, half reported that they felt frustrated, tired, discouraged and irritable some of the time and a third were depressed about their work because of incontinence. A substantial proportion were upset by the extra work involved and wanted to resign from their job because of the problem. A third felt guilty about having negative feelings towards patients who were incontinent. Ory, Wyman and Yu (1986) among others, suggested that carers commonly sublimate their negative feelings and compensate for this by over-indulgence and excessive "caring".

1.5.3 Economic implications

Little up-to-date research has addressed the economic impact of urinary incontinence in the U.K.. Smith, in 1982, estimated that the National Health Service spent approximately 36 million pounds a year on incontinence equipment and that 24 million of this sum was spent on incontinence pads and pants alone. He indicated that the large costs to the health service could be reduced by identifying more clearly the problem and by more appropriate management of incontinence.

The economic implications of urinary incontinence in the United States has been reviewed in detail by Hu (1986). Hu claimed that, to date, the most comprehensive study to evaluate the cost of urinary incontinence has

been carried out by Ouslander and Kane (1984). They undertook a detailed examination of the cost implications of incontinence in nursing homes. Direct costs of the management of incontinence, supplies laundry and labour were calculated as well as indirect costs which comprised the management of the complications of incontinence. Direct costs were estimated as \$3-\$11.00 per patient per day. When the direct and indirect costs were estimated, they suggested that incontinence cost the U.S. national economy \$8.1 billion (at 1986 prices). Hu (1986) noted that for economic reasons alone there is a strong incentive to reduce the problem of incontinence.

Few studies have evaluated the economic costs of incontinence for the sufferers or carers. Townsend et al (1981) assessed the cost incurred by families caring for incontinent severely handicapped children. They found that in spite of the attendance allowance, an average of seven pounds a week remained uncompensated (at 1977/1978 prices).

1.6 THE ASSESSMENT OF URINARY INCONTINENCE

1.6.1 Identification of the problem

There is evidence to suggest that the majority of people affected by incontinence remain largely unknown to health professionals. Community surveys by Feneley et al (1979) and Thomas et al (1980) have investigated the prevalence of incontinence (as discussed in section 1.3.2.1).

Both studies found the prevalence of urinary incontinence far in excess of that already known to the health and social services (section 1.3.2.1). Thomas et al (1980) found that one in five of the two thirds of people who had not sought help stated that they suffered from "moderate" incontinence (defined as requiring extra laundry or pads with some restriction of activities) to "severe" incontinence (defined as requiring extra laundry or pads, activities restricted and help required from others).

There are several factors which may be responsible for this apparent lack of awareness on the part of the health professionals. These factors can be divided into two broad categories:-

a) Presentation of the problem by the sufferer.

b) Recognition of the problem by health professionals.

a) Presentation of the problem by the sufferer.

There is evidence that, for a variety of reasons, a considerable proportion of sufferers with incontinence fail to report the problem to health professionals.

Manley (1984a), referring to incontinence, commented that:

"Many people go to extreme lengths to hide the disability which may only come to light with a hospital admission for an unrelated illness".

Incontinence is a symptom which, because of potential social and psychological implications (Norton et al 1988, Norton 1984, Catanzaro 1981), sufferers may deny (Sier, Ouslander and Orzeck 1987) or be unwilling or reluctant to discuss (Yarnell et al 1981). Tolerance of urological symptoms, including incontinence, particularly in women, appears to be wide (Mitteness 1987, Yarnell et al 1981, Morrell 1976, Wolin 1969). Also, elderly people may accept the disability as a natural concomitant of ageing (Mitteness 1987, Williamson 1981). Mitteness (1987), in the United States, in her study of 30 elderly, incontinent people living in the community, and found that 58% of the sample believed that incontinence was the result of a normal process of the body weakening with age. One third of the sample had never mentioned their incontinence to their doctor, which Mitteness attributed to the fact that many believed incontinence was a normal, irreversible part of the ageing process.

The study carried out by Norton et al (1988), as described in section 1.5.2, investigated the reasons why women who suffered urinary symptoms had delayed seeking medical help. Of the 60 incontinent women (age range from 17 years to 87 years) who completed a questionnaire, 48.3% had had urinary symptoms for more than three years and a third had been troubled for more than seven years. Less than a quarter of the women (13 in number) had sought advice from their general practitioner at the onset of urinary symptoms. Delay was significantly associated with age; the proportion of women aged 65 years and over who delayed consultation more than five years was twice that of women under 35 years. The most common reason for delay in seeking help was that patients hoped that symptoms would get better spontaneously (61%) while a considerable proportion of women (30%) also felt too embarrassed and ashamed to consult their general practitioner. The study by Wolin (1964), in the United States, which investigated the prevalence of stress incontinence in young, healthy nulliparous women revealed that none of those affected by stress incontinence had ever sought medical attention, either because they felt ashamed or because they did not perceive the incontinence as abnormal and therefore tolerated it.

Hald (1975) referred to what he termed the "iatrotropic" threshold and suggested that the intensity by which people seek medical advice for incontinence depends on the therapeutic resources which are available. If no such resources are available, or if individuals are unaware of their availability, they are less likely to perceive the problem as being potentially remediable and as a consequence are unlikely to actively seek professional advice.

b) Recognition of the problem by health professionals

Several studies have suggested that health professionals may either be unaware of, or fail to acknowledge incontinence as a problem in patients for whom they care. Much of the data in these studies were collected from doctors and relatively little information concerning nurses and their awareness of the problem is available.

In the study by Mitteness (1987), reported previously, almost half (48%) of the 21 doctors whom patients had consulted concerning their incontinence were perceived, by the sufferers, as ignoring or dismissive of the problem. The doctors' comments included telling the patient that incontinence was an irreversible part of ageing, that there was no treatment for incontinence, or that the patient was too old for treatment.

An early study by Williamson and colleagues (1964) investigated the occurrence of health problems in elderly people living in the community. They discovered a great disparity between those conditions in their patients about which general practitioners were aware and those which were unknown to GPs. To the general practitioner, the presence of urinary dysfunction in their patients was largely unknown.

Similarly, a more recent community study of elderly people by Ebrahim et al (1987) found that the number of health problems identified by the researchers at interviews was always greater than those recorded in the general practitioner's case notes. Of seven patients identified as being incontinent at interview (as defined by Thomas et al 1980), none were recorded as such when the medical case notes were subsequently checked. The general practitioners' awareness of these unrecorded problems in this study was not queried. Interestingly, the authors noted that eliciting information from elderly people concerning incontinence often required persistent and careful questioning. It appears that the way in which information is elicited is also an important determinant in identifying the problem. Milne (1972) interviewed a sample of elderly people living in the community and found that minor differences in the use of terminology - using the word "wet" instead of "lose control" - produced a dramatic reduction in the extent to which incontinence was admitted from 30% to 5%.

Littlewood (1984) investigated the management of the incontinent elderly; her sample was small but of 14 patients considered to be incontinent (defined as those receiving incontinence pad supplies) only two had the problem identified at the time of referral to the district nursing

services. In this study, it is unclear whether the problem was known to health professionals but unrecorded prior to referral. Similar results have been observed by Sullivan and Lindsay (1984) in the United States; their longitudinal survey of the incidence, prevalence and duration of incontinence in elderly patients admitted to acute hospital wards revealed that none of those who remained incontinent prior to discharge home (38 in number) had the problem identified in the nursing discharge records.

In institutional care, it is often assumed that incontinence is less likely to be overlooked (Norton 1986). There is evidence, however, that incontinence is often not recorded, and health professionals may not, therefore, be aware of the problem. Discrepancies between the prevalence of incontinence known to the care-givers and that which is documented in the medical records have been highlighted in several institutional surveys in the United States (Sier, Ouslander and Abrass 1987, Riberiro and Smith 1985, Starer and Libow 1985, Ouslander, Kane and Abrass 1982). Comparable studies for the U.K. have not been undertaken.

Ouslander, Kane and Abrass (1982), in the United States, defined incontinence as "uncontrolled leakage of urine regardless of amount or frequency" and relied on nursing staff to identify patients amongst nursing home residents. Information obtained was verified by checking the medical records as well as by interviews with patients and nursing staff who were familiar with the patients. Nurses identified 50% of the total in-patient population as being incontinent, yet only 14% of these patients had been identified as such in the medical records.

Similarly, a survey by Ribeiro and Smith (1985) using the same definition for incontinence as Ouslander, Kane and Abrass (1982), found that of the 55% of nursing home patients identified as incontinent by the nursing staff the problem was recorded in the medical documentation in only 5%.

In a retrospective review of medical and nursing charts in a nursing home (Starer and Libow 1985), nurses had documented incontinence in 62.4% of

cases whilst the medical notes had recorded incontinence as a problem for only 10% of the residents.

Another study by Sier, Ouslander and Orzeck (1987), in an acute-care hospital, found that medical records, whilst identifying incontinence more frequently than in the preceding studies, still omitted the problem in over half (56%) of the elderly patients observed to be incontinent by nursing staff.

It is unclear from the studies described above whether the physicians concerned were aware of the problem in those patients for whom they had omitted to record the symptom, or whether the under-recording reflected a lack of awareness of the true extent of incontinence in the patients for whom they cared.

In the U.K., Dunn et al (1987) have evaluated an audit form for use on an acute admissions unit for the elderly. Enquiry at admission into problems commonly encountered in the elderly such as falls, incontinence and memory impairment was found to be unreliable. Of 41 patients audited, just over half (22 in number) had been asked about incontinence by the admitting doctor.

There is some evidence in the literature to suggest that nursing staff may not always be aware of the problem. Littlewood (1984) in the study previously discussed, found that of the 14 patients identified as incontinent only five had been identified as such in the district nurse's records.

King (1979), during a survey of causes of incontinence in elderly females in a psychiatric hospital, noted problems among nursing staff in the identification of incontinent patients. She found widely varying opinions among the nursing staff, particularly concerning information about incontinence at night.

Similar findings were observed by Smith et al (1975), when investigating problems involved in toilet training mentally handicapped adults in

hospital. Discrepancies between different nurses and their ability to identify patients who were incontinent were observed. In an attempt to measure these discrepancies, a small inter-rater reliability study was carried out on one ward, using two nurses who knew the patients well to rate the degree of incontinence. Overall agreement was found to be only about 50%.

In the United States, Sier, Ouslander and Orzeck (1987) noted that nursing staff were not always completing the patients' bladder charts, designed to monitor episodes of incontinence as part of the study protocol. This failure occurred despite support from nurse administrators and repeated in-service training sessions by the research team. They suggested that this failure to complete charts may be a contributory factor towards the under-reporting of incontinence.

1.6.2 The definition of assessment

Urinary incontinence is a symptom not a diagnosis (Blannin 1984, Brocklehurst 1978a, Josephs 1983, Hald 1975), thus, in order to select the most appropriate treatment or method of management, it is essential first to identify the underlying cause or causes of the problem (Ribeiro and Smith 1985, Blannin 1984, Brocklehurst 1978a, Williams and Pannill 1982, Hald 1975).

Common usage of the term "assessment" within nursing refers to a planned, systematic and continuous process of collecting data in order to identify actual or potential patient problems (Carpenito 1983, McFarlane and Castledine 1982). In medical spheres, "assessment", particularly in the North American literature, is often used interchangeably with the term evaluation to describe the method by which a diagnosis is derived.

In spite of semantic variations, the process of making an assessment is essentially similar in both nursing and medical practice (Henderson 1987). Data are systematically collected and analysed in order to arrive at some tentative hypothesis about the problem, or problems, an

individual patient may be experiencing and the causes of these problems (Marriner 1983, Mayers 1983, Kron 1976 (see Figure 2).

The product of the assessment (diagnostic) process is a statement, either as a medical diagnosis usually stated as a disease or disability, or a nursing problem often stated as a deficiency in a daily living activity (Henderson 1987, Mayers 1983, Marriner 1983, McFarlane and Castledine 1982, Kron 1976). Intrinsic within assessment is clinical inference which, if accurate, may lead to the identification of possible cause or causes of the problem or diagnosis (Marriner 1983, Roebottom 1981, Aspinall 1976, Kron 1976, Hamdi and Hulemyer 1970).

1.6.3 Methods of assessment

Methods available for the assessment of incontinence are reviewed in this section. These have been broadly categorised according to two clinical data collection skills as follows:

Interviewing

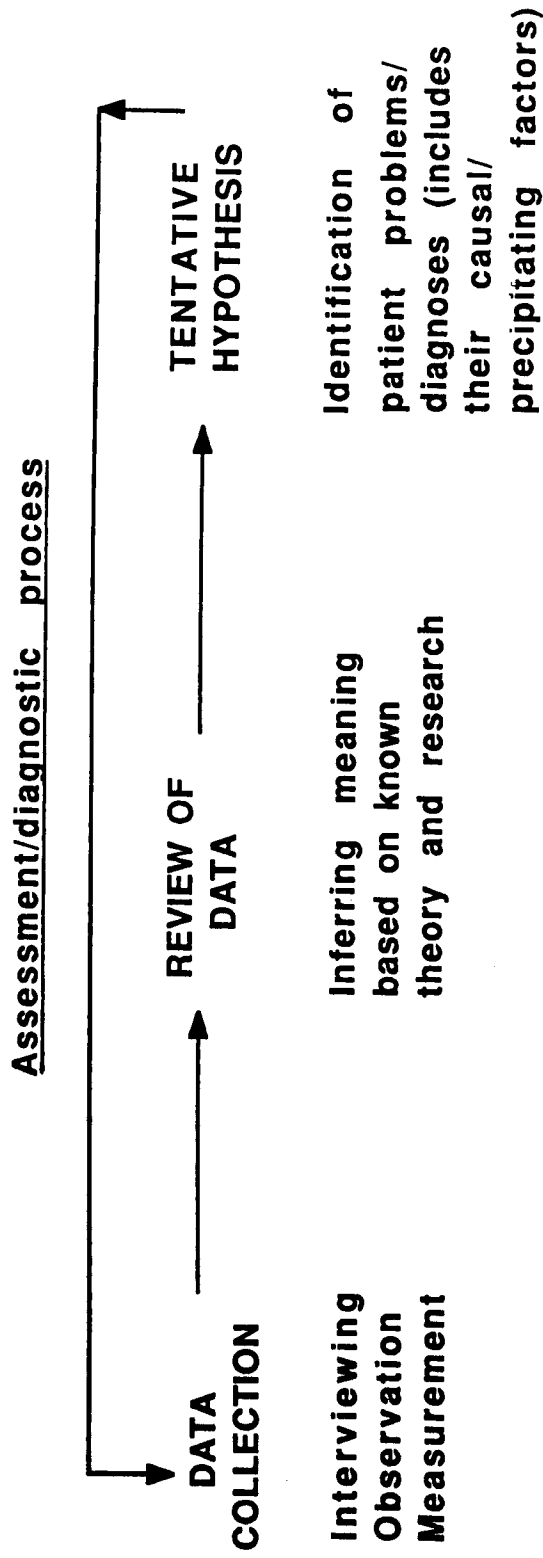
Observation and measurement

1.6.3.1 Interviewing

Marriner (1983) described interviewing as "a method of learning about people through purposeful, goal-directed communication." Within medicine and nursing, this usually takes the form of a history (McFarlane and Castledine 1982, Seward and Mattingly 1979) taken from the patient and/or his relatives, friends or carers.

The history of the complaint is considered to be an important foundation for the assessment of urinary dysfunction (Abrams et al 1987, Glezerman et al 1986, Leach and Yip 1986, Norton 1986, Ouslander 1986, Shah 1984, Wein 1984, Williams 1983, Bates 1978, Frimodt-Moller 1978, Robertson 1974). The content of the history may vary according to the type of clinical setting in which it is elicited (for example a gynaecology out-

Figure 2



(Adapted from Marriner 1983, McFarlane and Castledine 1982)

patient clinic, general practitioner's surgery or ward for the elderly). A consensus of opinion on the major areas to be included, however, does appear to exist.

In both the medical and nursing literature, fundamental components of the history include a description of the types of urinary symptoms experienced (for example nocturia, frequency or hesitancy), together with specific details of episodes of incontinence (such as amount of urine lost and the circumstances in which it occurs) as perceived by the client/patient (Leach and Yip 1986, Ouslander 1986, Brocklehurst 1984a, Shah 1984, Abrams, Feneley and Torrens 1983, Thompson 1983, Williams and Pannill 1982, Willington 1980, Cardozo and Stanton 1978, Bates 1978, Norton 1980, Blannin 1984).

It is generally assumed that an indication of the underlying cause of urinary incontinence may be identified from an enquiry into the symptoms experienced by the patient (Wells 1987, Blannin 1984, Brocklehurst 1984a, Feneley 1984, Robinson 1984, Cardozo 1980, Fridmodt-Moller 1978). However, the extent to which symptoms may provide diagnostic information is relatively unknown. Many consider symptoms to be unreliable diagnostic indicators (Stephenson and Wein 1984, Castleden, Duffin and Asher 1981, Stanton 1977, Moolgoaker et al 1972).

A number of researchers have attempted to evaluate the usefulness of particular symptoms (and signs at clinical examination) in identifying the underlying causes of incontinence. Cantor and Bates (1980) compared findings obtained following urodynamic investigation of 214 incontinent women with their urinary symptoms. Results showed that nocturia, nocturnal enuresis and urge incontinence were the most reliable symptoms distinguishing patients with detrusor instability (DI). The results suggested that 64% of patients with one of these symptoms had DI; in patients in whom two or three of the symptoms were present, the incidence of DI rose to 76% and 81% respectively. According to Cantor and Bates (1980), if a female has any of these "key" symptoms she should be assumed to have an unstable bladder until shown otherwise by urodynamic investigation. Frequency, defined as voiding in the day-time at average

intervals of two hours or less, and urgency, were found to be poor discriminators between those with other causes of urinary incontinence.

Earlier, Farrar et al (1975) found that when urge incontinence was associated with persistent frequency and nocturia, there was a positive correlation with a urodynamic diagnosis of detrusor instability. They concluded that it was possible to offer a guide on the presence or absence of detrusor instability on the basis of symptoms, but it was important that a detailed and careful history of micturition was reported.

More recently, Diokno, Wells and Brink (1987) found that of 338 incontinent women examined, 318 females gave a history of stress incontinence and/or demonstrated stress urine loss at physical examination. Eighty five percent of the 318 women were subsequently found, on urodynamic investigation to have genuine stress incontinence alone or in association with another diagnosis. Of 94 women who had a diagnosis of urge incontinence based on history, 38% demonstrated DI only or in combination with genuine stress incontinence during urodynamic investigation, and half demonstrated stress incontinence alone. Thus, Diokno, Wells and Brink (1987) concluded that clinical assessment was a good indicator of urethral incompetence but not of detrusor instability, contrary to the claims made by Cantor and Bates (1980) and Farrar et al (1975). Diokno, Wells and Brink (1987) stated that selected questions and self-recorded diary data, as well as physical examination, may be very useful in determining the urological diagnosis.

Studies by Glezerman et al (1986), Farrar et al (1975) and Smith (1972) have found that minimal urine loss related to physical activity has a high predictive value for stress incontinence.

Parkin and Davis (1986) assessed the value of the visual analogue scale in the diagnosis of urinary incontinence in women. Thirty five women assessed in a urodynamic clinic because of incontinence were asked to indicate the severity of their urinary symptoms by marking a 10 centimetre analogue scale. Analogue scores obtained were statistically

different in women urodynamically diagnosed as having detrusor instability compared to those with genuine stress incontinence. Women with detrusor instability tended to score higher (mean score 62.1 millimetres) than women with genuine stress incontinence (23.3 millimetres). A recent study by Frazer, Sutherst and Holland (1987) has assessed the usefulness of this technique in a larger sample of 110 women. Although confirming a significant difference in mean scores between the two groups, the area of overlap was large. They considered that a clinically useful separation between the two groups could not therefore be demonstrated by the use of such an instrument.

Other studies, including those by Hilton and Stanton (1981), Castleden, Duffin and Asher (1981) and Eastwood (1979), have all reported little correlation between signs and symptoms and urodynamic diagnoses in groups of elderly people (out-patients and/or hospital in-patients). Much of the data obtained in the studies described above refer to selected patient groups. Patients are likely to be referred for urodynamic assessment as a result of treatment failure (Williams 1983) or because of atypical or complex symptomatology (Cantor and Bates 1980). The interpretation of these results may therefore, be limited and may not be representative of the incontinent population as a whole.

Other relevant areas of enquiry concerning the client's/patient's previous, as well as current medical history, have included gynaecological, obstetric, urological and neurological complaints (Leach and Yip 1986, Norton 1986, Shah 1984, Abrams, Feneley and Torrens 1983, Cardozo and Stanton 1983, Frimodt-Moller 1978). Others have suggested that enquiry into psychiatric or psychological problems are important and should also be included in the history (Thompson 1983, Norton 1980, Cardozo and Stanton 1978). Associated faecal incontinence should also be noted (Norton 1986).

Other factors frequently considered for inclusion are questions relating to fluid intake (Ouslander 1986, Shah 1984, Thompson 1983, Norton 1980), past and current medication (Leach and Yip 1986, Ouslander 1986, Thompson 1985, Abrams, Feneley and Torrens 1983, Williams and Pannill 1982, Norton

1980, Brocklehurst 1978a, Stanton 1978, Robertson 1974) and bowel habits (Ouslander 1986, Brocklehurst 1984b, Thompson 1983, Cardozo and Stanton 1978). Enquiry should be made into functional ability (mobility, manual dexterity, eyesight) (Williams and Pannill 1982, Norton 1980), home environment (availability and accessibility of toilet facilities) (Ouslander 1986, Norton 1980), and type and number of incontinence aids if used (Norton 1980, Frimodt-Moller 1978).

Associated sexual, social or financial problems (Ouslander 1986, Shah 1984, Norton 1980, Frimodt-Moller 1978) are also considered important in attempting to assess the impact of incontinence upon the sufferer.

Norton (1986) discusses the nursing contribution towards assessment and comments that:-

"It is vital that whoever is taking the history has a sound basic knowledge of the subject and knows what questions to ask".

Many have advocated the use of standardised questionnaires or checklists to elicit information during the history (Blannin 1984, Shah 1984, Abrams, Feneley and Torrens 1983, Norton 1980, Cardozo and Stanton 1978, Frimodt-Moller 1978, Robertson 1974, Barry and Hodges 1973, Hodgkinson, Ayers and Drukker 1963). The evaluation of different methods of history taking and their contribution towards the assessment of incontinence, however, has been limited. In the United States, a study by Barry and Hodges (1973) compared the information obtained by patient completed questionnaires to that recorded during usual history taking by the medical staff in 27 male patients attending a urology clinic. Results showed that the questionnaire elicited major urological symptoms that were not elicited by the medical staff in 70% of cases. The medical staff elicited major urological symptoms missed by questionnaire in 33% of cases. Interestingly, the information most often missed during history taking, but detected by questionnaire, related to sexual problems. The authors concluded that the questionnaire elicited more complete information about urological symptoms because more time was

available for the patient to identify problems. Sexual difficulties associated with urinary incontinence may have been less embarrassing for the patient to admit and describe in a questionnaire, than during an interview with the doctor. Whilst advocating the use of such questionnaires as an adjunct to history taking, the authors recognise the unsuitability of such methods with illiterate, unco-operative, severely ill or mentally impaired patients.

Several difficulties in obtaining a history relating to bladder dysfunction have been observed. The inaccuracy with which some patients recall their symptoms is widely acknowledged (Ouslander 1986, Shah 1984, Abrams, Feneley and Torrens 1983, Stanton 1978).

Williams (1983), Eastwood (1979) and Yarnell and St. Leger (1979) amongst others, have noted specific problems in the elderly (eg. poor memory, hearing impairment). A study by Milne, Hope and Williamson (1970) emphasised the limitations of using questionnaires to elicit reliable information concerning bladder symptoms in the elderly. Interviews with 30 elderly people living in the community were conducted on two different occasions (at an interval of two months). The percentage disagreement between replies about incontinence was found to be 60%.

Jewett et al (1981), in a study to investigate urinary dysfunction in elderly patients admitted for long-term hospital care, showed that obtaining reliable information posed a significant problem for the investigators. Part of the difficulty was attributed to the fact that 27% of the sample suffered some form of mental disorder, while 30% were unable to give a history about their own health. Similar findings were reported by Fernie et al (1983).

Methods of data collection as well as the interpretation, by respondents, of questions asked may also influence the quality of the information obtained (Milne et al 1972) as previously discussed in section 1.3.1 and section 1.6.1.

It is widely believed that the clinical history alone may be inadequate in helping to differentiate between the different causes of incontinence (Glezerman et al 1986, Iosif, Henriksson and Ulmensten 1981, Cantor and Bates 1980, Stanton 1978, Hilton and Stanton 1981) and additional, more reliable and objective means of assessment are required (Shah 1984, Hilton and Stanton 1981, Cantor and Bates 1980, Stanton 1978).

1.6.3.2 Observation and measurement

Further data collection obtained by observation and measurement techniques serve to validate the information obtained during the history-taking (Gordon 1982).

Observation has been defined as a descriptive act accomplished by using the senses (sight, hearing, touch and smell) (Rambo 1984, Marriner 1983, McFarlane and Castledine 1981, Bower 1977). Measurement is a form of observation where data may be obtained by the use of instruments that quantify information (Christenson 1986).

The objective determination of incontinence

An important part of the assessment of incontinence is the objective confirmation of the symptom and measurement of associated features such as the pattern and severity of the problem (Robb 1985, Pierson 1984, Sutherst, Brown and Shower 1981, Walsh and Mills 1981, Stanton and Ritchie 1977, Bates et al 1975). Incontinence, however, is a symptom which may be difficult to confirm and measure objectively, as previously discussed in section 1.3.1. The subjective reporting of the problem may be unreliable (Walsh and Mills 1981, Smith et al 1975) and incontinence is not always readily demonstrable on physical examination (Turner-Warwick et al 1975). Studies have shown that only between a third and a half of women presenting with incontinence have the symptom confirmed on physical examination (Constantinon, Govan and Stamey 1986, Sutherst, Brown and Richmond 1986). Urodynamic investigation by Videocystourethrography (VCU) may also fail to demonstrate the presence of urinary loss (Stanton and Ritchie 1977).

To date, two non-invasive methods designed to confirm and quantify urine loss have been developed. The first calibrates urinary leakage electrically (Stanton and Ritchie 1977, Rowan 1976, Caldwell 1974, James et al 1971,), and the second measures weight changes in absorbent perineal pads (Sutherst, Brown and Shower 1981, Walsh and Mills 1981).

In the first method, urine loss is detected by recording the electrical capacitance between electrode strips containing dry electrolyte placed within a disposable perineal pad. The presence and volume of urine deposited is measured by a calibrated monitoring unit to which the pad is connected (Robinson 1984a). In a study of 50 female patients complaining of incontinence, the use of an electronic pad recording system (Urilos) was compared with the use of VCU to demonstrate urine loss (Stanton 1977). The Urilos system demonstrated urine loss in 10 (20%) in whom incontinence was not detected by VCU. Only two patients (4%) had a negative Urilos result and were subsequently demonstrated to have urinary leakage on VCU. Studies designed to evaluate such devices have, however, identified several problems with their use, including poor levels of reproducibility, limited recording capacity (100 millilitres) and limited recording time (four hours or less) (Eadie, Glen and Rowan 1983, Wilson Samarra and Brown 1980, Rowan, Stanton and Ritchie 1977, Deehan and Glen 1976). In spite of these limitations the system is recommended as an effective method with which to detect and confirm incontinence in selected groups of patients, although the volume of urine loss cannot reliably be measured (Stephenson and Wein 1984, Eadie, Glen and Rowan 1983, Stanton 1977).

The weighing of perineal pads (or similar urine collecting devices) before and after being worn for a defined time period is an alternative objective method designed to identify and quantify urine loss (Sutherst, Brown and Shower 1981, Walsh and Mills 1981). In the ward or clinic, a standardised fluid intake and exercise regimen approximating to circumstances of every day life is recommended (Abrams et al 1987). The total amount of urine lost is determined by the changes in weight recorded after the test period. A number of studies with continent, non-menstruating healthy volunteers have demonstrated that the mean weight

gain, due to perspiration and vaginal discharge in females, is approximately one to two grammes per hour and this should be regarded as normal (Versi and Cardozo 1984, Sutherst, Brown and Shower 1981, Walsh and Mills 1981). Pad weight increases of more than two grammes per hour are normally regarded as evidence of urine loss. The method was first evaluated by Walsh and Mills (1981) in a sample of hospitalised elderly patients and also by Sutherst, Brown and Shower (1981) in female out-patients attending a continence clinic. Following their investigation of the one-hour pad weight test, Sutherst et al advocated its use as a screening test. They suggested it could be incorporated as part of the Nursing Process when a patient is first seen in hospital or by the general practitioner before referral for specialist examination. To date, the use and feasibility of this method in routine clinical practice in the ward setting has not been evaluated.

Other researchers have also reported the use of similar methods (Jacoben, Vedel and Anderson 1987, Jorgensen et al 1987, Sutherst, Brown and Richmond 1986, Versi and Cardozo 1984, Klarskov and Hald 1983). The one-hour pad test has been reported to be reliable and reproducible (Sutherst, Brown and Richmond 1986, Wood et al 1983, Klarskov and Hald 1983) and it is officially recognised by the International Continence Society Standardisation Committee as an objective means of verifying urine loss (Bates et al 1983).

Nurses'/carers' observations; frequency and severity of incontinence

A method often employed by nurses or other carers to determine the frequency of incontinence in hospital and residential settings consists of regular checking (usually at one or two hourly intervals) of a patient's clothing or bed, and recording the time when the patient is wet (or found to be wet) (Clay 1986, Walsh and Mills 1981). The inaccuracy of such observations in a study of the implementation of a toilet-training programme for hospitalised mentally handicapped adults (Smith et al 1975) has previously been discussed in section 1.6.1. In this study, the overall agreement between nurses about the frequency of incontinence was only about 50%. In a study of prompted voiding in four nursing homes

in the United States, Hu et al (1984) observed that nursing staff were selective about which parts of the research protocol they chose to implement. Patients were not consistently checked for wetness as instructed in the protocol. One reason appeared to be that the nursing staff found it was insulting for some patients to ask if they were wet or dry and then to confirm the accuracy of the patient's replies by physically checking them. Also, the frequency of checking had diminished after the tenth week of the study. The investigators concluded that lack of staff motivation was one factor which may have contributed towards this. Physically checking the patient at regular intervals may not give accurate information about the time at which incontinence occurs. Several episodes may have occurred between two consecutive checks.

A number of attempts have been made to develop methods to measure the frequency and timing of episodes of incontinence. Willington (1976) recognised the need for accurate nursing observations for this purpose. He described the use of an electronic monitoring system, first reported by Ball and McFadden (1975), which relieved the nursing staff of this task. The device (similar to those previously described by Stanton and Ritchie 1977) consisted of an electronic sensor connected to a timer which recorded each episode of incontinence. Studies which have evaluated the clinical use of such devices in this country have not been reported. Recently, however, O'Donnell (1986) in the United States, evaluated a similar system in nine elderly incontinent patients. He found that the monitor detected the majority (the total number is not reported) of the episodes of incontinence observed by simultaneous hourly checks of the patients by the nursing staff. He concluded that the method accurately measured the frequency of incontinence with minimal alteration of normal behaviour patterns in the patient.

Some authors have suggested that a simple indication of the degree of incontinence can be established by subjectively rating episodes of incontinence, as for example, "a few drops", "wet pants", "a moderate amount" and "soaked" (Rooney 1987, Norton 1986, Robinson 1984a). However, Walsh and Mills (1981), in their study of pad-weighing, found that the subjective assessment of "wetness" by nursing staff was a crude

indicator of the degree of incontinence. The weight-gain in pads judged subjectively as being "wet" was anything from 0.7 gramme to 341 grammes. They found considerable overlap between the weight of pads judged by nurses to be dry, damp and wet.

Charting

The use of a "chart" is widely recommended as an important component of the assessment and treatment of urinary incontinence (Fader 1987, Rooney 1987, Norton 1986, Shah 1984, Abrams, Feneley and Torrens 1983, Autry, Lauson and Holliday 1984, Blannin 1984, Thompson 1983, Demmerle and Bartol 1980, Turner-Warwick and Milroy 1979, Stanton 1978, Wilson 1976, Willington 1969, Brocklehurst 1967), but is often overlooked. Norton (1986) stated:

"The chart is probably the single most important nursing tool in assessing incontinence. At the same time it is often also the most misused".

It is surprising, therefore, to find only very limited evaluation of its use within the nursing and medical literature.

Variously described as continence/incontinence charts, frequency-volume charts, base-line charts, bladder, voiding or micturition records, they may provide an additional, objective method of investigating urinary problems (Abrams, Feneley and Torrens 1983). In some cases, it is suggested that the completion of a chart may be all that is necessary for an assessment (Torrens 1984).

Charts can be used to collect a variety of information. They can provide base-line recordings of periods of continence and incontinence (Fader 1987, Norton 1986, Ouslander 1986, Johnson 1980), identify the pattern of incontinence (Feneley 1984, Willington 1969), help to estimate the volume of urine loss in an episode (Rooney 1987, Robinson 1984a), identify factors associated with episodes of incontinence (Ouslander 1986, Willington 1969), help in estimating the average and the maximum

functional bladder capacity (Abrams, Feneley and Torrens 1984, Blannin 1984), and provide a measure of both the total volume of urine passed in 24 hours (Blannin 1984) and the daily fluid intake (Rooney 1987, Johnson 1980).

A number of different types of charts have been suggested, the content of which varies according to requirements and the setting in which they are to be used (Rooney 1987, Brown, Corcoran and Chisholm 1986, Brocklehurst 1985, Clay 1978, Willington 1976b). At its simplest, the time and the volume passed on voiding over a 24 hour period is recorded as accurately as possible either by the patient or those providing the care (Blannin 1984, Torrens 1984).

To date, studies evaluating the precise diagnostic value of charting in assessing incontinence are not available. An anecdotal account, however, by Brown, Corcoran and Chisholm (1986) described the use of daily frequency -volume charts for out-patients attending a continence clinic. The investigators suggest that the interpretation of information recorded from such charts differentiate genuine stress incontinence, detrusor instability, unhealthy voiding habits, chronic infection, anxiety, autonomous bladder and premenstrual tension.

Isaacs (1979b) investigated the resources available for the assessment and management of incontinence in 105 geriatric departments in the U.K. Several departments (the precise number is not given) stated that shortage of nursing staff was one reason for not making full use of incontinence charts. When charts are utilised, their use is limited to the accuracy with which they are completed (Rooney 1987, Norton 1986).

Patient's compliance with the completion of charts, however, has been reported to be good (Shah 1984). In the United States, Ouslander, Urman and Uman (1986) developed an incontinence chart which enabled information to be more easily and clearly recorded by nursing staff. Standardised in-service instructions were given and its use was compared with the existing records employed in three nursing homes. The new charts were well accepted and nursing compliance for their completion was higher than

for the normal records used. The accuracy with which information was recorded, measured by the level of inter-rater reliability between nurses, was also found to be higher than for the usual records used.

The length of time suggested for completing such charts, as part of an assessment, varies from between 48 hours (Resnick and Yalla 1985, Brocklehurst 1967) up to two weeks or longer (Rooney 1987, Godec 1984, Autry, Lauson and Holliday 1984). In the United States, Robb (1985) studied 44 elderly incontinent men living in the community and found that the charting of episodes of incontinence for a three day period enabled 38 patients (86%) to be classified into the same diagnostic categories as did similar charting over a seven day period. Charting for three days, in the home setting, appeared adequate to determine the number and pattern of episodes of incontinence as well as associations with relevant events, such as activity levels and fluid intake. She also found that the completion of the chart for three days was more acceptable to patients and care-givers with time constraints.

Clinical Assessment

The clinical assessment provides a major source of information in identifying causes of incontinence (Ouslander, Urman and Uman 1986, Abrams 1984, Farrar 1984, Wein 1984, Castleden and Duffin 1981, Brocklehurst 1978b, Stanton 1978). The data collected relates not only to physical aspects but to psychological and environmental dimensions as well. The patient's functional ability (for example mobility, manual dexterity, communication function) and mental ability are considered important factors (Fader 1987, Feneley 1986, Norton 1986, Ouslander 1986, Shepherd and Blannin 1986, Thompson 1983, Williams and Pannill 1982).

test

A formal cognitive functioning test may be required (Norton 1986, Feneley 1984). Fader (1987) suggests that difficulties with toileting skills may be identified by observing the patient's ability to rise from his chair, walk to the toilet, remove clothing and sit down on the toilet. Ouslander (1986), referring specifically to the elderly, commented that to date none of the standardised tests of mental and physical function

commonly used have been examined for their effectiveness in identifying which patients should be capable of independently using a toilet receptacle. Smith and Smith (1987) have developed a rating scale, primarily for use with disabled children and adults, in which they attempted to highlight problems with individual toileting skills. So far, however, the use of this instrument has not been evaluated or tested for reliability or validity. Brink and Wells (1986) highlighted the need to assess environmental factors which may cause or exacerbate incontinence. This assessment may also necessitate a home visit (Kennedy 1984, Thompson 1983, Antrobus 1982), in which consideration can be given to such factors as the adequacy, accessibility and location of toilet facilities, the provision of a laundry service or the availability of carers.

Within an institutional setting, factors such as the bed and chair height (including the angle of the seat), the need for mobility aids, a working call bell system, location and accessibility of the toilet facilities and type of clothing are factors which should be considered as part of the environmental assessment (Brink and Wells 1986, Brocklehurst 1985, Blannin 1984, Antrobus 1982, Hu 1982).

Observing and timing patients' ability to get to a toilet from a defined starting point may be helpful in the assessment of incontinence (Burgio, McCormick and Burgio 1985, Ouslander and Orzeck 1985, Williams and Pannill 1982, Brink and Wells 1986). Chalifoux (1980) recommended that measuring the time between the onset of urge to void and the need to void is essential in the elderly. She has suggested that nurses teach patients to measure these "warning" times by means of a stop watch. Such information, she suggested, could assist nurses in helping patients to regain continence.

The use of medication which may alter bladder function, such as diuretic and anticholinergic drugs, should also be noted (Norton 1986, Brocklehurst 1984b, Feneley 1984, Field 1979).

During the physical examination, it is important to try to demonstrate incontinence (Schmidbauer, Chiang and Raz 1986, Robinson 1984a, Williams and Pannill 1982, Bates 1978, Stanton 1978). Examination should therefore be undertaken when the patient has a partially or a "comfortably" full bladder (Bates 1978, Stanton 1978). The patient is asked to cough (or carry out a similar provocative test) in the supine or standing position (Diokno, Wells and Brink 1987, Bates 1978, Frimodt-Moller 1978, Stanton 1978). Diokno, Wells and Brink (1987) found of 200 women examined, 121 showed a positive result, 61% with the standing test and 71% with the supine test. Where leakage is small and occurs simultaneously with coughing or straining, sphincter weakness is considered to be the likely cause (Hilton and Stanton 1981, Bates 1978, Frimodt-Moller 1978). A larger leakage occurring several seconds after provocative testing may suggest detrusor instability (Bates 1978, Frimodt-Moller 1978).

A digital rectal examination to detect constipation or faecal impaction, rectal masses, or an enlarged prostate should also be performed (Leach and Yip 1986, Norton 1986, Resnick and Yalla 1985, Robinson 1984a, Abrams, Feneley and Torrens 1983, Williams and Pannill 1982, Antrobus 1982, Willington 1980, Brocklehurst 1978a).

Residual urine is defined as the volume of urine remaining in the bladder immediately after the completion of micturition (Bates et al 1977). A post-voiding in-and-out sterile catheterisation allows measurement of the residual volume of urine and is considered an important part of the assessment (Fader 1987, Norton 1986, Ouslander 1986, Resnick and Yalla 1985, Shah 1984, Williams and Pannill 1982, Johnson 1980, Willington 1980, Brocklehurst 1978a, Bates et al 1977). A non-invasive technique using ultrasound has been developed to measure bladder and residual volumes (Beacock et al 1985, Ravichandran and Fellows 1983, Rageth and Langer 1982). A precise cut-off point for what constitutes an elevated residual urine has not been determined (Ouslander 1986). In younger patients, the residual volume is usually zero but urine volumes up to 50 millilitres are generally considered acceptable (Norton 1986, Shah 1984). With increasing age, the bladder appears to empty less completely and

there is a tendency for residual volume to increase (Eastwood 1979, Shand et al 1970, Brocklehurst and Dillane 1966a). Williams and Pannill (1982) suggested that in the elderly a residual volume of 50 millilitres should be considered abnormal while Norton (1986) suggests a higher limit of 100 millilitres.

Careful observations of the patient's attitude towards his incontinence, as well as mood and level of motivation, are considered important factors that should be included in the clinical assessment (Ouslander and Orzeck 1986, Norton 1986, Shepherd and Blannin 1986, Willington 1980). Norton (1986) has suggested that, ideally, the physical examination of the incontinent patient should include an assessment of all the major body systems. Particular attention should be paid to abdominal, pelvic and neurological examinations (Williams and Pannill 1982, Brocklehurst 1978a).

A basic neurological assessment to detect any cortical, supraspinal or sacral cord abnormality (with particular attention directed to perineal sensation - S2 to S4), is considered to be an essential part of the clinical examination (Leach and Yip 1986, Norton 1986, Ouslander 1986, Resnick and Yalla 1985, Robinson 1984a, Abrams, Feneley and Torrens 1983, Johnson 1980, Willington 1980, Felder 1979, Brocklehurst 1978b, Stanton 1978). Innervation of the anal sphincter occurs from the same spinal cord segment as that of the lower urinary tract (Resnick and Yalla 1985, Johnson 1980). The anal reflex test can be carried out at the time of the rectal examination and may be elicited by pricking the perianal skin and watching to see if the sphincter contracts reflexly (Leach and Yip 1986, Willington 1980, Felder 1979). The bulbocavernosus reflex may be evoked by digital squeezing of the glans penis (or clitoris in females), which normally produces contraction in the anal sphincter or bulbocavernosus muscle (Leach and Yip 1986, Willington 1980, Felder 1979). Abrams, Feneley and Torrens (1983) pointed out, however, that this procedure may not be tolerated well by the patient and is only positive in about 70% of "normal" people. They suggest that electrophysiological assessment by means of sacral evoked responses is a more reliable method of testing peripheral neural pathways involved in

bladder and urethral function.

Examination of the abdomen by palpation and percussion may detect bladder distention, impacted faeces in the large bowel or abdominal masses (for example ovarian tumour or cyst) (Ouslander 1986, Robinson 1984^a, Abrams, Feneley and Torrens 1983, Thompson 1983). Abrams, Feneley and Torrens (1983) suggested that if pressure on the suprapubic region produces a need to void, the patient is likely to have a full or enlarged bladder. Hilton and Stanton (1981), in their study of 100 elderly incontinent women referred to a urodynamic clinic for assessment, showed that a palpable bladder found during clinical examination identified all those patients with retention of urine. However, Ouslander (1986) and Feneley (1986) point out that clinically significant degrees of urinary retention may be missed by abdominal palpation alone. Inspection of the perineum for redness or excoriation, particularly the skin around the scrotum or vulva, together with observation of the underclothes may confirm or indicate the severity of incontinence (Feneley 1986, Norton 1986, Shepherd and Blannin 1986, Brocklehurst 1984b, Malvern 1981, Stanton 1978). An ammoniacal odour may also confirm urine loss (Malvern 1981). Examination of the external genitalia will highlight any anatomical abnormalities, for example meatal stenosis or phimosis in male patients (Abrams, Feneley and Torrens 1983, Frimodt-Moller 1978). Shepherd and Blannin (1986) suggested that observation of the male genitalia for evidence of retraction of the penis or scrotal herniae for example, may influence the choice of incontinence appliance where such devices are indicated. The pelvic examination in female patients is considered to be of particular importance (Leach and Yip 1986, Ouslander 1986). During examination, instruction for the patient to cough and "bear down" may show evidence of urogenital prolapse (which may be associated with stress incontinence), for example cytocele or rectocele (Leach and Yip 1986, Mandelstam 1984, Robinson 1984a, Abrams, Feneley and Torrens 1983, Harrison 1983, Williams and Parnill 1982, Frimodt-Moller 1978). However Ouslander and colleagues (1986) have reported that of 32 elderly women clinically examined in their study, 13 showed evidence of prolapse but remained continent. A vaginal examination may show signs of atrophic vaginitis and indicate cytological studies of the vagina or cervix,

particularly in post-menopausal women (Leach and Yip 1986, Norton 1986, Brocklehurst 1984b, Robinson 1984a, Abrams, Feneley and Torrens 1983, Williams and Pannill 1982, Frimodt-Moller 1978).

The strength of the voluntary pubo-vaginal contraction can be assessed by asking the patient to tighten the pelvic floor muscles on the clinician's fingers (Shepherd and Blannin 1986, Feneley, Abrams and Torrens 1983, Harrison 1983). A perineometer can provide a more objective method of assessing pelvic floor strength (Shepherd, Tribe and Torrens 1982). Worth, Dougherty and McKey (1986) developed an instrument to measure the circumvaginal muscle contraction. The instrument has been found to be feasible, practical and reliable to use but its usefulness in the assessment and subsequent treatment of incontinence remains to be tested.

Urine analysis

As discussed in section 1.4.4.1, acute urinary infection is considered to be a factor contributing to incontinence, whereas the role of chronic infection remains uncertain (Ouslander 1986, Brocklehurst 1985), particularly in the elderly where asymptomatic bacteriuria has been reported to be common (Nicolle and Ronald 1983, Brocklehurst et al 1977, Akhatar et al 1972, Walkey et al 1967, Sourander 1966). Despite the lack of data to support a clear association with incontinence, most clinicians consider it important to try and eradicate a urinary tract infection in those with incontinence. Willington (1975b) considered that in clinical practice the importance of urine testing is largely overlooked and commented:

"Having got her information, there is usually the slenderest record of the nurse's observations."

Urinalysis to detect proteinuria, glycosuria, haematuria and ketones is considered to be a routine part of the assessment of incontinence (Leach and Yip 1986, Ouslander 1986, Antrobus 1982, Williams and Pannill 1982, Feneley 1984, Willington 1975b). Objective signs such as sediment, malodour and cloudiness of urine may be indicative of infection (Johnson

1980, Willington 1975b). Norton (1986) suggested that urine can also be tested for specific gravity, where a high value may indicate possible dehydration.

A clean catch specimen of urine should be collected for culture and sensitivity microscopy (Fader 1987, Leach and Yip 1986, Norton 1986, Ouslander 1986, Resnick and Yalla 1986, Blannin 1984, Brocklehurst 1984a, Antrobus 1982, Johnson 1980, Willington 1980, Bates 1978, Stanton 1978). Evidence of significant pyuria may indicate urinary tract tuberculosis, calculae, urethral stricture or carcinoma of the bladder (Feneley 1984, Cattell 1974) but is most commonly due to infection. Haematuria in the absence of urinary tract infection may indicate a tumour or other urinary tract pathology (Ouslander 1986, Willington 1980). Glycosuria may indicate diabetes mellitus which can be associated with a peripheral neuropathy affecting detrusor and urethral function (Feneley 1984, Thompson 1983, Willington 1980) as discussed in sections 1.4.2.1 and 1.4.4.4.

Other investigations

Blood screening for blood urea nitrogen and creatinine may also be indicated in patients with suspected renal impairment (Charlton 1984). The visualisation of the bladder and urethra by cystoscopy and urethroscopy may also be a necessary part of investigation, for example in patients with haematuria, chronic urinary tract infection or suspected stones (Abrams, Feneley and Torrens 1983).

Urodynamic investigation

The term "urodynamic" was introduced in the 1960's and refers to a number of investigative techniques (Torrens 1984). These may consist of one or all of the following investigations: urine flow studies, filling cystometry, pressure flow studies during voiding, urethral pressure measurements and electromyography (EMG). These techniques all relate to observations of the changing function of the urinary tract over a period of time (Torrens 1984).

Today, these techniques are generally considered as the "gold standards" for the accurate diagnosis of incontinence (Pamill 1987). Urodynamic facilities are available in a number of departments of urology, gynaecology and geriatric medicine (Torrens 1984, Brocklehurst 1978a). Up-to-date information about the provision of urodynamic facilities in the U.K. has not been reported. A survey of 105 departments of geriatric medicine in the U.K. (Isaacs 1979b) revealed that one fifth had access to urodynamic facilities; another fifth had equipment but this was unused and the remainder had no access to such facilities. Isaacs commented that the majority of doctors without equipment appeared guarded as to its benefits. Torrens (1984) observes that urodynamic investigation has been slow to achieve acceptance and it is by no means universally advocated. Although widely recommended, there remains considerable disagreement among clinicians concerning which patients need urodynamic investigation (Castleden and Duifin 1981, Hilton and Stanton 1981, Malvern 1981, Eastwood 1979, Moolgoaker et al 1976, Svigos et al 1976, Bates, Loose and Stanton 1973, Low and Ming-Shian 1972, Whiteside 1972). This is particularly apparent with the incontinent elderly where little consensus of opinion concerning the value of such investigations appears to exist (Farrar 1984, Abrams, Feneley and Torrens 1983, Castleden and Duffin 1981, Eastwood 1979). Opposing opinions upon this issue are illustrated by the following comments:

"In our experience urodynamic investigation has a very limited role in clinical geriatric practice but can be essential as a pre-operative assessment in the borderline case".

(Abrams, Feneley and Torrens 1983)

"...We regard treatment of urinary incontinence in the elderly without prior cystometry synonymous with that of treating cardiac arrhythmias without electrocardiography".

(Castleden and Duffin 1981)

It is generally assumed that urodynamic investigations should be considered when other, simpler methods of investigation have failed to provide a clear clinical diagnosis (Farrar 1984, Shah 1984, Wein 1984, Abrams, Feneley and Torrens 1983, Blaivas 1982). Precise data suggesting how patients should be selected for urodynamic assessment are lacking

(Pannill 1987) but a number of clinicians have recommended circumstances in which such investigations should be offered.

Abrams, Feneley and Torrens (1983) considered it appropriate to make an objective assessment prior to any surgical procedure. They suggest, however, as have others (Stephenson and Wein 1984, Mohr et al 1983), that women with symptoms of "pure" stress incontinence who are observed to "leak" on clinical examination do not necessarily require such tests.

Alternatively, Eastwood and Warrell (1984) evaluated the use of an algorithmic approach for the diagnosis of urinary incontinence (first reported by Stanton and Hilton 1981), in a prospective series of 76 elderly female patients. The clinical diagnosis obtained using the algorithm was compared with subsequent urodynamic findings. The major errors in clinical diagnosis occurred in patients with stress incontinence who were subsequently diagnosed as having detrusor instability on urodynamic investigation, and the authors suggested that patients presenting with such symptoms do require urodynamic study. Other indications for urodynamic investigations are symptoms of outflow obstruction, abnormal flow rates in males, females with incontinence that is not pure stress in type, and incontinence secondary to neurological disease (Wein 1984, Abrams, Feneley and Torrens 1983). Torrens (1984) highlighted the importance of urodynamic testing in females in order to differentiate between stress and urge incontinence symptoms which often occur together (Hilton and Stanton 1981). Other circumstances where urodynamics are considered to be important include cases where preliminary investigations are inconclusive (Wein 1984), when unsuccessful therapeutic results have been achieved (De Bolla and Arkell 1983), or when patients present with complex symptomatology (Torrens 1984).

A number of objections have been raised about the use of urodynamic investigations. Many of the techniques are invasive, requiring catheterisation and therefore carry a risk of urinary tract infection (Wein 1984). Walter and Vejlsgaard (1978) showed, however, that of 286 females who underwent urodynamic investigation, bacteruria occurred in

five (2%) of the patients with initially infection-free urine. They therefore concluded that the risk of introducing urinary tract infection during urodynamic studies was low.

Urodynamic techniques create an artificial situation in which to evaluate a physiological process (Wein 1984). The attendant risk of artifacts generated by the testing situation or technique itself may, therefore, influence the results obtained. The interpretation of urodynamic findings and their clinical significance are open to debate since "normal" urodynamic values and patterns are not particularly well defined (Torrens 1984, James 1978). As previously discussed in section 1.5.5, studies such as those of Brocklehurst and Dillane (1966a) have shown that bladder function appears to alter with age and that abnormal urodynamic findings are common in continent elderly people. Eastwood (1979), therefore, stressed the need to take such findings into consideration when interpreting urodynamic results obtained from elderly people. Hilton and Stanton (1981) stated that discomfort and distress may result from such investigations, particularly in the elderly with physical disease or mental impairment. Farrar (1984) has questioned the practicability of performing urodynamic investigations on patients whose mobility may be very limited. Eastwood and Smart (1985) in a study of 64 elderly disabled males found that only 13 (20%) had a definite cause of incontinence established by urodynamic studies; they attributed the low success rate to difficulties in obtaining co-operation, particularly for voiding studies, where micturition to command under test conditions was difficult to achieve. However, in Canada, Fernie et al (1983) investigated 65 elderly patients with incontinence for symptoms of urgency, and found that almost all of these patients (the precise number is unreported), even those with multiple disease or dementia, were able to undergo urodynamic investigation successfully.

Urine flow studies

Urine flow is a product of both detrusor and urethral function and is defined as the volume of urine expelled from the urethra in millilitres per second (Abrams 1984). Urine flow studies are considered the simplest

of the urodynamic techniques and are non-invasive (Abrams, Feneley and Torrens 1983). Abrams (1984) suggested that urine flow studies should be regarded as a screening test, and an essential preliminary to all other urodynamic testing. Urine flow studies are recommended for the routine pre-operative and post-operative assessment of lower urinary tract surgery and in particular the investigation of outflow obstruction - for example suspected prostatic hyperplasia in males (Abrams 1984, Shah 1984, Robinson 1984a). Low urine flow rates may indicate either bladder outflow obstruction or an inefficient detrusor contraction (Robinson 1984a). Bottacinni and Cleason (1980) found that the maximum flow rate was significantly lower in women with stress incontinence when compared with that of normal women.

Cystometry

Urine flow studies are considered useful, non-invasive tests but for further information concerning lower urinary tract function other techniques may be required (Abrams 1984). Cystometry is the method by which the pressure/volume measurements of the bladder are obtained (Bates et al 1977).

Stephenson and Wein (1984) have outlined the main areas for enquiry which should be considered during cystometric analysis. During the filling phase of the cystometrogram, questions relating to the bladder, in particular the detrusor pressure, bladder sensation and bladder capacity together with questions about the sphincter mechanisms are important. During the voiding cystometrogram, further information relating to the bladder, for example, the presence and type of detrusor contraction, type of voiding, and residual urine, together with information relating to urine outflow, such as outflow obstruction, and type of obstruction should be sought.

The principles of cystometric analysis are well covered elsewhere (for example Abrams, Feneley and Torrens 1983) and will not, therefore, be included for the purposes of this literature review.

During the bladder filling stage, the patient is asked to indicate when the first desire to void occurs and the maximum capacity volume at which there is a normal, strong desire to void (Norton 1986, Abrams, Feneley and Torrens 1983). If sensation is normal, discomfort is usually experienced by the time the volume of 600 millilitres is reached (Stephenson and Wein 1984). Any leakage of urine during the procedure is noted (Norton 1986). Once filling has ceased, the filling catheter is removed leaving the pressure measurement catheter in situ for measurement of voiding pressure (Abrams, Feneley and Torrens 1983). The patient undergoes various provocative tests such as coughing, jumping, straining, drinking cold water etc. in order to provoke detrusor instability or genuine stress incontinence (Norton 1986, Abrams, Feneley and Torrens 1983). The intravesical pressure when the bladder is empty varies according to patient position and with factors such as obesity, but is usually less than 40 centimetres of water (Abrams, Feneley and Torrens 1983). The detrusor pressure is independent of posture and should be less than 10 centimetres of water (Abrams, Feneley and Torrens 1983). It is generally agreed that any significant rise in detrusor pressure on filling or provocation of the bladder is abnormal (Stephenson and Wein 1984). Most bladders are very compliant (accommodate increasing volumes of urine) and pressure rises are small, less than 10 centimetres of water at about 300 millilitres and less than 15 centimetres of water at full bladder capacity (Stephenson and Wein 1984, Abrams, Feneley and Torrens 1983, Harrison 1976). The normal bladder does not contract during the filling phase (Norton 1986, Abrams, Feneley and Torren 1983). When the patient has been asked to inhibit voiding, the presence of contractions exceeding 15 centimetres of water indicates an uninhibited detrusor contraction (Bates et al 1977). It is usual during the procedure to ask the patient to initiate voiding (Stephenson and Wein 1984), and the bladder should contract smoothly (with pressures around 30-60 centimetres of water for females and 50-80 centimetres of water for males) (Norton 1986, Harrison 1976, Stanton 1972). The flow should start very soon afterwards and the bladder empty completely (Norton 1986).

Urethral pressure measurements

The urethral response to bladder filling and postural change may be important in the diagnosis of bladder dysfunction (Abrams, Feneley and Torrens 1983). The urethral pressure is the pressure at a given point along the urethra (Mundy 1984). The urethral pressure profile is defined as the intraluminal pressure along the length of the urethra with the bladder at rest (Abrams 1984, Robertson 1984, Bates et al 1975).

The normal urethral closure mechanism maintains a positive urethral closure pressure during filling even in the presence of increased abdominal pressure (Bates et al 1979). Normally, urethral pressure increases on standing and increases as the bladder fills (Abrams 1984). Tanagho (1979) in a study of 500 women (aged between 13-80 years) has shown that in patients with genuine stress incontinence the maximum urethral pressure tends to fall when the patient stands up and when the bladder fills. Similar findings have been reported by Edwards and Malvern (1974).

In addition to the assessment of incontinence, other indicators for filling cystometry include investigations for frequency and urgency, neurological disorders, sensory disturbances, and for monitoring the effects of drugs on the bladder (Abrams, Feneley and Torrens 1983). Indications for voiding cystometry include the identification of obstruction and the assessment of detrusor contractility (Torrens 1984).

Electromyography

Electromyography (EMG) is the study of the bioelectric potentials generated by the depolarisation of skeletal muscle (Wein 1984). It is a technique which can be employed to assess the integrity of the innervation to the striated pelvic floor and the perineal muscles and the supraspinal neurological pathways involved in lower urinary tract function (Blaivas 1984). Recording is performed either from a surface electrode or a needle electrode within the muscle (Abrams, Feneley and Torrens 1983, Felder 1979). EMG is not considered necessary for the

assessment of the majority of bladder dysfunction except in cases of certain neurological disturbances (Torrens 1984).

1.7 THE TREATMENT AND MANAGEMENT OF URINARY INCONTINENCE

Isaacs (1983) noted that in comparison with other conditions, research on which effective nursing and medical practice for incontinence sufferers could be based is small. Williams and Parnill (1982) pointed out that many research reports which describe interventions to help incontinent people are anecdotal, use poorly defined terms and methods, lack control subjects and have little follow-up data. A further hinderance to interpretation of results is the lack of explicit criteria for incontinence, its cure or improvement (Hadley 1986). The efficacy of many interventions used in the treatment and management of incontinence, particularly in the elderly, thus remain to be determined (Hadley 1986, Ouslander and Uman 1985, Brocklehurst 1984b, Norton 1983). Precise data to better define the types of patients most likely to benefit from different treatment methods are also needed.

In spite of a pressing need for further research in this field, a wide variety of treatment and management options are currently available, choice being dictated by the type of incontinence identified during assessment (Norton 1986, Brocklehurst 1984b, Kennedy 1984, Willington 1978).

A review of the main treatment and management strategies currently available for incontinence is presented. As the emphasis of this thesis is from a nursing perspective, greater attention has been paid to interventions for which nurses have particular responsibility. Thus, whilst the importance of surgical intervention and drug therapy are acknowledged, these areas will be only briefly addressed.

1.7.1 Training regimens/toileting programmes

Whilst the treatment or management of incontinence should be based on a team approach, the initiation and carrying out of interventions, collectively referred to as "training" regimens, or toileting programmes is generally considered to be the responsibility of the nurse (Norton 1983, O'Brien and Pallett 1978, Willington 1975b, Strykker 1971).

However, Willington (1979) observed that:

"Nursing training of incontinent patients is performed as a sacred ritual rather than a planned activity".

A wide variety of training strategies are to be found in the literature. The terms used to describe such methods are inconsistent and explanations of their implementation not always provided; this makes comparisons between studies difficult. For example, bladder training, or re-training, bladder drill, habit training, nurse training, bladder conditioning or bladder re-education are terms used either inter-changeably to describe similar methods of treatment, or are referred to as distinctly different types of intervention. To date, plans to standardise such terminology by the International Incontinence Society Standardisation Committee have not been developed. It would appear that there is a need to do so, however, if the precise value of these training methods is to be properly evaluated. For the purposes of clarity, studies have been classified according to similarity of method employed, rather than according to the terminology used.

Bladder training

Norton (1986) stated that bladder training or re-training is a much mis-used and misunderstood term in nursing. She commented that in practice, it often amounts to little more than reminding the patient or taking her to the toilet every two hours.

When used appropriately, bladder training aims at restoring a normal and convenient pattern of micturition, and involves the progressive extending of intervals between voiding, typically to three or four hours (Hadley 1986, Norton 1986, Frewin 1982, Frewin 1979). Based on information obtained from a micturition chart (Smith and Smith 1987), patients may be assigned to a voiding schedule and instructed to suppress the urge to void until the next scheduled time. Alternatively, the patients themselves may gradually extend the voiding interval at their discretion, but may void before the allotted time if needed (Hadley 1986). Bladder training appears to be the most suitable method for use in patients with symptoms of frequency, urgency and urge incontinence - with or without detrusor instability (Hadley 1986, Norton 1986).

Studies to evaluate bladder training have been mainly carried out in middle-aged women, although most study samples also included elderly patients in hospital or out-patients. Success rates vary from 44% to 97% (Frewin 1982, Fantl, Hurst and Dunn 1981, Jarvis 1981, Elder and Stephenson 1980, Jarvis and Miller 1980, Pengelly and Booth 1980, Frewin 1979).

Studies by Jarvis and Miller (1980) and Pengelly and Booth (1980) included control subjects, and each reported considerably better responses in the treatment group. In a randomised trial of bladder training compared with drug therapy (flavoxate hydrochloride and imipramine) by Jarvis (1981), bladder training showed markedly better results. A study by Fantl, Hurst and Dunn (1981) comparing bladder training and anticholinergic drug therapy (type not specified) with bladder training alone showed no significant differences in response between the two therapies.

Most investigators stressed the need for patients to have a clear understanding of their disorder as well as a full explanation of how to carry out the bladder training regimen. In a number of studies, patients were given written information as well as verbal instructions. Norton (1986) stated that the key to successful bladder training was accurate record keeping and frequent, supportive professional contact. Bladder

training is generally recommended as first line treatment for frequency and urge incontinence (with or without detrusor instability) either alone, or in association with drug therapy (Castleden, Duffin & Gulati 1986). To date, however, studies to evaluate the benefits of bladder training in patients with a neurological basis for frequency and urge incontinence do not appear to have been carried out; thus, the efficacy of bladder training in this patient population is unknown.

Habit training

In this approach, patients are initially assigned a toileting schedule (typically two hourly) and encouraged to void at such intervals (Hadley 1986, Whitehead, Burgio and Engel 1984, Clay 1978). A base-line chart is used to monitor the patient's individual pattern of continence and incontinence and the toileting schedule is adjusted to fit the patient's individual voiding pattern (Clay 1978). When continence is achieved, the timing intervals between voidings are lengthened; if incontinence persists, the times between voids are shortened (Clay 1978). Whitehead, Burgio and Engel (1984) noted that if patients are toileted too frequently there is a risk that bladder shrinkage will occur.

Clay (1978) carried out a study to evaluate a habit training programme in 20 male and 11 female incontinent patients (mean age 79) in two care of the elderly wards. At 13 weeks into the programme, 20 patients became continent, five were partially so (not defined), in five there was no change and one patient had died. Ritch and Rooney (1984) found that of 246 elderly incontinent people living in the community who were referred to a continence rehabilitation team, 86 were considered suitable for habit training (36 were males). Analysis of micturition charts showed that 53% became continent, 37% were substantially improved (not defined) and 7% gained some improvement (not defined). Habit training appears to be successful with patients both with physical and mental impairments, but more rigorous, controlled studies are needed. Norton (1986) suggested that the greatest benefit of habit training may be to "re-train" staff to recognise individual toileting needs.

Set-interval toileting/prompted voiding

Set-interval toileting consists of prompting or taking the patient to pass urine at fixed times, for example every two hours or at particular events such as before and after meals (Hadley 1986, Norton 1986, Kennedy 1984). Ouslander and Fowler (1985), in a study of 90 nursing homes in the United States, found fixed two-hourly toileting was the main form of management of non-catheterised patients. This is also considered to be the most common method for managing incontinence in care of the elderly wards and residential homes in the U.K. (Norton 1986, Kennedy 1984).

Hu et al (1984) carried out a controlled study to evaluate the effectiveness of a toileting programme in four nursing homes in the United States. The programme consisted of nursing staff giving the residents in the *intervention* group two-hourly prompts to void. No statistical differences in level of incontinence were observed between the intervention and control groups at 13 week follow-up. Sogbein and Awad (1982) evaluated a two-hourly toileting programme in 20 male patients (age not specified) in a rehabilitation ward; the majority of the patients had detrusor instability. After a four week period, they found a noticeable reduction in level of incontinence (defined as incontinent less than 20% of the time when checked two-hourly by nursing staff) in 17 of the 20 patients. Godec (1984) found that 15 female patients (aged 24-94 years) with stress and urgency incontinence and a history of infrequent voiding were completely dry following a two-hourly voiding schedule carried out for a minimum of two weeks.

Castleden and Duffin (1981) developed guidelines for the toileting management of incontinent elderly patients. They stated that no patient should be started on a toileting regimen without a prior clinical examination and that toileting would be unsuccessful in patients with unstable detrusor contraction at filling volumes less than 150 millilitres. Thus, an attempt to estimate the patient's bladder capacity should be made. They also recommend that toileting regimens should be four-hourly, patients should be relatively mobile and, before discharge,

a social assessment should demonstrate the feasibility of this management at home.

Voiding techniques

Several techniques to stimulate voiding, for example in patients with post-operative retention of urine or paraplegia, are recommended in the literature, although none appear to have been systematically evaluated. Johnson (1980) and Delehanty and Stravino (1970) suggested stimulating cutaneous "trigger" areas which initiate a bladder contraction by stroking the thigh, abdomen or genitalia. Digital stimulation of the anus and rectum have also been reported as effective (Calder 1976, Delehanty and Stravino 1970). Warm water over the perineum, or running tap water may also stimulate micturition (Norton 1986).

The crede or valsalva manoeuvre help patients with autonomous bladders to void (Johnson 1980), but in recent years intermittent self-catheterisation is the preferred method (personal communication Malone-Lee 1986) (discussed in section 1.7.6).

1.7.2 Behavioural modification techniques

Alteration of toileting habits

Attempts to restore continence (or the acquisition of continence in those who have never been continent) through alteration of toileting habits based on theories of behaviour modification have been well reviewed by Smith and Smith (1987). Thus, management is based on principles of operant learning so that behaviours which are followed by favourable consequences will be repeated and that behaviours which are punished, or not rewarded, will disappear (Whitehead, Burgio and Engel 1984). Such techniques have either been used alone, or in conjunction with habit training, prompted voiding or other toileting programmes.

Burgio and Burgio (1986) stated that these methods are most appropriate in institutional settings, and the majority of studies have been carried

out with mentally handicapped children or adults (Tierney 1976, Smith 1979), psychiatric patients (Carpenter and Simon 1960, Grosicki 1968) or the elderly with dementia (TARRIER and LARNER 1983). Favourable results following training programmes in mentally handicapped children and adults have been reported by Tierney (1976) and Smith (1979). Grosicki (1968) in a study of 20 elderly psychiatric males using a system of token and social reinforcement was unsuccessful; patients in the control group showed a significant reduction in incontinence compared with the experimental group. Patients in this study, however, were not randomly assigned. Carpenter and Simon (1960), in a study of 94 psychotic patients (mean age 62 years), compared three different training programmes with a control group. Patients received either regular two-hourly toileting alone, or two-hourly toileting and verbal approval for successful continent behaviour, or the same plus permission to wear personal clothing if they were continent. Patients were not randomly assigned to treatment groups, thus only within-group comparisons can be made. Within the first month of training the group receiving clothing privileges showed a sustained decrease in frequency of incontinence from 4.6 to 0.5 incontinent episodes per week. The verbal approval group also showed significant reductions from 4.5 to less than 0.5 episodes per week but required longer than two months of training to achieve this. Neither the two-hourly toileting alone nor the control group showed consistent decreases in incontinence.

Results from studies which have employed behaviour modification techniques are variable. In the majority of such studies, little attempt has been made to establish whether any underlying causes of incontinence exist.

Biofeedback

Biofeedback is a form of behavioural training that aims to restore continence by altering the physiological responses of the bladder and the pelvic floor muscles (Burgio and Burgio 1986). Thus, by operant learning, physiological change can be achieved in suitably motivated individuals who learn by observing the results of their attempts to

control bladder and sphincter responses voluntarily (Burgio and Burgio 1986).

The earliest report of biofeedback was by Wilson (1948), who reported that of 23 elderly patients, 10 with urgency or incontinence were improved or completely continent following a diagnostic cystometrogram. During the procedure, bladder pressure readings were available to patients and may have provided them with feedback that allowed them to acquire better control.

More recent studies have also shown favourable results. Biofeedback studies utilising visual and auditory cues, by Cardozo et al (1978a, 1978b) in 27 women (18-64 years) with urge incontinence resulted in improvement in 81%, and 41% of the women were judged to be cured.

Other studies have investigated the importance of biofeedback in the treatment of stress incontinence (Burgio, Robinson and Engel 1986, Shepherd, Montgomery and Anderson 1983) and will be discussed in section 1.8.3 on pelvic floor exercises.

Hypnotherapy

Freeman and Baxby (1982) hypothesised that if psychological factors play a part in detrusor instability, then applying psychological influences such as hypnotherapy should have some effect. They carried out a study with 50 women (mean age 44 years) diagnosed as having detrusor instability who had 12 sessions of hypnosis over a one month period at an out-patient clinic. At the end of the treatment, 29 women were symptom free and 14 had improved, while seven remained unchanged. Of 44 women who had cystometry three months later, 22 were found to have stable bladders, 16 showed significant improvement and six showed no objective improvement. The authors acknowledged the lack of a control group as a flaw in study design but considered it unethical to ask patients to attend a clinic 12 times and receive no treatment. The role of hypnotherapy in the treatment of incontinence requires further investigation.

1.7.3 Pelvic floor: exercises

Re-education of the pelvic floor muscles is considered first-line treatment for stress incontinence (Brocklehurst 1985, Brown 1977). Kegel (1956) first described the use of such exercises and developed the perineometer which allowed women to measure the strength of pelvic floor contractions during daily exercise. The exercise involves gaining awareness of the perivaginal muscles and learning to contract and relax these muscles (Wells 1988).

Henalla et al (1989) randomly compared three treatments in 100 women (age not reported) suffering from stress incontinence. Women either carried out pelvic floor exercises initially taught by a physiotherapist, interferential therapy (electrical stimulation of the pelvic floor) or received oestrogen treatment. Women were randomly allocated to treatment or a control group. After three months, 65% of the women in the exercise group had significantly improved, compared to 32% who received interferential therapy and 12% oestrogen treatment. At nine months follow-up, 50% of the women in the exercise group still showed benefit. The authors do not specify whether severity of incontinence was measured at the start of the study, nor do they distinguish between cure and improvement in incontinence.

Positive results evaluating the use of pelvic floor exercises have been reported by others (Castleden, Duffin and Mitchell 1984, Shepherd, Montgomery and Anderson 1983) but the benefits of biofeedback using a perineometer are contradictory. Castleden, Duffin and Mitchell (1983) found no statistical differences between women who used a perineometer while carrying out exercises to those women who exercised alone. Shepherd Montgomery and Anderson (1983), however, found that 91% of the women using a perineometer in conjunction with exercises, compared with 55% of those women who carried out exercise alone, were cured or improved.

Wells (1988) pointed out that there is considerable variability in methods of pelvic floor exercise. Further research is needed, therefore,

to find out which method is most effective in strengthening the pelvic muscles.

The benefits of the use of electrical treatments, faradism and interferential therapy, in the treatment of stress incontinence has still to be determined (Harrison 1983).

1.7.4 Surgical intervention

Surgical correction in women with moderate or severe genuine stress incontinence, and otherwise stable bladders, may be indicated if other less invasive methods have proved unsuccessful (Stanton 1986). Surgery may be carried out as either a vaginal or a suprapubic procedure (Schmidbauer, Chiang and Raz 1986, Stanton 1986), the latter method being considered the more successful (Stanton 1986).

Surgical intervention is the mainstay of treatment for prostatic obstruction (Kirshen 1983). Prostatectomy may be performed by the transurethral, retropubic or suprapubic approach with, according to Blaivas and Berger (1986), approximately equal efficacy. Blaivas and Berger (1986) pointed out that older men with cerebrovascular disease or other neurological impairment, as well as prostatic obstruction, are likely to have involuntary detrusor contractions as a consequence of both conditions. While prostatectomy usually relieves the obstruction, there is a risk of persistent incontinence as a result of detrusor instability in approximately 50% of such patients (Blaivas and Berger 1986).

Surgical treatments for detrusor instability include bladder distention (Dunn et al 1974), and central or peripheral bladder denervation (Schmidbauer, Chiang and Raz 1986).

1.7.5 Drug therapy

Drugs used to treat incontinence may be classified into three groups, namely anti-diuretic drugs, drugs to diminish or increase bladder excitability, and oestrogens (Brocklehurst 1985). Drugs commonly used to

treat detrusor instability are anticholinergic and antispasmodic agents, alpha-adrenergic agonists and oestrogens for stress incontinence and cholinergic agents and alpha-adrenergic blockers for overflow incontinence (Ouslander 1986). The use of drug therapy in the management of urinary incontinence has been extensively reviewed by Ouslander and Sier (1986) and Brocklehurst (1984b).

1.7.6 Intermittent catheterisation

The theory underlying intermittent catheterisation is that an over-distended bladder reduces blood flow to its tissue and the decreased blood flow lessens tissue resistance to infection (Lapides et al 1972). Regular bladder emptying prevents over-distention with its attendant risk of infection (Wells 1988).

Sterile intermittent catheterisation was first used in patients with spinal cord injuries in the First World War (Marks and Barr 1977). Intermittent catheterisation involves the periodic introduction of a catheter into the bladder to drain urine leaving the patient catheter-free in between times (Norton 1986). Lapides et al (1972) introduced the clean (non-sterile) technique of intermittent catheterisation which was associated with little risk of associated urinary tract infection. Children with spina bifida have been successfully taught to use self-catheterisation (Kaye and Van Blerk 1981) and the technique has been extended to the management of all categories of people with voiding disorders (Norton 1986).

Marks and Barr (1977) examined the efficacy of intermittent catheterisation in 30 hospitalised patients (37-77 years) who had suffered a stroke. Half of the patients were treated in the first week, and the remainder up to one month, following their stroke. Patients were catheterised every six hours until the post-void residual was less than 120 millilitres. Twenty seven of the 30 patients were found to void satisfactorily after this treatment. Although the investigators did not test for urinary tract infection, they claimed that this was an effective method to reduce the risk of infection. Marks and Barr stated that one

of the factors for the success of the method was the availability of informed and enthusiastic nurses who were willing to persevere and ensure the regimen was carried out.

Bennett and Diokno (1984) reported a retrospective analysis of 65 patient's between the ages of 60 and 80 years (34 males, 31 females), trained to use intermittent catheterisation. The majority of patients (86%) had little difficulty mastering the technique. The most common indication for the treatment was autonomous or a decompensated bladder, and half of these patients had an associated debilitating disease. After careful instruction, even patients with poor hand dexterity were able to carry out the technique.

1.7.7 Environmental adaptations

Adaptations to the environment, for example, alterations to existing toilet facilities (eg. grab rails, raised toilet seats), the provision of toilet alternatives (eg commodes), appropriate seating, and facilitating access to toilet areas are methods of continence management which have been reviewed by Brink and Wells (1986).

The importance of enhancing the "social" environment as a means of reducing incontinence has also been highlighted (Norton 1986, Isaacs 1976, Dunn and Strang 1970). Dunn and Strang (1970) introduced an "activity" person into a ward for the long-term care of the elderly in an effort to increase the patients' mental and physical wellbeing. At the end of three months the authors concluded that the intervention had little effect on the level of incontinence but the morale of the patients and the nursing staff had increased. Alternatively, Goat (1988) reported a reduction in incontinence in 12 patients in a long-term care of the elderly ward following the introduction of a nurse therapist who provided ward-based activities and outings. More carefully designed studies to evaluate the benefits of such interventions are needed.

Other measures of continence management such as ensuring an appropriate diet, bowel management, a sensible fluid regime and suitable clothing

have also been highlighted (Norton 1986, Shepherd and Blannin 1986, Brocklehurst 1985, Castleden and Duffin 1981, Clay 1980).

Several studies undertaken in care of the elderly settings have reported a reduction in the level of incontinence as a consequence of a number of environmental adaptations as reviewed above (Mandelstam and Tuck 1986, King 1980, Lepine, Renault and Stewart 1979). Unfortunately, none of these studies are methodologically rigorous, and in particular they lack explicit definitions of outcome measures. Tobin and Brocklehurst (1986) carried out a controlled study in residential homes for the elderly, in which the treatment group received two-hourly toileting, drug therapy (unless contraindicated) and in female residents, pelvic floor exercises. A reduction in daytime incontinence of 40% compared with 29% in the control group was observed, while a reduction in night-time incontinence of 41% in the treatment group and 23% in the control group was reported.

1.7.8. Aids and appliances

There are a number of devices to keep the patient dry. Their use is considered appropriate for short-term management or in cases of intractable incontinence (Clay 1986, Norton 1986, Shepherd and Blannin 1981). Norton (1986) and Smith (1984), among others, stressed the importance of a thorough patient assessment prior to the use of such aids and that patients and carers should be instructed in their use.

Occlusive devices

These devices work by compressing the urethra (Brink and Wells 1986, Norton 1986). Shepherd and Blannin (1981) considered that none are satisfactory except as short-term measures. The aim of such devices in women is to restore the anatomical relationship by lifting and supporting the bladder neck and urethra (Norton 1986). Ring pessaries are considered useful in some women with vaginal prolapse (Norton 1986) but Shepherd and Blannin (1981) expressed doubt as to their effectiveness in controlling urinary incontinence. A tampon is recommended for some women

who experience mild stress incontinence (Brink and Wells 1986, Norton 1986).

Collecting devices

Collecting devices are fitted to the patient and worn as a garment (Brink and Wells 1986). For male patients, there are a number of body worn appliances, dribble pouches and penile sheaths available (Brink and Wells 1986, Norton 1986). As already discussed in section 1.6.1, there is evidence that penile sheaths can be associated with skin disorders, including penile necrosis, and urinary tract infections (Ouslander, Greengold and Chen 1987, Jayachandan, Mooppan and Kim 1985). Fewer collecting devices exist for use by women. Brink and Wells (1986) described the latest model available in the United States based upon a design developed by NASA.

Absorbent products

Numerous absorbent disposable and re-usable products to contain urine and protect clothes, furniture and bedding are currently available. Information about their use, availability and cost is limited although a small number of studies have evaluated the use of some of these products, for example, Fader et al (1986), Egan, Thomas and Meade (1985), Smith (1985), Malone-Lee, McCreery and Exton-Smith (1982).

Absorbent products can be classified into pads, pads and pants, all-in-one pads ("diapers"), protective underpads (for use on chairs, beds, etc), and bed protection (Brink and Wells 1986).

Indwelling catheters

It is generally agreed that indwelling catheters should only be used when other, less invasive methods of incontinence management have failed (Turpie and Skelly 1989, Norton 1986).

The uses of indwelling catheters have been well reviewed and investigated by others such as Roe (1989), Kennedy (1985) and Kennedy and Brocklehurst (1983, 1982). Their use in the management of urinary incontinence will not, therefore, be considered here.

1.8 URINARY INCONTINENCE; IMPLICATIONS FOR NURSING

1.8.1 The nature of nursing

The most widely quoted definition of nursing is that by Henderson (1978) who stated that it was:

"...a 24 hours service that helps human beings with their essential daily activities when they lack the strength, knowledge or will to carry them out unaided, and to work towards the development of a healthy independence".

That nursing is fundamentally concerned with fulfilling people's needs for everyday activities of living is undisputed (Wilson-Barnett 1988, Crow 1986, McFarlane and Castledine 1983, Roper, Logan and Tierney 1980). The challenge and importance of such work was emphasised by Wilson-Barnett (1988) who stated that the fulfilment of patients' basic needs must be recognised as a skilful and thoughtful nursing activity. Nursing is thus concerned with health promotion and preventive care, helping to restore the individual's deficits in self-care ability; when the patient does not regain full independence, nursing maintains the self-care function while maximising the contribution of the individual (Wilson-Barnett 1988, McFarlane and Castledine 1982).

Current views of nursing endorse the belief that its focus should be the whole patient, encompassing not only physical, but also psychological and social dimensions of patient care (Wilson-Barnett 1988, McFarlane and Castledine 1983, McGilloway 1980, Ferguson 1979, Henderson 1966).

Henderson (1966) described the role of the nurse as dependent (ie. one which assists the physician) and inter-dependent (ie. helping other members of the health care team to carry out programmes of care). She also identified the unique function of the nurse as an independent practitioner in her own right. This was later acknowledged in the Royal College of Nursing document (1981) on Standards of Nursing Care which stated that:

"Nurses occupy a unique role in the care of the patient, being physically located in wards with patients 24 hours of every day and providing continuity of care equalled by no other profession".

1.8.2 Recent developments in nursing

Until the early 1960's, it is claimed that nursing practice was largely based upon intuition and empathy (Aggelton and Chalmers 1987). In institutional settings, nursing work was organised predominantly towards tasks rather than in response to patients' needs (Wilson-Barnett 1988). In recent years, the need for a more systematic approach to the planning and delivery of nursing care was identified (Aggelton and Chalmers 1987). Thus, the Nursing Process, defined as "a planned, systematic approach to nursing care of the individual patient" (Hayward 1986) became the official means of delivering nursing care in the United Kingdom, recognised by the General Nursing Council for England and Wales in 1977 (GNC 1977). The delivery of nursing care, through the introduction of the Nursing Process, is intended to be problem-orientated and based upon an assessment of physical, psychological and social aspects of individual patients needs (McFarlane and Castledine 1983, McGilloway 1980). In spite of differences in terminology, the Nursing Process essentially comprises the collection of data and identification of patient problems (assessment), goal setting and the planning of care, intervention and, finally, evaluation of the outcome of care (Aggelton and Chalmers 1987, McFarlane and Castledine 1983, Luker 1981, Kratz 1979, Mayers 1978, Yura and Walsh 1978, Little and Carnevali 1976). Thus, "good" nursing care

was defined by the Royal College of Nursing Standards of Nursing Care Committee (1981) as planned, systematic and focused, being based upon a continuous and dynamic pattern of assessment, planning, action and review.

In addition to changes in the organisation of nursing practice, the report on the Committee of Nursing (Salmon 1966) recognised that it was no longer sufficient for the education of professional nurses of the future "to remain at the level of a training in procedures". The report recommended that nursing became a research-based profession and nursing practice be supported by a rational, scientific basis for action. Since then, Schrock (1981) among others, has emphasised that the theoretical basis for nursing action, well founded in scientific principles, was essential to the provision of effective nursing care.

1.8.3 Urinary incontinence; Recent innovations and the nursing role

In recent years, a number of nursing models have been developed in which it was attempted to identify the essential components of nursing upon which practice should be based (Riehl and Roy 1980). Irrespective of the basis from which such models are derived (eg. biological, physiological, behavioural, "holistic"), an essential component, common to all, is the individual's need for elimination (Orem 1985, Roper, Logan and Tierney 1983, Johnson 1980, Riehl 1980, Roy 1980) Thus, the provision of care directed towards helping the individual with her eliminatory needs is recognised as a fundamental nursing function.

Urinary incontinence, the consequence of a breakdown in eliminatory function, can occur in childhood through adulthood to old age (Reid 1976). Thus, Norton (1986) claimed that almost every nurse, midwife and health visitor regularly encounters incontinent people in everyday practice. The importance of the role of the nurse in the promotion of continence and management of incontinence was emphasised in a circular

from the Department of Health and Social Security (Friend 1977) which stated that:

"These matters are of particular concern to the nursing profession and require services to which nurses of all fields and all categories have a major contribution to make".

Traditionally, this aspect of patient care has been viewed as predominantly a nursing responsibility. Indeed, Wells (1975b) and Norton et al (1962) placed the responsibility of reducing the incidence of incontinence, at least in the hospital setting, primarily upon nurses.

It is frequently claimed, however, that rather than help to rehabilitate the patient to regain continence, or when this is not possible, to effectively cope with the problem, nurses have tended to direct their efforts towards clearing up the effects of soiling (Duffin and Castledine 1986, Norton 1986, Manley 1984a, Badger 1983, Baker 1978, Willington 1975, Wells 1975a, Norton et al 1962). Wells (1975b), referring specifically to the nursing care of incontinent patients, stated "there is little nursing heritage of thoughtful observation and planned assessment of patient behaviour". More recently Norton (1986) claimed that in both hospital and community many nurses still spend too much of their time and energy dealing with the result of incontinence.

Findings from studies of the nursing care of elderly people in hospital by Wells (1975a) and Baker (1978), and an investigation of the toileting and changing practices in medical and care of the elderly wards by Badger (1983) tend to support these views. Many traditional hospital practices were observed to be idiosyncratic, obstructing rehabilitation rather than helping the patient to regain bladder function.

In recent years, the recognition of the multifactorial nature of incontinence has led to the advocacy of a multidisciplinary team approach towards its management (Norton 1986, Tallis 1985). The restoration of continence and management of incontinence, nevertheless, remains an area of care in which nurses are recognised as having a key

role (Clay 1986, Norton 1986, Kennedy 1984, Wells 1975b, Willington 1975b, Friend 1977).

In the last decade, against a background of previous disinterest in the problem of incontinence, a number of health professionals, organisations and companies have attempted to improve services and facilities for incontinence sufferers (Manley 1984b). Research, such as that undertaken by Thomas et al (1980) (discussed in detail in section 1.3.2.1) revealed that the majority of sufferers were neither seeking nor receiving help and advice about their problem. Two important documents "Action on Incontinence" (King's Fund 1983) and "The Problem of Promoting Continence" (RCN 1982), the results of a working party and regional workshops respectively, identified a number of shortcomings in the provision of health care within this area. Both reports claimed that confusion, ignorance and inconsistency surrounded the management of incontinence and that this was partially due to the failure of nursing and medical education at basic and post-basic level.

In 1983, the Joint Board of Clinical Nursing Studies (now the English National Board) approved the course number 978 "The promotion of continence and management of incontinence" for trained nurses (Parkinson 1986). The Royal College of Nursing pioneered another, similar short course specifically for district nurses (Manley 1984b).

The King's Fund report (1983) recommended the establishment of a continence clinic, as well as a continence adviser, in every health district in the U.K. The remit of the continence adviser varies from district to district but most fulfil a clinical, teaching, advisory and sometimes, a research role (Turner 1987, Norton 1986). Reliable information about the current number and distribution of continence clinics and advisers in the U.K. is not available. A survey carried out by Smith (1988) in 1987 found that 95 of the 192 district health authorities in England had appointed nurse continence advisers. Among a sub-sample of 40 advisers employed in seven different regions, 17 (43%) had access to urodynamic facilities and 10 (25%) staffed a joint continence clinic with a geriatrician, urologist or gynaecologist.

Shepherd, Blannin and Feneley (1982) described the success of a continence clinic run solely by nurses. The evaluation of the clinical benefits and the cost-effectiveness of the continence adviser role, however, have still to be conclusively demonstrated (Badger, Drummond and Isaacs 1983).

Reservations have been expressed concerning the development of the specialist continence adviser role. The Royal College of Nursing report (1982) warned that the creation of a specialist nurse might stultify the role of the general nurse and allow her to opt out of any involvement in the care of people with incontinence. Norton (1986) pointed out that the problem of incontinence was too large to be left to the specialist. She emphasised the need for nurses to learn to use the continence adviser when necessary, and not to think that by doing so she can abdicate her own responsibility for continence.

It has been shown that nursing is primarily concerned with helping individuals with their everyday activities of living. Thus, helping the patient with her eliminatory needs is an integral part of nursing care. Despite the recent development of the continence adviser role, it is agreed that all nurses, together with other health professionals, have a major responsibility for the restoration of continence. Where continence is not a viable goal of care, the nurse is responsible for ensuring the patient is able to effectively cope with incontinence, and that the psychological and social consequences of the problem are minimised.

1.9 CONCLUSIONS

In the literature reviewed, the difficulties of attempting to determine "normal" bladder function and problems associated with the definition of urinary incontinence were identified, and the consequent implications for clinical practice and research were highlighted.

Studies which have examined the prevalence of urinary incontinence in the community and in institutions, have shown the problem to be common.

There is considerable evidence to suggest that many people affected by incontinence are unknown to health professionals and consequently are not receiving appropriate help from health and social services. A small number of studies have shown that incontinence can have substantial physical, psycho-social and economic implications for the sufferer, her family and carers. The considerable economic implications to the national economy, incurred as a result of incontinence, have also been recognised. While the majority of sufferers are to be found living in the community, incontinence is a considerable problem in the institutional setting. The prevalence rates obtained in hospital wards suggest that 10-19% of patients in acute general wards, 13-53% of those in acute HCE wards and 38-78% of patients in long-stay HCE wards are incontinent.

Although evidence is conflicting, a number of studies concluded that the prevalence of incontinence increases with age and affects a greater number of women than men. The pattern of micturition and bladder function has been shown to alter with age, and, with the projected demographic change ahead, an increase in the number of elderly people who are likely to become incontinent in the future is predicted.

It is clear from the literature reviewed that while many of the precise causes of incontinence have still to be determined, it is a symptom which is frequently the result of more than one causal or predisposing factor. The literature identifies not only the role of physiological bladder dysfunction in the causation of incontinence, but also stresses the role of many other important aspects such as environmental, psychological and social causes. It was identified in the literature that a comprehensive assessment of incontinence necessitates the examination of many areas which may predispose, or cause the individual to become incontinent.

While the benefits of many of the strategies to restore continence, or better manage incontinence remain to be evaluated, considerable advances in this field have occurred in the ^{last} 20 years. Newly developed and improved methods of management for incontinence were identified which has increased the scope for improving the care available to sufferers. In

addition, the literature indicates that the attitudes of the carers, including those of nurses, as well as methods of improving the "social" environment, are important considerations in the management of the problem.

In the literature reviewed, it has been shown that helping the patient with her eliminatory needs is a fundamental part of nursing care. The literature has indicated that the nurse has a major responsibility for the prevention of incontinence, the restoration of continence, or where this is not feasible, to help the sufferer to cope effectively with the physical, psychological, social and economic consequences of the problem. There is evidence to suggest, however, that in general, nurses have tended to cope with the problem rather than directing their efforts towards helping to rehabilitate the incontinence sufferer.

CHAPTER 2

**THE PREVALENCE OF URINARY INCONTINENCE IN
TEN HOSPITAL WARDS**

CHAPTER 2

THE PREVALENCE OF URINARY INCONTINENCE IN TEN HOSPITAL WARDS

2.1 SUMMARY

As a first stage in planning studies which examined aspects of the nursing assessment and management of patients with urinary incontinence in hospital it was considered important to ascertain the size of the problem. In this chapter a study carried out to determine the prevalence of urinary incontinence in acute medical and health care of the elderly wards is described. The results are compared with those of other hospital surveys and the implications of the findings are discussed.

2.2 INTRODUCTION

As discussed in Chapter 1, section 1.3.2.2, the prevalence of urinary incontinence among those receiving hospital care varies widely (Sier, Ouslander and Orzeck 1987, Sullivan and Lindsay 1984, Fernie et al 1983, Egan et al 1983, Jewett et al 1981, Clarke et al 1979, Wilkins and Jolly 1978, Wells 1975a, Isaacs and Walkey 1964, Brocklehurst 1951). The interpretation of findings and limitations of comparisons between surveys have been extensively reviewed in section 1.3.1 of the literature review (Chapter 1) and will not be discussed here. Most data have been based on results obtained from samples of elderly patients (65 years or older), often in long stay wards, and much less information is available relating to those in acute hospital settings.

The published figures for the prevalence of urinary incontinence in hospital in-patients range from 9-78%. Results are dependent upon, among other variables, the type of study population, the care setting, and the definition of incontinence adopted by the researcher. Only one study, by Egan et al (1983), examined the prevalence of incontinence in younger patients (5-64 years) in acute hospital wards; a prevalence of 10% was

reported. Surveys of the elderly (65 years or older) have found prevalence rates ranging between 19% and 53% on acute general or acute care of the elderly wards and between 38% and 78% of patients on long stay wards (see section 1.3.2.2 Chapter 1).

Early on in the planning of this research it was necessary to consider the type of wards to be included in this and subsequent studies. As the overall aim of the enquiry was to examine the nursing assessment and management of patients with urinary incontinence in hospital an essential requirement was the inclusion of wards in which the problem was likely to be a common occurrence. While incontinence is found in most adult specialties, as previously discussed, the extent of the problem varies considerably between different units. A decision was made to exclude the urological, gynaecological and surgical specialties because it was considered that patients in these wards would have particular types of bladder dysfunction peculiar to these specialties, and that this would be reflected in specific assessment and management skills of the nurses in these wards. In addition, the urological and surgical specialties were likely to have a high proportion of patients who already had indwelling catheters, for a number of reasons including urinary incontinence, and this would have biased the nature of the information collected. Thus it seemed appropriate to choose acute medical and health care of the elderly wards, clinical specialties in which a considerable proportion of patients may be incontinent of urine for a wide variety of reasons, and where nurses need to employ a broad range of assessment and management skills if they are to provide informed, therapeutic nursing care.

Consultation with personnel from the "hospital activity analysis" department, consultant physicians and nurse managers showed that the prevalence of incontinence amongst hospital in-patients within the study area was unknown. Thus as an initial step an estimate of the size of the problem in acute medical and health care of the elderly wards was considered to be necessary before proceeding to the main areas of enquiry. It was anticipated that the information collected would place subsequent studies into context and provide a basis from which to plan further investigation.

2.3 AIMS

The survey was designed to :

1. Define the prevalence of urinary incontinence on acute general medical wards and acute health care of the elderly wards in one hospital within the study area.
2. Compare the prevalence of urinary incontinence during the day with that during the night.
3. Compare the prevalence of urinary incontinence between the two types of wards.

2.4 METHODS

2.4.1 Preliminary Planning

Within the limits of both the time and resources available, a point prevalence survey was considered the most appropriate method to estimate the size of the problem. A survey was undertaken in one university teaching hospital of all patients resident on the acute general medical and acute health care of the elderly medical wards on a particular day and night.

A reliable means of identifying patients who were incontinent was required. Various members of the ward team (for example the doctor, nurse, occupational therapist and physiotherapist) the patient herself and the medical and nursing records were considered. As previously discussed (section 1.6.1, Chapter 1), there is evidence to suggest that incontinence is an under recorded problem (Ebrahim et al 1987, Sier, Ouslander and Orzec: 1987, Ribeiro and Smith, 1985, Starer and Libow 1985, Littlewood 1984, Ouslander, Kane and Abrass 1982). The medical and nursing documentation was not, therefore, considered to be a reliable means of obtaining information. Interviews with patients was another

method considered. However, this approach would have been too time-consuming as it would have necessitated approaching all the patients who were resident on the wards at the time of the survey. It was also anticipated that some patients would be unwilling or unable to provide reliable information. In clinical practice, the nurse in hospital is the person largely responsible for meeting the toileting needs of the individual patient. She is therefore likely to be in the best position to identify patients with urinary problems. Informal ward observations and discussions with other members of the ward team (doctors, physiotherapists, and occupational therapists) confirmed that this was an area of patient care in which they tended to depend upon the observations of the nursing staff. For the purposes of the survey, therefore, it was decided to rely upon the clinical judgement of the trained nurses to identify those patients who were incontinent of urine.

Consent was obtained from the hospital ethical committee. Permission to conduct the survey was sought from the ward consultants, the Director of Nursing Services, the Divisional Nurse Manager and the Senior Nurse for night services. Meetings were held with each of the ward sisters/charge nurses (or the nurses-in-charge on night duty) of the wards concerned. These meetings were used to explain the design and purpose of the survey and to ensure that those nurses responsible for completing the forms were familiar with their content. A number of nurses expressed a preference for the survey to be conducted at the weekend when it was thought there would be more time to complete the data collection forms. As a consequence the survey was conducted on a Sunday.

2.4.2 Sample

The decision to select acute medical and health care of the elderly wards (HCE) has already been discussed in section 2.2. The sample comprised of all patients who were resident on the six acute general medical wards (mean length of patient stay 6.9 days) and the four acute HCE wards (mean length of patient stay 25.9 days) on the survey day and night in a provincial 1,210 bedded university teaching hospital in the Midlands. The

wards used in the sample ranged from 24 to 30 bedded units. All wards had male and female patients.

2.4.3 Data collection instrument

Data collection forms were designed for completion by the nurses (see Appendices 1a and 1b). Two forms per ward (one for the day and one for the night) were supplied for completion by the nurses. Information sought was kept to a minimum to enhance compliance in completing the forms. The day nursing staff were asked to identify patients known, at the time of the survey, to be incontinent during the daytime ("day" was defined as being from 07.30-20.30 hours) and the night nursing staff were asked to do the same for night-time ("night" was defined as being from 20.30-07.30 hours). Forms were identical for the day and night staff and recorded demographic patient details (age, sex, primary reason for hospital admission) and whether incontinence occurred regularly or occasionally or alternatively, whether an indwelling catheter to control previous incontinence was being used. "Regularly" incontinent was defined as being wet one or more times per day/night while "occasionally" incontinent was defined as wet less than once a day/night.

Definition of incontinence

Urinary incontinence was operationally defined as follows:

"Involuntary excretion or leakage of urine in inappropriate places regardless of the amount of urine lost. The definition includes patients with aids such as sheath drainage appliances and pads and pants as well as patients with indwelling urethral catheters because of incontinence".

This is an adaptation of a definition used by Thomas et al (1980) who also included an established time frame of "once or more a month." In view of the average length of hospital stay on the sample wards (6.9 days medical wards: 25.9 days HCE wards) at the time of the present survey this time frame was considered inappropriate and thus excluded from the definition. Patients using incontinence aids such as absorbent pads and

pants, or sheath drainage appliances, as well as those with indwelling catheters because of incontinence were also included. Care was taken to explain to nurses that patients with indwelling catheters for other reasons, such as the accurate measurement of urine volumes or because of obstruction, were not to be included. A written copy of the definition of incontinence used was left with each nurse responsible for completing the forms.

2.4.4 Procedure

On the morning and evening of the survey, each nurse-in-charge (both day and night shifts) on each of the 10 wards in the survey was visited by the researcher who, before leaving the forms, reminded them of the nature of the information required. Written instructions (together with the survey definitions) were also supplied (see Appendices 2a and 2b).

Pilot Study

The pilot study was carried out on two randomly selected wards from the sample (one acute general medical ward and one acute HCE ward). Problems concerning the completion of the forms did not arise.

Inter-rater or inter-observer reliability are terms applied to the comparisons of raters or observers using the same measurement instrument (Nieswiadomy 1987). This type of reliability is determined by the degree to which two or more independent raters or observers are in agreement (Nieswiadomy 1987). For the purposes of the current survey an estimate of the reliability of the nurses' observations was required. During the pilot study the inter-rater reliability was estimated by asking the nurse-in-charge and another trained nurse from each of the two wards to complete the data collection forms at approximately the same time. Nurses were instructed to complete the forms independently without conferring with one another or other colleagues although they could consult the nursing and medical documentation if they wished. Comparisons were subsequently made between the information recorded by the pairs of nurses.

Inter-rater reliability was estimated as a function of agreements and expressed as a percentage using the equation:

$$r = \frac{\text{number of agreements}}{\text{number of agreements} + \text{disagreements}} \times 100$$

(Polit and Hungler 1983)

An index of "overall" agreement was calculated; that is the proportion of patients about whom there was agreement as to the presence or absence of urinary incontinence.

Cohen's Kappa statistic (Cohen 1960) was also calculated using the equation:

$$K = \frac{P_o - P_c}{1 - P_c}$$

Where P_o is the observed proportion of agreement and P_c chance expected proportion of agreement. This provides a means of calculating the reliability coefficients in excess of chance agreement for nominal data.

Of 29 patients on the medical ward the two trained nurses each identified three incontinent patients. There was complete agreement (100.0%) on the three patients so identified. Of the 24 patients on the HCE ward the two trained nurses each identified eight incontinent patients. There was complete agreement on seven of the eight patients so identified (91.7%). Each nurse had identified one patient as incontinent who was not identified by the other.

Data from the two wards were combined and the Kappa statistic was applied using the formula as above. The inter-rater reliability Kappa coefficient was 0.88; according to Cicchetti (1984) this represents

excellent inter-observer agreement. The validity of the observations was not assessed but for the purposes of obtaining an estimation of the prevalence of incontinence reliance on the nursing staff reports was considered to be adequate.

The level of agreement on the frequency of incontinence (assessed as "regularly" or "occasionally" incontinent) or on the use of indwelling catheters was examined. Of the ten patients identified as incontinent by both pairs of nurses there were disagreements concerning two patients. A patient was assessed by one nurse as "regularly" incontinent and by the other nurse as having an indwelling catheter. Further questioning revealed that the two nurses had completed their forms at different times of the day; the patient concerned had had an indwelling catheter inserted after one nurse had completed her form hence explaining the discrepancy. There was a disagreement concerning one other patient (assessed as "occasionally" incontinent by one nurse and "regularly" incontinent by the other). Thus the percentage agreement was 80.0%.

2.4.5 Analysis

Data from completed forms were analysed using the Statistical Package for the Social Sciences (SPSSx) using the ICL VME 2900 series main frame computer at the University of Nottingham. Data are presented as frequencies and percentages. For selected variables the Chi-squared test (Siegel 1956) was used in order to establish whether or not there were significant differences between the results obtained.

2.5 RESULTS

2.5.1 Response rate

The overall response rate in the present survey was 95%. All ten forms from the day staff and nine forms from the night staff were completed (two forms, one for the day and one for the night, were distributed to each of the ten wards). The nurse-in-charge on one medical ward at night

was unable to complete the form due to insufficient time. The information for this ward was obtained verbally from the nurse-in-charge at the end of the night shift and recorded by the researcher. Thus, although one form was not completed, complete data were obtained for the ten wards included in the survey.

2.5.2 Overall prevalence

The six acute general medical wards and four acute HCE wards have a total capacity of 280 beds (medical 172; HCE 108) of which 257 (91.8%) were occupied during the day and 264 (94.3%) during the night of the survey. During the survey 97 patients were reported to be incontinent of urine either during the day, or night or both. Thus the overall point prevalence, defined as the percentage of patients reported to be incontinent during the day and/or night on the medical and HCE wards, was 36.7%.

2.5.3 Characteristics of patients

Mean age and sex

The mean age of patients identified as incontinent was 75.2 years (S.D. 12.7 years : range 23-99 years) of which 35 were men and 62 were women. Patients identified as incontinent on the medical wards had a mean age of 67.1 years (S.D. 16.1 years) and on HCE wards a mean age of 78.7 years (S.D. 8.7 years). Fifty five (56.7%) of the 97 patients reported as incontinent were aged 75 years or older. The mean ages for males and females categorised by type of ward are shown in Table 3.

Main reason for admission

Table 4 shows the main reason for admission to hospital for the 97 patients identified as incontinent. Twenty two (22.7%) of the patients had multiple diagnoses or problems on admission. For the purposes of classification, the first documented reason for admission was chosen. The most common reason for admission for patients identified as

Table 3

**Age of patients (in years) identified as incontinent on
the acute medical and HCE wards**

Type of Ward	Sex	Mean Age	S.D.*	Range
Acute medical	Male	67.9	15.0	37-89
	Female	67.8	17.8	23-92
Acute HCE	Male	77.0	8.3	65-92
	Female	80.2	7.8	58-99

* Standard Deviation

Table 4

Classification of main documented diagnoses on admission
in patients with urinary incontinence

Classification of diagnosis	No. of patients (n=97)	Percentage
Circulatory*	44	45.4
disorders		
Mental disorder	13	13.4
Nervous System	7	7.2
Malignancy	7	7.2
Metabolic disorder	3	3.1
Respiratory disorder	3	3.1
Musculo-skeletal disorder	3	3.1
Gastro-intestinal disorder	2	2.1
Genito-urinary disorder	1	1.0
Other†	14	14.0

* The majority (35) were admitted as a result of a stroke.

† Other : incontinence (5), respite care (2),
leg ulcers (2), collapse (2), hypothermia (1) self-inflicted
injuries (1), general deterioration (1).

incontinent was as the result of a circulatory disorder (45.4%) the majority of whom, 35 in number, had been admitted as a result of a stroke. Mental disorders (which for the purposes of the survey included six patients with the non-specific problem "confusion") accounted for a further 13.4% of the incontinent sample. Urinary incontinence was the primary reason for admission for five patients (5.2%).

2.5.4 Incontinence during the day/night

Table 5 shows that the prevalence of incontinence between the day and night varied little. Of the 257 patients resident on the wards during the day of the survey 85 (33.1%) were reported as incontinent. Of the 264 patients resident on the wards during the night 84 (31.7%) were reported as incontinent (see Table 5). Thirteen patients (5.1%) were incontinent only during the daytime and 12 patients (4.6%) only during the night-time.

2.5.5 Use of indwelling catheters/frequency of incontinence

Of the 97 patients identified as incontinent, 30 (30.9%) had indwelling catheters. Of the 62 incontinent females, 22 (35.5%) had indwelling catheters and of the 35 incontinent males, eight (22.9%) had indwelling catheters. Of the 55 patients without indwelling catheters who were incontinent during the day, 33 (60.0%) were assessed as regularly incontinent and 22 (40.0%) as occasionally ~~as~~ incontinent. Of the 54 patients without indwelling catheters identified incontinent during the night, 25 (46.3%) were assessed as regularly incontinent and 29 (53.7%) as occasionally incontinent. Patients assessed as regularly incontinent during the day also tended to be regularly incontinent at night (27; 81.8%) and similarly those patients assessed as occasionally incontinent during the day also tended to be occasionally incontinent at night (15; 68.2%). Six patients assessed as regularly incontinent during the day were assessed as occasionally incontinent at night. Seven patients assessed as occasionally incontinent during the day were assessed as regularly incontinent during the night.

Table 5

Total number of patients identified as incontinent during the
day/night of the survey

	Total No. patients on wards	Incontinent			Continent	
		Occasionally n (%)	Regularly n (%)	IDC* n (%)	n (%)	(%)
DAY	257	22 (8.6)	33 (12.8)	30 (11.7)	172	(66.9)
NIGHT	264	29 (11.0)	25 (9.5)	30 (11.3)	180	(68.2)

Chi square (day vs. night) = 0.0144 d.f.=1 p>0.95 N.S.

*IDC Indwelling catheter

2.5.6 Incontinence according to type of ward

The level of incontinence found in different wards ranged from 13.0% to 58.3% during the day and 3.4% to 60.7% at night (see Figures 3 and 4). Of the 105 patients on the HCE wards during the day, 56 (53%) (range between wards 48.0%-58.3%) were reported to be incontinent. Of the 107 patients on the HCE wards at night, 56 (52.3%) (range between wards 37.0%-60.7%) were reported to be incontinent. Of the 152 patients on the medical wards during the day, 29 (19.1%) (range between wards 13.0%-26.3%) were reported to be incontinent. Of the 157 patients on the HCE wards at night, 28 (17.8%) (range between wards 3.4%-25.0%) were reported to be incontinent. A significantly greater proportion of patients were identified as incontinent on the HCE wards than on the medical wards during the day ($p < 0.001$) and during the night ($p < 0.001$) of the survey (see Table 6).

A quarter of all patients on the HCE wards, 26 in number (24.8%), were assessed as regularly incontinent during the day with fewer patients, 19 in number (17.8%), assessed as regularly incontinent at night. On the medical wards 5% of patients during the day and 4% at night were assessed as regularly incontinent of urine.

2.6 DISCUSSION

2.6.1 Limitations of the method

This was a small scale survey of six acute medical and four HCE wards in one university teaching hospital; the results, therefore, cannot be generalised to other specialties nor to acute medical and HCE wards in other hospitals.

As urinary incontinence is a variable symptom, it could be argued that a study carried out on only one occasion is unlikely to give a representative estimate of the extent of the problem. Without the limitations of time and resources, it would have been more appropriate to

Figure 3

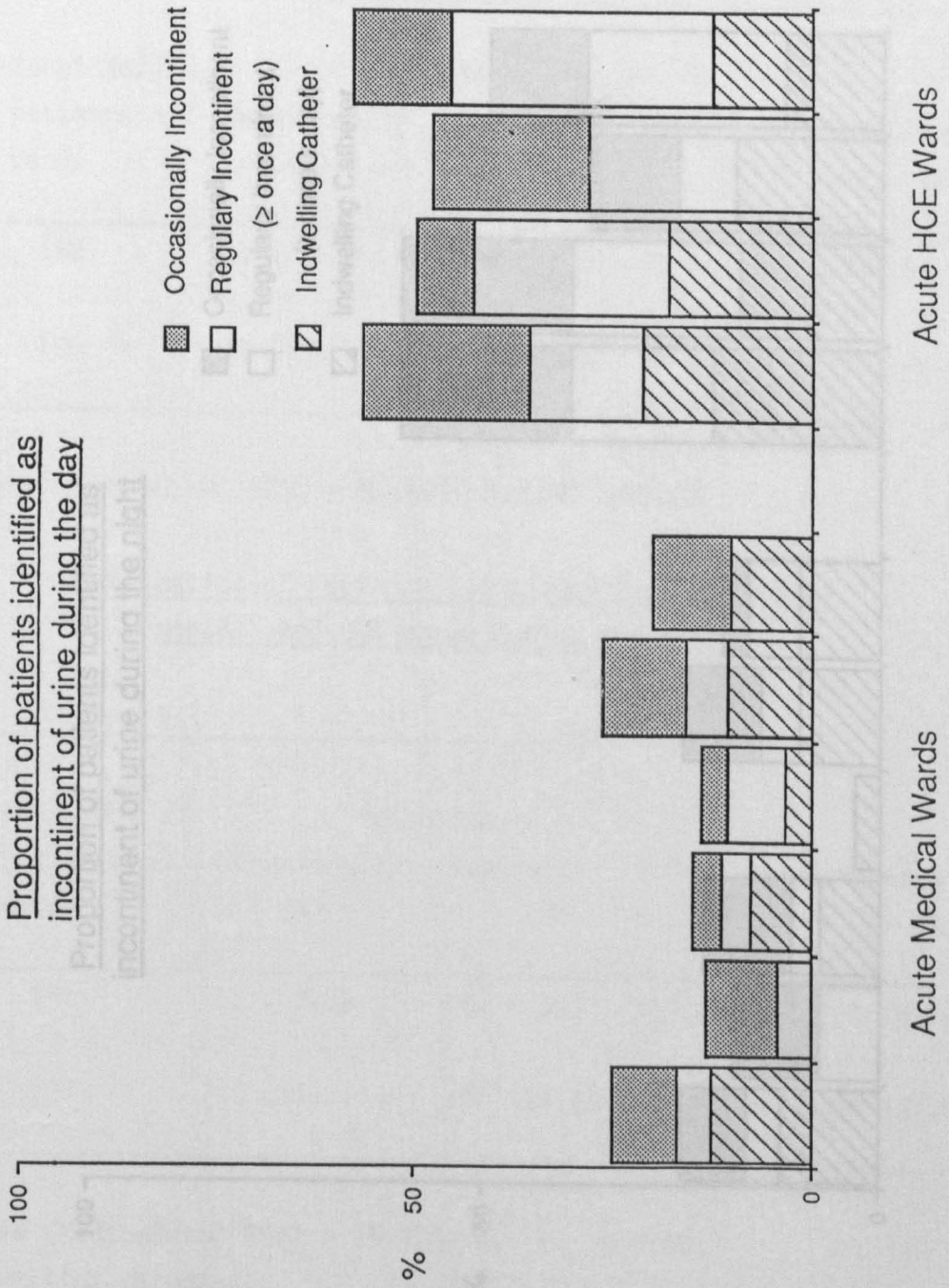


Table 6

Distribution of Patients Identified Incontinent on
Medical and HCE wards during the day

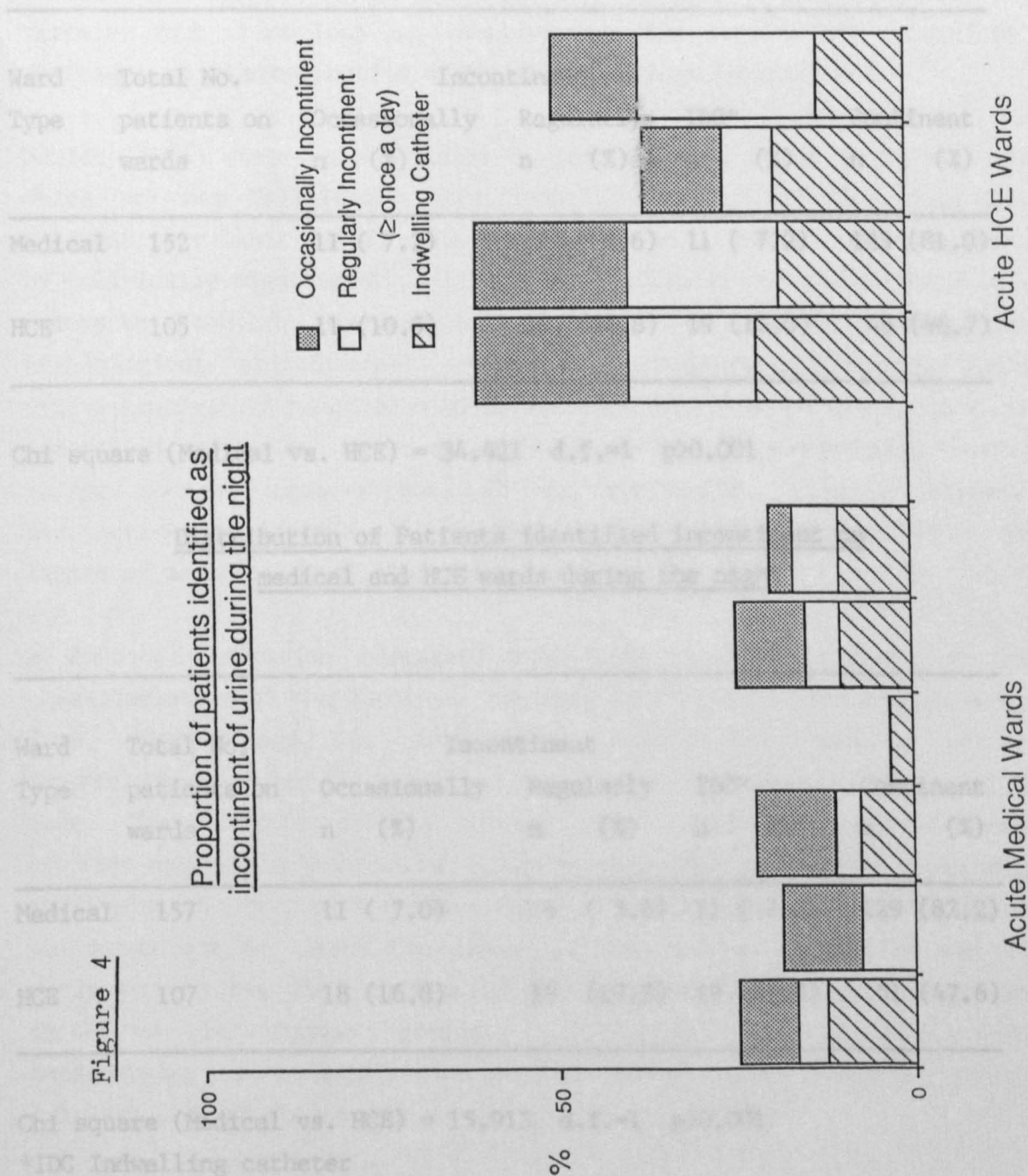


Table 6

**Distribution of Patients identified incontinent on
medical and HCE wards during the day**

Ward Type	Total No. patients on wards	Incontinent				Continent n (%)
		Occasionally n (%)	Regularly n (%)	IDC* n (%)		
Medical	152	11 (7.2)	7 (4.6)	11 (7.2)	123 (81.0)	
HCE	105	11 (10.5)	26 (24.8)	19 (18.0)	49 (46.7)	

Chi square (Medical vs. HCE) = 34.421 d.f.=1 p>0.001

**Distribution of Patients identified incontinent on
medical and HCE wards during the night**

Ward Type	Total No. patients on wards	Incontinent				Continent n (%)
		Occasionally n (%)	Regularly n (%)	IDC* n (%)		
Medical	157	11 (7.0)	6 (3.8)	11 (7.0)	129 (82.2)	
HCE	107	18 (16.8)	19 (17.8)	19 (17.8)	51 (47.6)	

Chi square (Medical vs. HCE) = 15.913 d.f.=1 p>0.001

*IDC Indwelling catheter

have carried out a survey on two or three different occasions throughout the year and to have obtained a mean prevalence rate based upon two, or three, estimates.

As already discussed in Chapter 1, urinary incontinence is an under reported symptom. Although care was taken to define urinary incontinence small volumes of urine loss, such as "stress" incontinence or "dribbling", may not always be detected, or, nurses may not necessarily perceive such urine loss as incontinence. The results may, therefore, represent an underestimation of the prevalence of incontinence.

Mohide (1986) stated that studies of incontinence, which included cases which are not "clinically significant", over inflate the clinically relevant prevalence rates. She does not define, however, what is meant by "clinically significant". It would be difficult for the purposes of a survey to establish, however, as it is likely that individual perceptions of "clinical significance" would vary considerably between health professionals. It could also be argued that as a problem has first to be identified before it can be established whether it necessitates nursing and/or medical intervention, it is preferable, from a clinical perspective, to include all reported cases of incontinence (within the limits of an operational study definition).

A further limitation concerned the lack of data obtained on the characteristics of the continent patients in the wards used in the study. Thus, observations for a possible relationship between urinary incontinence and variables such as age or sex, for example, could not be made. The collection of this information would have increased the amount of time needed by nurses to complete the data collection forms thus increasing the risk of non-compliance. The main reason for carrying out the study was to assess the extent of the problem on medical and HCE wards and to use this information as background data as a basis from which to plan further studies. Thus, the lack of data, while representing an omission, was not viewed as being essential to the original aims of the study.

Bearing in mind the methodological limitations outlined above, a discussion of the findings follows.

2.6.2 Response rate

Mohide (1986) stated that a response rate of 75.0% or greater should be achieved in surveys designed to estimate the prevalence of urinary incontinence to ensure representative results. The response rate in the present survey was 95.0%, although, as previously stated, complete data for the 10 wards were obtained. Thus, the results were considered to be representative of the wards concerned at the time of the survey.

The prevalence of incontinence reported in the present survey was considered to be a reasonable estimate due to the acceptable level of inter-observer reliability established in the pilot study. It is interesting to note that issues concerning the reliability of information obtained in other surveys of incontinence have rarely been addressed. Ouslander, Kane and Abrass (1982), in a survey of the prevalence of incontinence in nursing homes in the United States, obtained their information from the nursing staff. They attempted to verify the data collected by interviewing patients and their relatives as well as checking the medical records. However, the reliability of their information is not reported.

2.6.3 Overall prevalence

The results of the present survey corroborate those from other studies which show incontinence to be a common clinical problem within hospital (Borrie et al 1987, MacPhee & Roberts 1987, Sier, Ouslander & Orzeck 1987, Sullivan & Lindsay 1984, Egan et al 1983, Fernie et al 1983, Jewett et al 1981, Alexander & Eldon 1979, Clarke et al 1979, Wells 1975a, Willington 1969, Isaacs & Walkey 1964, Brocklehurst 1951).

In the present study the overall point prevalence for urinary incontinence was 36.7%. At the time of the survey, some degree of urinary incontinence was reported for over half (53%) of the patients on

the HCE wards and 19% of the patients on the medical wards. Although the rates of incontinence were highly variable from one ward to another, particularly, as would be expected, between the medical and HCE wards, patients with incontinence were identified on all wards surveyed. Episodes of incontinence on HCE wards tended to be more frequent both during the day and night than on medical wards.

2.6.4 Comparison with other studies

The problems with making comparisons between surveys have been highlighted in section 1.3.1 in Chapter 1. Few studies using similar ward populations have been found with which to compare the results of this study. MacPhee and Roberts (1987) carried out a longitudinal study and found that over half (55%) of the 201 patients in their sample were incontinent on admission to acute/rehabilitation wards for the elderly. Of those patients who were incontinent on admission and survived three months later, 60% remained incontinent. MacPhee and Roberts do not, however, specify whether patients with indwelling catheters were included. Wells (1975a) reported a prevalence for urinary incontinence of 53% on two assessment wards for the elderly; a figure comparable with that found on the HCE wards in the present survey. The wards surveyed in both studies were acute admitting facilities for the elderly but Wells does not report whether patients with indwelling catheters were included within her definition of incontinence. If such patients were excluded, her findings reflected a higher prevalence than was found in the current study.

Clarke et al (1979) also reported a similar prevalence of incontinence (52%) in wards for the elderly; however, they failed to describe the type of wards included in their sample. Thus, it is unclear whether patients were from acute wards or long-stay accommodation, a factor likely to influence the prevalence of incontinence. As with Wells' study (1975a), Clarke et al did not report whether patients with indwelling catheters were included. If patients with indwelling catheters were excluded, the prevalence would again be higher than that found in the present survey.

Egan et al (1983) reported a prevalence rate of 25%-33% in acute care of the elderly wards in two London teaching hospitals; a lower rate than was reported in the present survey. Egan et al excluded patients with "temporary" indwelling catheters. They did not, however, define the criteria used to identify "temporary" from "long term" indwelling catheter use. It is likely that the higher prevalence reported in the present survey is partly accounted for by the inclusion of all patients who had indwelling catheters because of incontinence.

There are fewer studies with which to compare the results obtained in the acute medical wards. Those that are available are subject to methodological constraints similar to those for surveys on wards for the elderly. Only one survey, by Sullivan and Lindsay (1983), in the United States, has reported specifically on the prevalence of incontinence amongst patients in acute general medical wards. Sullivan and Lindsay confined their sample to patients 65 years of age or older and excluded those with indwelling catheters. Their study is not, therefore, directly comparable with the present survey. Sullivan and Lindsay found 25% of the patients in their survey to be incontinent. If patients on acute medical wards with indwelling catheters are excluded in the current study, a much lower prevalence rate (11%) is found than was reported by Sullivan and Lindsay. It is likely that this difference partly reflects the different age structures between the patient samples in the two surveys.

Also in the United States, Sier, Ouslander and Orzeck (1987) carried out a longitudinal survey of elderly patients (65 years and older) admitted to acute medical and surgical wards. Overall, 35% of the patients were found to be incontinent at some time during their hospital stay (patients with indwelling catheters were included). However, the investigators do not distinguish between the prevalence rates on the surgical and medical wards so that comparisons with the present survey cannot be made.

A comparable British survey of acute general medical wards has not been found. Egan et al (1983) reported a prevalence rate of incontinence of 10% for patients aged between 5-64 years and 19% for patients aged 65

years and older on "general" wards. Their sample comprised of patients from all wards except those in maternity and care of the elderly units. As discussed earlier, their survey is not directly comparable because they excluded patients with "temporary" indwelling catheters and included a much wider range of hospital wards. However, it is interesting to note that the prevalence of incontinence reported for patients aged 65 years and older on the general wards in Egan et al's study is identical to the prevalence reported for patients on the acute medical wards in the present survey.

In the current survey, the prevalence of incontinence varied little between the day and the night. Studies which have directly compared the prevalence of diurnal and nocturnal incontinence have not been found. Wilkins and Jolley (1978) reported that 8% of patients on two long-stay wards for the elderly had "accidents at night". This appears to be a particularly low prevalence for incontinence on long-stay wards, but it is unclear whether patients identified as incontinent during the day were also incontinent at night. In the present survey, the level of incontinence between the day and night was very similar. Although the frequency of episodes of incontinence at night was assessed to be slightly lower than that during the day, these findings suggest that while incontinence causes major demands on nursing staff time, it is likely to increase at night when the number of nurses and auxiliary staff on duty are considerably reduced.

Milne (1976) has suggested that if those with transient incontinence (defined as incontinence associated with easily reversible factors such as urinary infection, faecal impaction or drug side effects) are included in the overall prevalence rate, the size of the long-term problem may be exaggerated. The present survey did not distinguish between short-term episodic or "transient" incontinence and persistent incontinence. To date, few surveys have attempted to distinguish between transient and persistent incontinence and data to identify the extent to which short-term episodes of incontinence became an established problem are lacking. Willington (1969) suggested that much incontinence in hospital is transient in nature. He found that the prevalence fell from 33.6% for

elderly patients admitted to hospital to 14.2% at a later date (the precise length of time was not reported). He described the latter figure as the proportion of patients with established or persistent incontinence. In the United States, Sier, Ouslander and Orzeck (1987), in their survey of elderly patients on acute medical and surgical wards, found that incontinence tended to be a persistent problem. Of 57 patients identified as incontinent during their hospital stay, the majority (73%) were assessed as having persistent incontinence (i.e. were incontinent before, during and after hospital admission). In contrast to Willington's findings, they found only 5% of patients had "transient" incontinence.

2.6.5 Characteristics of patients identified as incontinent

While a greater number of females (65) than males (35) were identified as incontinent in the current study, the prevalence rate for men and women cannot be determined as the overall sex distribution for the sample population as a whole was not examined, as discussed at the beginning of this section. The sample in the present survey comprised predominantly of elderly patients, of whom 56.7% were 75 years or older, but the overall age distribution for the sample population as a whole was not examined.

The use of indwelling catheters as a means of controlling incontinence appeared to be common practice. During this survey, a considerable proportion of the incontinent patients on the medical wards (39%) and the HCE wards (34%) had indwelling catheters. Indwelling catheters were used more often in females than males. This may be partially explained by the availability of external catheters such as sheath drainage appliances for male patients. Current nursing and medical opinion considers the use of indwelling catheters to be a final option, when alternative methods of management for incontinence have been unsuccessful (Norton 1986, Kennedy and Brocklehurst 1982, Castleden and Duffin 1981). The extent to which less invasive means of management may have been more appropriate was not assessed. However, the large proportion of patients who were reported to have indwelling catheters because of incontinence is some cause for

concern in view of the well documented risks of catheter induced complications (Burkitt and Randall 1987, Platt et al 1983, Warren et al 1982, Ekelund and Johansson 1979, Garibaldi et al 1974, Turk, Goffe and Petersdorf 1962).

The largest single cause of hospital bed occupancy by the elderly is cerebrovascular disease (Hunt 1973). One may have anticipated, therefore, that a stroke would be a common reason for admission in those patients identified as incontinent on the medical and HCE wards. More than a third (35 in number) of those identified as incontinent had been admitted as a result of a stroke. Other studies have shown cerebrovascular disease to be a common diagnosis in patients with incontinence (Borrie, Campbell and Caradoc Davies 1985, Sullivan and Lindsay 1984, Ouslander, Kane and Abrass 1982, Brocklehurst and Dillane 1966b, Isaacs and Walkey 1964, Brocklehurst 1951). As discussed in section 1.4, Chapter 1, the association of cerebrovascular disease and incontinence is well established, both as a possible causal and predisposing factor (Yarnell et al 1979, Milne 1979, Isaacs and Walkey 1964, Brocklehurst 1951, Thompson 1949, Wilson 1948, Affleck 1947).

While urinary incontinence is a common feature in the acute phase of stroke (1-3 weeks) (Borrie, Campbell and Caradoc-Davies 1985, Brocklehurst et al 1985, Wade and Langton-Hewer 1985, Ahktar et al 1980, Aho, Harrusen and Hatano 1980) it is also a persistent condition in a substantial number of survivors (19%-25%) at six months (Borrie, Campbell and Caradoc-Davies 1985, Brocklehurst et al 1985, Wade and Langton-Hewer 1985, Ebrahim 1984) and one year (15%) (Brocklehurst et al 1985).

Urinary incontinence is frequently cited as a precipitating factor for admission to hospital in the elderly (Ouslander, Kane and Abrass 1982, Williams and Pannil 1982, Willington 1969, Shuttleworth 1970). In the current survey, only a small proportion of the patients identified as incontinent, five in all (5.2%), were admitted to HCE wards for specific investigation of the problem. However, incontinence may have been a contributory factor for admission in some of the patients who were admitted for other reasons.

2.7 CONCLUSION

At the time of the survey, patients with urinary incontinence were identified by nursing staff on each of the six acute medical and four HCE wards included in the study. Almost a third of incontinent patients (30.9%) had an indwelling catheter. The overall prevalence rate of incontinence was 36.7%. Incontinence tended to be more severe, and was approximately three times more common, on the HCE wards than on the medical wards.

The prevalence of urinary incontinence during the day and night was found to be very similar. Most patients (74%) incontinent during the day also tended to be incontinent at night. A third of the sample of incontinent patients had been admitted to hospital as a result of a stroke.

The results thus indicated that a considerable proportion of patients admitted to acute medical and HCE wards are likely to suffer some degree of urinary incontinence. As previously discussed in section 1.8, Chapter 1, the restoration of continence and management of incontinence is recognised as an important nursing function. The subsequent chapters in this thesis describe a series of studies which have attempted to examine in detail a number of aspects of the nursing assessment and management of incontinence in the acute medical and HCE ward settings.

CHAPTER 3

**INCONTINENCE: IDENTIFICATION OF THE PROBLEM
AND ASSESSMENT OF RELATED FEATURES BY NURSES**

CHAPTER 3

INCONTINENCE: IDENTIFICATION OF THE PROBLEM AND ASSESSMENT OF RELATED FEATURES BY NURSES

3.1 SUMMARY

A study to estimate the reliability of information obtained from nurses who were asked to identify patients on their wards who were incontinent of urine is described. Comparisons were made with information obtained from the night staff, physiotherapists and occupational therapists. A sub-sample of patients identified as being incontinent by the nursing staff were checked at hourly intervals in an effort to validate nurses' observations. Data were also collected on nurses' assessments of the pattern and frequency of the problem. The methodological problems of carrying out such research in the clinical situation are highlighted and the implications of the findings discussed.

3.2 INTRODUCTION

Norton (1986) stated that "the first bridge to be crossed in assessing incontinence is finding out who has the problem". Thus, the assessment of incontinence begins with an initial recognition of the symptom (Norton 1986, Robb 1985, Pierson 1984, Sutherst, Brown and Shower 1981, Walsh and Mills 1981, Stanton and Ritchie 1977). Until a problem is identified by health professionals, it is unlikely to be assessed in a systematic fashion. Although incontinence is an objective symptom, its detection and subsequent assessment can be problematic.

Direct tests of bladder function, or observation of episodes of incontinence, are difficult in a ward environment. Whilst a patient's capacity to mobilise or to communicate, for example, are activities which can be readily observed and tested by the clinician, problems associated with bladder function, such as incontinence, are not easily observed.

Episodes of incontinence may occur irregularly or may be associated with particular events. Incontinence may be concealed by the sufferer or, if she is mentally impaired, she may be unaware of the problem. Urine may also be absorbed into clothing or the surrounding environment such as furniture or carpets. Several devices have been developed to record the presence of urine loss (as discussed in Chapter 1, section 1.6.3.2) but their uses are not without methodological problems (Versi and Cardozo 1986, Eadie, Glen and Rowan 1983, Stanton and Ritchie 1977). The feasibility of routinely using such methods to detect urine loss in the ward setting is questionable and to date, their uses have been largely confined to specialist assessment clinics and for the purposes of research.

In clinical practice, professional judgement is often the only practical means of identifying patients' problems and should, therefore, form an integral part of the skills of health professionals. The introduction of the Nursing Process has placed a greater emphasis on the need for nurses to acquire and develop the skills necessary to systematically assess both the physical and psycho-social needs of the patient (McFarlane and Castleden 1982). While the identification and assessment of many patient problems is of multidisciplinary concern, the hospital nurse has a particularly important function. Opportunities for close observation by the nurse and her intimate relationship with the patient place her in a unique position to identify many health related problems. The nurse, therefore, is often relied upon by other members of the ward team to make professional judgements as corroboration of the patient's account, in the absence of more objective means of establishing clinical information. Because of the difficulties outlined above, this assumes particular importance when problems associated with elimination, such as urinary incontinence, are present.

Professional judgement is, however, an inherently subjective method and inevitably raises the question of the reliability of the clinical information so obtained. If assessments are to be useful they should be consistent, i.e. the clinical information supplied should be similar when an assessment is performed more than once (at a time the behaviour is not

expected to have changed) or when two or more independent assessments are made.

The unreliability of clinical assessment skills has been well documented in the medical literature (Mercer and Talbot 1985, McCartney and Palmateer 1985, Theodossi et al 1980, Wilson et al 1980, Garraway et al 1976, Raferty and Holland 1967) but appears to have received only scant attention in the nursing literature. Hall (1974) identified a number of factors in the ward environment which may adversely affect the reliability of clinical information. Nurses working on different shifts may spend a limited period of their daily time on the ward and much of that time may be spent on administrative change-over duties. Thus, the amount of observation time available to nursing staff can be limited. Assessments based on observation over a long period of time may influence the reliability of the information obtained, for example, the condition of the patients may change or the information which is required may not be retained by the nurse. A further cause of unreliability may arise when there is an absence or vagueness of definitions used (Abramson 1984, Wade and Snaith 1981, Garraway et al 1976).

During preliminary fieldwork for this thesis, doubts arose concerning the reliability of the information supplied by the nurses when they were asked to identify patients in their wards who were incontinent of urine. Although they tended to rely upon nurses to identify which patients were incontinent, several doctors and therapists had doubts about the accuracy of these nursing observations. The following comments were typical :

"Its very difficult to know who is incontinent. You can ask one nurse and then ask another and the answer often varies".

(Senior Registrar, Acute HCE ward)

"Nurses frequently say that a patient isn't incontinent but when the physio' goes to the patient she often finds that she (the patient) is wet".

(Physiotherapist, Acute HCE ward)

There is evidence to suggest that nurses are not always aware of the problem. A hospital study, by Smith et al (1975), estimated the reliability of nurses' reports relating to the degree of urinary incontinence in patients on a ward for mentally handicapped adults to be approximately 50% (based on reports by two nurses on opposite shifts, who knew the patients well). However, the reliability estimate reported in this study was confounded by combining agreement on the presence or absence of incontinence with agreement on the frequency of episodes of incontinence. Nevertheless, the findings from this small study suggested that nurses were inconsistent when rating the degree of incontinence in patients in their ward.

The aim of this thesis was to establish the extent, nature and quality of the nursing assessment and management of patients with urinary incontinence in acute medical and care of the elderly wards. As discussed above, however, incontinence can only be assessed, and the appropriate interventions carried out, if the problem has initially been recognised. Thus, it was important to first establish how reliable nurses were at identifying patients with incontinence, and where identified, to estimate the reliability of the information given related to specific aspects of the problem.

3.3 AIMS:

This study was designed to :-

1. Estimate the reliability with which nurses identified patients with incontinence of urine.
2. Estimate the reliability with which nurses assessed the pattern and frequency of episodes of incontinence.

3.4 METHODS

3.4.1 Preliminary Planning

Permission to conduct the study was obtained from the hospital ethical committee, the Director of Nursing Services and the sisters of the wards concerned.

Two methods to measure the reliability of nurses' assessments were considered. As incontinence is a symptom which may be variable in occurrence, the measurement of intra-rater agreement was inappropriate. Thus, for the purposes of the current study, a measure of the reliability of information between nurses (inter-rater reliability) was chosen. This was obtained by asking two nurses, from the same wards, to make independent clinical judgements, and comparing their findings. An index of agreement may be expressed in two ways. "Overall" agreement (as described in Chapter 2) is the proportion of patients about whom there is agreement as to the presence or absence of a condition (Konran 1975). "Specific" agreement is the proportion of patients about whom observers agree on the presence of a condition and ignoring all those agreed upon as not having the condition (Konran 1975). For the purpose of this study, results are presented as both overall and specific percentage agreements and the implications of the two methods of expression are discussed in section 3.6.

As well as estimating the level of inter-rater agreement between nurses, a number of alternative means of establishing the reliability of nurse's clinical judgements were considered. During preliminary planning, the nursing and medical records were checked to determine the frequency with which incontinence was documented. The problem did not always appear to be identified and the clinical information was not always easily located or up-to-date. The examination of entries recorded on the patients' continence charts, where used, would have provided a further means of verifying the data obtained. However, continence charts were observed to be infrequently used by nurses. Thus, it was decided that reliance on the documentation would not provide a useful source of information with

which to verify the data obtained from the nursing staff. The issue of documentation is addressed in Chapter 4.

It was decided that a measure of the reliability of the information given by nurses when asked whether patients were incontinent at night could be verified by asking the qualified night staff. These results were subsequently compared with the observations made by the day staff.

Physiotherapists and occupational therapists closely observe patients in the course of providing treatment. Their contact with patients is intermittent and not all patients are referred to therapists. It was decided that in those cases where patients were receiving physiotherapy and/or occupational therapy, therapists could provide an additional means of establishing the reliability of the information obtained from nurses. The physiotherapist and occupational therapist from each of the wards in the study were questioned by the researcher and asked to judge independently whether those patients referred to them were continent or incontinent. The responses were subsequently compared with those from the nursing staff.

The feasibility of establishing the reliability of nurses' observations by more objective methods was considered. The electronic "nappy" device, as described by James et al (1971) and Stanton and Ritchie (1977), or pad weighing, as described by Sutherst, Brown and Shawer (1981) and Walsh and Mills (1981) were two methods considered. Both techniques entail the use of body-worn absorbent perineal pads. After careful consideration, the use of both methods was discounted. It was thought to be inappropriate to ask patients to wear pads in circumstances where they were not already using such aids and, as discussed in Chapter 1, section 1.6.3.2, practical and methodological problems concerning their use have been reported. In the absence of more suitable methods it was decided to use direct observation and to employ a technique commonly used by nurses within institutional settings. This consisted of the researcher and a nurse colleague checking the patients identified as incontinent by the nursing staff at regular intervals and recording when patients were found to be wet. Ideally, checks should also have been carried out with

patients who had not been identified as incontinent by nursing staff; it was thought, however, that this might cause needless embarrassment for the patients concerned and would also have been too time consuming.

Thus, it was hoped that by incorporating three additional means of verifying the information obtained from the nursing staff (by questioning the night staff, physiotherapists and occupational therapists, and through the direct observation of patients) the reliability of the information so obtained would be established.

3.4.2 Sample

A convenience sample of trained nurses was chosen for the study. Several wards included in the study did not have nurse learners allocated to them thus, to ensure comparability of results between wards, learners were excluded from the reliability study. Nursing auxiliaries were also excluded.

Pairs of trained nurses were recruited from acute medical wards and acute HCE wards in a university teaching hospital (previously used in the study in Chapter 2) and a district general teaching hospital within one health authority in the Midlands. From a combined total of 25 wards from the two hospitals (14 acute medical and 11 acute HCE wards) trained nurses from every second ward were approached (13 wards in total). In view of difficulties described later in this section, it eventually proved necessary to recruit nurses from all 25 wards.

In order to minimise inter-rater variations, as previously described in section 3.2, nurses were selected according to a number of criteria.

- 1) Only nurses who said they knew the patients "well" were asked to participate. This excluded nurses who had recently returned from "days off", sick leave, or holidays.
- 2) Relief or agency nurses were also excluded.

- 3) A period of one week since the patient had been admitted (or since admission if less than one week) was chosen as the maximum duration of retrospective assessment, as suggested by Hall (1974).
- 4) It was initially envisaged that two trained nurses working on the same shift would complete the forms at approximately the same time. However, it soon became apparent that locating pairs of trained nurses who both worked on the same shift and knew the patients "well" would not be feasible. It was therefore decided that the maximum duration of time allowed for the completion of forms, between nurses, would be one shift.

It was hoped that a minimum of 10 pairs of nurses (five pairs from the medical and five pairs from the HCE wards) would agree to participate. Due to several difficulties with locating nurses who fulfilled the study criteria (the reasons for which are discussed in section 3.5.1 of the results) it became necessary to recruit trained nurses from all 25 wards. From each pair of nurses recruited to the study, the nurse-in-charge on night duty, the physiotherapist and the occupational therapist on the wards concerned were each asked, by the researcher, to make independent assessments about the patients in order to verify the day nurses' information. A sub-sample of patients, identified by one or both day nurses as incontinent of urine, were checked at regular intervals by the researcher and a nurse colleague.

3.4.3 Data Collection Instrument

A form was designed for completion by nurses (see Appendix 3). The form contained the name of the patient assessed by the nurse as being incontinent (as defined for the study). Nurses were also required to tick boxes concerned with details of the time at which incontinence occurred (day, night or both), its frequency (once or more per day or less than this) and whether incontinence aids or appliances were used. The nurse was also asked to record whether she had consulted the nursing and/or medical records to complete the form. An instruction sheet and the definition of incontinence used in the study was attached (see

Appendix 4). Forms were pre-tested on one medical and one HCE ward and, as a result, minor amendments to clarify the instruction sheet were made.

A separate form was designed for completion by researchers during the checking procedure (see Appendix 5). The name of each patient being checked was recorded together with details of the time of the check and whether the patient was found dry or wet.

3.4.4 Procedure

Each trained nurse recruited to the study was fully informed of the nature of the study and its purpose.

Urinary incontinence was operationally defined as for the prevalence survey (Chapter 2, section 2.4.3) with the exception that patients with indwelling catheters were excluded since recall for events prior to catheterisation was thought to increase the likelihood of unreliable responses. The definition of urinary incontinence was as follows:

"The involuntary excretion or leakage of urine in inappropriate places regardless of the amount of urine lost. Patients with incontinence aids such as pads and pants or appliances such as sheath drainage systems are included but patients with indwelling catheters, for whatever reason, are excluded".

During data collection, the definition was presented in written and verbal form. Each nurse was given a form to complete accompanied by a sheet of instructions and an envelope in which to place the completed form. Completed forms were collected from the wards by the researcher. Nurses were instructed to complete the forms independently without conferring with the other nurses of the "pair" or other colleagues, and this was reinforced in the instruction sheet. They were informed that they could consult the nursing and medical records if they wished.

Kent (1977) found that the reliability assessed in the absence of the experimenter enhanced the degree of reported reliability obtained. It

was suggested that this was partly attributable to inter-rater collaboration or "cheating". Whenever feasible, nurses were asked to complete the forms in the presence of the researcher. After the completion of the forms by nurses, the researcher approached the nurses-in-charge on night duty, on each of the wards concerned, and asked the following question:

"Which patients on your ward have been incontinent of urine at night during the last week (or since admission if the patient has been on the ward less than a week)?"

Similarly, the physiotherapist and occupational therapist on each of the wards concerned were approached by the researcher and asked the following question:

"Which patients referred to you have been incontinent of urine during the last week (or since admission if the patient has been on the ward less than week)?"

Incontinence was defined as before.

It was initially planned that all patients identified by one or both nurses as being incontinent of urine on a daily basis would be checked by the researcher and a colleague at hourly intervals in order to establish the validity of the nurses' assessments. However, it soon became apparent that this would not be feasible due to the time consuming nature of the task. It was therefore decided to limit the checking procedure to patients on two of the acute medical and two of the acute HCE wards in the study. Where possible, verbal consent to participate was sought from each patient concerned. Where this was not possible, for example where the patient was mentally impaired, permission to check the patient was sought from the nurse-in-charge. Patients were informed that the researchers were nurses and involved in a study of urinary incontinence and that the purpose of the checking procedure was to assess the ability of nurses to detect the problem. Patients were given the option to refuse to participate but in practice this did not occur. Care was taken

to maintain the patients' dignity at all times and to ensure complete privacy during the checking procedure.

Each nurse on duty was given an explanation (similar to that given to patients) and it was stressed that the usual pattern of patient care related to toileting should continue as normal. Nurses were made aware that the researchers were only checking the patients, and would assist patients with toileting only if the patient specifically asked, as toileting under other circumstances might influence the results obtained. If the patient was found to be wet, the researchers assisted the patient with washing, change of clothing, and/or incontinence aids where necessary. Patients were checked at hourly intervals in rotation. At each hourly check, the researchers both independently assessed and recorded whether the patient was dry or wet and the results were compared afterwards. Where both raters had agreed that the patient had been incontinent further checking was discontinued.

3.4.5 Analysis

In view of the small number of nurses and patients involved data were analysed manually. Results are expressed as "overall" agreement and as "specific" agreement as previously described in section 3.4.1.

3.5 RESULTS

The results are presented in six sections.

3.5.1 The recruitment of nurses

The recruitment of qualified nurses who fulfilled the study criteria proved to be problematic. On only one occasion were nurses able to complete the forms at approximately the same time and in the presence of the researcher. For the remainder of the assessments, pairs of nurses completed the forms in the absence of the researcher and at different times (within a maximum period of one shift between assessments as

defined in the study criteria). Locating two trained nurses who both worked on the same ward and knew the patients well enough to provide an informed assessment was the main source of difficulty encountered. Of 33 nurses initially approached, 13 (39.3%) were unable to participate for this reason. Of these 13 nurses, six had returned from "days off", three from annual leave and one from sick leave; two nurses had only very recently commenced employment and one was a relief nurse who was temporarily "helping out" due to staff shortages. Of the remaining qualified nurses, 22 (10 nurses from acute medical wards and 12 nurses from HCE wards) agreed to participate. Data from two pairs of nurses on the HCE wards were discarded. In one instance, one of a pair of nurses had failed to complete the form and in the other, the forms had been completed by nurses more than one shift apart thereby increasing the likelihood of unreliable responses. Thus, a total of 18 nurse assessments were made; data were analysed from five pairs of nurses from acute medical wards and four pairs of nurses from acute HCE wards. The percentage agreements were calculated from the paired results obtained from the nine pairs of nurses.

3.5.2 Agreement between nurses on the presence or absence of urinary incontinence

The in-patient population, at the time of the study, ranged from 24-30 patients on the five acute medical wards and 18-22 patients on the four acute HCE wards. The degree of agreement and disagreement between responses from each of the nine pairs of nurses rating patients as continent or incontinent is represented by two by two matrices in Appendix 6.

Of a total of nine patients identified as incontinent by one or both nurses in the acute medical wards, there was complete agreement on six patients and disagreements concerning three of the patients. There were disagreements between three of the five pairs of nurses. Of a total of 28 patients identified as incontinent by one or both nurses on the acute HCE wards, there was complete agreement on 19 patients and disagreements

concerning nine of the patients. There were disagreements between all four pairs of nurses.

Overall percentage agreement

The overall percentage agreement (ie. the proportion of all patients about whom nurses agreed on the presence or absence of urinary incontinence) between pairs of nurses varied from 95.8%-100.0% on acute medical wards (mean overall percentage agreement of 97.8%) and 85.0%-90.9% on the acute HCE wards (a mean overall percentage agreement of 88.7%) (Table 7).

Specific percentage agreement

Table 8 shows the results obtained when the specific percentage agreement (i.e. the proportion of patients about whom nurses agreed upon as having urinary incontinence) was calculated. The specific percentage agreement between nurses varied from 50%-100% on the acute medical wards (mean specific percentage agreement of 73.3%) and 62.5% -75.0% on the acute HCE wards (mean specific percentage agreement of 67.7%).

3.5.3 Agreement between nurses on the pattern and frequency of episodes of incontinence

Of the 37 patients identified as incontinent by one or both nurses, 25 were assessed as incontinent by both nurses; six patients were from medical wards and 19 were from HCE wards. These 25 patients were used for analysis of the agreement between nurses regarding the pattern and frequency of incontinence.

Pattern of incontinence (day, night, day and night)

Of the 25 patients who both nurses agreed were incontinent, six were excluded because one or both nurses recorded that they did not know whether incontinence occurred during the day only, night only or both day and night-time. Comparisons between nurses in these cases could not

Table 7

**Overall percentage agreement between qualified nurses
on the presence or absence of urinary incontinence**

	Ward	Overall Percentage Agreement
	1	96.6
Acute	2	100.0
Medical	3	100.0
	4	96.4
	5	95.8
	<u>Mean</u>	<u>97.8</u>
	6	85.0
Acute	7	88.9
HCE	8	90.9
	9	90.0
	<u>Mean</u>	<u>88.7</u>

Table 8

Specific percentage agreement between pairs of qualified
nurses on the presence of urinary incontinence

	Ward	Specific Percentage Agreement
	1	50.0
Acute	2	100.0
Medical	3	100.0
	4	50.0
	5	66.7
	<u>Mean</u>	<u>73.3</u>
	6	62.5
Acute	7	66.7
HCE	8	66.7
	9	75.0
	<u>Mean</u>	<u>67.7</u>

therefore be made. Of the remaining 19 patients, percentage agreement on the pattern of incontinence was 40.0% on acute medical wards and 52.1% on acute HCE wards (see Table 9).

Frequency of incontinence (once or more/less than once a day)

Six patients were excluded because one or both nurses recorded that they did not know if episodes of incontinence occurred one or more times per day, or less than once a day. Of the remaining 19 patients about whom both nurses agreed were incontinent, the percentage agreement on the frequency of incontinence was 66.7% on acute medical wards and 60.0% on acute HCE wards (see Table 9).

3.5.4 Nocturnal incontinence; specific agreement between day and night nurses

Responses on the occurrence of incontinence at night from the nine pairs of day nurses and each nurse-in-charge on night duty were compared. Of the nine patients on the acute medical wards who were identified by one or both day nurses as incontinent at night, eight (88.9%) were also so identified by the night staff. Of the 26 patients on the acute HCE wards identified by one or both day nurses as incontinent of urine at night, 22 (84.6%) were also so identified by the night staff. An additional five patients (one patient from an acute medical ward and four from acute HCE wards), not initially identified by the day nurses, were also identified as incontinent at night by the night staff.

Table 10 shows the individual specific agreements between each pair of day nurses and the night nurse for the nine wards concerned. The specific agreement between each pair of day nurses and the night nurse, as to whether patients were incontinent at night, varied from 50-100% on acute medical wards (mean specific agreement of 73.3%) and between 66.7-75.0% on acute HCE wards (mean specific agreement of 68.8%).

Table 9

Agreement between pairs of qualified nurses on the
pattern and frequency of incontinent episodes

Ward	Pattern (day, night, both)	Frequency (> once/day < once/day)
Acute Medical	40.0	66.7
Acute HCE	52.1	60.0

Table 10

**Nocturnal incontinence; specific percentage
agreement between day and night nurses**

	Ward	Specific percentage Agreement
	1	50.0
Acute	2	100.0
Medical	3	100.0
	4	50.0
	5	50.0
		<u>Mean</u> 70.0
	6	66.7
Acute	7	66.7
HCE	8	66.7
	9	75.0
		<u>Mean</u> 68.8

3.5.5 Comparison of responses between nurses and therapists

Acute medical wards

Of the nine patients on acute medical wards who had been identified as incontinent by one or both nurse raters, two had not been referred for physiotherapy and five had not been referred for occupational therapy. Of the remaining seven patients who had been referred for physiotherapy, two were identified as incontinent by the physiotherapists. Of the patients who had been referred for occupational therapy, none were identified as incontinent by the occupational therapists. None of the patients were assessed as incontinent by either physio' or occupational therapists who had not initially been identified as such by the nursing staff.

Acute HCE wards

Of the 28 patients identified as incontinent on the acute HCE wards by one or both nurse raters, nine had not been referred for physiotherapy and 10 had not been referred for occupational therapy. Of the remaining 19 patients who had been referred for physiotherapy, nine were identified as incontinent by physiotherapists. Of the 18 patients who had been referred for occupational therapy, eight were identified as incontinent by occupational therapists. The physiotherapist identified an additional two patients as incontinent of urine (on a daily basis) who had not initially been identified by the nursing staff.

3.5.6 Specific agreement between nurses and researchers

Of the 37 patients identified as incontinent by one or both day nurses, 16 (43.2%) were selected to be independently checked at hourly intervals by the researchers. Fourteen patients were on two acute HCE wards and two patients from two acute medical wards. All 16 patients had been assessed by one or both nurses as incontinent of urine at least once a day. At the time of the study, eight of the 16 patients were wearing

incontinence pads and pants. Fourteen were assessed, by the nursing staff, as requiring assistance with meeting their toileting needs.

Several methodological problems were highlighted during the course of checking patients and these may have biased the results obtained. In spite of careful explanation to the nursing staff as to the reasons for the study, as well as stressing the need to continue with the usual pattern of care related to the provision of toileting, the presence of the researchers appeared to influence ward staff behaviour. On one HCE ward, the researchers observed that the nursing staff infrequently approached the patients who were being checked. Thus, nurses may have relied upon the researchers to respond to the toileting needs of the patients who were being checked, in spite of the explanation given to them which had stated the contrary. On the other HCE ward in which patients were checked, researchers became aware that the nursing staff may have felt that their performance was being monitored in some way. Although not possible to confirm, it seemed to the researchers that the nursing staff were offering patients toileting facilities at a much greater frequency than was usual practice. If the presence of the researchers had altered the usual pattern of ward staff behaviour then this is likely to have biased the results obtained.

Of the 16 patients identified as incontinent by one or both ward nurses, seven (43.8%) were identified as incontinent by one or both researchers during the checking procedure (see Table 11). There were agreements between the researchers on six of the patients identified. One disagreement arose when an incontinence pad which was damp but not wet was recorded as evidence of incontinence by one researcher but not the other. Of the remaining nine patients, none were observed to be incontinent of urine by either of the researchers during nine consecutive hourly checks.

Table 11

Urinary incontinence; specific agreement between
nurses and researchers

Ward	Day nurses		Researchers	Specific percentage agreement
	Pats. id. incont by one/both nurses n	Pats. observed incont. n		
Acute	1	1		100.0
Medical	1	0		0
Acute	8	4		50.0
HCE	6	2		33.0
Total	16	7		Mean 45.8

3.6 DISCUSSION

3.6.1 Limitations of the method

There are several limitations which need to be considered before attaching any significance to the results reported in this study. First, the size of the sample was small being limited to nine pairs of qualified nurses from acute medical and acute HCE wards. The sample was one of convenience comprising any qualified nurses on the wards at the time of the study who satisfied the necessary criteria specified for the study. Ideally, a random sample of nurses would have been chosen but in view of the difficulties encountered with recruiting nurses to the study, as reported in section 3.5.1, it was unlikely that sufficient numbers of qualified nurses could have been found from which a random sample could have been drawn. The results, therefore, may not be applicable to nurses working on other types of wards within the same hospitals or on similar wards in other hospitals outside the study area. Any conclusions drawn from the results are limited to qualified nurses and cannot be extrapolated to nurse learners or nursing auxiliaries on the wards concerned.

The findings apply to nurses who satisfied a number of study criteria chosen to reduce inter-rater variations specific to a ward setting. Thus, nurses took part in conditions which may not have reflected a typical ward situation in which they are usually expected to make clinical judgements. It is likely, therefore, that the results obtained under these circumstances represented a greater level of inter-rater reliability than would have occurred if the study had been conducted in the absence of these conditions. With hind sight, it might have been more appropriate to have included any trained nurse who worked in the wards concerned.

It could also be argued that asking nurses to identify patients who were incontinent during the previous week, or since admission if patients had been admitted less than a week, was a too lengthy period of time over which to make such an assessment. Incontinence may fluctuate in

occurrence so that the patient may demonstrate different behaviour at different times. It may have been more appropriate to have asked nurses to assess patients during the previous 24 hours. However, all nurses who participated had said that they knew the patients well and care had been taken to ensure that all nurses were aware that they could, if they so wished, consult the nursing and medical documentation in which such problems should be recorded.

Finally, the methodological problems which arose through the direct observation of patients highlight the practical difficulties of carrying out research in a clinical setting. These problems (previously described in section 3.5.6) are likely to have biased the results obtained, and as a consequence these findings need to be interpreted with caution.

3.6.2 Practical problems

In the course of the study, one of the main difficulties encountered was the location of qualified nurses who knew the patients sufficiently well to be able to provide informed clinical assessments. This highlighted some of the practical problems that can be imposed by a clinical environment, such as the ward setting, when patient information is required not only for the purposes of research, but by nurses, doctors and other health professionals for the provision of patient care. At the time of the study, more than a third (39%) of all the qualified nurses approached said they did not feel sufficiently well informed to know which patients on their wards, if any, were incontinent of urine. In the majority of cases, this was the result of nurses having recently returned from "days off", annual leave or sick leave. These factors, together with others such as the organisation of nursing according to a system of shifts, the turnover of nursing staff and the style of nursing management (for example patient allocation, team nursing or primary nursing) may all militate against the nurse being fully informed about the patients on the ward in which she works. This issue will be discussed further later on in this discussion.

3.6.3 Identification of patients with incontinence; overall agreement/specific agreement

When nurses were asked to assess whether patients had been incontinent during the previous week (or since admission if less than one week) the overall agreement between responses is seen to be high. The overall level of agreement between nurses on acute medical wards was slightly higher (mean overall percentage agreement of 97.8%) than the level of agreement achieved by nurses from HCE wards (mean overall percentage agreement of 88.7%). A percentage agreement is subjectively judged as a good or a poor level of reliability since there is no standard level of agreement that has been established as acceptable in all situations. However, Topf (1986) has pointed out that there is some consensus of agreement to suggest that an average of 70% is necessary, 80% is adequate and 90% is good. If these suggested levels are used to compare the overall percentage values obtained in the current study, the level of agreement achieved by nurses, on both types of wards, appeared to be good. As discussed previously, the level of overall agreement is the index obtained by including the agreements on the non-occurrence, as well as on the occurrence of a particular phenomenon. In these circumstances higher percentage agreement is likely, and may be spuriously high, particularly when there are few agreements on occurrence and when the rated behaviour rarely occurs.

When the specific agreement was estimated, i.e. that proportion of patients about whom nurses had agreed were incontinent, the level of agreement obtained was disappointing with a mean specific percentage agreement of 73.3% and 67.7% on acute medical and HCE wards respectively. Of the total 37 patients identified as incontinent by the nursing staff, there were disagreements concerning 12; a ratio of one disagreement for every three patients identified as incontinent. It should be remembered that a number of factors likely to have contributed towards inter-rater variations in the ward setting had been accounted for in the design of the study as previously discussed in section 3.4.2. It is conceivable, therefore, that should these measures which aimed to minimise the risk of unreliable responses have not been incorporated into the study, the level

of specific agreement between nurses would have been considerably lower than that obtained in the current study. These findings suggest that some nurses in the study, of whom all had been selected because they said they knew the patients well, may have had difficulties with identifying those patients on their wards who were incontinent of urine. There are few published studies with which to compare these findings. Studies which have relied upon the nurse (or other carers) for professional judgements concerned with patients' urinary problems have rarely reported upon the reliability or the validity of their observations. In the majority of studies which have investigated the prevalence of urinary incontinence (as reported in Chapter 1 section 1.3.2), the reliability of the data were not reported.

A number of behavioural rating scales have been designed to measure patient dependency, for example, Wade and Snaith (1981), Rhys Hearn (1974), Mahoney and Barthel (1965), and Barr (1964), and many contain items which include the assessment of bladder status. Some scales have reported acceptable levels of inter-rater reliability for items which measure continent status, for example, Wade and Snaith (1981). However, the reliability figures quoted are commonly reported as an overall percentage agreement (and/or the corresponding Kappa coefficient), or else the researchers have not defined the type of percentage agreement used. It is difficult, therefore, to compare the results from these studies with those of the current study.

Smith et al (1975), as previously discussed in section 3.2, reported a low level of agreement between nurse raters with an overall percentage agreement of approximately 50%, a figure which was less than that found in the current study. However, the two studies are not directly comparable. The present study took place on acute medical and HCE wards, whereas Smith et al conducted their study on a ward for mentally handicapped adults. They also do not report how urinary incontinence was operationally defined for the purposes of their investigation. In addition, the method of sample selection in the current study may have been more stringent than in Smith et al's study, thus producing a higher level of reliability. Smith et al asked nurses to rate patients on a

four point scale according to whether incontinence occurred at least daily; at least once a week; less than once a week; and never, and the results obtained are based upon the combined categories expressed as an overall percentage agreement. In the current study, nurses were asked to assess patients on the occurrence of urinary incontinence. Details of the frequency of episodes were treated separately and comparisons for these characteristics only included those patients who both nurses had agreed were incontinent of urine. Considering the methodological differences between the two studies, it would appear that this study supports the findings of Smith et al, and nurses in acute medical and HCE wards were not consistently agreeing about patients who were incontinent of urine.

It is important to take into consideration the context of the enquiry when interpreting the results from reported overall or specific levels of agreement. For the purposes of survey research, a global impression, rather than exact measurement, is often required. In these circumstances, a moderate level of overall agreement would probably be regarded as adequate. For example, the discrepancies observed between nurses on the wards during the inter-rater reliability test in the prevalence survey in Chapter 2, section 2.4.4, are unlikely to be of significance when an estimate of the size of the problem of urinary incontinence is required. However, from a clinical perspective, a high level of reliability (ideally 100%) is important, and discrepancies such as those observed in the current study are likely to have significant implications for patient management. The fairly low level of specific agreement obtained from nurses on both the acute medical and HCE wards in the current study, suggested that nurses were not always consistently identifying the same patients when asked to assess who was incontinent of urine on their ward. It appeared that nurses on the HCE wards were less able to agree than the nurses on the acute medical wards. One might have anticipated that the nurses working on HCE wards, where the problem of incontinence is usually a common one, would have shown better agreement, yet there were disagreements between nurses concerning patients on all four of the HCE wards in the study.

If nurses who consider they know the patients well are unable to achieve a consensus of agreement about whether a patient is incontinent or not, the communication of information to other nurses and members of the ward team will be inconsistent and the likelihood of a co-ordinated approach towards the assessment and management of the problem compromised.

3.6.4 Agreement on the pattern and frequency of incontinence

An awareness of the pattern and frequency of episodes of incontinence is considered to be an important component of the assessment of the problem (Norton 1986, Blannin 1984, Feneley 1984, Willington 1969). Rooney (1987) has argued that without precise information about the nature of the incontinence, the proposed solution and treatment regimens are only guess-work. Information concerned with the pattern and frequency of urinary incontinence has important implications not only for immediate nursing care requirements but can also contribute useful information upon which to determine the underlying causes of the problem (as discussed in Chapter 1, sections 1.6.3.1 and 1.6.3.2). Knowledge of the severity and the pattern of the problem may influence the type of treatment selected and is essential if response to treatment is to be evaluated. The current findings, however, suggested that nurses in both the medical and HCE wards had difficulties in identifying these two important aspects of the problem. Agreement concerning the pattern of incontinence was lower (acute medical 40.0%; acute HCE 52.1%) than for the frequency of incontinence (acute medical 66.7%; acute HCE 60.0%).

The reported inconsistencies between nurses when asked to identify patients who were incontinent, and the poor level of reliability of information obtained related to the pattern and frequency of the problem may have been due to several factors.

Incontinence is an accepted and frequently used word within medical and nursing vocabulary. It is, however, a deceptively simple label for a symptom which is the response to one or more underlying pre-disposing or causal factors. Although care had been taken to explicitly define incontinence for the purpose of this study, earlier observations during

preliminary fieldwork and subsequent discussions with ward staff after data collection, indicated that discrepancies may have arisen because of differing individual interpretations of the definition of incontinence. This conceptual confusion concerning common health problems, such as incontinence, has been termed by Bond (1985) as "an absence of shared meanings for every day concepts".

It seemed the differences in interpretation were, in a number of instances, dependent upon the following factors:-

i) Quantity and/or frequency of incontinence

Incontinence was sometimes defined according to the quantity or frequency of urine loss. Where a nurse's perceived threshold, in terms of quantity or frequency of urine loss, was exceeded, the result was interpreted as incontinence but anything less than this was not. For example, a small amount of urine loss described as "dribbling" or "stress" was not always considered as incontinence. A frequent comment was "Mrs X isn't really incontinent she just has a bit of stress". Other similar comments were made on several occasions. The frequency of episodes of incontinence, for example, urine loss assessed as "occasional", as defined by the nurse, was not always interpreted as incontinence although no consistent definition of what constituted "occasional" was used. Similarly, incontinence referred to as an "accident" was not considered as "true" incontinence although it was not clear as to the reasons for the distinction.

ii) "Behavioural" incontinence

Urine loss which was interpreted as the result of a particular type of patient behaviour, such as "laziness" or "apathy" (as described by the nursing staff) also gave rise to differences of interpretation between nurses. "He isn't incontinent - he's just lazy and won't use his bottle." Other similar comments were noted on several occasions.

iii) Toileting difficulties

Disagreements commonly arose when patients had difficulties which interfered with one or more of the functional skills necessary for

toileting. For example, if a patient was unable to handle a urine bottle or when a patient was dependent on nurses for meeting her toileting needs. Disagreements commonly arose between nurses on the same wards concerning patients who would have been incontinent if they were not toileted at regular intervals. A frequent comment made by nurses was "Mrs X isn't incontinent if you 'catch her' in time".

iv) Intervention

In some cases, intervention was sufficient for the patient to no longer be considered incontinent. Patients with incontinence aids such as absorbent pads and pants or appliances such as sheath drainage systems were not always perceived as incontinent. The implementation of a "regular" toileting schedule was sometimes sufficient for the patient to be perceived by nurses as continent despite, on closer questioning, continued episodes of incontinence.

Similar observations have been reported by other workers. Huey (1985), in the United States, described a study in a home for the elderly which relied upon the nursing aides to identify residents who were incontinent of urine. Unlike the current study, an explicit definition for incontinence was not given. Residents who wore pads and pants, or who dribbled urine or who were anything short of being continuously wet were not identified by the nursing aides as incontinent. In the U.K., Littlewood (1984) noted that the decision to continue a continence service was often made according to a criterion of what did, or did not, constitute sufficient soiling to be called incontinence, a decision which was often made by the carer, or the laundry worker.

While the definition of incontinence used in the current study may have helped to clarify ambiguities of meaning, it may not have been sufficient to alter nurses' individual, possibly biased, interpretations of the problem. If nurses, doctors and other members of the ward team are to collaborate in the identification of patients' problems and help each other to solve them, it is imperative that they, in association with the patient, can mutually agree as to what actually constitutes a "problem".

3.6.5 Clinical implications

The difficulties with locating trained nurses who satisfied the study criteria have already been discussed (section 3.6.3). Whilst nurses who participated in the study stated that they knew the patients well, they may, nevertheless, have had inadequate knowledge upon which to base their assessments which might have accounted for the results obtained. Although nurses, compared with other members of the ward team, are likely to have more opportunities for regular and direct contact with patients, nursing care is usually provided by nurses rather than a single nurse. In addition, the system of shifts, and the way in which nursing care is organised, as previously discussed, may result in nurses not always being aware of the problems experienced by patients in their care.

Thus, an efficient and effective system of communication between nurses themselves, as well as between other members of the ward team, is essential if patients' health problems are to be reliably identified, and co-ordination and continuity of patient care is to be ensured. This is of particular importance in relation to a problem such as incontinence because of the difficulties inherent in its detection (as previously described in section 1.3, Chapter 1).

If used appropriately, the Nursing Process documentation, which is based on the identification of patient problems, should provide one means of enhancing communication of information between nurses. Few nurses (only two of 18 participants in the current study) however, stated that they had consulted the nursing (or medical) records for the information required in this study.

While more reliable, valid and clinically practical tools are needed to assist nurses and doctors with the objective measurement of incontinence, the continence chart provides a practicable and clear means of identifying and defining the problem. It appeared, however, that continence charts were rarely used in the wards used in the current study. These issues will be addressed further in Chapter 4.

3.7 CONCLUSION

In conclusion, when nurses were asked to identify patients in their wards who were incontinent of urine, a good level of overall agreement was achieved. The fairly low level of specific agreement obtained, however, indicated that nurses' assessments were frequently inconsistent and information concerning the pattern and frequency of the problem was unreliable.

CHAPTER 4

**DOCUMENT SURVEY; THE IDENTIFICATION, ASSESSMENT
AND MANAGEMENT OF URINARY INCONTINENCE**

CHAPTER 4

DOCUMENT SURVEY; THE IDENTIFICATION, ASSESSMENT AND MANAGEMENT OF URINARY INCONTINENCE

4.1 SUMMARY

This chapter begins with a resume of the literature concerned with the importance of written patient records for the purposes of communication. The need for documentation specific to the problem of urinary incontinence is highlighted. A retrospective document survey carried out in medical and HCE wards as a result of the findings in the preceding chapter is described. Patients' records were examined to clarify the extent to which nurses identified urinary incontinence, and where documented, to establish the extent to which the problem had been assessed and managed. The medical records were also reviewed for the purpose of comparison with the nursing records. The results are presented and their implications for patient care discussed.

4.2 INTRODUCTION

"Teamwork" is an integral part of the current system for health care delivery (Evers 1981) and as such the need for effective, interdisciplinary communication has been highlighted as being central to the provision of co-ordinated patient care (RCN 1987b, King's Fund 1984, Coates 1982, Hunt and Marks-Maran 1980, Shaefer 1974, Lelean 1973).

Referring specifically to the elderly, the collaborate working party document "Improving care of elderly people in hospital" (RCN 1987b) reinforced this belief stating that "effective communication is an essential part of good teamwork". Discussing the assessment and management of incontinence, Norton (1986) stated "there can be little doubt that the team approach offers the optimum help for many patients...".

One definition of communication proposed by King (1971) is:

"a process whereby information is given from one person to another either in face-to-face meeting or indirectly, through the telephone, television or the written word".

Lelean (1973) identified formal channels of communication as those utilising methods which have been consciously and deliberately established, for example, oral communication, records, reports or policy manuals. In a ward, the written record and the verbal change of shift reports are the two principal methods of formal communication utilised by nurses. In the King's Fund working group report (1984) "Nurse to Nurse Reporting", it was stated that when used flexibly and creatively these channels of communication are the "key to nursing action".

As discussed in Chapter 1, section 1.8.2, the introduction of the Nursing Process to the U.K., approximately 10 years ago, as a systematic approach to nursing care delivery has provided a framework for recording nursing information. Nursing records, otherwise referred to as nursing care plans (Shea 1984, Hunt and Marks-Maran 1980) or care plans (McFarlane and Castledine 1982, McGilloway 1980), form the main part of the system of written communication used by nurses and are the generally accepted vehicle through which the four stages of the nursing process (assessment, planning, implementation and evaluation) may be written down for the purpose of communication (Shea 1984, Coates 1982, Luker 1981, Hunt and Marks-Maran 1980). For the sake of clarity the term "nursing record", when used in the current survey, will refer collectively to all the written nursing documentation used by nurses to plan care.

In the United States and Canada, evidence of a written plan of care for each patient is necessary as part of accreditation of hospitals (Joint Commission on Accreditation of Hospitals 1971, Canadian Council on Hospital Accreditation 1972). While this is not required in the U.K. the importance of documenting the treatment and care which is planned or being given to patients by health professionals has been stressed by

many (Waters 1986, McFarlane and Castledine 1982, Hunt and Marks-Maran 1980). Referring specifically to nursing, it was stated in the Royal College of Nursing document "In Pursuit of Excellence" (1987a) that nursing care should be systematically recorded.

It was stated that:

"Every nurse will keep accurate records of nursing interventions, recording assessment of findings, proposed interventions and details of patient outcomes".

In recent years, the importance of written records, in both nursing and medicine, has become increasingly accepted as one indicator of the overall quality of patient care (Goldstone, Ball and Collier 1983, RCN 1981, Phaneuf 1976, Weed 1971).

Several definitions of the nursing record exist, but in spite of differences in terminology they embody very similar principles. For example, Shea (1984) defines a nursing record (referred to as a nursing care plan) as the written statement of the Nursing Process as it occurs, which should contain precise statements for the communication of information to direct and evaluate nursing care. Lewis (1976) stated that written information should include tasks that are dictated by the physician, such as diagnostic procedures, treatments and medications, but should always contain information devoted to autonomous nursing measures for selected problems, as well as the related nursing actions to resolve them. Mayers and Watson (1979) defined a nursing record (referred to as a care plan) as a written guideline for patient care that is organised in such a way that "anyone can visualise what care is needed and why". McFarlane and Castledine (1982) have stated that a care plan should be:

"concise, precise and readable, containing the goals, objectives or expected outcomes of the nursing care provided".

The general format and structure of the nursing record may vary from ward to ward or community setting (Shea 1984, Hunt and Marks-Maran 1980) but a consensus of opinion does appear to exist as to its content (Farmer 1986).

Hunt and Marks-Maran (1980) have outlined the four main areas of content on which the nursing record should be based.

These are :

1. the provision of an assessment of the patient's needs.
2. details of the care planned.
3. a description of how the care is to be implemented.
4. an evaluation of the outcomes for the patient.

While the nursing documentation is expected to serve a number of purposes, Walton (1986) claims that its primary aim is to facilitate communication.

The need for documentation specifically related to the problem of urinary incontinence has been highlighted (Norton 1986, Norton, Exton-Smith and McClaren 1962). Drawing attention to the problem of incontinence on wards for the elderly, Norton, McClaren and Exton-Smith (1962), more than 25 years ago, stressed the importance of assessing the causes of incontinence if efforts aimed at reducing the incidence of the problem are to be achieved. They suggested that individual patient records, which document observations such as the pattern, severity and type of incontinence, would help to identify the underlying causes of the symptom. They also pointed out that the records would be of benefit not only to all nursing staff, particularly those new to the ward as well as to night nurses, but they would also be of value to the medical assessment.

Norton (1986) has stated that much of the information that is required for assessing incontinence would be gathered routinely as part of the Nursing Process. However, there are many possible factors causing incontinence which are likely to necessitate enquiry into several

different areas. In order to assess the problem, the use of specific questionnaires or checklists as guides for eliciting information have also been widely recommended (Blannin 1984, Shah 1984, Abrams, Feneley and Torrens 1983, Norton 1980, Cardozo, Stanton and Bennett 1978, Barry and Hodges 1973).

The findings in section 3.5, Chapter 3, suggested that trained nurses were not always aware of urinary incontinence. Furthermore, where the problem had been identified, poor levels of inter-rater reliability were demonstrated when nurses were asked to assess the frequency and pattern of episodes of incontinence.

The particular difficulties inherent with the recognition and assessment of a multifactorial symptom such as urinary incontinence, as previously discussed in Chapter 3, reinforces the need for an effective system of communication, not only between nurses themselves, but also between nurses and other members of the ward team. One of the reasons for the disappointing findings reported in section 3.5 in the previous chapter, may have been due to inadequate communication between the various disciplines involved in the care of the patient. Only two of the 18 nurses in the previous study appeared to have consulted the nursing or medical records for the information requested by the researcher, although they were informed they could do so if they wished. This may have occurred because nurses themselves did not perceive the documentation as an effective source of the information required.

Implicit within the Nursing Process is the assumption that nursing care is organised in response to the identification of patient problems, through an assessment, and where identified, that the problems are recorded in the patients' nursing records. Thus, if a patient were to be identified as incontinent of urine, this should be recorded in the nursing documentation. During the preliminary planning of the previous study, however, the examination of a small number of nursing and medical records had shown that patients identified as incontinent by the nursing staff did not always appear to have the problem recorded. The data, however, were not systematically collected, therefore little can be

inferred from these findings. Results of a community study, by Littlewood (1984), have indicated that district nurses were not consistently identifying urinary incontinence and, where the problem had been recorded in the nursing records, it was rarely systematically assessed. Littlewood's findings are limited as the sample was restricted to 14 patients, and the reliability of the data obtained, which assumed that anyone supplied by the incontinence laundry service was actually incontinent, was not estimated. There are no comparable hospital-based studies in the United Kingdom. As discussed in Chapter 1, section 1.6.1, however, there is evidence from surveys conducted in North America to suggest that urinary incontinence is frequently under-recorded and inadequately assessed within the nursing and medical documentation (Sier, Ouslander and Orzeck 1987, Riberio and Smith 1985, Starer and Libow 1985, Ouslander, Kane and Abrass 1982). However, these studies are affected by similar methodological limitations to those described above, since the validity and reliability of the recorded observations were rarely reported. One study by Ouslander, Kane and Abrass (1982) attempted to verify the presence and severity of urinary incontinence in patients previously identified as incontinent by the nursing staff by interviewing the patients, other carers and examining the medical records. However, the investigators failed to report the level of validity or reliability of the information so obtained.

As a result of the findings reported in Chapter 3, a survey was conducted to provide a systematic review of the nursing records. This was done in order to gather descriptive data with which to clarify the extent to which nurses identified, or failed to identify, urinary incontinence. Where the problem had been identified, the records were examined to establish to what extent the symptom had been assessed and subsequently managed. An examination of the medical records was also included in the study for the purpose of comparison with the nursing records.

4.3 AIMS

The survey of nursing and medical records was designed to:

1. Identify the extent to which urinary incontinence had been identified. Where incontinence had been identified to:
2. Examine the extent and nature of its assessment and management.

4.4 METHODS

4.4.1 Preliminary Planning

Permission to conduct the survey and to consult the nursing and medical records had previously been obtained from the hospital ethical committee. The consultants and charge nurses on the wards concerned were informed about the survey and had given their consent. The medical and nursing staff were not given details of the purpose of the survey in case this subsequently influenced the level of recording in the patients' records. They were given a general explanation and told that the researcher was interested in observing how incontinence was currently being managed in hospital wards. The researcher needed to know which patients were incontinent on the wards selected for the sample, in order to establish the level of recording in the nursing and medical records. The issue of the reliability of the data was important, particularly in view of the findings obtained from the previous study. In the absence of a suitable alternative method within the scope and resources available for the current survey, it was considered necessary to rely upon the clinical judgement of the nursing staff. It was decided that the nurse-in-charge, as the person primarily responsible for the co-ordination of nursing care, would be approached on each of the wards concerned. Mohide (1986) referring specifically to the study of urinary incontinence, suggested that multiple sources of data are likely to enhance the reliability of the information obtained. In order to estimate the reliability of the data from the nursing staff in the current study, a number of other measures were incorporated into the design of the study. Each patient identified as incontinent by the

nurse-in-charge was also interviewed by the researcher to try and establish whether the patient herself was aware of a problem. Other members of the nursing staff, and the ward doctor where available, were also asked to independently identify those patients who in their judgement were considered to be incontinent of urine. Comparisons were then made between the patients identified by the nurse-in-charge and the patients identified by other means. It was initially envisaged that these additional measures designed to validate the data obtained from the nurses-in-charge would be carried out on all of the wards used in the survey. It became apparent during preliminary fieldwork, however, that this would be excessively time consuming. Instead, the reliability checks were carried out according to a sampling frame of one in four wards which was considered sufficiently representative to allow an estimate of the reliability of the data.

4.4.2 Sample

The sample consisted of all the nursing and medical records relating to patients who were identified as incontinent of urine on 40 wards from five hospitals in the health authority in which the survey took place. The wards consisted of all the available National Health Service acute general medical and HCE wards within one health authority in the Midlands. The hospitals in which the wards were based comprised of one 1,400 bedded university teaching hospital (UTH) (previously used in the studies reported in Chapters 2 and 3), a 1,125 bedded teaching district general hospital (DGH) (previously used in the study reported in Chapter 3) and two hospitals primarily specialising in health care of the elderly (HCE) with 104 and 82 beds respectively. Some HCE wards were based in the UTH and the DGH. A further six HCE wards were included from another DGH which, due to ward closures, had only the HCE and radiology specialties remaining. The HCE wards were categorised according to type of admissions policy into acute admissions (mean length of hospital stay 25.9 days), acute admissions/rehabilitation (mean length of hospital stay 33.9 days), and slow-stream rehabilitation wards (mean length of hospital stay four months). The wards were considered to be fairly typical of acute medical and HCE wards in

general. The sample of records to be examined was anticipated to be sufficiently large to allow findings to be generalised to similar types of wards outside the sample area. The distribution of wards according to type of hospital and specialty is shown in Table 12.

4.4.3 Data Collection Instruments

Three instruments were designed for the current survey.

1. Patient information form

On this, the researcher recorded the particulars of each patient identified as incontinent of urine when the nurse-in-charge was interviewed (see Appendix 7). Details recorded included the following:

- i) Grade of nurse interviewed
- ii) Name of patient
- iii) Assessment of the severity of incontinence
- iv) Current management of incontinence
(Nursing/Medical/Other).

The examination of nursing and medical records was restricted to patients identified as incontinent of urine and who did not have indwelling catheters in position at the time of the survey. A decision to exclude patients with indwelling catheters was made for two reasons. First, it was thought that by excluding such patients the sample of records for analysis would be kept to more manageable proportions. Secondly, it was thought that searching for information related to events before catheterisation, particularly where patients had a catheter prior to admission or for a long period of time, would have been too time consuming. However, additional background information was collected separately on catheterised patients including details of age, sex, primary admitting diagnosis and date of admission to the ward. It was anticipated that this would give a fairly representative picture of the frequency with which indwelling catheters were being used as a method of incontinence management during the period of the survey.

Table 12

Distribution of wards according to hospital and specialty

Type of Hospital	Acute Medical	HCE		
		Acute	Acute & Rehabilitation	Slow-stream Rehabilitation
UTH*	6	4	-	-
DGH†1	8	6	-	1
DGH 2	-	-	6	-
HCE 1	-	-	5	-
HCE 2	-	-	-	4
Total	14	10	11	5

* University Teaching Hospital

† District General Hospital

2. Reliability form

A form was designed to establish the reliability of the information given by the nurse-in-charge (see Appendices 8a and 8b) on which the independent assessments of the patient, individual members of the nursing staff and the ward doctor were recorded.

3. Nursing/medical record form

For the purposes of the survey, nursing records were operationally defined as follows:

Nursing Record

The nursing record was defined as the written ward-based documentation related to the nursing care planned by the nurse for patients during their hospital stay. Each nursing record was specific to one patient. The format of the nursing record varied from ward to ward but broadly consisted of a nursing history sheet (otherwise called an assessment sheet), a care plan, and the progress notes (or evaluation sheet).

i) Nursing history or assessment

The nursing history or assessment, referred from now on as "nursing history", provides nurses with the information they need in order to identify patient's problems. The information collected varied from ward to ward and included some or all of the following items: medical information such as reason for current hospital admission, relevant past medical history, allergies etc., social information such as occupation, dependents, housing provision etc., and health related data such as the patient's description of her usual pattern of activities of living, for example diet, sleep, bladder and bowel habits. On a number of wards, information relating to the patients' current health status, eyesight, mobility, communication function and mental state, commonly presented in the format of a checklist, was also sought in the nursing history.

ii) The care plan

The care plan referred to the part of the nursing record in which patient problems, the nursing aims or objectives and the prescriptions of nursing care were recorded. As with other parts of the nursing

record, the format of the care plan varied from ward to ward. In the majority of wards in the survey, problems were organised according to the Roper, Logan and Tierney (1980) activities of living model and consisted of pre-printed forms for structuring the nursing assessment (an example is shown in Appendix 9). This provides a framework for the identification of patient's problems using 12 activities of living, such as communication, mobilising, sleeping and eliminating. A few wards did not use such a framework; instead, space was provided for nurses to record problems in their own words. The care plan included a second sheet on which the problem or problems were recorded together with the aims and the nursing care prescribed to resolve them. For each problem identified, space was provided for the recording of a date or a time to evaluate the outcomes of the nursing care prescribed.

iii) Progress notes or evaluation sheet

The final part of the nursing record consisted of the progress or evaluation sheet where space was provided for the written entries of the day-to-day progress related to the care of the patient.

Medical Records

The medical records were organised using the traditional body systems approach. On some HCE wards in the sample, mnemonics were incorporated into the medical documentation to facilitate problem identification.

A suitable instrument with which to analyse the content of the nursing or medical records was not found when the literature was examined. Forms were therefore designed in order that relevant data could be abstracted from the patient records for content analysis. Polit and Hungler (1983) refer to content analysis as a method for the objective, systematic and quantitative description of communication and documentary evidence.

They stated:

"The technique utilises a number of controls that yield more objective and systematic information than is typically obtained in a casual review or critique of communication content".

The instrument used in the current study consisted of four parts. The basic patient information, such as demographic details, was recorded in the first part, the second and third parts contained information obtained from the nursing and medical records respectively, and the final part was used for recording relevant information obtained from the patient's drug chart (see Appendix 10). Specific information was also sought from other sources of ward-based patient documentation, where used (for example, the vital signs, fluid balance and continence charts) and was recorded in the nursing section of the instrument. The rationale guiding examination of the content of the nursing and medical records concerned three main areas: i) identification of urinary incontinence; ii) assessment of incontinence; iii) management of incontinence.

A framework was developed and used as a basis for the abstraction and organisation of data from the records. The broad categories related to the three areas mentioned above and combined a checklist format which entailed recording whether the factors sought were present or absent as well as incorporating space for the recording of entries verbatim (Appendix 10). As discussed in section 1.6.3, Chapter 1, a validated and reliable approach to the assessment of urinary incontinence, particularly in the elderly, has yet to be established. The criteria indicative of an assessment of incontinence used to guide the researcher, therefore, were based upon an extensive review of the nursing and medical literature and discussions with the district continence adviser and a consultant geriatrician.

The nursing/medical form was designed to be used by the researcher alone and therefore an estimate of the degree of inter-rater reliability was not considered necessary. Intra-rater reliability was not tested

formally but, during the pilot study, a small number of nursing and medical records were re-examined and showed consistent results when compared. Fox (1982) stated that minimally the categories chosen should bear an overt relationship to the purpose for which they have been created. The researcher was satisfied that the instrument did possess face validity. The content of the instrument was reviewed by the district continence adviser and a consultant geriatrician with a particular interest in incontinence, who both considered the areas covered to be appropriate for the research purposes. The instrument was therefore assumed to also demonstrate satisfactory content validity.

4.4.4 Procedure

The nurse-in-charge on each ward in the sample was asked to identify those patients who were incontinent of urine at the time of the survey and to indicate the severity of the problem (less than one episode a day and/or night, one or more episodes a day and/or night). For each patient identified, the nurse was also asked to state how the problem was being managed and whether incontinence aids were being used. Incontinence was operationally defined as before in section 3.4.4., Chapter 3, but for the purpose of this study, patients with indwelling catheters for reasons of incontinence were also included.

Patients identified as being incontinent and who had been admitted on the day the researcher was collecting the data were excluded as it was thought that the records would not necessarily have been completed at this time. Details of patients were recorded on the patient information form (Appendix 7). For all patients identified as incontinent of urine (excluding those patients with indwelling catheters for reasons already discussed in section 4.4.3) the nursing and medical records (including patient charts) were systematically examined and details were recorded on the nursing and medical record form (Appendix 10). In the case of six patients in HCB wards who had been in the ward for a considerable length of time (up to six years in one case), complete nursing records were not readily available. In these instances, the nursing records for up to the six previous months of admission were traced and examined.

Previous nursing and medical records of patients transferred from other wards or hospitals, prior to admission to the study ward, were also examined. On a small number of occasions, where written entries were illegible or when unfamiliar abbreviations were used, clarification was sought from the nursing or medical staff.

For every fourth ward included in the study, the patients identified as incontinent by the nurse-in-charge, the ward nursing staff, and the doctor where available, were interviewed by the researcher. This information was recorded on the reliability form and used to assess the reliability of the information obtained from the nurse-in-charge. Data collection extended over a four week period from February to March 1986.

4.4.5 Data Analysis

The majority of data was coded and analysed using the Statistical Package for the Social Sciences (SPSSx) on the University of Nottingham 2900 series ICL VME mainframe computer. In a small number of cases data were analysed manually. For comparative purposes, data obtained from similar types of wards were combined into four groups : acute medical, acute HCE, acute/rehabilitation HCE and slow-stream rehabilitation HCE wards. Results are presented as frequency tables and percentages. For selected variables, the Chi-squared test (Siegal 1956) for use with nominal data was used to establish whether or not there were significant differences between the results obtained.

4.5 RESULTS

The results are presented in six main sections as follows:

- The reliability of the information obtained from the nurse-in-charge.
- The characteristics and distribution of the patients identified as incontinent of urine.

- The frequency with which incontinence (and associated problems) was identified in the nursing and medical records.

Where incontinence was identified in the nursing and medical records:

- Details of the extent and nature of its assessment.
- Details of the extent and nature of its management.
- Details of the aims and evaluation of care related to incontinence.

4.5.1 Reliability of information obtained from the nurses-in-charge

In the current survey, an estimate of the reliability of the data was obtained by selecting one in four wards in the survey and comparing the patients assessed as incontinent by the nurses-in-charge with those assessed by other means (patient self-reports, other trained nurses, nursing auxiliaries, nurse learners, ward doctors and the nursing and medical records). From this, the specific agreement, that is, the proportion of patients about whom there is agreement on the presence of urinary incontinence (as previously discussed in Chapter 3) was calculated. A medical ward and an acute HCE ward had to be excluded from the reliability test; in one case no patient had been assessed as incontinent by the nursing staff and in another, additional members of ward staff with which to compare assessments were unavailable. This left a total of eight wards. Information was obtained from only five medical staff and three nurse learners, who were not always present on the eight wards studied; thus, this information was excluded from the main results shown in Table 13. In total, the nurses-in-charge on the eight selected wards identified 50 patients who, at the time of the study, were assessed as being incontinent of urine. Of these, the other qualified nursing staff (staff nurses/enrolled nurses) identified 36 and the nursing auxiliaries 33. Thirty one of the 50 patients were also identified in the nursing records and 28 in the medical records. Of the 50 patients identified, 30 (60.0%) were unable to give an adequate

Table 13

Reliability test:

Identification of patients with urinary incontinence:

Nurse-in-charge	Number of patients identified as incontinent (n=50)	Specific percentage agreement
Qualified nursing staff (n=8)	36	72.0
Nursing Auxiliaries (n=8)	33	66.0
Nursing records	31	62.0
Medical records	26	52.0
Combined sources	45	90.0

Additional Information

Of 25 patients identified by the nurse-in-charge, six (24%) were so identified by the medical staff (n=5).

Of nine patients identified by the nurse-in-charge, two (22.2%) were so identified by nurse learners (n=3).

Of the 50 patients identified as incontinent by the nurses-in-charge, 30 (60.0%) could not be assessed for reasons of "confusion", communication impairment, etc. Of the 20 patients who were interviewed, five denied being incontinent and 15 confirmed the symptom (75.0%).

account of their bladder function, primarily as a result of mental impairment or communication dysfunction. Of those who could be interviewed by the researcher, five denied being incontinent and 15 confirmed the symptom. Excluding the nursing records as a source of verification (thereby excluding the possibility that the nurse-in-charge herself may have recorded the problem) and combining the other sources of information (patient self-reports, nursing staff, nursing auxiliaries and medical records) a total of 45 of the 50 patients identified by the nurse-in-charge were also identified as such by at least one other source of information, and in the majority of cases (93.0%), was verified by at least two other sources of information. This gave a specific agreement level of 90.0%. It should be noted that the patients identified by the nurses-in-charge did not necessarily reflect all the patients who may have been incontinent at the time of the survey as the other trained nurses and nursing auxiliaries, between them, had identified an additional seven patients. Where several sources of data are used, the reliability of the information obtained is likely to be enhanced and thus the validity of the findings is increased. The high level of specific agreement attained in the current survey suggests, therefore, that it would be fair to assume that patients identified by the nurses-in-charge were incontinent of urine at the time of the survey.

4.5.2 Characteristics and distribution of patients

1) Age, sex and length of stay on ward

There were a total of 943 in-patients (575 females; 368 males) on the acute medical (36.8%) and HCE wards (63.2%) during the period of the survey. Of these, 371 patients were identified as incontinent by the nurses-in-charge, representing an overall prevalence of urinary incontinence of 39.3%. Significantly more females (255; 44.3%) than males (116; 31.5%) were identified as being incontinent of urine ($\chi^2=15.57$ $df=1$ $p<0.001$). Incontinent females had a mean age of 81.2 years (SD=7.8 years; range 34-90) and males a mean age of 76.0 years (SD=8.0 years range 42-90). More than a quarter (107; 28.8%) of the

incontinent patients were 80 years of age or older. At the time of the survey, patients identified as being incontinent had a median length of time on the ward since admission of 1.1 week on acute medical wards, 3.1 weeks on acute HCE wards, 16.3 weeks on acute/rehabilitation HCE wards and 36.3 weeks on the slow-stream rehabilitation HCE wards. The majority of these patients (361; 97.3%) had been on the same ward for five days or longer.

ii) Main documented reason for admission

The main documented reason for admission irrespective of type of ward, for those patients identified as incontinent, was circulatory disorders (149; 40.2%), of which the majority (106) were strokes. Further common reasons for admission were mental impairment (86; 23.2%), and musculo-skeletal (68; 18.3%) and respiratory (55; 14.8%) disorders. Twelve patients (3.2%) had been admitted specifically for investigation of urinary incontinence. More than a third of the patients (129; 34.8%) had been admitted with multiple problems. Appendix 11 gives a full summary of the reasons for admission.

iii) Distribution of patients identified as incontinent according to type of ward

The proportion of all in-patients at the time of the survey who were identified as suffering from incontinence ranged from 38 (11.0%) on the acute medical wards to 91 (71.1%) on the slow-stream rehabilitation HCE wards (see Table 14). As might be expected, statistically significant differences between the proportion of patients identified as incontinent were found when the types of wards were compared, with a greater proportion of patients affected on wards for the elderly ($\chi^2=185.45$ $df=1$ $p<0.001$). When HCE wards were compared, a significantly greater proportion of patients on slow-stream rehabilitation HCE wards were identified as being incontinent compared to acute HCE wards ($\chi^2=19.10$ $df=1$ $p<0.001$) and acute/rehabilitation HCE wards ($\chi^2=6.50$ $df=1$ $p<0.02$).

Table 14

Distribution of patients identified as incontinent by
nurses-in-charge categorised by type of ward

Ward type n=	Acute medical	HCE			Total
		Acute	Acute/Rehab.	Slow-stream Rehab.	
	14	10	11	5	
Total No. of patients	347	270	198	128	943
No. incontinent Pats with IDC* (%)	17 (4.9)	55 (20.4)	33 (16.7)	37 (28.9)	142 (15.1)
Total No incontinent Patients (%)	38 (11.0)	129 (47.8)	113 (57.1)	91 (71.1)	371 (39.3)

* Indwelling catheter

iv) Severity of incontinence

Of the 229 incontinent patients who did not have an indwelling catheter at the time of the survey, 145 (63.3%) were identified as frequently incontinent (defined as one or more incontinent episodes per 24 hour period) by the nurse-in-charge (Table 15). Significantly more patients on the slow-stream rehabilitation HCE wards (75.9%) were identified as frequently incontinent when compared with incontinent patients on the acute HCE wards (54.1%) ($\chi^2=6.19$ $df=1$ $p<0.02$). No significant differences emerged between other types of wards.

v) Continence status on admission

Information concerning continence status on admission to the ward was obtained from the medical records and is discussed further in section 4.5.4. Information was available for 164 patients; 11 were in acute medical wards and the remainder in the HCE wards. None of the 11 patients in the medical wards were stated to be incontinent on admission. Of the 78 patients admitted directly from home to HCE wards for whom this information was available, 38 (48.7%) were stated to be already incontinent before admission. Of the 75 patients transferred from another ward or hospital to HCE wards, 53 (70.7%) were stated to be already incontinent prior to admission to the ward.

vi) Use of indwelling catheters and incontinence aids

At the time of the survey, 258 (69.5%) of the 371 patients identified as incontinent had either an incontinence aid or an indwelling catheter to manage the problem (Table 16). There was a significantly greater use of aids and appliances on the acute/rehabilitation HCE wards as compared to the medical wards ($\chi^2=6.0$ $df=1$ $p<0.02$) and the acute HCE wards ($\chi^2=7.4$ $df=1$ $p<0.01$). There were significantly more aids and appliances used in the slow-stream rehabilitation HCE wards compared with the acute medical ($\chi^2=9.4$ $df=1$ $p<0.01$) and the acute HCE wards ($\chi^2=11.6$ $df=1$ $p<0.001$). Of all patients identified as incontinent, 142 (38.3%) had an indwelling catheter in position. Overall, significantly more patients on the HCE

Table 15

Nurses' perceived severity of incontinence

Ward Type	Acute medical	HCE			Total
		Acute	Acute/Rehab.	Slow-stream Rehab.	
Patients n=	21	74	80	54	229
Frequently incontinent (> once day/night) (%)	14 (66.7)	40 (54.1)	50 (62.5)	41 (75.9)	145 (63.3)
Occasionally Incontinent (< once day/night) (%)	7 (33.3)	34 (45.9)	30 (37.5)	13 (24.1)	84 (36.7)

Acute HCE/Slow-stream rehabilitation $\chi^2=6.307$ df=1 (p<0.02)

Table 16Proportion of patients with IDC* or other incontinence aids

Type of ward	Acute Medical	HCE			Total
		Acute	Acute Rehab	Slow-stream Rehab.	
Total No. identified as incontinent	38	129	113	91	371
IDC	17	55	33	37	142
(%)	(44.7)	(42.6)	(29.2)	(40.7)	(38.3)
Pads/pants	1	6	50	29	86
(%)	(3.0)	(5.0)	(44.2)	(32.0)	(23.2)
Sheath drainage appliances **	3	16	3	8	30
(%)+	(15.8)	(29.1)	(12.0)	(47.0)	(25.9)

* Indwelling catheter

** Male patients

+ Percentage derived for incontinent male sample only

wards than on the medical wards had indwelling catheters ($X^2=45.7$ $df=1$ $p<0.001$). As a choice of management for incontinence, however, significant differences were not found between type of ward and catheter use ($X^2=5.87$ $df=3$ $p>0.1$) (Table 16) although fewer catheters were used on the acute/rehabilitation HCE wards. Between 29.2% of incontinent patients on the acute/rehabilitation HCE wards and 44.7% of the incontinent patients on acute medical wards had an indwelling catheter to manage the problem. Incontinence pads were rarely used on the acute medical and acute HCE wards but were frequently used on other types of HCE wards. On the acute/rehabilitation HCE wards, 50 (44.2%) of the 113 incontinent patients and 29 (32.0%) of the 91 incontinent patients on the slow-stream rehabilitation HCE wards had incontinence pads and pants at the time of the survey. Of the 116 male patients identified as incontinent, 30 (25.9%) had a sheath drainage appliance during the day and/or night.

4.5.3 The identification of urinary incontinence and associated problems in the nursing and medical records

Of the total 371 patients assessed as incontinent of urine by the nurses-in-charge, 229 of the nursing and medical records related to the non-catheterised sample were examined. This excluded the 142 patients who at the time of the survey had indwelling catheters for reasons of incontinence.

i) Documentation of the problem in the nursing records

The location of nursing records (comprising of nursing history, careplan and progress sheet) varied from ward to ward. In a small number of wards, all parts of the nursing record were kept together in a folder or binder and were located at the nurses' station or in the charge nurse's office. In the majority of wards, the care plans were located separately from the nursing history and progress sheets which were usually kept at the nurses' station. On some wards, care plans were kept separately at the patients' bedsides.

Of the 229 nursing records examined, 136 (59.4%) had the problem identified in the nursing care plan (as defined earlier in section 4.4.3). The results are presented in Table 17. Of the 93 patients who did not have incontinence identified in the care plan, there were no care plans available for 28 (12.2%). Of the remaining 65 patients (28.4%) for whom care plans were available, two entries in the section intended for the recording of problems associated with elimination related only to bowel problems, and the remainder had "not applicable" entered under this heading or were left blank. The severity of incontinence (previously defined in section 4.4.3) as assessed by the nurse-in-charge, was unrelated to whether or not the problem had been identified in the care plans ($\chi^2=1.50$ $df=1$ $p>0.2$). A further 41 patients (17.9%) were found to have at least one recorded entry other than in the care plan, which had identified incontinence. In two cases, this took the form of written entries on the patients' fluid balance charts and for the remainder, entries were recorded in the progress notes. Thus, a total of 177 (77.3%) of the patients identified as incontinent by the nurse-in-charge had the problem identified somewhere in the nursing record. The problem had not been identified anywhere in 52 (22.7%) nursing records. Significant differences were not found between the type of ward and whether or not the problem had been identified in the nursing records ($\chi^2=2.18$ $df=3$ $p>0.5$).

ii) Documentation of the problem in the medical records

Of the 229 medical records examined, 132 (57.6%) had the problem recorded in the medical records (Table 17). Incontinence was more likely to have been recorded in the medical records on the acute HCE wards ($\chi^2=5.58$ $df=1$ $p<0.02$), acute/rehabilitation HCE wards ($\chi^2=4.3$ $df=1$ $p<0.05$) and the slow-stream rehabilitation HCE wards ($\chi^2=4.1$ $df=1$ $p<0.05$) than on the medical wards (Table 17). Significant differences were not found, however, between type of HCE ward and whether or not the problem had been recorded ($\chi^2=0.09$ $df=2$ $p>0.95$).

Table 17

Urinary incontinence;
Documentation of the problem in the nursing and medical records

Ward Type	Acute Medical	HCE			Total
		Acute	Acute/ Rehab.	Slow-stream Rehab.	
No. of patients assessed as incontinent by nurse-in-charge	21	74	80	54	229
Incontinence recorded in <u>Nursing care plans</u> (%)	12 (57.1)	41 (55.4)	53 (66.3)	30 (55.6)	136 (59.4)
Problem recorded elsewhere in Nursing records	2	15	12	12	41
Combined Total (%)	14 (66.7)	56 (75.7)	65 (81.3)	42 (77.8)	177 (77.3)
Incontinence recorded in <u>Medical records</u> (%)	7 (33.3)	46 (62.2)	47 (58.8)	32 (59.3)	132 (57.6)

iii) Comparison between nursing and medical records

Of the 229 incontinent patients identified as such by the nurse-in-charge, 113 (49.3%) had the problem identified in both the nursing and medical records. For 64 patients (27.9%), the problem was identified in only the nursing records, while for 19 patients (8.3%) incontinence was identified as a problem only in the medical records. Incontinence had not been identified in either the nursing or the medical records in 33 cases (14.4%). Of these 33 patients, the researcher observed that three had sheath drainage appliances and 11 had been identified by the nurses-in-charge as being managed by incontinence pads and pants at the time of the survey. Another patient was observed to have imipramine prescribed at night and on further enquiry it was found that this was for the treatment of incontinence.

Nurses were more likely to have recorded the problem (either in the care plan or elsewhere in the nursing records) than the medical staff ($\chi^2=43.68$ df=1 $p<0.001$).

iv) Documentation of related problems in the nursing records

Of the 136 patients in which incontinence had been recorded in the nursing care plans, 33 (24.3%) also had an associated problem recorded. When the content of these entries was analysed, 29 (21.3%) referred to problems associated with skin care and four (2.9%) related to problems of a psycho-social nature.

4.5.4 Recorded information related to the assessment of incontinence

The nursing and the medical records were examined for any information which might have contributed to an assessment of incontinence. The results in the following section are organised as follows:

- (i) Relevant information obtained on admission.
- (ii) Information describing the nature of the problem.

- (iii) Investigations which may assist in the assessment of incontinence.
- (iv) Other relevant information.
- (v) Assessment of potential drug side-effects.
- (vi) Information identifying the causes or pre-disposing factors of incontinence.

i) Relevant information obtained on admission

The 229 nursing and medical records of patients assessed as incontinent of urine by the nurses-in-charge were examined for information recorded on admission which related to two areas:

- a) the patient's usual level of functional status
- b) the patient's usual habits of micturition.

Nursing records:

Assessment of the patient's functional status on admission.

Information related to the patient's usual level of functional status (defined as an assessment of mobility, communication function, eyesight and mental status prior to illness/admission) was recorded infrequently in the nursing records (range 3.0% - 29.0% of nursing records) (Table 18). Overall, information related to the patient's usual level of mental functioning was the least recorded aspect of functional status (12.2%) irrespective of the type of ward. Except for the assessment of mental status, the nursing records on the slow-stream rehabilitation HCE wards contained such information more often than the nursing records in other types of wards (Table 18).

Assessment of the patient's usual habits of micturition before admission

When the nursing records were examined for written information which identified the patient's usual habits of micturition, 48 (21.0%) contained such information (Table 19). This information was least frequently recorded on the acute/rehabilitation HCE wards (5.0%) and

Table 18

Nursing Records: Information related to patients' usual level of functional status.

	Acute Medical	HCE		
		Acute	Acute/ Rehab.	Slow-stream Rehab.
n=	21 (%)	74 (%)	80 (%)	54 (%)
Mobility	6 (28.6%)	11 (14.9%)	3 (3.8%)	19 (35.2%)
Communication	6 (28.6%)	12 (16.2%)	9 (11.3%)	24 (44.4%)
Eyesight	4 (19.0%)	6 (8.1%)	2 (2.5%)	27 (50.0%)
Mental status	5 (23.8%)	9 (12.2%)	4 (5.0%)	10 (18.5%)

Medical Records : Information related to patient usual level of functional status

	Acute Medical	HCE		
		Acute	Acute/ Rehab.	Slow-stream Rehab.
n=	21 (%)	74 (%)	80 (%)	54 (%)
Mobility	16 (76.2%)	66 (89.2%)	67 (83.3%)	48 (88.9%)
Communication	12 (57.1%)	25 (33.8%)	28 (35.0%)	19 (35.2%)
Eyesight	8 (38.1%)	20 (27.0%)	15 (18.8%)	14 (25.9%)
Mental status	12 (57.1%)	59 (79.7%)	63 (78.8%)	49 (90.7%)

Table 19

Information related to the patient's usual habits of micturition recorded in the nursing and medical records

Ward type	Acute Medical	HCE			Total
		Acute	Acute & Rehab.	Slow-stream Rehab.	
Patient's					
Id. incontinent	21	74	80	54	229
n=					
<u>Nursing Records</u>					
n=	4	10	4	30	48
(%)	(19.1)	(13.5)	(5.0)	(55.6)	(21.0)
<u>Medical Records</u>					
n=	11	57	55	41	164
(%)	(52.4)	(77.0)	(68.8)	(75.9)	(71.6%)

most often recorded on the slow-stream rehabilitation HCE wards (55.6%). The content of this information, where recorded, was analysed. Of the 48 written entries found in the nursing records, 36 (75.0%) had identified the patient as already incontinent on admission to the ward. When these written entries were examined, details such as information concerned with the duration, pattern, type or cause of incontinence, prior to admission, were rarely recorded (10; 20.8%). Information related to the patient's usual living circumstances prior to admission, for example, the provision and location of toilet facilities within the home or the patient's customary method of coping with incontinence was absent in all nursing records examined.

Medical Records:

Assessment of the patient's functional status on admission

All aspects of functional status (with the exception of communication function on the slow-stream rehabilitation HCE wards), across all types of wards, were found to be more frequently recorded in the medical records than the nursing records (Table 18).

Assessment of the patient's usual habits of micturition before admission

Information which had identified the patient's usual habits of micturition was found in 164 (71.6%) of the 229 medical records examined (Table 19). Of the 164 recorded entries, 103 (63.2%) had identified the patient as already incontinent on admission to the ward. As with the findings in the nursing records, mentioned above, specific details related to the problem were rarely recorded (14; 8.4%).

For subsequent analysis of documentation in this section of results, the records in which incontinence had not initially been identified were excluded.

ii) Information describing the nature of the problem

The nursing (177) and the medical records (132) in which urinary incontinence had initially been identified were examined for further information which served to define or clarify the nature of the problem since admission. For example, the type of information sought was that which may have described the severity or the pattern of incontinence and its associated symptoms (frequency, nocturia, urgency, etc).

Of the 177 nursing records in which incontinence had initially been identified, 21 (11.8%) contained additional details which further described the problem (Table 20). Of the 132 medical records examined in which incontinence had been identified, 42 (31.8%) contained additional details related to incontinence (Table 20). Thus, 156 (88.1%) of the nursing records and 90 (68.2%) of the medical records did not contain any further information which described the nature of the problem.

Where such information was recorded in the nursing records, content analysis showed that 10 (47.6%) referred to the pattern of episodes of incontinence (day-time, night-time, both, "incontinent at any time"), eight described the type of symptom or its associated symptoms (frequency, urgency, dribbling), two described the circumstances in which incontinence occurred ("incontinent when standing up", "uses the bin") and one entry referred to the amount of urine loss ("incontinent of large amounts"). In the medical records, 24 entries referred to the pattern of incontinence (day, night-time, both) and 18 comments described the type of symptom or its associated symptoms (dribbling, nocturia, frequency, urgency, "incontinent on standing").

(iii) Investigations which may assist in the assessment of urinary incontinence:

The nursing (177) and the medical records (132) in which incontinence had been identified were examined to assess to what extent the problem had been investigated. It cannot be assumed, however, that a particular

Table 20Recorded information related to the nature of urinary incontinence

Ward type	Acute Medical	HCE			Total
		Acute	Acute / Rehab.	Slow-stream Rehab.	
<u>Nursing records</u>					
Records in which incontinence identified	n= 14	56	65	42	177
Nature of incontinence recorded	n= 2	6	8	5	21
(%)	(14.3)	(10.7)	(12.3)	(11.9)	(11.9)
<u>Medical records</u>					
Records in which incontinence identified	n= 7	46	47	32	132
Nature of incontinence recorded	n= 4	18	12	8	42
(%)	(57.0)	(39.1)	(25.5)	(25.0)	(31.8)

test or investigation was necessarily undertaken specifically to assess incontinence. For example, a urinalysis or a rectal check may have been carried out for reasons other than incontinence. The results are shown in Table 21 and in Table 22.

iv) Other Relevant Information

Related documentation was sought for each of the patients identified as incontinent of urine in the nursing records (177).

The documentation sought related specifically to the presence of a:

- Bowel chart
- Fluid balance chart
- Continence chart

Bowel chart

During the period of the survey, 154 (87.0%) of the 177 patients identified as incontinent in the nursing records had a chart in which information related to their bowel function was recorded. These usually consisted of entering the presence or absence of a daily bowel movement on the patient's vital signs chart or in the nursing care plan. On one slow-stream rehabilitation HCE ward, the patients' daily bowel movements were recorded on a wall chart in the toilet area. In none of these cases was any additional information, such as the size, colour, or consistency of the stool, recorded. The median time since the last recording of a bowel movement was two days (range : day of survey to 5.7 weeks). Fifty seven patients (37.0%) had not had a bowel movement recorded for more than three days.

Fluid balance chart

Fifteen patients (8.5%) were observed to have a fluid balance chart at the time of the survey. The information recorded related to approximate measurement of fluid intake in all cases, the measurement of urine

Table 21

Nursing Records:

Investigations possibly contributing towards the assessment of incontinence

Investigation	n	% of nursing records in which incontinence had been identified (n=177)
Urinalysis*	40	22.6
Urine culture	35	19.8
Rectal examination*	19	10.7
Residual urine	3	1.7
Specialist referral**	1	0.6
Home assessment	1	0.6

* Done routinely on admission to some wards

** Continence adviser referral

Table 22

Medical records:

Investigations possibly contributing towards the assessment of incontinence

Investigation	n	% of medical records in which incontinence had been identified (n=132)
Urine culture	69	52.3
Rectal examination*	26	19.7
Physical examination	11	8.3
Residual urine	5	3.8
Specialist referral**	3	2.3
Urodynamic investigation	1	0.8
Home assessment	1	0.8

* Done routinely on admission to some wards

** 2 Urology referrals

1 Geriatrician referral

output in seven cases and the charting of episodes of incontinence in nine cases.

Continence chart

Continence charts were in use for 11 patients during the period of the survey. One additional patient was found to have had a continence chart in the past, making a total of 12 patients (6.8%) in all (eight acute HCE; four acute/rehabilitation HCE wards). Continence charts were not in use on the acute medical or the slow-stream rehabilitation HCE wards at the time of the survey. Information collected consisted of charting episodes of incontinence during the day and night in all cases, recording periods of dryness in five cases and the time when normal voiding occurred in two cases. Information related to an estimation of fluid intake and urine output was not recorded on any of the charts examined. The researcher considered that three of the 12 continence charts examined were completed correctly. On the remaining nine charts, basic information, such as the recording of episodes of incontinence and continent episodes, was inconsistently recorded. In several cases, charts appeared to have been used inappropriately. For example, four male patients who were wearing sheath drainage appliances during the day and night were observed to have continence charts (in one case for a period of 17 weeks). Evidence that the information obtained from continence charts had been evaluated as part of an assessment (or management) in either the nursing or the medical records was lacking.

v) Assessment of potential drug side-effects

Of the total 229 patients identified as incontinent by the nurse-in-charge, 31 patients (13.5%) had been prescribed diuretics on a daily basis. Times of administration were between 0600-0900 hours (22), 1000-1300 hours (11) and 1800-2200 hours (3). Five patients were being prescribed diuretics twice a day. At the time of the survey, 68 patients (29.7%) were also being prescribed sedatives (50) or hypnotic drugs (18) on a daily basis. Thirty two patients (47.0%) had sedative drugs at times other than at bed time and 38 patients (55.9%) were

having sedatives more than once a day. There was a significantly greater use of sedatives and hypnotic drugs on the acute/rehabilitation HCE wards when compared with the acute medical wards ($x^2=4.7$ $df=1$ $p<0.05$) and the acute HCE wards ($x^2=5.4$ $df=1$ $p<0.05$). Similarly there was a greater use of sedatives and hypnotics in the slow-stream rehabilitation HCE wards when compared with the acute medical ($x^2=7.2$ $df=1$ $p<0.01$) and the acute HCE wards ($x^2=8.6$ $df=1$ $p<0.01$). The potential side-effects of diuretics and sedative/hypnotic drugs as predisposing or exacerbating factors for urinary incontinence were rarely recorded in the nursing and medical records. Only one nursing record had identified the use of sedatives as a possible cause of incontinence, while no reference to these potential side-effects was made in the medical records examined.

vi) Information identifying the causes or predisposing factors of incontinence

The 177 nursing records and 132 medical records in which incontinence had been identified were examined for any information which had identified the possible causes of the problem. Seven nursing records (4.1%) and 15 medical records (11.4%) had written entries which had identified the possible causes of incontinence.

Content analysis showed that nurses had identified factors which affected the patient's ability to cope with her bladder, such as "immobility", or "incontinence due to medication". The medical staff primarily identified types of physiological bladder dysfunction, such as "unstable bladder" or "prostatic enlargement". The precise content of these entries is shown in Appendices 12 and 13.

4.5.5 Recorded information related to the management of incontinence

The nursing and medical records in which incontinence had been identified were examined for written information relating to the current or planned management of the problem. Written entries were categorised according to their content as shown in Table 23 and Table 24. Of the

Table 23

Nursing Records

Management prescribed

Type of management: Responses	n	% of nursing records in which management of incontinence recorded (n=96)
"Toileting" Activities*	95	98.9
Incontinence Aids**	69	71.9
Personal Hygiene	52	54.2
Environmental Factors (eg. ensure call bell within reach)	16	16.7
Skin Care	12	12.5
"Increased Fluid Intake"	12	12.5
Psycho-social Aspects	5	5.2
Total	261	

* "Two-hourly/four-hourly toileting"
"Regular toileting"
"Frequent toileting"

** Included indwelling catheters (4)

Table 24

Medical Records

Management prescribed

Type of Management: Responses	n	% of medical records in which management of incontinence recorded (n=71)
Antibiotics	28	39.4
Other drug* therapy	13	18.3
Incontinence Aids**	31	43.6
"Toileting" Activities	22	31.0
Miscellaneous†	6	8.5
Total	100	

* Drugs specifically acting on the lower urinary tract (eq. imipramine)

** includes indwelling catheters (21)

† Miscellaneous : Increases fluid intake (4)
Pelvic floor exercises (1)
Home modifications (1)

177 nursing records in which incontinence had been identified to be a problem, 96 (54.2%) had at least one written entry which related to an aspect of the management of the problem. Of the 132 medical records in which incontinence had been identified as a problem, 71 (58.8%) had at least one written entry concerned with an aspect of management. Thus, 81 (45.8%) of the nursing records and 61 (46.2%) of the medical records in which incontinence had been identified had no written entry concerned with any aspect of its management. When information from all wards was combined, the most frequent methods of management prescribed in the nursing records were activities related to toileting. For example, "two hourly" toileting (49; 51.0%), "frequent" or "regular" toileting (46; 47.9%). Other methods of management related to the use of incontinence aids such as pads and pants (41; 42.7%), sheath drainage appliances (24; 25.0%) and indwelling catheters (4; 4.2%). More than half of the comments in the nursing records, in which an aspect of management had been recorded, related to personal hygiene (52; 54.2%) (Table 23).

In the medical records, the most frequent choice of management prescribed related to antibiotics (28; 39.4%) and drugs specifically acting on the lower urinary tract (13; 18.3%). Other methods involved incontinence aids (31; 43.6%) and activities related to toileting (22; 31.0%), for example, "regular" toileting (Table 24).

Treatments such as the use of bladder training, behaviour modification techniques or intermittent catheterisation were not mentioned in either the nursing or the medical records. The use of pelvic floor exercises was documented in one medical record.

4.5.6 The aims and the evaluation of care related to incontinence

Nursing Care Plans

The 136 nursing care plans in which incontinence had been recorded were analysed for written statements concerned with the setting of nursing aims, the prescription (nursing action) and evaluation of nursing care related to the problem. The following results concern the nursing aims

and evaluation of care recorded in the nursing care plans. The results concerning the prescription of nursing care were presented in the previous section 4.5.5 related to the management of urinary incontinence.

1) Nursing aims

Of the 136 care plans, 125 (91.9%) had written statements which had identified the aim (or aims) of nursing care in relation to urinary incontinence (Table 25). A total of 178 written statements described the aims of care, and of these the most frequently recorded entry was stated as "to promote continence" (73; 53.7%). The next most frequently recorded aim of care was stated as "to keep dry" (30; 22.1%). The content of the remaining statements is shown in Table 25.

ii) Evaluation of outcome

Of the 136 care plans in which incontinence had been identified, 69 (50.7%) had a written entry to evaluate the care prescribed in relation to the problem. Of these entries, 24 (34.8%) did not give a specific date for evaluation but were written in the following terms, "regularly" "every Wednesday" or "as needed". For the remaining 45 entries, care was stated to be evaluated by a specific date. The median length of time since the problem was last evaluated was 12 days (range 1 day to 14 weeks). Of the 69 patients where an entry to evaluate the care had been recorded, nine (13.0%) had a written entry which specified the actual outcome of the care given.

Medical Records

iii) Evaluation of outcome

Of the 132 medical records in which incontinence had been identified, seven (four records in acute HCE, and one each in the acute medical, acute/rehabilitation HCE and slow-stream rehabilitation HCE wards respectively) were found to have written entries which were judged to be

Table 25

Nursing Care plans:

Documented nursing aims related to urinary incontinence

Nature of recorded entry	n	% of total number of nursing care plans
"to promote continence"	73	53.7
"to keep dry"	30	22.1
"help with personal hygiene"	20	14.7
"monitor for skin break down"	18	13.2
"maintain comfort"	10	7.4
"control incontinence"	10	7.4
"record incontinence"	6	4.4
"maintain adequate urine output"	4	2.9
Miscellaneous*	7	5.1
Total	178	

Miscellaneous*
monitor for infection 2
regular toileting 1
assist with elimination 1
help become independent
with toileting 1
Reassure patient 1
Help regain bladder tone 1

evaluative in content. Three comments referred to the success of regular toileting, two referred to the unsatisfactory management of sheath drainage appliances and two stated that incontinence had been resolved.

4.6 DISCUSSION

4.6.1 Limitations of the method

Before any interpretation of results can be made, the limitations of the survey design need to be considered. In order to examine the nursing and medical records, it was necessary to find a way to identify patients who were incontinent of urine within the practical constraints of time and resources available. The methodological problems surrounding this issue have already been addressed in Chapter 3. The decision to rely upon the clinical judgement of the nurses-in-charge inevitably raised doubts concerning the accuracy of the information given in view of the results previously obtained in the study described in Chapter 3. The high level of specific agreement (90.0%) reported in section 4.5.1 of this chapter, however, would indicate that the information given by the nurses-in-charge when asked to identify patients who were incontinent of urine, was reliable.

The large proportion of patients who were unfit for interview (60.0%) highlight the difficulties encountered in the clinical situation when endeavouring to obtain information from the patient herself. Sier, Ouslander and Orzeck (1987) reported that of 78 elderly incontinent patients in acute hospital wards, 71% were unable to answer questions about their incontinence; a figure comparable with that of the current survey.

It is important to bear in mind that this was a cross-sectional retrospective survey based upon the examination of nursing and medical records. Assessment procedures and management of the problem may have been planned for some time in the future. However, the majority of

patients (97.0%) identified as incontinent had been on the ward at least five days and 193 patients (84.2%) for more than two weeks (ranging from a median of one week to nine months). Although one might have expected that patients who had been on a ward for a longer period were more likely to have had an opportunity for a comprehensive assessment, this was not borne out when the records were examined. The length of time a patient had been on the ward did not appear to have influenced the extent to which the problem had been assessed. Apart from the patients (98 in all) who had been recorded as being incontinent on admission to the ward, it was not possible to establish precisely when the symptom had first been identified. Thus, if incontinence was of recent onset, any assessment of the problem would not necessarily have been documented. However, when the patients who had been identified as incontinent on admission (median time since admission 7.8 weeks) were compared to the group of patients who had not been so identified (or the information was not recorded), few differences emerged when the extent to which the problems had been assessed or the types of management implemented were compared. Significant differences between these two groups of patients did emerge, however, for two assessment procedures. Patients who had been identified as incontinent on admission were much more likely to have had a urine culture documented in the nursing records ($\chi^2=7.1$ df=1 $p<0.01$) and medical records ($\chi^2=67.7$ df=1 $p<0.001$). They were also more likely to have had a rectal examination recorded in the nursing records ($\chi^2=8.32$ df=1 $p<0.01$) and medical records ($\chi^2=17.7$ df=1 $p<0.001$) than patients who had not been assessed as incontinent on admission. However, it should not be assumed that patients who were admitted with urinary incontinence were more likely to have the problem assessed as these investigations may have been carried out routinely, or in the case of a rectal examination, for reasons other than incontinence.

Finally, the survey was limited to a review of the patient documentation and is, therefore, limited to the information which was recorded as having been given or was being planned to be given. Such information represents the comprehensiveness of the written content of the nursing or the medical records but may not represent an adequate reflection of

current clinical practice. Members of the ward team may have been aware of patients with incontinence, but had failed to identify the problem in the nursing or medical records. Similarly, assessment procedures or methods of treatment may have been implemented but were not recorded as having been carried out. However, if patient documentation aims to facilitate communication and if patient care is perceived within the context of appropriate and effective management strategies based upon a systematic assessment of incontinence, it is doubtful whether these aims can be achieved in the absence of accurate, up-to-date and reliable records.

4.6.2 The prevalence and nature of incontinence

The prevalence of urinary incontinence in the present survey ranged from 11.0% on the acute medical wards to 71.1% on the slow-stream rehabilitation HCE wards. These data, as with the results obtained from the prevalence survey, reported in Chapter 2, have indicated that a considerable proportion of patients on acute medical and HCE wards are affected by the condition.

When these results are compared to those reported in Chapter 2, the prevalence of incontinence on the acute medical wards (11.0%) and acute HCE wards (48.0%) was less than that found on similar types of wards (acute medical, 19.0%; acute HCE 53.0%) in the previous survey. Several reasons may have accounted for these observed differences. A time lapse of approximately a year had occurred between carrying out the two surveys; therefore, the differences may have reflected fluctuating levels of incontinence on the wards concerned. The inclusion of additional acute medical and acute HCE wards from another DGH hospital within the health authority, and different data collection methods (in the first survey data were collected by means of nurses completing specifically designed forms and in the second nurses were interviewed) may also have accounted for the difference between the prevalence rates obtained. The prevalence of incontinence found in the acute medical wards in the DGH (6.8%) in the current survey was significantly lower ($\chi^2=5.71$ $df=1$ $p<0.02$) than that found in equivalent types of wards in

the UTH (15.3%) thus, when these data were combined the overall prevalence rate obtained was reduced. The results obtained in the acute HCE wards in the earlier survey (53.0%), reported in Chapter 2, were, however, comparable to the results obtained in similar types of wards in the UTH (49.3%) and the DGH (49.5%) in the current survey.

Taking into consideration the methodological constraints previously highlighted in Chapter 1, section 1.3.2, the prevalence rates of other published studies are similar to those obtained in the present study for acute medical wards (Egan et al 1983), acute HCE wards (Egan et al 1983, Wells 1975a) and acute/rehabilitation HCE wards (McPhee and Roberts 1987). The higher prevalence rates for incontinence found on the slow-stream rehabilitation HCE wards (71.0%) was not unexpected and agrees with findings of other studies in which consistently higher levels of incontinence on longer stay wards for the elderly have been reported (Wade, Sawyer and Bell 1983, Wells 1975a).

The findings that significantly more females than males were identified as incontinent are in accordance with those of a number of other surveys of hospitalised elderly patients (Sier, Ouslander and Orzeck 1987, Fernie et al 1983, Brocklehurst 1951). Brocklehurst (1963) suggested that the difference between the sexes might be explained by the use of portable bottles by male patients, who are thus more able to easily avoid or conceal their incontinence than female patients. Other researchers, however, have not reported differences in the prevalence of incontinence between male and female hospital in-patients (Jewett et al 1981, Willington 1969, Isaacs and Walkey 1964, Totterman 1959).

As with the results from the earlier prevalence survey (Chapter 2, section 2.5.3), stroke was the most common reason for admission to hospital in patients identified as incontinent (28.6%).

Sixty three percent of the non-catheterised patients were assessed as incontinent of urine at least once during a 24 hour period (day and/or night). Severity of incontinence has been found to be associated with increased mental and physical impairment (Sier, Ouslander and Orzeck

1987, Ouslander, Kane and Abrass 1982, Isaacs and Walkey 1964) and is likely to have accounted for the finding that patients on the slow-stream rehabilitation HCE wards tended to be assessed by nurses as more frequently incontinent than patients on the other types of wards. Care must be taken when interpreting these results, however, because, as was shown in the previous study in Chapter 3, nurses tended to have poor levels of inter-rater agreement when asked to assess the frequency of episodes of incontinence in patients on their wards. It appeared that a considerable proportion of the patients (more than half; 63.3%) on the medical and HCE wards were assessed as frequently incontinent of urine. However, this may reflect an underestimate of the overall severity of the problem since the previous frequency of urine loss in those patients currently having indwelling catheters was not examined. Comparisons are difficult to make because few studies appear to have collected data on the severity of incontinence in hospitalised patients. Those that have did not discuss the reliability of the data obtained. Isaacs and Walkey (1964) reported that of 224 incontinent patients on wards for the elderly, one quarter were incontinent on a daily basis, a quarter were incontinent more than once a day and the remainder were doubly incontinent (the frequency of episodes of incontinence was not given).

More recently, Sier, Ouslander and Orzeck (1987) in the United States, reported that the majority of incontinent elderly patients (the precise number is not reported) on acute medical and surgical wards had an average of one episode of incontinence per 24 hour period (range one to five). Ouslander, Kane and Abrass (1982), also in the United States, found that of 419 elderly patients resident in a nursing home, 34% were defined as incontinent more than once a day. However, Ouslander et al observed that it was difficult to obtain precise information about the frequency of episodes of incontinence either from the nursing home staff or the patient records.

Of those patients for whom information was available, almost half (48.7%) of the patients admitted directly from home to the HCE wards were identified as already incontinent on admission. Other researchers have reported that between a third to almost three quarters of elderly

patients admitted to hospital or nursing homes were already incontinent on admission (Mcphee and Roberts 1987, Sier, Ouslander and Orzeck 1987, Starer and Libow 1985, Ouslander, Kane and Abrass 1982, Willington 1969). However, it is not clear from the findings of the current survey, or those of other studies, whether incontinence was associated with reason for admission to hospital or whether the problem already existed prior to admission.

Compared to the findings of the previous prevalence survey (reported in Chapter 2), a greater proportion of incontinent patients in the acute medical wards (44.7% compared with 39.3%) and the acute HCE wards (42.6% compared with 34.0%) in the current survey were reported to have indwelling catheters because of incontinence. These differences were not, however, statistically significant. The possible reasons for these differences have already been discussed at the beginning of this section.

4.6.3 The use of indwelling catheters and incontinence aids

Indwelling catheters were used less often in the acute/rehabilitation HCE wards (29.2%) when compared with the medical wards (44.7%), acute HCE wards (42.6%) and slow-stream rehabilitation wards (40.7%).

While it is not possible to comment on the suitability of the choice of management, indwelling catheters appeared, once again, to be a common and perhaps over-used method of management for urinary incontinence; being the chosen method of control for more than a third (38.2%) of all those patients who were identified as incontinent. Crow, Mulhall and Chapman (1988) found that females were twice as likely as males to be catheterised for incontinence but this difference was not borne out in the current survey. While overall, more females (19.8%) than males (14.6%) had indwelling catheters as a proportion of all incontinent patients, significant differences did not emerge. Similar findings have been reported by Sier, Ouslander and Orzeck (1987).

Over a third (37.6%) of the non-catheterised patients had some type of absorbent pad and pants (or less frequently all-in-one pad) to manage the problem; their use being largely confined to the acute/rehabilitation and slow-stream rehabilitation HCE wards.

Precise data on the extent to which such aids are used on hospital wards in this country appears to be lacking. In the United States, Ouslander, Kane and Abrass (1982) reported that after indwelling catheters, absorbent pads were the most common form of management for incontinence in elderly patients resident in nursing homes. Starer and Libow (1985), also in the United States, found that pads were used to manage incontinence in the majority (78.2%) of incontinent nursing home patients. They suggested that these aids may simplify nursing care but their use does not encourage an assessment of the problem. They also suggested that pads may contribute to increased mortality and morbidity by increasing the risk of skin breakdown, reducing patient self-esteem and by allowing an underlying condition to remain untreated. To date, evidence to support these claims is lacking. The indiscriminate use of incontinence pads is considered to be poor management (Norton 1986, Starer and Libow 1985, Williams and Pannill 1982, Willington 1976). Where used appropriately, however, they can be a useful short-term measure, or when other treatments have failed can be used as an adjunct during rehabilitation, for example, during bladder training or drug therapy (Clay 1986, Kennedy 1984). However, it seemed that the use of incontinence pads was rarely perceived in this context by nurses in the acute medical and acute HCE wards. Nurses in these wards appeared to view such aids as contrary to a rehabilitative approach and this may partly have explained why pads were rarely used on these types of wards. On several of the acute medical and HCE wards, nurses reported that pads were never used, even in the presence of frequent episodes of incontinence, because their use was thought to "encourage" the problem.

The frequency with which incontinence pads and pants were being prescribed in the acute/rehabilitation and the slow-stream rehabilitation HCE wards and the dearth of recorded evidence to indicate that any assessment of the problem had taken place suggests that these

aids may have been used prematurely, i.e. before an adequate assessment of the problem. Badger (1983), during a study of ward toileting procedures in the elderly, suggested that incontinence pads were frequently used because nurses were unaware of any other methods of management. In the absence of such knowledge, nurses in the acute/rehabilitation and slow-stream rehabilitation HCE wards in the current survey may have used incontinence pads because this was the only way they knew of managing incontinence. Alternatively, incontinence pads may have been prescribed to avoid using indwelling catheters to control incontinence. As mentioned above, indwelling catheters were used ~~significantly~~ less often in acute/rehabilitation HCE wards compared to other types of wards; the reasons for this are unclear. No such difference was noted in the slow-stream rehabilitation HCE wards. Starer and Libow (1985) suggested that the indiscriminate use of incontinence pads might be avoided if a medical prescription was required prior to their use. This, they suggested, might encourage the medical and the nursing staff to enter into more effective communication with one another regarding the treatment of the problem.

4.6.4 The identification of urinary incontinence in the nursing and medical records

The documentation of urinary incontinence in the nursing and medical records appeared to be somewhat haphazard and inconsistent. Just over half (60.0%) of the non-catheterised patients identified as incontinent by the nurses-in-charge had the problem identified in the nursing care plans. No entries relating to the problem were found in almost a quarter (23.7%) of the nursing records of the patients. From a practical perspective, the analysis of the nursing records proved to be particularly time consuming as, in the majority of cases, the information sought was located in a number of different areas of the ward. The majority of nursing records available did not appear to provide readily accessible information. It often proved difficult to obtain specific details upon which a comprehensive over-view of particular patient problems could be reviewed as information was, in the most part, fragmented and had to be gleaned from a systematic, often

time consuming search of several different sources. For example, information pertaining to the patient's usual functional status, including bladder function where recorded, was often kept separately from other related information, such as the problem list and the associated aims and prescription of nursing care. Similarly, the progress or evaluation sheets were usually kept separately from the other components of the nursing record. The disparate way in which ward-based documentation is often organised has been highlighted by others (Mathieson 1988, Waters 1987, De la Cuesta 1975). Where incontinence had been recorded elsewhere other than in the nursing care plan, this most commonly took the form of an entry in the patient's progress notes, which were intended for the day-to-day recording of the patient's condition. The examination of the often copious sets of progress notes proved time consuming, and written entries, which usually consisted of only a word or two, could be easily overlooked. If patient records are to serve as a source of communication the utility of information which is not readily accessible is doubtful. Comparable hospital studies for this country, with which to compare these results, have not been found. Littlewood (1984), in a community survey, found that of 14 patients receiving incontinence pad supplies, only two had the problem documented in the district nurse's records.

As discussed in sections 1.5.1 and 1.5.2 in Chapter 1, complications associated with incontinence, such as urinary tract infection, skin rashes or skin breakdown as well as the attendant psycho-social implications of the problem, are frequently reported (Norton et al 1988, Dontas 1984, Ouslander, Urman and Uman 1986, Cantanzaro 1981, Norton 1981). It was therefore surprising to find little documentation related to these particular areas of nursing concern within the nursing records.

A study by Norton (1981) on the effects of urinary incontinence upon the life styles of 55 women attending a urodynamic clinic identified that smell was perceived to be a problem by almost half (47.3%) of the sample. However, in the current survey, none of the nursing records in which incontinence had been identified mentioned smell either as an

actual, or a potential problem, suggesting that nurses may underestimate this area of potential concern to patients.

Novotny (1984), referring specifically to patients with neurologically impaired bladder function, stated that the key to successful rehabilitation is the psychological adjustment of the patient. The very low level of recording related to psycho-social problems (2.9%) (either actual or potential) within the nursing records was particularly evident. Studies by Norton (1981) and Norton et al (1988), among others, have shown that incontinence caused considerable emotional and social distress for the women concerned. Whilst the psycho-social implications associated with incontinence experienced by men do not appear to have been studied, there is no reason to suppose that their experiences would be any different to those of women. During data collection, a comment made to the researcher by an elderly gentleman recovering from a stroke in an acute HCE ward highlighted his feelings of loss of dignity and social inadequacy. He said:

"...it's not my walking which is such a problem it's my bladder - I now feel like a social outcast".

A number of studies have indicated that nurses do not consistently provide hospitalised patients with adequate supportive psycho-social nursing care in general (Peterson 1988, Flaskerund et al 1979, Gardner 1979, Altschul 1972). During a survey of a random sample of nursing records (33 in number) on four acute wards for the elderly, O'Neill (1984) found that patients' psycho-social needs in general were rarely identified. De La Cuesta (1975) similarly found little mention of psycho-social aspects recorded in nursing care plans.

Nurses in the current survey could have been aware of the psychological and social implications that incontinence may have posed for patients in their care but had failed to identify these problems in the nursing records. Alternatively, nurses may have under-estimated, or failed to consider the effect incontinence may have had upon the sufferers.

In common with the nursing records, the psycho-social aspects of incontinence were very rarely recorded in the medical records. Evidence that medical staff tend to under-estimate the effect incontinence has upon an individual has recently been reported. A study by Zorzitto et al (1988) indicated that medical staff under-estimated the significance of the psycho-social factors associated specifically with urinary incontinence, while the sufferers saw these aspects as important to the management of the problem. The authors concluded that greater attention should be directed at the effect urinary incontinence has upon the psychological and social well being of the sufferer.

Incontinence was identified in just over half (57.6%) and omitted in 97 of the medical records examined. As discussed in section 1.6.1, in Chapter 1, under-reporting or a lack of recognition of health problems, including incontinence, is well documented in the medical literature (Ebrahim et al 1987, Dun, Day and Hull 1987, Williamson 1981, Thomas et al 1980). The results obtained in the current survey appear favourable when compared with those of hospital studies which have been carried out in the United States and Canada, where incontinence has been shown to be a poorly recognised problem in the medical records (documented in less than 5.0% to 44.0%) (Sier, Ouslander and Orzeck 1987, Ribeiro and Smith 1985, Starer and Libow 1985, Ouslander et al 1982). In the current survey, however, there remained a large proportion of patients (42.4%) who had not had the problem identified anywhere in the medical records. Incontinence was less likely to have been recorded in the acute medical wards. One might have anticipated that the medical staff on the HCE wards would have more actively elicited information concerned with incontinence due to its common occurrence in these wards. There may be several reasons for this apparent difference in level of recording. Doctors on the medical wards, as compared to those on HCE wards, may have been less aware of the problem, although the level of recording in the nursing records was similar to that in the nursing records on the HCE wards. The medical staff may have been less active in eliciting problems related to incontinence or they may have perceived incontinence as being of low priority when compared to other medical conditions. However, incontinence is a symptom commonly associated with acute

illness in elderly people and, as was seen in the current study, affects a large proportion of patients admitted to the acute medical wards. In spite of this, two thirds of the patients identified as incontinent in the acute medical wards had not had the problem documented in the medical records. The importance of early recognition of potentially reversible causes of incontinence may help to prevent a persistent problem from developing as well as reducing the likelihood of incontinence-related complications arising. If incontinence is not identified in the medical (or the nursing records), the problem is more likely to be overlooked and thus efforts to assess for potentially reversible causes unlikely to be carried out.

Just less than half (49.0%) of the patients identified as incontinent by the nurses-in-charge were found to have the problem identified in both the medical and the nursing records which raises issues concerning the effectiveness of interdisciplinary communication. If patient care is to be multidisciplinary in approach and not fragmented, then all health professionals need to be aware of the problems the patient may be experiencing. If particular problems are unrecorded, or are only documented in one or other of the nursing or medical records, this may result in some members of the ward team being largely unaware of their existence with consequent implications for patient care. As Waters (1986) stated:

"How can patient care be planned and systematic if goals are not mutually agreed".

Goals can only be mutually agreed when health professionals collaborate in identifying patient problems. Weed (1971) has suggested the use of the problem orientated patient record, where doctors, nurses and others participate in identifying patient problems and help each other to solve them. The utilisation of a single problem orientated patient record has since been advocated by many (RCN 1987b, Waters 1986, Phaneuf 1976). It may be the one way to increase the attention given to specific problems and a means by which communication between health professionals can be facilitated. The practice of shared written care plans between the

various health disciplines has recently been advocated in the Royal College of Nursing document "Improving care of elderly people in hospital" (1987b). The organisation of patient records, as suggested above, may be of particular relevance when considering a problem such as urinary incontinence with its attendant difficulties of recognition and assessment.

Overall, the problem of incontinence was more likely to have been identified within the nursing records rather than the medical records. That incontinence was more likely to be noted in the nursing records may be a reflection of a number of factors. Nurses may have been more aware of the problem because of their proximity to patients and, as a result, more likely to have documented its occurrence. However, this should not preclude nurses from informing the medical staff and the problem being subsequently identified in the medical records. Nurses, as well as medical staff, may have perceived incontinence as being a problem specific to nursing, particularly in the medical wards, and therefore of little concern to doctors. Should the medical staff have been unaware of the problem, or did not perceive incontinence to be an area of their concern, the importance of identifying the problem within the medical records would be diminished. While nurses were more likely to have recorded incontinence somewhere within the nursing records, a large proportion (41.0%) of the patients did not have the problem identified in the care plan. In these cases the aims, nursing prescription and evaluation of care related to the problem of incontinence was, therefore, not documented. Luker (1981) argues that problem solving is subjective and value laden and nurses collect data and identify problems which they (or the recipients of care) consider to be important. A failure to identify incontinence in the nursing care plans or nursing records as a whole, may have reflected a lack of importance attached to the problem by nurses. Alternatively, nurses may have perceived other patient problems to be of higher priority and therefore the incontinence may have been overlooked. At the time of the survey, 14 patients, where incontinence was neither documented in the nursing nor the medical records, were identified as having sheath drainage appliances or incontinence pads. The use of such aids in the management of

incontinence may have been perceived as a "solution" and therefore the problem no longer required documenting in the nursing and medical records.

4.6.5 Information related to the assessment of the problem

Incontinence is a non-specific label for a multifaceted symptom or group of symptoms, and provides no information concerning the nature, pattern or the underlying causes of the problem. As discussed in Chapter 1 section 1.6.1, the management of the care of patients with urinary incontinence is dependent upon the type of urine loss and its cause or causes (Norton 1986, Brocklehurst 1984a, Starer and Libow 1985). The facts gathered in the course of an assessment should, therefore, form the basis of the management plan. However, there was little evidence in the nursing and medical records examined that incontinence had been systematically assessed.

The relevant information obtained on admission pertinent to an assessment of incontinence was inconsistently recorded in the nursing records. As well as providing basic patient information such as current reason for admission, relevant past medical history and so on, the nursing history provides information about the patient's usual level of functioning (for example mobility) and specifies the patient's habits and preferences upon which subsequent nursing care can be individualised. An assessment of the patient's usual level of functional status is important for identifying problems, or potential problems, and is particularly relevant to an assessment of incontinence. The patient's usual level of mobility and mental status, as well as her ability to see and to communicate, are activities that can directly affect independent toileting. It is necessary, therefore, to establish the optimal level of functional ability that the patient is likely to achieve in which realistic goals, either to regain continence or more effectively manage the problem, can be set. Such information was, however, infrequently recorded in the nursing records on all types of wards except for the slow-stream rehabilitation HCE wards (range 3.0% to 29.0% of nursing records); the reasons for which are discussed later.

Enquiry into the patient's usual living circumstances may also highlight problems which may affect the patient's ability to maintain continence or her ability to effectively manage incontinence. It was surprising, therefore, to find a complete lack of information pertaining to the patient's usual living circumstances (for example, the provision and location of toilet facilities, the patient's ability to cope at home, the availability of carers) in either the nursing or the medical records. Such data are useful not only for an immediate assessment of incontinence but may also have important implications for discharge planning. Assessment of the patient's needs at home is a continuous process and begins on admission to hospital. The information gathered before discharge enables the formulation of a plan which promotes continuity and co-ordination of health care on discharge from hospital. This is particularly relevant to a problem such as urinary incontinence which can have far reaching social consequences not only for the sufferer but also her relatives or carers. Waters (1987), in a survey of ward-based nursing and medical documentation, also found that the written information considered to be important for discharge planning was either lacking or inadequate. She concluded that discharge planning was not seen as a priority by ward doctors and nurses. The dearth of information in the current survey appears to endorse Waters' findings. It would seem that the nursing and the medical staff may not have perceived the relevance of obtaining such information on admission and therefore an enquiry into these areas was not made.

The importance of nurses taking a history specifically related to the patient's usual habits of micturition has been emphasised by Brocklehurst (1984a). In the current survey, this information, however, was also infrequently recorded. Less than a quarter (21.0%) of all the nursing records contained such information. As alterations in the pattern of micturition, including incontinence, are known to be common in the elderly (Brocklehurst et al 1971) and may provide valuable information as to the causes of incontinence, it was surprising that this information was not more frequently recorded. This may have been partly due to the design of the nursing history sheet which varied from ward to ward. With few exceptions, on the acute medical, acute HCE and

acute/rehabilitation HCE wards, no provision was made on the history sheet for the recording of the patient's usual level of functioning, including bladder function. On the slow-stream rehabilitation HCE wards, where this information was most frequently recorded (55.6%), space had been provided for such recording. Information related to the patient's usual habits of micturition prior to admission are important for two reasons. First, on the basis of such information, needs for immediate nursing care can be more easily individualised. Secondly, an assessment can be made as to whether problems, where identified, are long-standing or have developed recently and also, whether potential problems are likely to develop in the future. Where the patient is identified as incontinent, information concerning her usual method of coping with the problem should also be obtained. Thus, such information is useful in establishing a baseline from which problems can be identified, the aims of treatment and care established and subsequent interventions evaluated.

A similar lack of recorded baseline information in nursing records pertaining to other activities of living has been reported, for example Wright (1974) investigating changes in bowel function in patients admitted to hospital, and more recently, Closs (1988) who examined changes in patients' sleep patterns on surgical wards.

As history taking has been traditionally an intrinsic part of the medical data gathering process, it was not surprising to find that a considerably higher proportion of the medical records examined (just less than three quarters overall; 71.6%) made some reference to the patient's usual bladder function on admission. Such information was least recorded in the records on the medical wards (52.4%), the possible reasons for which have been discussed earlier in section 4.6.4.

Where enquiry into bladder function on admission had been made, either in the nursing or the medical records, entries were generally of the most cursory nature. None of the records examined identified the patient's usual method of coping with the problem and the causes of incontinence were also rarely reported.

An incident during data collection illustrated well the consequences of failing to elicit such information. A 63 year old gentleman in an acute/rehabilitation HCE ward had made a successful recovery from a stroke; the reason for which he had been admitted to hospital. His wife was anxious to look after him at home. The medical and nursing staff, however, were reluctant for the patient to be discharged home because he was observed to be "severely" incontinent of urine at night. The incontinence was assumed by both the medical and nursing staff to be a result of his stroke. Although identified in the nursing and medical records, further information related to the problem was lacking. The patient remained in hospital although the problem was not being investigated by either the nursing or medical staff. During a conversation with the patient's wife, the nurse-in-charge discovered that he had suffered nocturnal enuresis since childhood; a problem both the patient and his wife had coped with successfully at home. The patient went home the following day - three weeks after the original planned date of his discharge. Long-standing problems of incontinence or incontinence unrelated to the patient's reason for hospital admission should still be assessed and treated when appropriate. In the situation illustrated above, however, incontinence did not appear to be a reason to delay the patient returning home. Had information related to the patient's usual habits of micturition been obtained during the first few days of admission, his immediate nursing care needs at night could have been better planned and the unnecessary delay associated with his discharge home avoided.

Where incontinence had been identified in either the nursing and/or medical records, specific investigations which might have contributed towards its assessment appeared to be rarely documented.

Although the precise relationship between incontinence and urinary tract infection remains to be determined, most clinicians consider it important to try and eradicate a urinary tract infection in patients with incontinence. A urinalysis and urine culture are, therefore, considered to be a routine part of an incontinence assessment (Fader 1987, Leach and Yip 1986, Norton 1986, Ouslander 1986, Brocklehurst

1984a, Bates 1978). In the current study, a urinalysis and/or a urine culture was the most frequently recorded investigation found in the nursing (42.4%) and the medical (52.3%) documentation. However, it was noted that in less than a quarter (22.6%) of the nursing records and none of the medical records had a basic urinalysis been documented although the nursing staff on most of the wards in the survey said this was a routine procedure which was carried out on admission.

As discussed in Chapter 1, section 1.6.3.2, a rectal examination is considered by many to be an important component of an assessment of urinary incontinence (Norton 1986, Ouslander 1986, Blannin 1984, Brocklehurst 1984a, Feneley 1984, Antrobus 1982, Willington 1980, Field 1979). Few of the nursing (10.7%) and medical records (19.7%), however, contained information which indicated that a rectal examination had been carried out and, where recorded, only a minority of the records (one nursing, two medical records) had indicated the outcome of the examination. On the slow-stream rehabilitation HCE wards where this investigation was most frequently undertaken, a rectal check was performed routinely on admission by the medical staff and may not, therefore, have been carried out specifically as part of an incontinence assessment.

A rectal examination is recommended, among other reasons, to assess the size of the prostate which may be a causal factor for urinary disturbance in males, as well as for constipation or faecal impaction (Wright and Staats 1986, O'Regan, Yasbeck and Schnick 1985, Kaneti and Bar-Ziv 1983, Brocklehurst 1978a). Constipation and, in particular, faecal impaction is frequently cited as a causal or pre-disposing factor for urinary incontinence, particularly in the elderly (Wright and Staats 1986, Brocklehurst 1978a, Wilson 1976), although the precise association between these factors remains to be substantiated.

Changes in patients' bowel habits in hospital are common and are often a source of concern and worry to them (Wright 1974). The findings of the current study are particularly disturbing when one considers that constipation and faecal impaction is a common symptom in the

hospitalised elderly (Smith and Humbleton 1988, Eastwood 1972, Brocklehurst and Khan 1968). Smith and Hambleton (1988), conducted a study on a sample of slow-stream rehabilitation HCE wards in the health authority in which the current survey was undertaken, and reported that over half (64.0%) of the 53 incontinent patients examined had "significant" constipation (the term "significant" was not defined). In view of the fact that over a third (37.0%) of the patients in the current survey had not had a bowel movement charted during the previous three days, these findings suggest that a considerable proportion of the incontinent patients may have been constipated or faecally impacted. The nursing and the medical staff may have been carrying out rectal examinations more frequently but had failed to record the information. However, investigations which go unrecorded are more likely to be overlooked. Wright (1974) found that constipation occurred more often in those patients in wards where bowel habits were not recorded every day. In the current survey, information, where recorded, was limited to indicating the presence or absence of a bowel movement. Information related to the size or consistency of the stool, or whether the evacuation was complete or not, for example, was absent. Norton, McClaren and Exton-Smith (1962) made similar observations in their study of nursing care in wards for the elderly. They warned against the inadequacy of such information and stated that scant reports might well disguise the existence of constipation or faecal impaction.

The importance of a physical examination as part of an incontinence assessment in the elderly has been stressed by Manley (1984a) and Castleden and Duffin (1981), among others, as discussed in section 1.6.3.2, Chapter 1. None of the nursing records and only a minority of the medical records (8.3%), however, contained information which indicated that a physical examination (pelvic or abdominal) had been undertaken specifically for the assessment of incontinence. The physical examination is usually regarded as the responsibility of the medical staff although nurses in North America, and nurse practitioners in this country, are becoming increasingly involved (Ferguson 1979). Nurses on the wards in the survey, therefore, may not have perceived the physical examination of patients as being part of their role. However,

during the course of nursing care, nurses are often able to observe the patient's physical condition and may identify particular features which may contribute towards an assessment of incontinence, for example a distended bladder, excoriated skin or atrophic vaginitis in females. However, none of the nursing records examined contained information which indicated that these observations had been made.

Evidence to suggest that a measurement of residual urine after voiding had been undertaken was similarly infrequently recorded in the nursing and medical records examined. As discussed in section 1.4.5 in Chapter 1, studies have shown that bladder capacity is diminished and residual urine volumes increase with ageing (Brocklehurst 1984b, Castleden and Duffin 1981). The measurement of residual urine is considered to be an integral part of the assessment of incontinence (Fader 1987, Norton 1986, Shah 1984, Williams and Parnill 1982, Willington 1980, Brocklehurst 1978b). Castleden and Duffin (1981) suggested that toileting will not be successful in patients with unstable bladder contractions occurring at volumes less than 150 millilitres and recommended that bladder capacity should be estimated prior to a toileting regimen being commenced. In the current survey, the most frequent mode of management documented within the nursing records concerned some form of "regular" or "routine" toileting, yet only a minority of these patients had a residual urine volume recorded in either the nursing or the medical records. In the few cases in which a residual test had been carried out, the outcome of the test was recorded in only one instance.

There was a paucity of urological or gynaecological referrals in both nursing and medical records and, in spite of the development of the continence adviser role in recent years, it was surprising to find only one such referral noted in the nursing records. At the time of the survey, urodynamic investigations appeared to be an infrequently considered assessment option; only one patient had been so investigated during a previous hospital admission. Similar findings have been reported by researchers in the United States in surveys of medical records of elderly incontinent patients admitted to hospital or nursing

homes (Sier, Ouslander and Orzeck 1987, Starer and Libow 1985, Sullivan and Lindsay 1984, Ouslander 1982). Littlewood (1984) found little evidence of any assessment of incontinence recorded in the district nurses' case notes. She urged nurses to accept a greater screening and diagnostic role in the assessment of incontinence.

As discussed in section 1.6.3.1, Chapter 1, the multiple factors that cause or predispose to urinary incontinence necessitates an enquiry into a number of different areas if a systematic assessment of the problem were to be carried out. As such, a particular component of the assessment may be easily overlooked. The use of a specifically designed form or checklist in order to assist the process of assessment of incontinence has been advocated by many working in the field of continence promotion (Blannin 1984, Shah 1984, Abrams, Feneley and Torrens 1983, Norton 1980). Specifically designed forms for the assessment of incontinence were not found on any of the wards in the current survey. While it is questionable whether a more specific format for documentation will necessarily lead to a change in the nature of the information recorded, it seems likely that it would serve as a useful tool for use by members of the ward team, reminding them to enquire about a variety of areas that are important for establishing a comprehensive assessment of the problem. It was clear in the current study that where the nursing history forms contained pre-printed questions which related to the patient's usual functional status (including their bladder habits), this information was more consistently recorded than in any of the other types of wards. A completed or partially completed assessment form could then accompany the patient's records or discharge forms, helping to facilitate communication and providing health professionals in the community or hospital, where appropriate, with a clear framework from which to approach the problem.

In view of the paucity of recorded information related to the assessment of incontinence in the nursing and medical documentation examined, it was unsurprising, perhaps, to find only a minority of records in which causes of the problem had actually been identified.

4.6.6 The aims, management and evaluation of the care of patients with incontinence

When the content of the nursing records in which the problem of incontinence had been identified was examined, statements related to the problem were written, almost without exception, in global, non-specific terms. A lack of specificity concerning the written content of nursing records in general has been reported by others (O'Neill 1984, Coates 1982, Roebottom 1981, Inzer and Aspinall 1981, Hefferin and Hunter 1975). Hefferin and Hunter (1975) and Inzer and Aspinall (1981) suggested that nurses had difficulties articulating problems and interventions in specific measurable terminology.

Mayers (1983) has defined the documentation of nursing aims (objectives or goals) of nursing care as:

"A statement of what the nurse expects to observe, hear or see demonstrated at a given point in time."

The aims of nursing care thus act as criteria against which care can later be evaluated. Evaluation takes place by a process of comparison and judgement (O'Neill 1984). In order for a comparison to be made, however, a measurement of what is, against what was, is required. Although the majority of care plans in which incontinence had been identified in the current study had at least one related nursing aim documented, when the content of the nursing aims was examined, none were stated in terms which could be observed or contained any criteria for measurement. Although incontinence can be a difficult symptom to monitor it can be measured, for example in terms of frequency of episodes, amount of pads used, volume of urine loss, or as observable behavioural responses such as the appropriate or inappropriate use of toilet receptacles. The written nursing aims examined by the researcher uniformly lacked specificity and were stated in vague and unmeasurable terms. For example, in more than ^{three quarters} half (76.0%) of the care plans examined, the aims of nursing care were stated as "to promote continence" or "to keep dry". Neither of these aims offer the nurse any

criteria for measurement with which to evaluate subsequent outcomes of management.

Similar findings have been reported by others (Waters 1987, Hayward 1986, O'Neill 1984, Roebottom 1981, De la Cuesta 1975). One reason for this has been proposed by Hayward (1986) who stated:

"It could be that defining goals in any detailed way increases the autonomy and thus the accountability of nurses which many nurses may not be prepared or able to accept".

O'Neill (1984) stated that if evaluation is to produce information on the effectiveness of a particular treatment, intervention must be described in such a way as to precisely identify what was done. In the current survey, the written statements related to the management of incontinence were again, in the main, stated in non-specific terms. For example, "observe output", "toilet regularly" or "use sheath". Many of the care plans, on the same wards, reflected similar or identical written entries, suggesting that care was not being planned for individual patient needs but rather was being prescribed in a stereotyped and routine fashion which centred predominantly upon regular or frequent toileting and the use of incontinence aids. Coates (1982) similarly observed the recording of "ritual" phrases in the nursing records during an investigation of the nutritional care received by patients in hospital. She stated that this neither encourages individualised nursing nor enhances accuracy.

In the current study, there was little evidence that the management prescribed was based on the results of any assessment of incontinence. Management of patients with incontinence was based predominantly upon routine or regular toileting and incontinence aids such as pads and pants. Interventions in which nurses have a direct role, such as pelvic floor exercises, behavioural modification techniques, specific bladder training regimens and intermittent catheterisation, were not identified in any of the nursing records examined. This may have been a reflection of lack of knowledge of the variety of management options available for

the treatment of incontinence on the part of the nursing staff. If nurses lack sufficient knowledge, or fail to perceive incontinence within the context of assessment and causes, they may perceive their role as limited to palliative measures, such as incontinence aids and routine toileting procedures. Strategies aimed at providing psychological, emotional and social support, i.e. areas with which nursing claims to be particularly concerned, were very rarely mentioned in the care plans of patients who were identified as incontinent. If nurses fail to consider, or underestimate the potential psycho-social effects of incontinence for the sufferer, these areas of care are much more likely to be overlooked. It is particularly worrying to find that in approximately half of the nursing and medical records, there was a complete absence of any information relating to the management of the problem.

4.7 CONCLUSION

Although urinary incontinence had been mentioned in the majority (77.3%) of the nursing documentation examined, the identification of the problem was often haphazard and information was not readily accessible in approximately a quarter of these records. Incontinence was more likely to be identified in the nursing than the medical records. Incontinence was identified in just over half of the medical records and less than half of the patients had the problem identified in both the nursing and medical documentation.

The quality of the information in both the nursing and the medical records was inadequate in many respects. Details, where recorded, tended to be cursory and non-specific in nature.

There was a paucity of information which might have contributed to an assessment of incontinence in either the nursing or the medical records. Areas of assessment in which nurses should be directly involved, such as the monitoring of bowel function, or the observation of episodes of incontinence, were rarely documented in the nursing records.

Information related to some aspect of the management of incontinence was recorded in approximately half of the nursing and medical records in which the problem had been identified. In the nursing records, details were sparse and were confined mainly to routine or fixed-interval toileting procedures and incontinence aids such as sheath drainage appliances or pads and pants. Specific rehabilitative nursing interventions, for example, the use of bladder training, intermittent catheterisation, or pelvic floor exercises, were not mentioned in any of the nursing records examined. The psycho-social effects of incontinence were rarely identified in either the nursing or medical records. Evidence that any evaluation of the management of incontinence had been carried out was also rarely recorded.

Little information was found which described either the nature or the pattern of urinary incontinence and the causes of the problem were identified in only a minority of the nursing and medical records examined.

CHAPTER 5
HAND-OVER REPORT STUDY; THE COMMUNICATION OF INFORMATION
RELATED TO PATIENTS' NEEDS FOR ELIMINATION.

CHAPTER 5

HAND-OVER REPORT STUDY; THE COMMUNICATION OF INFORMATION RELATED TO PATIENTS' NEEDS FOR ELIMINATION.

5.1 SUMMARY

In the light of deficiencies found in both the quantity and quality of the written information about incontinence in the nursing and medical records, as described in the previous study in Chapter 4, a small observational study was carried out to examine, and compare, the nature of the verbal transmission of such information.

5.2 INTRODUCTION

The verbal hand-over report (also called the change-of-shift report) and the written nursing record, form a major part of the formal system of communication between ward nurses (Georgopoulos and Sana 1971). A King's Fund Project paper (1984) titled "A handbook for nurse to nurse reporting" highlighted the importance of this mode of communication and stated that "all nurses need to receive a report of their patients before they start a period of duty". Nurses themselves appear to perceive the hand-over report as important. Research by Pembrey (1980) indicated that after doing a nursing round of the patients, ward sisters considered giving nurses a report on the patients was their second most important daily work priority.

The verbal hand-over report is often the only opportunity available to ward nurses to meet regularly and exchange information necessary for the provision of nursing care. There is general consensus of opinion about the function of the hand-over report as a means of serving to pass up-to-date information to the oncoming shift so that nurses can plan and carry out patient care (Walker 1967, Abdellah et al 1961). McFarlane and Castledine (1982) stated that if the Nursing Process is being used,

the report should consist of a systematic review of the patient's problems and the related care, and the time should be set aside for general discussion of observations and progress. The need to evaluate the care already given has also been identified as an important function of these reports (Marriner 1983, McFarlane and Castledine 1982, Clair and Trussell 1969, Copp 1972, Georgopoulos and Sana 1971).

Much of what has been written about the hand-over report is largely anecdotal. Where material is research-based, the findings have highlighted inadequacies with this system of communication. Abdellah and Levine (1979) have questioned the amount of time that is actually spent discussing patient needs during hand-over reports. Clair and Trussell (1969) observed hand-over sessions in one hospital and found that although nurses stated that nursing care problems and their management and outcomes should be reported, in practice such information was rarely included during the reports. Results from a study of hand-over reports reported by Walker (1967) also indicated that they were not as comprehensive as they might be. In the UK, a study by Lelean (1973) found that information given during hand-over reports was vague and imprecise. Copp (1972), in the United States, reported similar findings.

Few researchers have investigated the specific content of the information given during hand-over reports. As part of a larger study, Coates (1982) examined the extent to which the information given during hand-over reports related specifically to the patient's nutritional requirements. She found that the amount and content of nutritional information given during the verbal reports observed was lacking or inadequate in content.

From the above studies, it appears that although the hand-over report is regarded as an important means of communication during which, amongst other information, the patient's problems should be identified, the nursing care prescribed and the outcomes of care evaluated, in practice this infrequently occurs.

The results reported in section 4.5, in Chapter 4, highlighted deficiencies in the quantity and quality of the recorded information about urinary incontinence in both the nursing and medical records. Incontinence was inconsistently identified, and when identified, the information was not always easily retrievable or adequate in content. Important information necessary for proper assessment of the problem, as well as details related to its management, were either inadequate or omitted from the records. It could be argued that scant written information may be justified where alternative means of communication, such as the verbal hand-over report, provide nurses with all the necessary information upon which to plan nursing care. In the light of the previous findings reported in Chapter 4, it was necessary to consider the verbal hand-over report and to assess the extent to which the information related to urinary incontinence served as a basis for the provision of nursing care.

5.3 AIMS

A small study was designed to examine whether the information given during the hand-over report:

1. Provided any information about patient's eliminatory needs in general.

Where a patient was identified as incontinent of urine to:

2. Examine the nature of the information given.
3. Compare the extent and nature of the verbal information with that recorded in the nursing and medical documentation.

In order to ensure sufficient time to examine some of the other issues arising from the previous studies, the scope of the present study was limited. It should be treated as a pilot study rather than as a main

study. The results obtained, therefore, need to be interpreted with caution.

5.4 METHODS

5.4.1 Preliminary planning

Ethical clearance for the study and permission to collect data on the acute medical and HCE wards concerned had been previously obtained from the appropriate medical and nursing personnel.

Fox (1982) defines observation as:

"..a research method whereby data are obtained by the researcher or his staff watching the research situation".

In a discussion of observational methods, Polit and Hungler (1983) commented that "the content and structure of people's conversations are readily observable". For the purpose of the current study, direct continuous observation through attending the ward report seemed the most appropriate choice of method with which to collect the data required. The problems with observational methods are well documented (Haynes and Wilson 1979, Weick 1968). The presence of an observer may influence the behaviour being observed. Observer bias is likely to be either in the direction of enhancing performance or conversely, may have an inhibiting effect upon the observed behaviour. In the current study, three measures were introduced in an attempt to reduce the risk of observer bias.

- i) The precise nature of the observations was disguised by giving nurses a general explanation of the researcher's presence at the hand-over report. The researcher's presence was explained as "familiarising herself with the patients and their problems" before planning the next phase of the study.

- ii) The researcher stressed that the report was to be conducted in the usual manner and the information given should not be altered for the benefit of the observer.
- iii) Finally, care was taken not to enter into conversation with the nursing staff after the report had started.

In the hospitals in which the previous studies had been carried out, it was usual practice for the hand-over report to take place three or four times a day. Discussions with ward sisters had shown that some preferred to take the report from the night staff and to relay the information to the other nurses working on the "early" shift at a later time in the morning. Others chose to have one morning hand-over report from the night staff for all nurses working on the "early" shift. Hand-over reports between the "early" and "late" nursing staff usually took place after the patient's lunch had finished, and the final hand-over report took place when the night staff commenced duty. In view of the limited time and resources available, the observation of three or four ward reports per day was too time consuming. It was decided, therefore, to observe the lunch time hand-over report (the "early" shift reporting to the "late" shift) which usually took place between 1.30pm and 2.00pm. The decision to select this report for observation was made in the light of discussions with ward sisters, who indicated that this report tended to be longer than the others and thus presented greater potential for the exchange of information.

5.4.2 Sample

The ward report observations took place on a randomly selected sample of acute medical and HCE wards from the 40 wards previously used in the study described in Chapter 4. Wards were randomly chosen by drawing "names out of a hat" (Reid and Boore 1987). Care was taken to ensure that two wards of each type (acute medical, acute HCE, acute/rehabilitation HCE and slow-stream rehabilitation HCE wards) were selected, giving a total of eight wards (20% of the original number of wards). The distribution of wards is shown in Table 26.

Table 26

Distribution of randomly selected wards for hand-over report observations

Hospital	Acute medical	HCE		
		Acute	Acute & Rehab.	Slow-stream Rehab.
* UTH	1	1		
** DGH1	1	1		
DGH2			1	
† HCE1			1	
HCE2				2

* UTH University Teaching Hospital

** DGH District General Hospital

† HCE Care of the Elderly Hospital

5.4.3 Data Collection Instrument

Clair and Trussell (1969) and Georgopoulos and Sana (1971), in observational studies of ward hand-over reports, used recording equipment to collect the data. Despite the advantage of reducing possible loss of data by this method, it was considered that the use of a tape recorder might have inhibited nurses thereby increasing the risk of altering their behaviour. The observations in this study were, in the main, specific to information related to urinary incontinence; thus, the use of a tape recorder would have necessitated analysing a large amount of additional, irrelevant information.

Lelean (1973), Pembrey (1980) and Coates (1982) designed schedules for observing hand-over reports but these were not sufficiently specific to meet the aims of the current study. Their findings, however, were noted and contributed towards the design of the current observation record sheets.

Two instruments were designed:

- i) A data sheet to record basic patient information (Appendix 14).
 - ii) An observational sheet to facilitate the process of accurately recording the relevant features during observation (Appendix 15).
-
- i) The data sheet recorded descriptive details relating to background information, including the number of nursing staff on duty, the number and grade of nurses attending or not attending the report, the grade of nurse who gave the report, the type of documentation used and the duration and the number of interruptions which occurred during the report. The remainder of the sheet was left blank for recording unstructured observations, comments and impressions concerning the general information giving process.
 - ii) The observation sheet was used to record information about communication related to elimination in general, as well as to

collect any information related specifically to urinary incontinence. A checklist of 11 broad categories was developed on which the occurrence and the nature of the communication was recorded. Information related to each category was recorded verbatim. Guidelines upon which the observations were structured were adapted from the framework used to examine the nursing and the medical records as described in Chapter 4. Operational definitions for each category were shown in Appendix 16. An experienced research nurse, who was not directly involved in the study, acted as an independent assessor and, using the operational definitions described above, classified the verbal comments related to urinary incontinence given during the report. There was agreement between the research nurse and the researcher on all items but one (91.7%). Thus, the method of categorising the hand-over report was considered to have a satisfactory level of reliability.

The data collection instrument was pre-tested on an acute medical and an acute HCE ward not included in the observational study. As a result of the pilot study, the procedure for recording the observations was amended. The use of the observational recording sheet during the hand-over report was found to be unsatisfactory for two reasons. First, the researcher realised that the use of a structured recording sheet during the report may have appeared slightly threatening to some members of the nursing staff. In view of the generalised explanation given concerning the researcher's presence, the appearance of a structured recording sheet appeared inappropriate. Despite the explanation given, some of the nurses asked if their performance was being monitored and, thereby, increased the risk that they may have altered their behaviour in the presence of the observer. The use of a blank sheet of paper on which to record observations, while not eliminating the risk that the nursing staff may still have felt performance was being monitored in some way, was more in keeping with the usual practice amongst nurses of recording information during the hand-over report in note books or on pieces of paper. The use of a blank sheet was also found to be more flexible allowing a greater amount of space to record details. Where information given specifically related to elimination or incontinence, the

researcher recorded each piece of information verbatim. The data were then transferred and classified on to the observational sheet as soon as possible after the ward report.

5.4.4 Procedure

Before commencing the study, the sister/charge nurse of the ward concerned was contacted to establish whether they would be willing for the researcher to attend the hand-over report. All gave their permission and an appointment was made to attend the ward report which, in all but one case, was on the following day. The researcher arrived on the ward a few minutes before the beginning of the report to record some of the background details required. Before the report began, the researcher's presence was explained briefly to the nurses, either by the nurse taking the report or by the researcher herself (as described earlier in section 5.4.1).

Permission was obtained from the nurse-in-charge to record relevant patient details from the information given during the report. Nurses were assured that any details recorded were confidential. For reasons previously discussed, care was taken not to enter into conversation with the nursing staff once the report had started.

At the end of the observations, the nurse who had given the report (or the nurse-in-charge if more than one nurse had given the report) was asked to identify any patients on her ward who were currently incontinent of urine (Appendix 17a). Incontinence was defined as before in Chapters 2, 3 and 4. Patients with indwelling catheters for reasons of incontinence were excluded.

For patients who had been identified as incontinent, the nursing and medical records and any other relevant documentation were checked for written information identifying the problem, and where incontinence was identified, for other recorded details (Appendix 17b). The written information was subsequently compared with the information given during the hand-over reports.

5.4.5 Analysis

The data were analysed using a hand calculator and results are presented as frequency tables and percentages.

5.5 RESULTS

Results are presented in three sections. The first section briefly gives background information concerned with the hand-over reports. The second section presents findings on the extent and nature of the information communicated specific to urinary incontinence, and the last section compares the verbal with the written information.

5.5.1 Background information

Nurses attending the hand-over report

Of the eight hand-over reports observed, two (one acute medical and one acute/rehabilitation HCE ward) involved all the nursing staff from the "early" shift as well as the nurses from the oncoming "late" shift. On these two wards each nurse, including the nursing auxiliaries, gave a report on the patients she had looked after during the morning. On the remaining six wards, apart from the nurse giving the report, all the nursing staff present were from the "late" oncoming shift.

During all the hand-over reports, communication primarily occurred between the nurse giving the report and the nurse-in-charge who would be on the "late" shift. The other nurses attending the report rarely reported upon or discussed observations. The total number of nursing staff attending the hand-over report ranged from two to 10 nurses (mean 5.8).

Sources of information used during the hand-over report

During the reports, none of the nursing care plans were observed to be used for the communication of patient information. The most frequent document used during the reports was the nursing history sheet (as previously defined in Chapter 4, section 4.4.3) which contained the patient's demographic and social information and, in some instances, data related to activities of living on admission. On four wards, the patient's progress notes (as previously defined in Chapter 4, section 4.4.3) were referred to during reports, but on several occasions it was observed that nurses experienced difficulties with locating the required information.

The duration of the report

The length of time taken to give the report ranged from 15 minutes (one acute/rehabilitation HCE ward) to 45 minutes (one acute medical ward) (mean duration time of 33.5 minutes). All ward reports were interrupted at least once (range one to six) by another member of ward staff or by the telephone; the majority of interruptions were of short duration (between one and three minutes).

General impressions of the hand-over reports

The following results are mainly subjective and are intended to give a general impression of the nature of the information exchanged during the hand-over reports.

Information given during reports on the acute medical wards predominantly concerned diagnostic tests and treatments, with less emphasis being given to the communication of nursing care than in the HCE wards. Where information related to nursing care, the content primarily concerned procedures which had been performed during the morning of the report (in most cases this concerned indwelling catheter procedures, pressure area care and wound dressings) and basic hygiene (for example, washing and toileting). Throughout the reports, the

communication of information, in general, appeared to be vague and non-specific in nature. Where patients required assistance with washing or toileting, the accompanying instructions were rarely made explicit, for example "requires help with washing" or "mobilising with help to the toilet". Such instructions were often given, yet they gave no indication of the specific type or the amount of help that was required. Non-specific phrases such as "no change", "ok" and "all care given" were also frequently used, particularly on the acute/rehabilitation HCE and the slow-stream HCE wards. With the exception of one acute medical ward, the outcome of tests and procedures were rarely given. For example, on several occasions nurses were informed that a rectal check had been performed or enemata or suppositories had been given, but in only one instance were the results of the procedure actually communicated. During the reports, problems of a psycho-social nature were rarely identified. In the two instances where such problems were mentioned, the care to help resolve them was not discussed. Information of an evaluative nature was also infrequently given. For example, in a number of instances nurses reported on the re-dressing of wounds but the condition and the progress of wound healing was rarely commented upon. Where comments were made which could be interpreted as evaluative in nature, they tended to be given in non-specific terms, for example, "has gained a tiny bit more weight", "seems brighter today" and "much the same".

On several HCE wards, patients who were categorised as "long stay" were not discussed at all and in one slow-stream rehabilitation HCE ward, almost half (14 in number) of the 29 patients resident in the ward were omitted completely from the ward report.

5.5.2 Information related to elimination

Information concerned with patient's eliminatory requirements was infrequently given during the ward reports. Of a total of 178 patients on the eight wards at the time of observation, information about elimination was proffered for 29 (16.3%) patients. In over half (18 in number), urinary incontinence was identified as a problem. Of the

remainder, six comments related to indwelling catheters and three to patient's self-care in toileting; two comments identified problems with micturition other than incontinence.

5.5.3 Information specific to urinary incontinence

Any information which related to urinary incontinence was categorised according to the nature of its content (Table 27). The operational definitions used to categorise the content are shown in Appendix 16. Further information was given for 13 (72.2%) of the 18 patients identified as incontinent of urine during the hand-over report. In most cases (11 in number) the information concerned one aspect, and in the case of two patients, two aspects of the problem.

Information which described either the nature (or the pattern) of urinary incontinence was given for four of the patients identified as incontinent during the report (Table 27). On no occasion was any information given about possible factors predisposing to or causing incontinence. Comments concerned with the assessment of urinary incontinence were made for two of the 18 patients identified as incontinent during the report. On an acute HCE ward, the ward sister giving the report gave information of a prescriptive nature and reminded nursing staff to record on a continence chart when episodes of incontinence occurred. However, additional information, such as the underlying rationale for maintaining the chart, identification of who was responsible for its completion, an explanation of when or how to complete it, or how to evaluate the information collected was not given.

When examined, neither the nursing record nor the continence chart itself were found to provide any instructions for its completion. The information concerned with its purpose or any criteria for evaluation of the information obtained were also absent. The continence chart itself, which was at the patient's bedside, was observed to have been inconsistently completed; one entry was recorded on the day before observation and none on the actual day of the report. One other patient identified as incontinent during the ward report was found to have a

Table 27

Information given during the report which referred to incontinence categorised according to type of information given

Ward type	Acute Medical (n=2)	HCE						Total (%)*
		Acute (n=2)		Acute & Rehab. (n=2)		Slow-stream Rehab. (n=2)		
No. identified as incontinent at report	1 1	2 6	4 1	2 1			18	--
Type of Information Nature		1	1				2 (11.1)	
Pattern			1 1				2 (11.1)	
Cause							0	-
Assessment		1 1					2 (11.1)	
Nursing Management	1 1		4			1	7 (38.9)	
Medical Management							0	
Evaluation							0	

*Expressed as a percentage of the total number of patients identified as incontinent during the reports.

continence chart but this was neither mentioned during the report nor documented in the patient's nursing or medical records.

5.5.4 Comparison between the information obtained from the nurse-in-charge and that given at the hand-over report

When questioned directly, nurses identified a total of 46 patients as incontinent of urine at the time of the study. Nurses identified more than twice as many patients as being incontinent than were identified during the report observations (Table 28). On all wards, except one medical ward, fewer patients were identified as incontinent during the report than were later found when nurses were directly questioned. This was most noticeable on one slow-stream HCE rehabilitation ward where one patient was identified as incontinent during the report but 11 were subsequently so identified when nurses were later questioned (Table 28).

When the drug charts of the 18 patients identified as incontinent during the hand-over reports were examined, five patients were being prescribed diuretics and six sedatives or hypnotics on a daily basis. Information about the possible side-effects of these drugs on bladder function was not, however, mentioned during the reports. Information about incontinence, where given, most frequently related to its nursing management (seven patients in all). The comments were prescriptive in nature and focused exclusively on aspects of toilet provision (Table 29). Four of the seven comments appeared to have a "nurse-orientated" rather than a "patient-orientated" or rehabilitative emphasis, for example, "sit her on the commode or she will be incontinent" or "toilet her two-hourly" (Table 29). The transmission of evaluative information, for example, that which indicated whether episodes of incontinence had become less frequent or had worsened, or whether a particular management strategy had succeeded or not, was not observed to occur during any of the reports observed.

Table 28

Identification of incontinence : Comparison between verbal and written communication

Ward type n =	Acute Medical		HCE						Total (%)*	
			Acute		Acute/ Rehab.		Slow-stream Rehab.			
	2		2		2		2		8	
Identified by nurse-in-charge	2	1	6	7	8	6	5	11	46	—
Identified verbally at report	1	1	2	6	4	1	2	1	18	(39.1)
Identified in nursing care plan	1	1	0	0	0	4	0	0	6	(13.0)
Identified in progress notes	1	0	3	7	5	3	4	8	31	(67.4)
Identified in medical record	0	0	1	3	4	4	1	6	19	(41.3)

* Expressed as a percentage of the total number of patients identified as incontinent by the nurse-in-charge.

Table 29

Comments related to incontinence categorised according to content

Category	Verbatim Comments (n=13)
Nature	"leaks before reaches commode" "dribbling"
Pattern	"incontinent at night" "wet at night"
Assessment	"remember to fill in the continence chart" "MSU* sent"
Nursing Management	"Toilet her two-hourly" "For two-hourly toileting" "needs two-hourly toileting" "remind her to go to the toilet" "sit her on the commode" "remember to put a bottle by the bed" "remind him to use the bottle"

* MSU-mid-stream specimen of urine.

5.5.5 Comparison between the verbal and written communication

Nursing Care Plans

Of the 18 patients identified as incontinent of urine during the hand-over reports, six (33.3%) had the problem identified in the nursing care plan. Five of the 18 patients did not have a care plan at all, and the remaining seven had a written entry "not applicable" recorded in the area provided for the documentation of problems with elimination.

Information relating to incontinence given during the hand-over report was compared with the written information recorded in the nursing care plans. The written information was limited to six patients (two in acute medical wards and four in acute/rehabilitation HCE wards). On one of the acute medical wards, a patient identified as incontinent in the care plan had no further information recorded. There was no written aim, plan or evaluation of the nursing care to be given. When the hand-over report observations and the written information were compared, the care plans, overall, contained a greater quantity of information. However, as with the findings described in Chapter 4, the quality of the written information was poor and rarely included evidence of any assessment or details of factors predisposing towards or causing incontinence.

Incontinence identified elsewhere in the nursing record

Of the 18 patients identified as incontinent during the ward report, 16 (89%) had at least one recorded entry in the progress notes which referred to the problem. These entries were also examined to establish the nature and the extent of the information recorded compared to that communicated during the ward report. The written entries in the progress notes, where recorded, tended to be brief and in the majority of cases were limited to recording the word "incontinent" or "incontinent +++", presumably the number of plusses denoting the severity of the episodes of incontinence. In common with the care plans, any additional information related to the problem was rarely

recorded. In two cases, the information given at the ward report which had related to the pattern of incontinence, was also found to be recorded in the patient's progress notes. In the case of four patients, the last entry in the progress notes was out-of-date, referring only to the use of indwelling catheters, whereas the patients were no longer catheterised. For two patients, the last entry written in the progress notes referred to the use of sheath drainage appliances during the day and night and appeared to contradict the information given during the report which reminded nurses to provide the patients with urine bottles.

Medical records

Five (27.8%) of the 18 patients identified as incontinent during the report observations were found to have the problem identified in the medical records when examined. One recorded entry related to the nature of the incontinence ("frequently"), and three entries concerned the use of aids.

5.6 DISCUSSION

5.6.1 Limitations of the method

As previously stated, the size and scope of the current investigation was limited. The findings should thus be treated with caution and viewed within the context of being derived from a very limited study which needs to be repeated with a larger number of wards and for longer observational periods. Although the number of wards used was small they were randomly selected. Thus, they are likely to have been representative of the other wards used in the survey described in Chapter 4. One lunch-time hand-over report was observed on each of the wards selected; the observations, therefore, may not have been representative of usual ward report practice.

5.6.2 General impressions of the verbal hand-over report

In spite of these limitations, the overall findings of the current study were similar to those reported by others (Coates 1982, Lelean 1973, Copp 1972). Previous research in a variety of ward settings suggested that, in general, the information given during hand-over reports was often inadequate, inaccurate and lacked sufficient detail needed to plan patient care. These findings are generally supported by those of the current study. A feature evident during all the hand-over reports, but more particularly on the acute/rehabilitation HCE and the slow-stream HCE wards, was the frequent use of non-specific and ambiguous terminology by the nurses giving the report. More than 15 years ago, Lelean (1973), and more recently Coates (1982) found that nurses frequently transmitted unclear information which could be easily misinterpreted. The communication of information which lacks precision is open to subjective interpretation, as was demonstrated by Lelean's (1973) study. She found that "up and about", a term used frequently in hospital, had as many as eight different interpretations when ward sisters were asked to define it. In the current study, the verbal transmission of information relevant to urinary incontinence, where identified to be a problem, was also of a non-specific nature. These findings will be discussed further later in this discussion.

It was interesting to note that none of the nurses in the current study used the nursing care plans as a basis for communication during the hand-over reports. While Hunt and Marks-Maran (1981), among others, have claimed that the nursing care plan can improve verbal communication, nurses themselves may not have perceived them as useful sources of information during hand-over reports. As found in the survey described in Chapter 4, the nursing documentation in the majority of the wards was in a variety of different locations. The inaccessibility of the components of the patient's records may have been one reason for their lack of use during the reports. The patient's history sheet was the most frequently consulted part of the nursing record and appeared to serve as a reminder to nurses giving the report of the patient's name and age. It was interesting to note that four of the eight nurses

observed giving reports consulted individual patient progress notes, but on a number of occasions were observed to have difficulties with locating the specific item of information required. Patient information necessary for planning appropriate nursing care must be readily accessible to nurses if communication is to be efficient and effective, yet the use of the progress notes, during the hand-over reports observed, did not appear to fulfil these requirements. On some of the HCE wards, there were patients for whom the reporting of information was either omitted or restricted to comments such as "no change", "O.K." or "the same". This was particularly noticeable on one slow-stream rehabilitation HCE ward where almost half of the patients on the ward were omitted from the reports. Lelean (1973) also found that patients were often excluded from hand-over reports. In the current study, most of the patients omitted from the hand-over reports were identified as "long stay" and may, therefore, have been well known to the nursing staff. However, it is doubtful whether all the nursing staff who attended the hand-over reports were familiar with the patients on their wards. On several occasions nurses who had recently returned from annual leave or "days off", and on two occasions staff new to the ward, were observed attending these reports. The organisation of nursing according to a system of shifts, as well as the possible day-to-day variations in a patient's condition necessitates that accurate and up-to-date information is available to all nurses. It is questionable, therefore, whether this will occur either if patients are omitted completely from the hand-over reports or in circumstances where ambiguous comments such as "no change" are made.

5.6.3 Information related to elimination

Information about care related to elimination was rarely reported during the hand-over reports observed. This seemed unusual since assisting patients with their needs for elimination is predominantly a nursing function, in the ward setting, and a major part of nurses' work. Most of the patients in the study were elderly and within a ward environment where problems associated with eliminatory function frequently occur. One would have expected, therefore, particularly on the HCE wards, that

this would have been an area of care deserving more attention than was observed during the study.

5.6.4 Information related to incontinence

Norton (1986), referring to incontinence, stated that "too often it is just reported as a fact without further elaboration". The findings of this study tended to support this claim. During the hand-over reports, as with the findings of the document survey reported in Chapter 4, the reporting of any related information in circumstances where patients were identified as incontinent was either absent or minimal, and details, where reported, tended to be of a non-specific nature. On no occasion was any information which identified a cause of, or predisposing factors to incontinence reported. Where incontinence was mentioned, information related to its assessment, or on-going evaluation of the progress of the symptom, was rarely identified.

During the hand-over reports information relating to incontinence, where given, most frequently took the form of a prescriptive statement concerned with some aspect of its nursing management. In common with the findings of the document survey in Chapter 4, the information given was restricted solely to the provision of toileting facilities. Information to suggest that patient's individual requirements had been assessed prior to the instigation of a toileting procedure was lacking in both the hand-over reports and the associated written nursing records when examined.

The nurses, when directly questioned, identified a considerably greater number of patients as incontinent of urine than were identified during the hand-over reports. Although the reliability and the validity of the nurses' observations was not established, of the 28 patients identified as incontinent by nurses, who were not previously so identified during the report observations, 20 (71.4%) were also found to have had the problem recorded in the nursing and or medical records. Thus, it would appear that often, the nurse giving the reports did not perceive it necessary to inform or update the other nursing staff about the problem.

As found in the survey described in Chapter 4, not all patients identified as incontinent by the nurses were found to have the problem recorded in the written nursing records. The finding of this small study, and those reported in Chapter 4, indicated that incontinence was a problem which was inconsistently identified both during the hand-over reports and in the written records.

5.6.5 Comparison between verbal and written information

Comparisons between the content of the information reported during the hand-over reports and that found within the written nursing records indicated that the verbal system of communication contributed less information about the problem of incontinence. Coates (1982) reported similar findings when she compared the amount of information related to nutritional care given during the hand-over reports with that written in the nursing records.

The Kings Fund report (1984) concerning verbal and written communication in nursing stated that, where detailed patient records are available, the hand-over report need only be a brief updating of a patients progress and any significant changes in her condition. In the current study, however, it was doubtful whether the information related to incontinence in the written records could be interpreted as adequate in order to justify the lack or brevity of relevant information transmitted during the hand-over reports. The content of the written information, where related to incontinence, like that of the verbal information, lacked sufficient details upon which appropriate, informed nursing care could be instigated. The information given during the hand-over reports seldom augmented the written communication. On all wards, there were instances where the written instructions contradicted the verbal ones because the nursing records had not been updated. Similar findings were reported by Lelean (1973).

5.7 CONCLUSION

In conclusion, the finding of this small study indicated there was no evidence to suggest that the verbal transmission of information related to urinary incontinence during hand-over reports was any more informative than that written in the nursing or medical records. Indeed, during the hand-over reports, the amount and content of information related to urinary incontinence, or patient's eliminatory requirements in general, appeared to be even less adequate than that previously found in the nursing and medical records. Informal means of communication such as the ad hoc passing of information from one nurse to another during the delivery of nursing care, is undoubtedly an important part of the ward communication system and was not examined in the current study. If nursing care is to be planned and instigated in response to specific patient problems, however, the sole reliance upon an ad hoc system of communication between nurses would seem to be unsatisfactory.

CHAPTER 6

INCONTINENCE: NURSES' KNOWLEDGE AND ATTITUDES

CHAPTER 6

INCONTINENCE; NURSES' KNOWLEDGE AND ATTITUDES

6.1 SUMMARY

This chapter is concerned with a study which investigated nurses' knowledge and attitudes about urinary incontinence. A brief resume of the related literature is given followed by a description of the methods employed to carry out the study. Data collected related to three main areas: nurses' education about incontinence, nurses' knowledge about the causes, assessment and management of incontinence and their attitudes towards specific aspects of the problem. The results are presented in ~~four~~^{five} sections and finally, the main findings are discussed.

6.2 INTRODUCTION

Nightingale (1860) stated that "good nurses did not arise through experience or inborn traits but through explicit training". McFarlane (1977) argued that although nursing is essentially a practice discipline, practice must be based upon, among other elements, the application of related scientific and medical knowledge. She stated :

"At any level of skill in nursing, the practitioner needs a basis of theory adequate to support practice at that level".

Knowledge of underlying scientific principles drawn from a wide range of the biological and social sciences (Crow 1986, McFarlane 1976) forms the basis on which nurses should be making assessments and planning nursing care (McFarlane 1976). Thus, there seems to be general agreement that knowledge imparted and subsequently learned will be translated into appropriate nursing actions in the clinical situation (Kerr et al 1981). Where nursing practice emerges from an inadequate theoretical basis, it

is presumed that the care given will also be inadequate and of poor quality (McFarlane 1977). Henderson (1966) among others, has expressed doubts as to the adequacy of the knowledge base upon which much of nursing practice is founded.

She stated :

"Most aspects of basic nursing ... are steeped in tradition and passed on from one generation of nurse to another. Too often they are routine without rhyme or reason. They are learned by imitation and taught with little reference to the underlying sciences".

When a specific health problem such as incontinence is considered, the importance of a thorough and diverse knowledge base from which subsequent nursing practice can be initiated becomes immediately apparent. Incontinence, particularly in the elderly, is often the result of several inter-related causal or predisposing physical, environmental, psychological and social factors (Norton 1986, Tattersall 1985). A therapeutic approach towards incontinence is, therefore, dependent upon nurses, and other health professionals, having appropriate knowledge within these disciplines.

As the nurse has an essential role in promoting continence and managing incontinence, she must know how to prevent incontinence or, where the problem already exists, be able to assess and effectively manage the symptom. In the past two decades, there has been a great expansion in knowledge about the assessment and treatment of urinary incontinence, but it is doubtful whether nursing and medical practice has adapted sufficiently to meet the needs of incontinent people. In recent years, the adequacy of the knowledge held by nurses and other health professionals within this area of care has been questioned. In the Royal College of Nursing document (1982) "The problem of promoting continence", it was stated:

"The knowledge relating to the aetiology, diagnosis and management of incontinence possessed by nurses and doctors is in most cases non-existent".

It concluded that there was a total lack of education about incontinence in the curricula for nursing, medical and other health care students, at either basic or post-basic levels. This, the working party concluded, not only resulted in ignorance about incontinence amongst these professionals but was also likely to foster apathy. A year later, the King's Fund Working Group Report (1983) voiced similar concerns and stated that a disparity existed between the available knowledge and that known by practising nurses and doctors. This, the group suggested, represented a failure of basic and post-basic undergraduate and graduate education. All this is still found despite Norton, McClaren and Exton-Smith (1962), when referring to hospital care for the elderly, highlighting the importance of nurse education on the subject of incontinence. They stated that:

"... any reduction of its (incontinence) incidence in a ward must ultimately depend upon it".

While it is claimed in the literature that health professionals lack sufficient knowledge about incontinence, one of the stated reasons being due to lack of education, these claims are mainly anecdotal and not substantiated by research.

In addition to the need for an adequate knowledge base, there is general agreement that nurses' attitudes can influence the standard of care received by patients (Fielding 1986, Gunter and Miller 1977, White 1977). Many definitions of the concept of attitudes exist but one broad definition is stated as:

"a state of readiness, a tendency to act or react in a certain manner when confronted with certain stimuli" (Oppenheim 1966)".

The assumption that a particular attitude will be transformed into behaviour is considered to be an overly simplistic one (Fielding 1986, Bond 1974) and, as yet, unsubstantiated by research (Robb 1979). Nevertheless, the attitudes held by nurses are considered to be one of several complex factors which may be responsible for determining the type

of nursing care delivered. Referring specifically to urinary incontinence, the King's Fund Working Group Report (1983) stated that strongly positive, rehabilitative attitudes were essential if doctors and nurses were to be of any help to incontinence sufferers. However, the literature suggests that, in general, health professionals' attitudes contain many misconceptions about incontinence which, in turn, may lead to a failure to take the appropriate steps towards its prevention or effective management. For example, incontinence is often assumed to be a concomitant part of ageing, a side effect of childbirth or the menopause, or a symptom for which there is very little effective treatment. The literature is largely anecdotal, however, and few studies have systematically examined the attitudes of health professionals specifically within this area.

The studies so far described in Chapters 2, 3, 4 and 5 of this thesis raised a number of issues. Urinary incontinence was reported to be a common problem, both during the day and night, on the acute medical and, in particular, the HCE wards. In spite of this, qualified nurses were not always in agreement as to which of the patients on their wards were incontinent. When nurses were asked about the pattern and frequency of episodes of incontinence, low levels of inter-rater agreement were obtained, which indicated that basic information upon which an assessment might be initiated was not always identified. A systematic review of the nursing and medical documentation showed that the problem was inconsistently recorded and, when identified, information which may have contributed towards an assessment of incontinence was either absent or found to be inadequate. The information which related to the management of incontinence, where recorded, was limited and related mainly to the implementation of "routine" toileting procedures and the use of aids and appliances. The observations made during the hand-over reports largely substantiated the findings obtained in the survey of the nursing and medical documentation.

This apparent lack of awareness, or neglect, of urinary incontinence experienced by patients in the acute medical and HCE wards, by the nursing staff may have partially resulted from a lack of, or an

inadequate level of, knowledge held by nurses. Nurses who are ill-informed about urinary incontinence are likely to perpetuate the traditional misconceptions and negative attitudes which surround the problem.

In the light of the claims made in the RCN report (1982) and the King's Fund Working Group Report (1983), and in view of the findings obtained in the studies previously described in Chapters 3, 4 and 5 in this thesis, it seemed appropriate to undertake a study to investigate nurses' knowledge and attitudes towards urinary incontinence.

6.3 AIMS

The aims of the study were to:

1. Examine the extent and content of the formal education about the subject of incontinence received by nurses.
2. Examine nurses' knowledge about the causes, assessment and management of incontinence.
3. Elicit nurses' attitudes towards specific aspects of the problem.

6.4 METHODS

6.4.1 Preliminary Planning

Permission to conduct the study was obtained from the Director of Nursing Services, the Director of Nurse Education, and the Nurse Managers (for day and night duty) of the wards concerned. Meetings were also held with all the relevant day and night sisters/charge nurses to explain the purpose of the study and to establish a rapport.

Two methods of data collection, namely interviews and postal questionnaires, were considered. The advantages and disadvantages of both techniques are well documented (Moser and Karlton 1972, Oppenheim 1966) and each were given due consideration during the planning of the study. Interviews with individual nurses, while likely to have yielded richer and more spontaneous information, would have been too time consuming. Questions which elicit information about knowledge and attitudes in a face-to-face interview may be perceived by the respondent as threatening, whereas questionnaires, with the assurance of confidentiality, are less likely to be so. It was decided, therefore, to use a postal questionnaire which could be distributed to a large sample of nurses with relative ease within the time frame allotted for the study. One well known disadvantage of the postal questionnaire is that it may yield a poor response rate (Cartwright 1978, Heberlain and Baumgartner 1978, Oppenheim 1966) thereby increasing the risk of producing an unrepresentative sample of respondents. Preliminary fieldwork had also shown that ward nurses were becoming targets for an increasing number of studies involving questionnaires; this factor might have reduced their motivation to participate in the current study. Within the literature, several factors have been reported to increase the response rate obtained when questionnaires are utilised (Cartwright 1978, Heberlain and Baumgartner 1978). Where feasible, these factors were incorporated into the design of the present study and are discussed in subsequent sections concerning the sample, data collection instrument and procedure.

6.4.2 Sample

A convenience sample of all qualified day and night nursing staff and nurse learners was recruited. It was considered important to include the night staff in the sample as they too are directly concerned with the care of patients with incontinence. The nurses were recruited from the 14 acute medical wards and 26 HCE wards from the five hospitals in the health authority in which the previous studies had taken place. The HCE wards were categorised, as in the previous studies, according to admissions policy into acute, acute/rehabilitation and slow-stream

rehabilitation wards. Nurse learners were allocated to ward placements on 12 of the 14 acute medical and eight of the 11 acute HCE wards used. Nurse learners were not allocated for ward placements on any of the acute/rehabilitation HCE or the slow-stream rehabilitation HCE wards at the time of the study.

Preliminary discussions with nurse teachers, and the district continence adviser, had established that the majority of continence-related education received by nurse learners took place within ^{the first} six months of their basic training, within the care of the elderly module prior to their HCE ward placements. Thus, nurse learners who had completed at least six months basic training were approached. In addition, a class of 27 nurse learners in the school of nursing, who had taken their Registered General Nurse examinations, were also asked to participate. Nursing auxiliaries were not included.

In an attempt to enhance the response rate, all questionnaires were addressed to individual nurses and accompanied by personal letters. Lists of names of the qualified nursing staff were obtained from the nursing administration personnel in each of the five hospitals concerned. In one district general hospital, it was necessary to identify night nurses by approaching the night nursing officers directly. The names of the nurse learners were obtained from the nursing allocations office in the university teaching hospital.

The original sample eligible for recruitment comprised of 603 nurses (68 sisters/charge nurses, 393 registered general nurses/enrolled nurses and 142 nurse learners). During questionnaire distribution, 60 of the qualified nurses (15.9%) (one sister; 59 other qualified nurses) were unavailable. Fifty nurses no longer worked on the wards concerned, seven nurses were on long-term sick leave, two nurses had appeared on the list of names twice, and one sister was on study leave. Thus, of the original 603 questionnaires, 543 were actually delivered to the nurses concerned.

6.4.3 Data Collection Instrument

Data were collected by means of a self-completed questionnaire (Appendices 18a, 18b and 18c). The instrument comprised of three main sections. The first section dealt with questions concerned with nurses' education about incontinence. In the second section, nurses' knowledge about the causes, assessment and management of incontinence was considered. The final section contained items designed to measure nurses' attitudes towards specific aspects of caring for patients with incontinence. To ensure comparability of results, the questionnaires to all grades of nurses were identical with the exception of a small number of additional questions in the qualified staff questionnaire (Appendices 18a and 18b). These questions concerned post-basic courses, opportunities for study days, or attendance at conferences etc, and in the case of the sisters/charge nurses' questionnaire, an enquiry about the use of ward-based guidelines for the assessment and management of incontinence.

The questionnaire comprised of a variety of closed and open-ended questions as well as a series of attitude statements. The questions which were designed to examine nurses' knowledge were open-ended in order to reduce the risk of introducing bias as a result of indicating a particular type of response. The responses generated by open-ended questions were also expected to yield a greater quantity and quality of information than could be achieved by fixed response questions.

Three short accounts (vignettes) which described patients with specific types of urine loss were also included (Appendix 19). Each was constructed so as to suggest one or more possible types of urinary incontinence which are commonly encountered in the clinical situation. Thus, the first account was intended to describe a patient with genuine stress incontinence (or, less commonly, urinary retention with overflow). The second account intended to suggest someone experiencing urinary retention with overflow, and the third account, a patient with frequency and urgency incontinence. Nurses were asked to suggest the possible cause or causes of the incontinence described and to indicate possible

strategies for its management. The district continence adviser and a consultant geriatrician with a special interest in incontinence were asked to independently complete this part of the questionnaire and give their responses. These views, together with the literature, were treated as the "bench mark" with which to compare the answers obtained from nurse respondents.

The final section of the questionnaire was designed to measure nurses' attitudes. Although considerable research has been directed towards attitude measurement within a variety of areas of nursing, no existing tool was found with which to measure nurses' attitudes towards caring for patients with incontinence. In the absence of such an instrument a tool was developed.

Self-report measures are commonly used in research to measure attitudes (Fielding 1986). These usually take the form of inviting the subject to reveal his beliefs, feelings or intentions toward an object or a class of objects, often by accepting or rejecting a standardised set of items on an attitude scale (Fielding 1986). These methods, however, have been criticised for being over-simplistic (Fielding 1986, Bond 1974). Fielding (1986), among others, has pointed out that attitudes are multidimensional concepts and therefore cannot be explored adequately by using any one measure. Bond (1974), however, claimed that although attitude scales should not be used as measures predictive of individual behaviour, they are nevertheless a useful means of dividing people into categories. Bearing in mind the limitations of self-report measures, and in the absence of an existing instrument, a Likert scale (1939) was chosen to examine the attitudes held by nurses toward caring for patients with urinary incontinence.

A Likert scale consists of several declarative statements expressing a point of view on a topic (Polit and Hungler 1983). The statements either imply a favourable or an unfavourable attitude towards an issue under investigation (Polit and Hungler 1983). Subjects are required to respond to each statement by expressing one of five levels of agreement (ie. strongly agree, agree, uncertain, disagree, strongly disagree).

Initially, a pool of items is constructed which are sufficiently diverse in content for adequate measures of the attitude dimensions to be obtained (Brymer, Romney and Thomas 1981). Brymer, Romney and Thomas (1981) stated that a crucial step when constructing Likert scales is to explore the area of interest with a small sample of the research population. Without a strategy to tap in-depth perceptions and feelings towards the topic of interest, the scale is unlikely to produce valid measures. In the current study, a pool of 30 items concerning a variety of continence and incontinence related issues were assembled. These items were based upon clinical observations and discussions which took place with ward nurses during the earlier studies, as well as from information gleaned from the literature.

Polit and Hungler (1983) suggested that between 10 and 20 items are sufficient for a Likert scale. Sixteen statements were constructed from the item pool which, in the opinion of the researcher, were phrased to either reflect a favourable (therapeutic/rehabilitative) or an unfavourable (non-therapeutic/palliative) attitude towards caring for patients with incontinence (Table 30). The selected items covered three broad dimensions related to caring for patients with incontinence - the nurse's role, assessment and management, and popular misconceptions surrounding the problem. Favourable items (i.e. those considered to portray a therapeutic/rehabilitative attitude) were scored from 1 strongly disagree to 5 strongly agree; unfavourable items (i.e. those considered to portray a non-therapeutic/palliative attitude) were scored in the reverse order (i.e. 1 strongly agree to 5 strongly disagree). Thus, high scoring responses were taken to indicate favourable responses. Polit and Hungler (1983) state that the researcher should check that the a priori decision concerning the direction of the item (i.e. favourable or unfavourable) is justified. The items chosen for inclusion in the scale were therefore tested with a group of 12 senior nurses attending a post-basic research course at the time of the study. Each nurse was asked to independently assess whether she considered a statement either reflected a favourable or an unfavourable attitude. Complete agreement (100%) on 15 of the 16 statements was achieved and 91.7% agreement on the remaining item (item 13) was obtained (Table 30). Thus, the direction

Table 30 - Items used in the scale to measure nurses' attitudes towards specific aspects of caring for patients with incontinence

- 1) The nurse's primary role caring for patients with incontinence should be concerned with supplying appropriate aids - n
- 2) Incontinence is really only a nursing problem - n
- 3) During the early phase of stroke rehabilitation, bladder problems are best dealt with by a catheter - n
- 4) The assessment and management of incontinence is most suited to a multidisciplinary team approach - p
- 5) The only effective ways to achieve continence are surgery and drug therapy - n
- 6) Rehabilitation is the task of the physio' and OT and should not be an additional workload for nursing staff - n
- 7) Incontinence should always be investigated - n
- 8) Two-hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly - n
- 9) Patients are often incontinent due to laziness - p
- 10) It is important for all nurses to have a good understanding about the causes of incontinence - p
- 11) Elderly people with longstanding incontinence problems do not usually require investigation - n
- 12) Incontinence is an inevitable part of the ageing process - n
- 13) Continence promotion is a specialised skill and should therefore be left to people such as continence advisers - n
- 14) Continence is a realistic goal for many incontinent elderly people - p
- 15) I find it demoralising looking after incontinent patients because there is little I can do to help - n
- 16) Incontinence is usually more distressing for a young person than for someone who is elderly - n

n - negative
p - positive

of the items selected (favourable/unfavourable) was considered to be appropriate.

Response to attitude scales may be biased in several ways. Social desirability is a tendency for respondents to give the most socially desirable answer thus biasing the responses given (Topf 1986, Fielding 1986, Smith 1975). In the current study, assurance that the answers were confidential may have encouraged nurses to respond frankly; it is likely, however, that some degree of social desirability did occur. A tendency for respondents to agree with positively worded items is another way in which responses to attitude scales may be biased (Fielding 1986, Topf 1986, Smith 1975). Smith (1975) stated that this problem can be vastly reduced by phrasing statements unambiguously. In the current study, care was taken to ensure that the items which were finally used were clear and easily understandable.

Another commonly used technique to reduce this problem involves the inclusion of approximately equal numbers of favourably or unfavourably worded statements in the scale (Topf 1986, Polit and Hungler 1983, Smith 1975, Oppenheim 1966). However, Smith (1975) observed that sometimes the sensible reversal of items is not possible. During the construction of the attitude statements in the current study, it appeared that a number of items seemed inappropriate when worded favourably. Thus, the scale which was finally constructed contained four favourably worded items and 12 unfavourably worded items (Table 30).

Polit and Hungler (1983) stated that content validity is of most relevance when designing a tool to measure knowledge in a specific area. In the current study to ensure that the questions were appropriate and representative of the area under investigation, the questionnaire was reviewed by the district continence adviser, a nurse teacher in the school of nursing in one of the hospitals used in the study, and a consultant geriatrician. Each judged the content to be appropriate for the study; the instrument was therefore considered to show a satisfactory level of content validity.

A pilot study was carried out on acute medical and acute HCE wards in a district general hospital outside the health authority in which the main study took place. Twenty nurses took part (six sisters, nine other qualified staff and five learner nurses). The length of a questionnaire has been reported to be one factor to influence the response rate (Cartwright 1978); the longer the questionnaire the lower the response rate. During the pilot study, the questionnaire took nurses an average of 20 minutes to complete (range 15 minutes to one hour) which was considered to be acceptable. In the light of the pilot study, minor modifications to several of the questions were made.

6.4.4 Procedure

The questionnaires for both the day and night nursing staff were personally delivered to the wards by the researcher and, where possible, the nurses concerned were individually approached. Nurses were asked to complete the questionnaire and return it within three weeks via the hospital internal mailing system. A reminder letter and an additional questionnaire was sent to all non-responders three weeks after the initial distribution of questionnaires. Hebelein and Baumgartner (1978) reported that the first follow-up questionnaire produces an increase in the response rate of about 20% of the initial sample.

6.4.5 Analysis

Data were coded and analysed using the Statistical Package for the Social Sciences (SPSSx) on the University of Nottingham 2900 ICL VME mainframe computer. Results are presented as frequency tables, percentages and bar charts. For selected variables the Chi-squared test, Mann-Whitney U test and Kruskal-Wallis one-way analysis of variance were used to establish whether or not there were significant differences between the results obtained.

6.5 RESULTS

Due to the large number of results, presentation is restricted to the main findings. Additional results are to be found in the appropriate appendices. The results are presented in five sections as follows:

- Response rate and characteristics of the respondents
- Nurses' education about continence and incontinence
- Difficulties identified by nurses caring for patients with incontinence
- Nurses' knowledge about the causes, assessment and management of incontinence
- Nurses' attitudes towards specific aspects of the problem.

For the purpose of clarity, the grade of sister and charge nurse will be referred to collectively as "charge nurse". The grades of nursing staff are referred to by the following abbreviations: Charge nurse (CN), Staff Nurse (i.e. registered general nurse) (SN), State Enrolled Nurse (EN) and Nurse Learner (NL).

6.5.1 Response Rate and Characteristics of Respondents

Response Rate

Of the 543 nurses eligible for the study, a total of 382 returned the questionnaire making an overall response rate of 70.4% (Table 31). Three hundred and thirty three (61.3%) questionnaires (52 CNs; 181 SNs/ENs; 100 NLs) were returned following the initial distribution, and a further 49 (9.0%) were returned (CNs 4; SNs/ENs 38; NLs 7) after one follow-up.

The response rates were similar between the qualified day and the night nursing staff. Of the 124 questionnaires distributed to the night staff, 88 (71.0%) complete forms were returned and, of the 276 distributed to the day staff, 187 (67.8%) were returned (Table 31).

Table 31

Response Rate

	No. of questionnaires distributed	No. of questionnaires returned	(%)
CNs	67	56	(83.6)
SNs	168	110	(65.5)
ENs	165	109	(66.1)
NLs*	143	107	(74.8)
Total	543	382	(70.3)

* Includes 27 NLs in the School of Nursing

As might have been expected, the CNs were more inclined to respond than other grades of nurses (Table 31). The type of ward in which the CN worked was not a factor which appeared to determine the level of response achieved, although a marginally better response rate was obtained on the acute/rehabilitation HCE and slow-stream rehabilitation HCE wards. While the response rates between the qualified day and night staff (i.e. CNs, SNs and ENs) were very similar, as a group, the night sisters were less inclined to respond (76.9%) than the day sisters (87.8%). Approximately a third of the SNs working on the medical (31.3%), acute HCE (31.9%) and acute/rehabilitation HCE wards (33.3%) did not return their questionnaires. At the time of the study, one SN worked on the slow-stream rehabilitation HCE wards. The ENs were less inclined to respond than the SNs with more than a third (36.3%) on the medical wards and just under half on the acute HCE (48.8%) and acute/rehabilitation (45.5%) HCE wards failing to return their questionnaires. However, it was interesting to note that the highest response rate achieved was on the slow-stream rehabilitation HCE wards where all but two of the 25 (92%) ENs approached returned completed questionnaires.

A third of the nurse learners (24; 33.3%) who were working on the acute medical wards and over a quarter (12; 27.2%) of those working on the acute HCE wards at the time of the study did not return their questionnaires (Table 32). Eleven of the non-responders on the HCE wards were found to be on annual leave at the time the questionnaire was initially distributed; a factor which influenced the response rate. The 27 NLs approached in the classroom situation responded 100%.

The sample of respondents comprised of 56 CNs (14.7%) and an approximately equal proportion of the other grades of nurses (SNs 110: 28.8%; ENs 109: 28.5%; NLs 107: 28.0%).

Of the 275 qualified nurse respondents, 88 (32.0%) were night staff and the remaining nurses either worked during the day (167; 60.7%) or worked a system of internal rotation (20; 7.3%). The proportion of respondents were 39.5%, 27.5%, 17.8% and 8.1% on the acute medical, acute, acute/rehabilitation and slow-stream rehabilitation HCE wards

respectively (Table 32). Twenty seven NL respondents (7.1%) were located in the school of nursing.

Sample Characteristics

Age and Sex of Respondents

Of the 382 respondents, 21 (5.5%) were male (5 CNs; 8 SNs; 6 ENs; 2 NLs). As the sample of male respondents was small, further analysis by sex was not carried out. The age of respondents categorised according to grade is shown in Table 33.

Length of Nursing Experience/Training

The CNs had a median length of nursing experience of 14 years (range two years to 30 years). The SNs had a median length of nursing experience of 2.3 years (range from just qualified to 24 years) and the ENs 9.3 years (range from ^{just}qualified to 40 years). NLs had completed an average of two years basic training (range nine months to three years and three months).

Qualified Nurses : Length of Time on Current Ward

The majority of the CNs (71.4%) had worked on their present ward more than one year with over a third (35.7%) working five years or longer (Appendix 20). Over half (54.5%) of the other qualified nurses had worked on their present ward up to one year (Appendix 20). ENs tended to have worked for longer on the same ward than the SNs; almost a third of the ENs (31.5%) had worked more than three years on their present ward.

Qualified Nurses : Other Nursing Qualifications

Six CNs and two SNs were trained district nurses. Three CNs and two SNs were also qualified midwives and five SNs were registered mental nurses. Two CNs and two SNs held registered sick childrens nurse qualifications and one SN was qualified as a health visitor. Other nursing qualifications held by the trained nurse respondents (excluding English

Table 32

The Location of Respondents

Type of Ward	CN n	SN n	EN n	NL n	Total	(%)
Acute medical	17	55	31	48	151	(39.5)
{ Acute	16	32	25	32	105	(27.5)
HCE { Acute/rehab.	17	22	29	-	68	(17.8)
{ Slow-stream { Rehab.	6	1	24	-	31	(8.1)
School of Nursing	-	-	-	27	27	(7.1)
Total	56	110	109	107	382	(100.0)

Table 33

Age of Respondents (in years)

	<u>CNs</u>				<u>SNs</u>	
	n	(%)		n	(%)	
25<	4	(7.1)	20-24	54	(49.0)	
25-30	14	(25.0)	25-30	28	(25.5)	
31-35	5	(8.9)	31-35	10	(9.1)	
36-45	19	(33.9)	36-45	12	(10.9)	
>45	14	(25.0)	>45	6	(5.5)	
Total	56	(100.0)	Total	110	(100.0)	

	<u>ENs</u>				<u>NLs</u>	
	n	(%)		n	(%)	
20-24	23	(21.3)	17-19	33	(30.8)	
25-30	23	(21.3)	20-21	55	(51.4)	
31-35	13	(12.0)	22-23	7	(6.5)	
36-45	26	(24.1)	24-26	3	(2.8)	
>45	23	(21.3)	>26	9	(8.4)	
Total	108	(100.0)	Total	107	(100.0)	

* 1 missing value

National Board (ENB) Care of the Elderly or Continence Promotion qualifications which are presented in the second section of the results) are presented in Appendix 21.

Qualified Nurses : Previous Ward Speciality Experience

Nurses' work experience, since qualifying, in clinical areas other than their present ward are shown in Appendices 22 and 23. Almost a quarter of the CNs (23.2%) and about 20% of the SNs (11 in number) and the ENs (23 in number) had worked on wards specialising in gynaecology. Ten percent (six in all) of the CNs and the ENs (10 in number) and six SNs had experience working on urology wards. Appendix 23 gives further details of the qualified nurses' ward specialty experience.

6.5.2 Incontinence - Nurses' Education

6.5.2.1 Basic Training

Nurses were asked whether classroom teaching during basic training had included the subject of incontinence. Eleven CNs (20%), five (4.6%) SNs and 21 (19.3%) ENs stated they could not remember. Of those who did remember, the majority of nurses, of all grades (CNs 37; 82.2%, SNs 92; 87.6%, ENs 74; 84.1%, NLs 106; 99.1%), replied they had received some education about incontinence during basic training (Figure 5).

The following results are expressed as a percentage of the sample who remembered whether they had had any education about incontinence during their basic training.

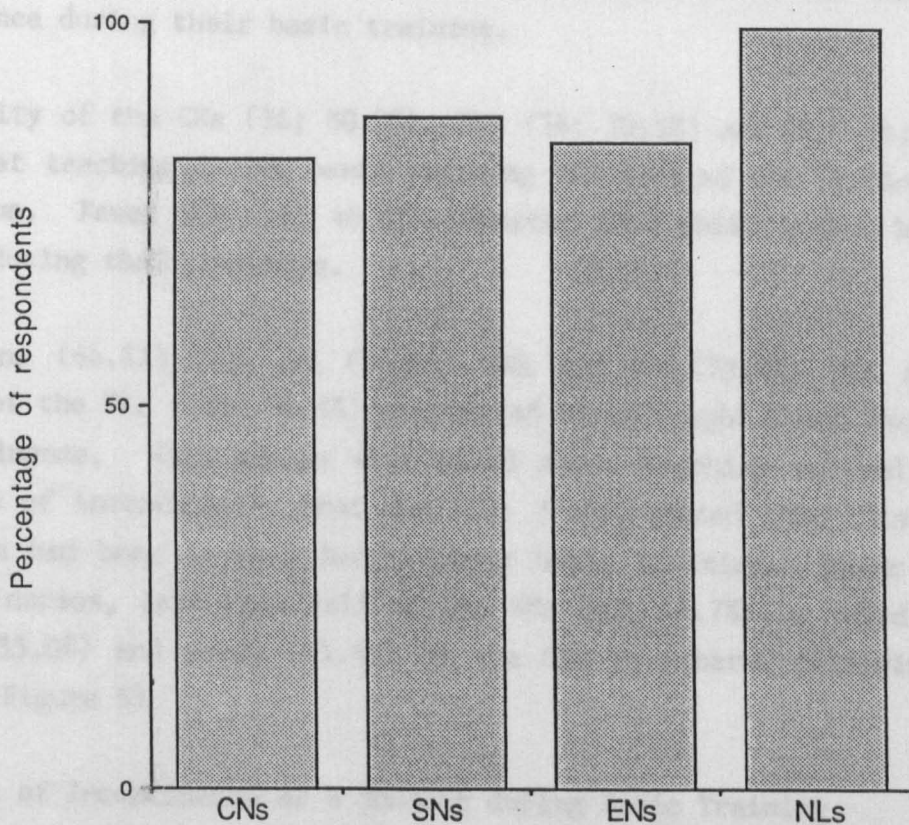
Content of Teaching about Incontinence during Basic Training.

Nurses were asked whether the content of the teaching during basic training had covered the anatomy of the urinary system, the physiology of micturition, the causes and the assessment of incontinence.

Figure 5

The majority of nurses, of all grades, who responded, stated that the anatomy of the urinary system had been included during their basic training. Sixty percent (60.5%, ENs 75; 85.2%, RNs 103; 96.3%) (Figure 4). The majority of the qualified staff (six CNs) stated that they had not received teaching about incontinence during their basic training.

**CLASS ROOM TEACHING ABOUT INCONTINENCE
DURING BASIC TRAINING**



The majority of nurses, of all grades, who remembered, stated that the anatomy of the urinary system had been included (CNs 43; 95.6%, SNs 95; 90.5%, ENs 75; 85.2%, NLs 103; 96.3%) (Figure 6). This included 10 of the qualified staff (six CNs, three SNs and one EN) who recalled receiving teaching about the anatomy of the urinary system, but had stated that they had not had any specific education about the subject of incontinence during their basic training.

The majority of the CNs (36; 80.0%), SNs (74; 70.5%) and NLs (91; 85.0%) stated that teaching during basic training had covered the physiology of micturition. Fewer ENs (41; 46.6%) reported that this subject had been included during their teaching.

Twenty nine (64.4%) CNs, 82 (78.1%) SNs and 65 (73.9%) ENs and the majority of the NLs (103; 96.3%) remembered being taught about the causes of incontinence. When nurses were asked about teaching related to the assessment of incontinence, most NLs (83; 77.6%) stated that this was an area which had been covered during their basic training. Fewer of the qualified nurses, less than half of the SNs (49; 46.7%), a third of the ENs (29; 33.0%) and seven (15.6%) of the CNs remembered receiving such teaching (Figure 6).

Management of Incontinence as a Subject during Basic Training

Nurses were asked whether or not this subject had been included during their basic training. Nineteen (42.2%) CNs, 75 (71.4%) SNs and 27 (31.0%) ENs stated it had. One NL wrote she had not had any teaching in this area.

When asked about the content of such teaching, the types of responses, ranked in order of frequency, for all grades of nurses combined, are shown in Table 34. The most commonly identified areas of teaching were concerned with aids and appliances, "toileting activities" and indwelling catheters (Table 34). The category "aids/appliances" included responses such as teaching related to the use of incontinence pads, pants and pads or sheath drainage systems. The category "toileting" activities

Figure 6

Teaching during basic training about the management of incontinence (all areas)

Survey of
response

**CONTENT OF TEACHING ABOUT INCONTINENCE
DURING BASIC TRAINING**

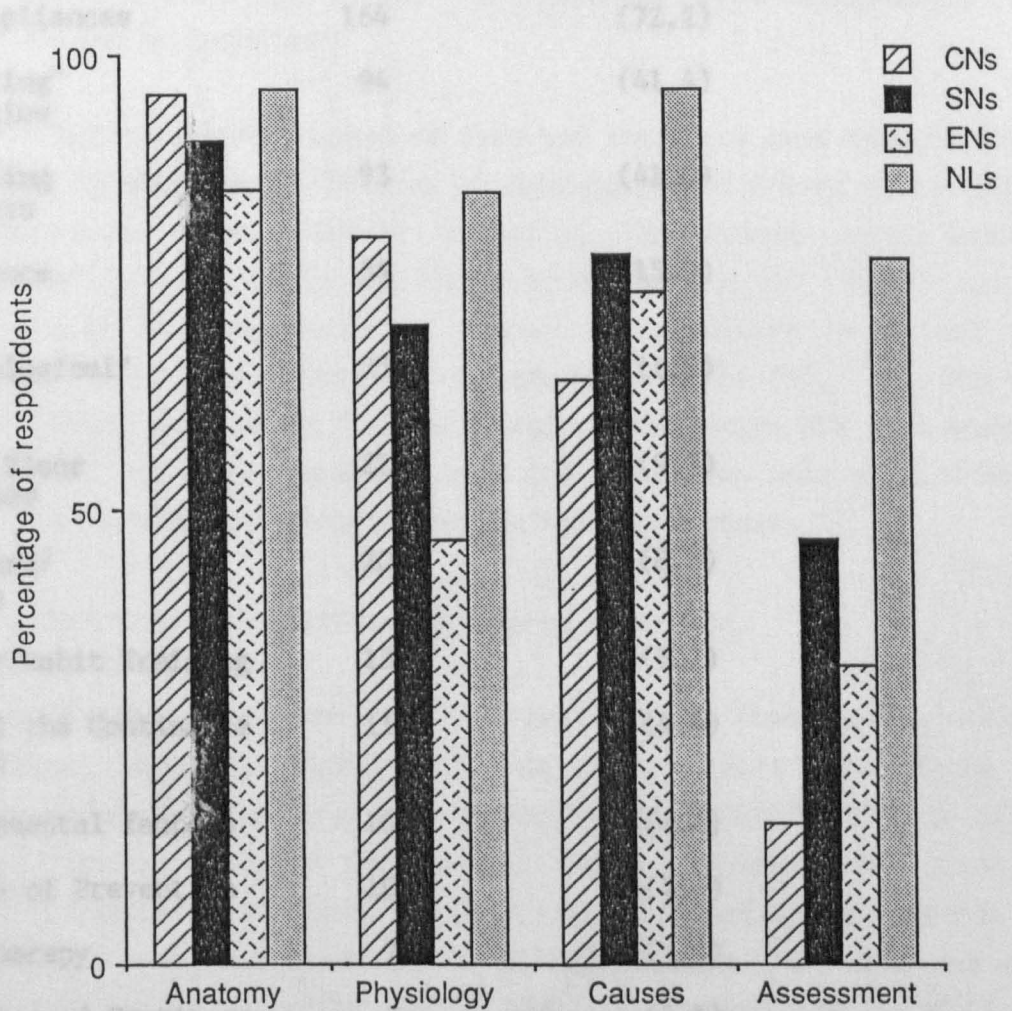


Table 34**Teaching during basic training about the management of incontinence (all nurses n=227)**

Category of Response	n	(%)*
Aids/appliances	164	(72.2)
"Toileting" Activities	94	(41.4)
Indwelling Catheters	93	(41.0)
Continence Chart	34	(15.0)
"Psychological" care	25	(11.0)
Pelvic Floor Exercises	22	(9.7)
Skin care/hygiene	20	(8.8)
Bladder/habit Training	13	(5.7)
Role of the Continence Adviser	11	(4.8)
Environmental factors	10	(4.4)
Methods of Prevention	10	(4.4)
Drug therapy	7	(3.1)
Promotion of Continence	7	(3.1)
Other	29	(12.8)
Total	539	

*Expressed as a percentage of the total number of respondents

OTHER:

Management in the community (4), Bowel management (3), Management of functional impairment (2), Research (3), Complications of incontinence (3), Care of patient confined to bed (2), Intermittent catheterisation (2), General nursing care (1), surgical treatment (1), self help groups/societies (1), clothing adaptations (2), management of incontinence in the elderly (1), social implications (1), management of stress incontinence (1), fluid management (1), management options (1).

consisted of responses such as "regular" or "two-hourly" toileting and did not include specific regimens such as bladder training. Appendices 24, 25, 26 and 27 give a breakdown of the content of teaching by grade of nurse.

6.5.2.2 Opportunities to Attend Courses/Study Days/Conferences, etc; Rating of Importance

The qualified nurses were asked to rate how important they thought it was for nurses on their wards to have an opportunity to attend courses/study days/conferences etc. about promoting continence and managing incontinence. All the CNs and the majority of the SNs (98.2%) and ENs (97.2%) rated the importance of having opportunities to attend such events as either very important or important (Table 35). Two SNs from acute HCE wards and one EN from an acute/rehabilitation HCE ward answered that it was not very important and one EN nurse from a slow-stream rehabilitation HCE ward thought that it was unimportant.

6.5.2.3 Post-basic, In-service/Ward-based Education

Nurses were asked about opportunities available to them to supplement or update their knowledge within the area of continence care (Table 36). The curricula for the English National Board (E.N.B.) "Care of the Elderly" courses specify that nurses become knowledgeable about the causes of incontinence and about factors contributing towards the promotion of continence. Fourteen (25.0%) of the CNs (from one acute medical ward; eight acute HCE wards; five acute/rehabilitation HCE wards) stated that they had completed such courses, six of whom did so within the previous 12 months. None of the CNs (six in all) from the slow-stream rehabilitation wards had attended these courses. Ten of the other qualified nurses (six SNs; four ENs) had attended such courses. One EN from an acute HCE ward had completed the ENB 978 "Promotion of continence and management of incontinence" course and one EN from an acute/rehabilitation HCE ward had completed a similar shorter course. Three nurses (one EN and two SNs) reported that the Open University course "Caring for Elderly People" and one CN, the ENB 923 "Developments

Table 35

Opportunities to attend courses/study days/conferences etc.

Rating of importance

Rating	CNs n	SNs n	ENs n
Very important	38	67	65
Important	18	40	40
Not very important	0	2	2
Unimportant	0	0	1
Total	56	109*	108**

* 1 Missing value

** 1 Missing value

Table 36

Opportunities taken to supplement/update knowledge

Relevant Educational Opportunities	CNs (n=56) (%)	SNs (n=110) (%)	ENs (n=109) (%)	NLs (n=107) (%)
ENB 298/940/941 Care of the elderly Courses	14 (25.0)	6 (5.5)	4 (3.7)	-
Other courses*	1 (1.8)	2 (1.8)	3 (2.8)	-
Study days/ Conferences	24 (42.9)	11 (10.0)	15 (13.8)	6 (5.6)
In-service/ward based teaching	21 (37.5)	8 (7.2)	15 (13.8)	43 (40.2)
ACA/other interest groups**	3 (5.4)	2 (1.8)	1 (0.9)	-

* Other Courses : Open University Courses "Caring for elderly people" (2)

ENB 923 Developments in nursing care (1)

ENB 978 "Promotion of continence/management of
incontinence course (1)

Short course on promoting continence 1

** ACA: Association of Continence Advisers (1)

Local continence interest group (5)

in nursing care" course had updated their knowledge about caring for patients with incontinence.

Twenty four CNs (43.0%) had attended at least one related conference or study day, over half (16 in all) within the previous 12 months. Seven had attended two, and three CNs had attended three related study days or conferences. Twenty six (11.9%) of the other qualified nurses (eight SNs; 15 ENs) stated that they had done so. Six ENs and two SNs had attended these events within the previous 12 months and two ENs had attended two related study days/conferences.

Twenty one (37.5%) CNs and 43 NLs (40%) stated that they had received some related in-service or ward-based education. Twenty three (10.5%) of the other qualified nurses (eight SNs; 15 ENs) reported they had done so.

Where in-service education or ward-based teaching had included the management of incontinence, findings were similar, for all grades of nurses, to those reported for teaching during basic training (Table 34). The content of the material which was taught mainly related to the use of aids and appliances (40; 46.0%) or the use of indwelling catheters (29; 33.3%). Appendix 28 presents results related to the content of teaching about the management of incontinence during in-service education or ward-based teaching, by grade of nurse.

In summary, 25 (44.6%) CNs, 89 (80.9%) SNs and 79 (72.5%) ENs had not received any additional formal education about the subject of incontinence since their basic training.

6.5.2.4 Sources of information which contributed most to nurses' knowledge about incontinence

Nurses were asked to state (using a list of options) which source of information had contributed most to their knowledge about incontinence. Results from the CNs, SNs and ENs are presented in Table 37 and those for NLs in Table 38. Nurses of all grades identified ward experience as contributing most to their knowledge about the management of

Table 37**Sources of information which contributed most to nurses' knowledge about incontinence**

Source of information	CN n	(%)	SN n	(%)	EN n	(%)
Ward experience	33	(60.0)	64	(58.7)	83	(79.8)
Nursing books/journals	6	(10.9)	8	(7.3)	1	(1.0)
Conference/study days	5	(9.1)	1	(0.9)	2	(1.9)
In-service training	5	(9.1)	3	(2.8)	3	(2.9)
Basic training	2	(3.6)	29	(26.6)	15	(14.4)
Post-basic courses	1	(1.8)	3	(2.8)	-	
Other	3	(5.5)	1	(0.9)	-	
Total	55	(100.0)	109	(100.0)	104	(100.0)

Other : Open University Course "Caring for elderly people" (1)
Local Interest Group (1)
Own Research/Study (1)
Talks from company representative about incontinence aids (1)

Table 38

Sources of information which contributed most to nurse learners' knowledge about incontinence

Source of information	Nurse learners n= 106*	
Ward experience	61	(57.5)
Classroom teaching	32	(30.2)
Ward teaching	6	(5.7)
Nursing books/journals	6	(5.7)
Other	1	(0.9)
Total	106	(100.0)

* 1 Missing value

Other : Talking to Continence adviser (1)

incontinence, while in-service training, post-basic courses, study days/conferences and nursing books and journals were infrequently mentioned.

6.5.2.5 Nurses' ratings of teaching received

Nurses were asked to rate how well the teaching they had received had prepared them in the understanding of the causes and assessment of incontinence, methods to promote continence, the use of incontinence aids and indwelling catheter management. Nurses responded using a four point rating scale ranging from well prepared to not at all prepared. Tables 39, 40, 41 and 42 illustrate the results categorised by grade of nurse.

The majority of nurses of all grades stated that the teaching had either prepared them well or fairly well in each of the five areas. Nurses of all grades felt their teaching had least prepared them to assess patients with incontinence, while the largest proportion of respondents thought that teaching had prepared them well or fairly well in the management of indwelling catheters (Tables 39, 40, 41 and 42). For the purposes of analysis, the four ratings were reduced to two ("well prepared/fairly well prepared" and "not very well prepared/not at all prepared") and within each group comparisons were calculated for each grade of nurse using the Chi-squared test. The SNs', ENs' and the NLs' assessments of their teaching concerning indwelling catheter management differed significantly from their assessments of teaching in each of the other four areas of incontinence management (Appendices 29, 30 and 31). Statistical differences between the five areas of teaching were not observed in the CN group (Table 39).

6.5.3 Difficulties problems experienced by nurses caring for patients with incontinence

The SNs, ENs and NLs were asked whether they experienced difficulties when caring for patients with incontinence and to respond on a five point rating scale ranging from frequently to never (Appendices 18b and 18c). As CNs may not necessarily be involved with providing direct care to

Table 39

Rating of teaching received:
By Charge Nurses

Aspect of Teaching	Well Prepared n (%)	Fairly well prepared n (%)	Not very well prepared n (%)	Not at all prepared n (%)	TTL* n
Causes of incontinence	20 (36.4)	30 (54.5)	4 (7.3)	1 (1.8)	55
Ability to assess incontinence	17 (31.5)	27 (50.0)	9 (16.7)	1 (1.9)	54
Methods to promote continence	20 (36.3)	26 (47.3)	8 (14.5)	1 (1.8)	55
Incontinence aids	18 (32.7)	30 (54.5)	6 (10.9)	1 (1.8)	55
Indwelling catheter management	35 (63.6)	19 (34.5)	-	1 (1.8)	55

(Aspect of teaching vs. level of preparation) $\chi^2 = 9.21$ df=4 p>0.05 N.S.

* Total

Table 40

Rating of teaching received:
By Staff Nurses

Aspect of Teaching	Well Prepared		Fairly well prepared		Not very well prepared		Not at all prepared		TTL* n
	n	(%)	n	(%)	n	(%)	n	(%)	
Causes of incontinence	22	(20.4)	63	(58.3)	22	(20.4)	1	(0.9)	108
Ability to assess incontinence	17	(15.7)	56	(51.9)	30	(27.8)	5	(4.6)	108
Methods to promote continence	24	(22.0)	51	(46.8)	30	(27.5)	4	(3.7)	109
Incontinence aids	17	(16.8)	57	(56.4)	24	(23.8)	3	(3.0)	109
Indwelling catheter management	64	(58.7)	39	(35.8)	5	(4.6)	1	(0.9)	101

(Aspect of teaching vs. level of preparation) $\chi^2 = 28.98$ df=4 p<0.001

* Total

Table 41

**Rating of teaching received:
By Enrolled Nurses**

Aspect of Teaching	Well Prepared n (%)	Fairly well prepared n (%)	Not very well prepared n (%)	Not at all prepared n (%)	TTL* n
Causes of incontinence	15 (15.3)	69 (70.4)	13 (13.3)	1 (1.0)	98
Ability to assess incontinence	20 (20.6)	48 (49.5)	24 (24.7)	5 (5.2)	97
Methods to promote continence	25 (25.5)	55 (56.1)	16 (16.3)	2 (2.1)	98
Incontinence aids	32 (32.0)	51 (51.0)	15 (15.0)	2 (2.0)	100
Indwelling catheter management	65 (64.4)	32 (31.7)	3 (3.0)	1 (1.0)	107

(Aspect of teaching vs. level of preparation) $\chi^2 = 24.67$ df=4 p<0.001

* Total

Table 42

**Rating of teaching received:
By Nurse Learners**

Aspect of Teaching	Well Prepared n (%)	Fairly well prepared n (%)	Not very well prepared n (%)	Not at all prepared n (%)	TTL* n
Causes of incontinence	22 (20.6)	67 (62.6)	18 (16.8)	-	107
Ability to assess incontinence	13 (12.3)	53 (50.0)	38 (35.8)	2 (1.9)	106
Methods to promote continence	17 (15.9)	61 (57.0)	29 (27.1)	-	107
Incontinence aids	35 (33.0)	49 (46.2)	22 (20.8)	-	107
Indwelling catheter management	60 (56.1)	44 (41.1)	3 (2.8)	-	107

(Aspect of teaching vs. level of preparation) $\chi^2 = 42.77$ df=4 p<0.001

* Total

patients, the question in the CN questionnaire was modified and worded as: "on your ward, are there problems relating to caring for patients who are incontinent?" (Appendix 18a). The responses from the CNs may not, therefore, be directly comparable with those of the other grades of nurses. Table 43 presents the results from the CNs and Table 44 presents the combined results of the SNs, ENs and NLs. Appendix 33 compares the results between grades of nurses (excluding the CNs) and Appendices 32 and 34 show the results when responses from nurses in the four types of wards were compared.

6.5.3.1 Frequency of problems/difficulties

Twenty one CNs (40.4%) stated that problems caring for patients with incontinence frequently occurred on their wards (Table 43). One CN from an acute/rehabilitation HCE ward stated there were rarely problems associated with the care of incontinent patients. Although problems were more frequently identified by the CNs in the acute medical and acute HCE wards than on the acute/rehabilitation and slow-stream rehabilitation HCE wards, these differences were not statistically significant (Appendix 32).

A small proportion of the other nurses (SNs, ENs and NLs) stated that they frequently experienced difficulties caring for patients with incontinence (Table 44). Fifty nurses (15.4%) (13 SNs, 31 ENs and six NLs) stated they rarely or never experienced difficulties caring for patients with incontinence. NLs experienced significantly more difficulties caring for incontinent patients than either the SNs ($u=3606.5$, $p<0.02$) or the ENs ($u=3606$, $p=0.0000$) (Appendix 33). The SNs experienced significantly more difficulties than the ENs ($u=46.26$, $p<0.005$). Comparisons between the responses from nurses in the different types of wards showed a significant difference between the frequency of difficulties identified (Appendix 34). As NLs had identified significantly more difficulties caring for incontinent patients than the SNs or ENs, they were excluded from between ward comparisons. When the Mann-Whitney U test was applied, significantly more difficulties were identified in the acute medical wards when compared with the

Table 43

Frequency of problems identified when caring for patients with incontinence : Charge Nurses (n=52)*

Frequency of problems	n	(%)*
Frequently	21	(40.4)
Sometimes	14	(26.9)
Occasionally	16	(30.8)
Rarely	1	(1.9)
Never	-	
Total	52	(100.0)

4 missing values

* Expressed as a percentage of the total number of respondents

Table 44

Frequency of difficulties experienced when caring for patients with incontinence.

Rating of Difficulty	SNs, ENs, NLS Responses	
	Combined n	(%)*
Frequently	45	(13.9)
Sometimes	134	(41.4)
Occasionally	95	(29.3)
Rarely	33	(10.2)
Never	17	(5.2)
Total	324	(100.0)

2 missing values

* Expressed as a percentage of the total number of respondents

acute/rehabilitation HCE wards ($u=2445.0$, $p<0.005$) and the slow-stream rehabilitation HCE wards ($u=638.5$, $p<0.01$). Significantly more difficulties were identified in the acute HCE wards when compared with the acute/rehabilitation HCE wards ($u=1029.0$, $p<0.01$) and the slow-stream rehabilitation HCE wards ($u=376.5$, $p<0.001$).

6.5.3.2 Main problems/difficulties associated with caring for patients with incontinence

Nurses were asked to identify the main problems/difficulties they experienced when caring for patients with incontinence. The responses were content analysed and coded and are presented in Table 45. Appendices 36 to 39 present the responses categorised by grade of nurse.

Nurses identified an average of two problems (range one to five). When responses from all grades of nurses were combined, lack of nursing time was the most common problem identified (29.6%) (Table 45), this being the most frequent response given by the CNs and the NLs (Appendices 36 and 39). Problems associated with the supply or the use of incontinence aids was the second most frequent category of responses given (24.8%), and was the most common response given by the SNs (39.6%).

Few of the CNs (4; 4.3%) mentioned problems associated with skin care; however, this was an area which was frequently identified as a problem by the other grades of nursing staff who responded to the question (29.7% SNs; 21.6% ENs; 22.0% NLs) (Appendices 36, 37, 38 and 39).

The category "psychological impact for patient" comprised of responses which identified difficulties experienced by nurses when patients were embarrassed or distressed following an episode of incontinence. This was an area less frequently identified by the qualified nurses but was the second most common problem identified by NLs (27.0%) (Appendix 39).

The sixth most frequent category of problems identified related to some aspect of lack of knowledge about caring for incontinent patients (Table 45). Ten nurses mentioned they had an inadequate level of knowledge in

Table 45

Main problems identified when caring for patients with incontinence;
All nurses (n=314*)

Category of Responses	Responses n=	(%)**
Lack of nursing Time	93	(29.6)
Problems with the use/supply of incontinence aids	78	(24.8)
Care of the skin	69	(22.0)
Psychological impact for patient	53	(16.9)
Diminished mental awareness	49	(15.6)
Lack of knowledge	37	(11.8)
Patient handling	33	(10.5)
Staff conflict	30	(9.6)
Patients' denial of problem	19	(6.1)
Problems associated with specific diagnoses	14	(4.5)
Communication difficulties	8	(2.5)
Problems associated with specific types of incontinence	7	(2.2)
Nurses' attitudes	6	(1.9)
Odour	5	(1.6)
Other ***	45	(14.3)
Total	546	

* 45 Missing values

** Expressed as a total number of the respondents (n=314)

*** Other Appendix 35

general, 11 stated that they lacked knowledge about the type of treatment options that were available, 11 mentioned problems specifically with the assessment of incontinence, five nurses stated they lacked knowledge about the causes of incontinence and one about the prevention of incontinence.

Approximately 10% of nurses (30 in number) identified "staff conflict" as a problem associated with caring for patients with incontinence. Some examples of responses included in this category are as follows:

"There is poor co-operation between the day and the night staff and amongst some of the day staff".

(SN in acute HCE ward)

"There seems to be a "silent" conflict between the students and the staff over the management of incontinence, eg. should patients really be catheterised just for convenience - risking infection?".

(NL in acute HCE ward)

"Sometimes problems arise when the medical staff are un-co-operative".

(EN in acute HCE ward)

"There is a lack of continuity of care - varying ideas and approaches to management."

(EN in acute medical ward).

6.5.4 Nurses' knowledge about the causes, assessment and management of incontinence

6.5.4.1 Main responsibility for the assessment of incontinence

Nurses were asked who they considered to be mainly responsible for the assessment of incontinence on the ward. Four choices of responses were given (Appendices 18a, 18b and 18c). The results are shown in Table 46 categorised according to grade of nurse.

Sixty percent of the CNs (32) and about half of the other qualified nurses perceived the assessment of incontinence to be primarily the role of the nursing staff, while over half of the NLs (51.9%) stated that it was primarily the joint responsibility of the medical and nursing staff.

Table 46**Main responsibility for the assessment of incontinence**

Category of health staff	Grade of Nurse							
	CNs n	(%)	SNs n	(%)	ENs n	(%)	NLs n	(%)
Medical staff	1	(1.9)	0	-	2	(1.9)	2	(1.9)
Nursing staff	32	(60.4)	51	(49.5)	50	(48.1)	36	(34.0)
Medical and Nursing Staff	19	(35.8)	41	(39.8)	43	(41.3)	55	(51.9)
Specialist (eg Continence Adviser)	1	(1.9)	11	(10.7)	9	(8.7)	13	(12.2)
Total	53*	(100.0)	103**	(100.0)	104†	(100.0)	106††	(100.0)

* 3 missing values

** 7 missing values

† 5 missing values

†† 1 missing value

Five nurses stated that assessment was primarily a medical function and 34 nurses perceived it as the role of a specialist such as a continence adviser.

6.5.4.2 Main responsibility for the promotion of continence/management of incontinence

Nurses were asked who they considered to be mainly responsible for the promotion of continence and management of incontinence in the ward setting. A choice of four answers was given. The results are shown in Table 47 categorised according to grade of nurse.

Almost two thirds of the CNs and about half of the other grades of nurses perceived the promotion of continence and management of incontinence to be primarily a nursing role. Just over a quarter of the CNs and about a third of the other nurse respondents perceived it as a joint medical and nursing responsibility. Fifty six nurses (15.4%) viewed the promotion of continence and management of incontinence to be primarily the role of a specialist, such as a continence adviser.

6.5.4.3 Nurses' knowledge about causes of incontinence

Nurses were asked what they considered to be the main reasons for incontinence. Three hundred and sixty four nurses (95.3%) completed the question (CNs 51; SNs 109; ENs 98; NLs 106) and responses were content analysed and coded.

Table 48 presents results when the responses from all grades of nurses were combined. The results are presented as percentages of the total number of respondents (364 in number) who answered the question. Table 49 presents responses categorised by grade of nurse. The average number of causes of incontinence identified was three (range 1-9), when responses from all grades of nurses were combined.

Urinary tract infection was the most common cause of incontinence identified (41.0%) when responses from all grades of nurses were combined

Table 47**Main responsibility for the promotion of continence/management of incontinence**

Category of health staff	Grade of Nurse							
	CNs n	(%)	SNs n	(%)	ENs n	(%)	NLs n	(%)
Medical staff	0	-	0	-	0	-	0	-
Nursing staff	33	(63.5)	50	(49.5)	53	(50.5)	55	(51.8)
Medical and Nursing Staff	14	(26.9)	34	(33.7)	33	(31.4)	36	(34.0)
Specialist (eg Continence Adviser)	5	(9.6)	17	(16.8)	19	(18.1)	15	(14.2)
Total	52*	(100.0)	101**	(100.0)	105†	(100.0)	106††	(100.0)

* 4 missing values

** 9 missing values

† 4 missing values

†† 1 missing value

Table 48
Causes of incontinence; All nurses' responses combined (n=364)*

Category of Response	Responses n	(%)**
Urinary tract Infection	148	(40.7)
Neurological Impairment	145	(39.8)
Non-specific Causes	126	(34.6)
Mental Impairment	125	(34.3)
Mobility problems	124	(34.1)
Pelvic floor Weakness	115	(31.6)
"Ageing"	76	(20.9)
Prostate problems	73	(20.1)
Ill health	67	(18.4)
Constipation/ Faecal impaction	48	(13.2)
Drug side effects	41	(11.3)
Emotional factors	38	(10.4)
Other gynaecological Problems	28	(7.7)
Environmental factors	23	(6.3)
"Laziness"	15	(4.1)
Retention of urine	13	(3.6)
Other***	70	(19.2)
Total	1273	

* 18 missing values

** Expressed as a percentage of the total number of respondents.

*** Other (Appendix 40)

Table 49

Causes of incontinence; categorised by grade of nurse

Category of Response	CN n=51 n (%)	SN n=109 n (%)	EN n=98 n (%)	NL n=106 n (%)
Urinary tract infection	22 (43.1)	50 (45.9)	46 (46.9)	30 (28.3)
Neurological impairment	31 (60.8)	46 (42.2)	35 (35.7)	33 (31.1)
"Non-specific" causes	10 (19.6)	52 (47.7)	32 (33.0)	32 (30.2)
Mental impairment	22 (43.1)	39 (35.8)	39 (40.0)	25 (23.6)
Mobility problems	23 (45.1)	49 (45.0)	20 (20.4)	32 (30.2)
Pelvic floor weakness	13 (25.5)	29 (26.6)	32 (33.0)	41 (38.7)
"Ageing"	12 (23.5)	22 (20.2)	17 (17.3)	25 (23.6)
Prostate problems	11 (21.6)	23 (21.1)	14 (14.3)	25 (23.6)
Ill-health	16 (31.4)	17 (15.6)	18 (18.4)	16 (15.1)
Constipation/faecal impaction	6 (11.8)	19 (17.4)	15 (15.3)	8 (7.6)
Drug side-effects	10 (19.6)	15 (13.8)	10 (10.2)	6 (5.7)
Emotional factors	4 (7.8)	12 (11.0)	6 (6.1)	16 (15.1)
Other gynaecological problems	6 (11.8)	9 (8.3)	7 (7.1)	6 (5.7)
Environmental factors	4 (7.8)	9 (8.3)	2 (2.0)	8 (7.6)
"Laziness"	-	5 (4.6)	7 (7.1)	3 (2.8)
Urinary retention	4 (7.8)	-	6 (6.1)	3 (2.8)
Communication impairment	4 (7.8)	3 (2.8)	-	-
Other*	13 (25.5)	15 (13.8)	6 (6.1)	29 (27.4)
TOTAL	209	414	312	338

* Appendix 41

(Table 48). This was the most common reason for incontinence given by the ENs (47.0%) (Table 49).

Neurological impairment was the second most common category of responses given (40.0%) and included non-specific reasons such as "nerve damage", "neurological disease" or "trauma", or more frequently, responses were stated in terms of disease entities such as "stroke", "multiple sclerosis" or "Parkinsonism".

Just over a third (126; 34.6%) of the nurses gave responses which were ill-defined or generalised, categorised as non-specific reasons (Table 48). For example, reasons stated as "loss of bladder function", "weak bladder", "natural wear and tear", "physical defects" or "loss of bladder tone" were classified within this category. These reasons were stated by 10 (19.6%) CNs, 52 (47.7%) SNs, 32 (32.7%) ENs and 32 (30.2%) NLs. This category of responses accounted for the largest proportion of answers obtained from the SNs. The category "ill-health" similarly consisted of non-specific reasons for incontinence such as "medical causes", "disease", or "illness" and were responses given by 67 respondents (Table 48).

Approximately equal proportions of nurses (just over a third) identified mental impairment and immobility as factors causing incontinence.

The most common form of physiological bladder dysfunction identified was pelvic floor weakness which almost a third of the respondents stated as a cause for incontinence. This was the most frequent response given by the NLs (41; 38.7%).

Of those nurses who responded, almost a quarter of the CNs (12; 23.5%) and NLs (25; 23.6%) and 22 (20.2%) SNs and 17 (17.3%) ENs (76 nurses in all) had identified ageing as a reason for incontinence. The majority of responses were stated as "old age", "the ageing process" or "senility". Some responses were qualified with explanations such as "loss of muscle due to old age" or "general deterioration of the body with age".

A number of factors which may influence bladder function or affect an individual's ability to cope with the problem were infrequently mentioned. For example, the side effects of drug therapy were identified by 41 (11.3%) of the respondents and environmental constraints, such as difficult access to toilet facilities or inappropriate clothing, were mentioned by 23 (6.3%) nurses. Constipation or faecal impaction were factors mentioned by 48 (13.2%) nurses.

6.5.4.4 Knowledge about the assessment of incontinence

Nurses were asked to respond to the question:

"What factors do you feel are important when assessing a patient on the ward who is incontinent?".

Three hundred and thirty six nurses (88.0%) completed the question (CNs 50; SNs 103; ENs 79; NLs 104). This was the least frequently answered question in the questionnaire and was omitted by more than a quarter (30; 27.5%) of the ENs. Five nurses (two SNs and three ENs) stated they did not know, or were unsure, and one CN stated she did not understand what was meant by assessment. Responses were analysed and coded.

Table 50 presents the results when responses from all grades of nurses were combined. Results are expressed as percentages of the total number of respondents (336 in number) who answered the question. The average number of areas of assessment identified was 2.7 (range 1-9). Table 51 presents results categorised by grade of nurse.

When responses from all grades of nurses were combined, just over 41% of the nurses gave answers which were categorised as an assessment of functional status (Table 50). These responses identified the skills necessary for successful toileting, for example, an assessment of the patient's mobility, manual dexterity or ability to communicate. This was the most frequent area of assessment considered by the SNs (45; 43.7%) and the NLs (55; 52.9%) (Table 51).

Table 50**Assessment of incontinence : All grades of nurses combined (n=336)***

Category of Response	Responses n	(%)**
Functional status	136	(40.5)
Mental Status	115	(34.2)
Medical diagnosis/ Problem	102	(30.4)
Pattern	88	(26.2)
Related history	82	(24.2)
Age/sex	79	(23.5)
Patient's Attitude	44	(13.1)
Environmental factors	32	(9.5)
Screen for infection	32	(9.5)
Identify "type" of incontinence	31	(9.2)
Confidentiality/ privacy	29	(8.6)
Rowel check	24	(7.1)
Home assessment	20	(6.0)
Continence chart	19	(5.7)
Psycho-social factors	18	(5.4)
Availability of incontinence aids	13	(3.9)
Monitor fluid intake	12	(3.6)
Other***	58	(17.3)
Total	934	

* 48 Missing values

** Expressed as a percentage of the total number of respondents n=336

*** Appendix 42

Table 51

Assessment of incontinence; Categorised by grade of Nurse

Category of Response	CN n=50		SN n=103		EN n=79		NL n=104	
	n	(%)	n	(%)	n	(%)	n	(%)
Functional status	14	(28.0)	45	(43.7)	22	(27.8)	55	(52.9)
Mental status	19	(38.0)	31	(30.1)	24	(30.4)	41	(39.4)
Medical diagnosis/problem	21	(42.0)	30	(29.1)	23	(29.1)	23	(26.9)
Pattern	12	(24.0)	27	(26.2)	19	(24.1)	30	(28.8)
Related history	11	(22.0)	30	(29.1)	13	(16.5)	28	(26.9)
Age/sex	9	(18.0)	30	(29.1)	11	(13.9)	29	(27.9)
Patient's attitude	7	(14.0)	14	(13.6)	9	(11.4)	14	(13.5)
Environmental factors	10	(20.0)	14	(13.6)	3	(3.8)	5	(4.8)
Screen for infection	5	(10.0)	16	(15.2)	4	(5.1)	7	(6.7)
Identify 'type' of infection	3	(6.0)	13	(12.6)	7	(8.9)	8	(7.7)
Confidentiality/privacy	6	(12.0)	8	(7.8)	8	(10.1)	7	(6.7)
Bowel check	2	(4.0)	14	(7.8)	2	(2.5)	6	(5.8)
Home assessment	1	(2.0)	5	(4.9)	3	(3.8)	11	(10.6)
Psycho-social factors	4	(8.0)	6	(4.9)	2	(2.5)	6	(5.8)
Continence chart	3	(6.0)	7	(6.8)	7	(8.9)	2	(1.9)
Availability of aids	1	(2.0)	3	(2.9)	3	(3.8)	6	(5.8)
Monitor fluid intake	2	(4.0)	5	(4.9)	1	(1.3)	4	(3.8)
Other*	3	(6.0)	20	(19.4)	10	(12.7)	25	(24.0)
TOTAL	133		318		171		312	

* Appendix 43

A third of the respondents stated a need to assess the patient's mental status (115; 34.2%), this being the most frequent response given by the ENs (34; 30.4%), while just under a third of the nurses (30.4%) considered it important to know the patient's medical diagnosis or reason for admission.

The category, "pattern", contained responses which included information about the frequency, time or circumstances in which episodes of incontinence occurred. Just over a quarter (88; 26.2%) of respondents included these areas in an assessment of incontinence.

Enquiry concerning the patient's usual pattern of micturition, the onset and duration of incontinence, any past obstetric or gynaecological problems, or the patient's usual method of coping with incontinence are examples of responses which were included in the category "related history". These factors were considered important by a quarter of the respondents (82; 24.4%).

The assessment for causal or predisposing factors, such as observations of dietary intake or bowel function, or the assessment of environmental aspects, were areas infrequently considered by nurses of all grades. Twenty two (6.6%) nurses mentioned a bowel check or assessment of dietary intake and 32 (9.5%) identified any assessment of environmental factors.

Responses given which involved an enquiry into the patient's usual living circumstances, for example, the provision, adequacy, location or accessibility of toilet facilities within the home, were categorised as "home assessment". Twenty nurses (6.0%) had mentioned these areas for assessment.

Eighteen (5.4%) nurses had considered the assessment of the psychological, sexual or social implications for the patient (or her family) which may be associated with incontinence.

6.5.4.5 Possible causes of urine loss and interventions in response to three accounts

The results in the following section were obtained when nurses were asked to suggest possible causes and the subsequent interventions for the type of urine loss described in three short accounts shown in Appendix 19. For each account, the results are presented in tables as the combined responses, when the results of nurses of all grades were added together, as well as separately, categorised by grade of nurse.

Account one

A female patient complains of losing small amounts of urine when she coughs, sneezes or during physical exercise but not at other times.

Suggested causes of urine loss

Table 52 presents the causes of urine loss suggested by respondents for the first account when responses from all grades of nurses were combined. Table 53 present the results categorised by grade of nurse.

Ten nurses (one CN, two SNs, six ENs, one NL) stated they did not know what the possible causes of the urine loss described could be. Of those who responded, the mean number of causes identified was 1.7 (range 1-5).

Over half (57.8%) of all respondents identified "stress" incontinence as the cause of urine loss described in Account one. This was the most frequent response given by the SNs (61.1%), ENs (53.4%) and NLs (74.5%) (Table 53). Pelvic floor weakness was the next most frequent cause identified (38.7%) followed by responses categorised as "other gynaecological disorders" which were most commonly stated as "prolapse" or "fibroids" (21.0%). Seventy two nurses (19.4%) gave answers categorised as non-specific causes which included responses such as "weak bladder", "not emptying bladder properly" or "bladder not working". Sixty seven nurses (18.0%) stated that childbirth or multiple births were possible factors underlying the urine loss described. No-one identified

Table 52

ACCOUNT ONE : Possible causes: combined responses (n=372 respondents)*

Category of response	Responses n	(%)**
"Stress" incontinence	215	57.8
Pelvic floor weakness	144	38.7
Other gynaecological problems	78	21.0
"Non-specific" causes	72	19.4
Parity/childbirth	67	18.0
Urinary tract infection	15	4.0
Faecal impaction/constipation	7	1.9
Tumour	5	1.3
Other†	13	3.5
Total	616	

* 8 missing values

** Expressed as a percentage of the respondents

†Other:

"Old age" (2), Neurological impairment (2), Vaginitis (1), "Muscular contraction of the bladder" (1), Congestive cardiac failure (1), Prostatism (1), Detrusor instability (1), Increase in abdominal pressure (1), Pregnancy (1), "Pressure on bladder" (1), Small bladder capacity (1).

Mean number of causes identified 1.7 (range 1-5).

Table 53

ACCOUNT ONE : Possible causes of Incontinence; categorised by grade of nurse

Category of response	CN n=55		SN n=108		EN n=103		NL n=106	
	n	(%)	n	(%)	n	(%)	n	(%)
Stress' incontinence	15	(27.3)	66	(61.1)	55	(53.4)	79	(74.9)
Pelvic floor weakness	23	(41.8)	38	(35.1)	27	(26.2)	56	(52.8)
Other gynaecological problems	23	(41.8)	19	(17.6)	26	(25.2)	10	(9.4)
"Non-specific" causes	6	(10.9)	20	(18.5)	31	(30.1)	15	(14.2)
Parity/childbirth	-		29	(26.9)	20	(19.4)	18	(17.0)
Urinary tract infection	4	(7.3)	4	(3.7)	7	(6.8)	-	
Faecal impaction/constipation	1	(1.8)	3	(2.8)	3	(2.9)	-	
Tumour	2	(3.6)	3	(2.8)	-		-	
Other*	2	(3.6)	5	(4.6)	4	(3.9)	2	
Total	76		187		173		180	

*Appendix 44

factors resulting in urinary retention with overflow incontinence as a possible cause of the urine loss.

Suggested interventions

Twenty six nurses failed to answer the question, of which 23 (one CN, four SNs, 13 ENs, five NLs) stated they did not know what might help a patient experiencing the urine loss described in the first account. Of those who responded, the mean number of suggested interventions was 1.9 (range 1-5).

Almost three quarters (73.3%) of the respondents suggested pelvic floor exercises when asked what might be done for a patient with this problem (Table 54); this was the most frequent response given by nurses of all grades (Table 55). Surgical intervention (28.9%) and the use of incontinence aids (27.0%) were the next most frequently considered options. Thirty nurses (8.4%) mentioned "two-hourly" or "regular" toileting, categorised as fixed-interval toileting in Table 54. The provision of psychological support was mentioned by 19 (5.3%) nurses (three CNs, five SNs; five ENs; six NLs).

Few respondents identified any aspect of an assessment of the problem. Nineteen nurses (seven CNs, five ENs' seven NLs) suggested a specialist referral (for example the urologist, gynaecologist or continence adviser) and 13 suggested that a urinalysis was necessary. Five nurses mentioned urodynamic investigations and three considered monitoring the patient's fluid intake. One EN suggested a reduction in the patient's fluid intake.

Account two

A patient with a distended bladder frequently leaks small amounts of urine.

Table 54

ACCOUNT ONE : Suggested Interventions : Combined Responses (n=356 respondents)*

Category of response	Responses n	(%)**
Pelvic floor exercises	261	(73.8)
Surgical intervention	103	(28.9)
Incontinence pads	96	(27.0)
Fixed-interval toileting	30	(8.4)
Specialist referral	19	(5.3)
Psychological support	19	(5.3)
Pessary/occlusive devices	16	(4.5)
Drug therapy	16	(4.5)
Urinalysis	13	(3.7)
Hygiene needs	6	(1.7)
Urodynamic investigations	5	(1.4)
Other†	28	(7.9)
Total	612	

* 26 missing values

** Expressed as a percentage of the respondents

†Other:

Aperients/enema (4), Bladder training (3), Monitor fluid intake (3), Treat cause (2), Intermittent catheterisation (2), Reducing diet (2), Medical treatment (2), Reduce "stress" (1), Stress self-help group (1), Faradism (1), Teflon coating to bladder" (1), Encourage to tense abdominal muscles (1), Investigate cause (1), Physiotherapy (1), Reduce fluid intake (1), Encourage to cough when passing urine (1), Patient education (1).

Table 55

ACCOUNT ONE : Suggested interventions; categorised by grade of nurse

Category of response	CN n=55		SN n=105		EN n=96		NL n=101	
	n	(%)	n	(%)	n	(%)	n	(%)
Pelvic floor exercises	39	(70.9)	77	(73.3)	58	(60.4)	87	(86.1)
Surgical intervention	22	(40.0)	29	(27.6)	28	(29.2)	24	(23.8)
Incontinence pads	12	(21.8)	27	(25.7)	23	(24.0)	34	(33.7)
Fixed-interval toileting	5	(9.1)	9	(8.6)	9	(9.4)	7	(6.9)
Specialist referral	7	(12.7)	-		5	(5.2)	7	(6.9)
Psychological support	3	(5.5)	5	(4.8)	5	(5.2)	6	(5.9)
Pessary/occlusive devices	5	(9.1)	8	(7.6)	-		3	(3.0)
Drug therapy	3	(5.5)	2	(1.9)	-		3	(3.0)
Urinalysis	1	(1.8)	3	(2.8)	2	(2.1)	7	(6.9)
Hygiene needs	2	(3.6)	2	(1.9)	2	(2.1)	-	
Urodynamic investigation	3	(5.5)	1	(1.0)	-		1	(1.0)
Other*	4	(7.3)	9	(8.6)	11	(11.5)	4	(4.0)
Total	106		172		151		183	

* Appendix 45

Possible causes of urine loss

Table 56 presents the results when nurses were asked to suggest the possible causes of urine loss described in the second account. Table 56 shows the results when all grades of nurses were combined and Table 57 the results categorised by grade of nurse.

Thirty three nurses did not answer the question, of which 32 (six SNs, 15 ENs, 11 NLs) stated that they did not know what the possible causes of the urine loss could be. Of those who responded, the mean number of causes identified was 1.7 (range 1-5).

Two thirds of the nurses (65.9%) identified the symptom of urinary retention. This was the most common response given by nurses of all grades. Fewer respondents identified a specific cause for the urine loss described. Just over a third of the nurses (37.0%) identified "prostatism", "enlarged prostate" or "urethral stricture", or "obstruction" in general, categorised collectively as "outlet obstruction" in Table 56. Fifty seven nurses (16.3%) identified constipation or faecal impaction as a causal factor (Table 56). Forty four nurses (12.6%) identified a neurological cause, for example "neurogenic bladder", "atonic bladder" or "a stroke". Answers such as "unable to empty bladder properly", "bladder problems" and "tension" were categorised as non-specific causes and were responses given by 29 (8.3%) nurses. Twenty nine respondents (8.3%) identified the cause as being due to a urinary tract infection and two nurses (one SN, one NL) identified drug side-effects as possible causes.

Suggested interventions

Twenty nine nurses did not answer the question, of which 27 (four SNs, 10 ENs, 13 NLs) stated that they did not know what might help a patient experiencing the urine loss described in the second account. Of those who responded, the mean number of interventions suggested was 1.8 (range 1-5).

Table 56

ACCOUNT TWO : Possible causes : Combined responses (n=349 respondents)*

Category of response	Respondents n	(%)**
Retention of urine	230	(65.9)
Bladder outlet obstruction	129	(37.0)
Constipation/ Faecal impaction	57	(16.3)
Neurological impairment	44	(12.6)
Non-specific causes	41	(11.7)
Urinary tract infection	29	(8.3)
Bladder pathology	16	(4.6)
Gynaecology problems	10	(2.9)
Other†	24	(6.9)
Total	580	

* 33 missing values

** Expressed as a percentage of the respondents

†Other

Bladder stones (4), Renal failure (3), Post-surgery (3), "Not recognising the need to go" (2), Drug side-effects (2), Congenital abnormalities (1), Renal infection (1), Laziness (1), Residual urine left after voiding (1), Bowel obstruction (1), Loss of sensation (1), Infrequent micturition (1), "Sphincter spasm" (1), Congestive cardiac failure (1), Catheter blocked (1).

Mean number of causes identified 1.7 (range 1-5).

Table 57

ACCOUNT TWO : Possible causes of incontinence; categorised by grade of nurse

Category of response	CN n=55	SN n=104	EN n=94	NL n=96
	n (%)	n (%)	n (%)	n (%)
Retention of urine	38 (69.0)	66 (63.5)	68 (45.9)	58 (60.4)
Bladder outlet obstruction	20 (36.4)	49 (47.1)	34 (23.0)	26 (27.1)
Neurological impairment	10 (18.2)	15 (14.4)	7 (4.7)	11 (11.5)
Constipation/faecal impaction	10 (18.2)	22 (21.2)	14 (9.5)	11 (11.5)
Urinary tract infection	8 (14.5)	12 (11.5)	7 (4.5)	2 (2.1)
'Non-specific' causes	8 (14.5)	20 (19.2)	2 (2.1)	11 (11.5)
Bladder pathology	5 (9.1)	4 (3.8)	7 (4.7)	-
Other*	3 (5.5)	9 (8.7)	9 (9.6)	14 (14.6)
Total	102	197	148	133

*Appendix 46

When asked what might be done for a patient experiencing the urine loss described, an indwelling catheter was the most frequent suggestion identified by over half (50.7%) of all the respondents (Table 58 and Table 59). Just over a quarter (28.0%) of the respondents suggested passing a residual catheter and 11 (3.1%) (seven CNs, two ENs, two NLs) specifically mentioned the use of intermittent catheterisation. Just over a quarter (27.5%) of respondents suggested surgical intervention which, when specifically stated, was most commonly a prostatectomy.

As with the findings described in the first account, few responses identified any assessment of the problem. Forty six nurses (13.0%) suggested carrying out a rectal examination. Eighteen nurses (5.1%) suggested observing the patient's fluid intake and two nurses (0.6%) mentioned the use of a continence chart to monitor episodes of incontinence. Ten nurses (2.8%) considered urodynamic investigation would be appropriate and one nurse identified the need to carry out a urinalysis. One nurse mentioned a physical examination of the patient.

Of the 27 respondents (7.1%) who gave drug therapy as a possible intervention, three ENs suggested the use of diuretics; one SN and one EN the use of anticholinergic drugs (emepronium bromide and imipramine respectively), and analgesia and a muscle relaxant were answers given by a SN and NL respectively.

One CN and one SN answered that the patient should reduce fluid intake, and two ENs stated that the use of bladder washouts would be appropriate. Responses categorised as "voiding techniques" contained answers which identified techniques which aimed to stimulate micturition such as "running water taps", "walking", "hot baths", "manual decompression of the bladder" or "crede manoeuvre." Twenty two nurses (6.2%) gave such answers.

Account three

A patient has a strong desire to void and needs the toilet frequently but is usually incontinent before reaching it.

Table 58

ACCOUNT TWO : Suggested interventions : Combined responses (n=364 respondents)*

Category of response	Responses n	(%)**
Indwelling catheter	179	(49.2)
Residual catheter	99	(27.2)
Surgical intervention	97	(26.6)
Bowel check/aperients	46	(12.6)
Fixed-interval toileting	44	(12.5)
Drug therapy	27	(7.4)
Voiding techniques	22	(6.0)
Monitor fluid intake	18	(4.9)
Incontinence aids	18	(4.9)
Intermittent catheterisation	11	(3.0)
Urodynamic investigation	10	(2.7)
Psychological support	5	(1.4)
Training regimens	5	(1.4)
Other†	33	(9.1)
Total	614	

* 29 missing values

** Expressed as a percentage of the respondents

Other†

Encourage fluid intake (3), Treat cause (3), Continence chart (2), Palpate bladder (2), Reduce fluid intake (2), Find cause (2), Voiding techniques (2), Bladder washout (2), Medical referral (2), Physical examination (1), "Relieve stress and nervousness" (1), Reducing diet (1), Pelvic floor exercises (1), Increase mobility (1), Urinalysis (1), Empty bladder (1), Teach exercises (1), Patient education (1), Ensure patient can communicate need (1), Phenol injection (1), Medical treatment (1), Environmental adjustment (1).

Mean number of interventions identified 1.8 (range 1-5).

Table 59

ACCOUNT TWO: Suggested interventions; Categorized by grade of nurse

Category of response	CN n=56		SN n=104		FN n=99		NL n=105	
	n	(%)	n	(%)	n	(%)	n	(%)
Indwelling catheter	27	(48.2)	53	(51.0)	55	(55.6)	44	(41.9)
Residual catheterisation	16	(28.6)	30	(28.8)	33	(33.3)	20	(19.0)
Surgical intervention	16	(28.6)	33	(31.7)	22	(22.2)	26	(24.8)
Fixed-interval toileting	8	(14.3)	11	(10.6)	10	(10.1)	15	(14.3)
Intermittent catheterisation	7	(12.5)	-		2	(2.0)	2	(1.9)
Monitor fluid intake	4	(7.1)	4	(3.8)	3	(3.0)	7	(6.7)
Urodynamic investigation	4	(7.1)	2	(1.9)	2	(2.0)	2	(1.9)
Drug therapy	4	(7.1)	1	(1.0)	10	(10.1)	1	(1.0)
Bowel check aperients	2	(3.6)	21	(20.2)	11	(11.1)	12	(11.4)
Antibiotic therapy	-		10	(9.6)	-		1	(1.0)
Voiding techniques	2	(3.6)	7	(6.7)	2	(2.0)	11	(10.5)
Incontinence aids	-		5	(4.8)	7	(7.1)	6	(5.7)
Psychological support	-		4	(3.8)	1	(1.0)	-	
Other*	7	(12.5)	13	(12.5)	13	(13.1)	5	(4.8)
Total	97		194		171		152	

*Appendix 47

Possible causes of urine loss

Table 60 presents the results when nurses were asked to identify the causes of urine loss described in the third account. Table 61 presents the results categorised by grade of nurse.

Forty nurses (eight CNs, five SNs, 20 ENs, 7 NLs) failed to answer the question, all of whom stated they did not know what the possible causes of the urine loss could be. Of those who responded, the mean number of causes identified was 1.6 (range 1-5).

Almost two thirds (63.5%) of the respondents identified a urinary tract infection as a possible cause for the urine loss described. This was the most common response given by nurses of all grades (Table 60). The next most frequent category of responses given by 55 (16.1%) nurses, was stated as a symptom either as urgency incontinence or frequency. Seventeen nurses, (5.0%), (six CNs; four SNs; three ENs; four NLs) replied that detrusor instability or an unstable bladder was a possible cause of the urine loss.

Fifty four nurses (15.8%) identified impaired mobility and 23 (6.7%) identified environmental constraints (most commonly the inability to locate the toilet) as possible causal factors for the incontinence described.

The category "non-specific causes" mentioned by 27 (7.9%) nurses contained answers similar to those given in the first and second accounts. Five nurses (one SN, four ENs) identified laziness and three (one SN, two ENs) "ageing" as possible causal factors.

Suggested interventions

Fifty three nurses did not answer the question, of which 52 (12 CNs, seven SNs, 24 ENs, nine NLs) stated they did not know what might help a patient experiencing the urine loss described in the third account. Of

Table 60**ACCOUNT THREE : Possible causes : Combined responses (n=342)***

Category of response	Responses n	(%)**
Urinary tract infection	217	(63.5)
Urge incontinence/ frequency	55	(16.1)
Impaired mobility	54	(15.8)
Non-specific causes	27	(7.9)
Environmental factors	23	(6.7)
Prostate problems	15	(4.4)
Neurological impairment	23	(6.7)
Stress incontinence	20	(5.8)
Diuretic therapy	18	(5.8)
Detrusor instability/ unstable bladder	17	(5.0)
"Stress"	8	(2.4)
Mental impairment	6	(1.8)
Laziness	5	(1.5)
Retention of urine	5	(1.5)
Pelvic tumour	5	(1.5)
Other†	33	(9.7)
Total	532	

* 40 missing values

** Expressed as a percentage of the respondents

Other†

"Ageing" (4), Lack of staff (3), Not emptying bladder completely (3), Polyuria (3), Diabetes (3), Dehydration (2), "Waiting too long before voiding" (2), Gynaecological problems (2), Faecal impaction (2), Bladder stones (1), Physical disabilities (1), Venereal disease (1), Small bladder capacity (1), Bladder distension (1), Anxiety (1), Dribbling incontinence (1), Pregnancy (1), "Bladder is full before feeling the urge to go"(1).

Mean number of causes identified 1.6 (range 1-5).

Table 61

ACCOUNT THREE

Possible causes of incontinence; categorised by grade of nurse

Category of response	CN n=48 n (%)	SN n=105 n (%)	EN n=89 n (%)	NL n=100 n (%)
Urinary tract infection	32 (79.2)	80 (76.2)	62 (69.7)	43 (43.0)
Urge incontinence/frequency	5 (10.4)	5 (4.8)	7 (7.9)	38 (15.0)
Impaired mobility	9 (18.9)	19 (18.1)	11 (12.4)	15 (15.0)
'Non-specific causes	-	8 (7.6)	13 (14.6)	6 (6.0)
Environmental factors	6 (12.5)	14 (13.3)	3 (3.4)	-
Prostate problems	-	11 (10.5)	3 (3.4)	1 (1.0)
Neurological impairment	3 (6.3)	6 (5.7)	4 (4.5)	10 (10.0)
'Stress' incontinence	1 (2.1)	2 (1.9)	5 (5.6)	2 (2.0)
Diuretic therapy	10 (20.8)	2 (1.9)	-	6 (6.0)
Detrusor instability/unstable bladder	6 (12.5)	4 (3.8)	3 (3.4)	4 (4.0)
'Stress'/anxiety	1 (2.1)	2 (1.9)	5 (5.6)	2 (2.0)
Pelvic tumour	-	4 (3.8)	-	1 (1.0)
Other*	8 (16.7)	13 (12.4)	20 (22.5)	6 (6.0)
TOTAL	85	171	138	138

*Appendix 48

those who responded, the mean number of interventions identified was 1.8 (range 1-5).

Of those nurses who responded, over half (56.2%) suggested carrying out a urinalysis or urine culture or antibiotic drug therapy (Table 62). This was the most frequently recorded intervention for all grades of nurse respondents (Table 63). Almost a third of the nurses (32.2%) suggested "two-hourly" or "regular" toileting, categorised as fixed-interval toileting in Table 62. Nine nurses (three CNs, two SNs, two ENs, two NLs) specifically mentioned the implementation of a bladder training regimen.

The adjustment of environmental factors (most frequently identified as ensuring the close proximity of a toilet receptacle) were answers given by almost a third (31.3%) of the respondents.

Twenty three nurses (7.0%) (seven CNs, five SNs, eight ENs, three NLs) suggested drug therapy; four nurses identified the use of specific anti-cholinergic drugs (imipramine (2), oxybutinin (1), propantheline (1)).

With the exception of carrying out a urinalysis, mentioned above, few nurses identified factors which would have contributed towards an assessment of the problem. Four CNs and seven NLs suggested monitoring the episodes of incontinence and two SNs considered observing the patient's fluid intake. Two nurses (one CN, one SN) replied that a physical examination was appropriate and two nurses (one SN and one EN) suggested passing a residual catheter. Urodynamic investigation was an answer given by one SN and EN, and one SN suggested an intravenous pyelogram. None of the respondents indicated a need for a rectal examination to check for constipation or faecal impaction. Fifteen nurses (4.5%) (three SNs, five ENs and seven NLs) stated the need to provide psychological support for the patient.

Table 62**ACCOUNT THREE : Possible interventions : Responses combined (Respondents n=329)***

Category of responses	Responses n=	(%)**
Urinalysis	186	(56.5)
Fixed-interval toileting	106	(32.2)
Environmental adaptations	103	(31.3)
Increase oral fluid intake	46	(14.0)
Incontinence aids	38	(11.6)
Drug therapy	23	(7.0)
Mobility aids	15	(4.6)
Psychological support	15	(4.6)
Chart episodes of Incontinence	11	(3.3)
Surgical intervention	10	(3.0)
Training regimens	9	(2.7)
Physiotherapy/pelvic floor exercises	8	(2.4)
Indwelling catheter	8	(3.3)
Residual catheter	7	(2.1)
Personal hygiene	7	(2.1)
Other†	32	(13.1)
Total	624	

* 53 missing values

** Expressed as a percentage of the respondents

Other†

Specialist referrals (6), Treat constipation (4), Revise drug therapy (3), Behavioural therapy (3), Physical examination (2), Poor bladder control (2), Urodynamic studies (2), Crede manoeuvre (1), Monitor fluid intake (2), Intravenous pyelogram (1), Medical treatment (1), Inform staff about patient's need to micturate (1), Find cause and treat (1), Increase nursing staff (1), Bladder washout (1), Intermittent catheterisation (1).

Mean number of interventions identified 1.8 (range 1-5)

Table 63

ACCOUNT THREE : Suggested Intervention; categorised by grade of nurse

Category of response	CN n=44		SN n=102		EN n=85		NL n=98	
	n	(%)	n	(%)	n	(%)	n	(%)
Urinalysis/treat infection	22	(50.0)	77	(75.5)	48	(56.5)	39	(40.6)
Fixed-interval toileting	11	(25.0)	30	(29.4)	28	(32.9)	37	(37.8)
Environmental adaptations	14	(31.8)	37	(36.3)	15	(17.6)	37	(37.8)
Increase oral fluid intake	7	(15.9)	20	(19.6)	12	(14.1)	7	(7.1)
Incontinence aids	8	(18.2)	10	(9.8)	11	(12.9)	9	(9.2)
Drug therapy	7	(15.9)	5	(4.9)	8	(9.4)	3	(3.1)
Mobility aids	5	(11.4)	7	(6.9)	1	(1.2)	2	(2.0)
Psychological support	-		3	(2.9)	5	(5.9)	7	(7.1)
Chart episodes of incontinence	4	(9.1)	-		-		-	
Physiotherapy/pelvic floor exercises	1	(2.3)	4	(3.9)	1	(1.2)	2	(2.0)
Residual catheter	3	(6.8)	2	(2.0)	2	(2.4)	-	
Training regimen	3	(6.8)	2	(2.0)	-		2	(2.0)
Surgical intervention	-		6	(5.9)	3	(3.5)	1	(1.0)
Personal Hygiene	1	(2.3)	4	(3.9)	-		2	(2.0)
Other*	11	(25.0)	12	(11.8)	12	(14.1)	7	(7.1)
Total	97		219		146		162	

*Appendix 49

6.5.4.6 Written guidelines for the assessment/management of incontinence

The CNs were asked whether written guidelines were used on the wards to assist in the assessment and management of incontinence. Eight CNs (14.3%) stated that written guidelines were used to aid in the assessment of incontinence. This represented 20% of the 40 wards included in the study. When asked of what these guidelines consisted, six CNs answered that they used a checklist which had been developed by the local continence adviser and two stated they referred to information in the nursing journals.

Five CNs (8.9%) stated that they used written guidelines on their wards to help in the management of incontinence. This represented 12.5% of the 40 wards included in the study. When asked about the format of these guidelines, all five CNs stated that they obtained such information from the nursing journals.

6.5.5 Nurses' attitudes towards urinary incontinence

Three hundred and seventy nine nurses (99.2%) (56 CNs, 109 SNs, 109 ENs, and 105 NLs) completed the scale which was designed to assess whether nurses' attitudes to incontinence were either predominantly therapeutic or rehabilitative in nature or, conversely, non-therapeutic or palliative.

The results were analysed in two ways. First, each item in the scale was analysed separately and an individual score for each of the 16 items was obtained. The items were subsequently analysed for internal consistency reliability and an overall scale score was obtained which represented a summation of all the scores for the individual items. Results are thus presented as individual item-by-item scores and as an overall scale score.

6.5.5.1 Item-by-item analysis

The frequency distribution of the individual item scores, for all nurse responses combined, is shown in Table 64 and, by grade of nurse, in Appendices 50, 51, 52 and 53. The responses were scored 5,4,3,2,1 or 1,2,3,4,5 depending on whether the statement reflected a favourable or an unfavourable response respectively; the higher the score denoting the more favourable attitudes. The mean scores for the 16 individual items in the scale, for all respondents combined, is shown in Table 65 and, by grade of nurse, in Table 66. The mean item scores, when nurses of all grades were combined, ranged from 3.3 (item 8; see Table 65) to 4.5 (items 7 and 10; see Table 65).

Subsequent discussion of the results of individual items is restricted to those where 10% or more respondents differed from the majority of the group. Ten percent was chosen arbitrarily as a cut off point to indicate those areas deserving closer attention.

While 66% of respondents disagreed with the statement "the nurses' primary role caring for patients with incontinence should be concerned with supplying appropriate aids" (item 1), 81 nurses (21.4%) agreed with this assertion (Table 64). Twenty eight percent of respondents agreed that "two-hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly" (item 8). While 52.5% of respondents disagreed that "during the early phase of stroke rehabilitation bladder problems are best dealt with by a catheter" (item 3), almost a quarter, of nurses (92; 24.3%), agreed with this statement. Sixty one (16.1%) respondents agreed with the statement "patients are often incontinent due to laziness" (item 9) and 42 (11.1%) thought that "incontinence is an inevitable part of the ageing process" (item 12). Although 63% disagreed that "incontinence is usually more distressing for a young person than for someone who is elderly" (item 16), more than a quarter of nurses (106; 28.0%) agreed with this statement.

Table 64

Item by item analysis; Frequency distribution

(all nurses' responses combined n=379)

Item*	Scores				
	1	2	3	4	5
1. Nurse's role	14	67	48	192	58
2. Nursing problem	1	6	12	246	114
3. Stroke/indwelling catheter	12	80	88	148	51
4. Multidisciplinary approach	3	10	52	206	108
5. Surgery/drugs	0	3	13	193	170
6. Rehabilitation	2	2	17	212	146
7. Investigation	1	5	5	166	202
8. Toileting/aids	13	94	86	146	40
9. Laziness	6	55	68	172	78
10. Understanding	2	3	0	146	228
11. Longstanding problem	4	26	49	235	65
12. Ageing	3	39	36	206	95
13. Continence Adviser	7	25	65	234	48
14. Elderly/goal	2	11	53	248	65
15. Demoralising	6	17	16	218	122
16. Young/elderly	22	84	35	163	75

* Item abbreviations presented in full in Table 67.

Table 65

Mean scores for individual items on attitude scale: All responses combined (n=379)

<u>Item*</u>	<u>Mean score</u>	<u>S.D.</u>
1. Nurse's role	3.5	1.1
2. Nursing problem	4.2	0.7
3. Stroke/indwelling catheter	3.4	1.1
4. Multidisciplinary approach	4.1	0.8
5. Surgery/drugs	4.4	0.7
6. Rehabilitation	4.3	0.7
7. Investigation	4.5	0.7
8. Toileting/aids	3.3	1.1
9. Laziness	3.7	1.1
10. Understanding	4.5	0.7
11. Longstanding problem	3.8	0.9
12. Ageing	3.9	1.0
13. Contenance Adviser	3.7	0.9
14. Elderly/goal	3.9	0.8
15. Demoralising	4.1	0.9
16. Young/elderly	3.5	1.2

*Item abbreviations presented in full in Table 67.

Table 66

Mean scores for individual items on attitude scale by grade of nurse respondent

Item*	Grade of Nurse							
	CN (n=56)		SN (n=109)		EN (n=109)		NL (n=105)	
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD
1. Nurse's role	3.9	1.1	3.6	1.0	3.2	1.2	3.7	1.1
2. Nursing problem	4.3	0.6	4.3	0.6	4.1	0.6	4.2	0.7
3. Stroke/indwelling catheter	3.8	1.1	3.4	1.1	3.0	1.1	3.6	0.9
4. Multidisciplinary approach	4.0	1.1	4.1	0.6	3.9	0.8	4.3	0.7
5. Surgery/drugs	4.4	1.1	4.5	0.6	4.3	0.6	4.4	0.6
6. Rehabilitation	4.4	1.1	4.4	0.5	4.1	0.8	4.4	0.6
7. Investigation	4.5	1.1	4.5	0.6	4.3	0.7	4.6	0.5
8. Toileting/aids	3.5	1.1	3.5	1.1	2.8	1.1	3.4	0.9
9. Laziness	3.8	1.1	3.7	1.0	3.6	1.1	3.8	0.9
10. Understanding	4.5	1.1	4.6	0.6	4.5	0.5	4.6	0.6
11. Longstanding problem	4.2	0.5	4.0	0.7	3.6	0.9	3.9	0.8
12. Ageing	4.1	0.9	4.0	0.9	3.8	1.0	3.9	0.8
13. Continence Adviser	3.9	0.9	3.0	0.7	3.7	0.9	3.7	0.7
14. Elderly/goal	4.2	0.6	4.0	0.7	3.8	0.7	4.1	0.7
15. Demoralising	4.4	0.5	4.1	0.9	4.2	1.0	4.1	0.7
16. Young/elderly	3.9	1.1	3.6	1.1	3.2	1.3	3.4	1.1

*Item abbreviations presented in full in Table 67.

6.5.5.2 Incontinence attitude scale; Internal consistency reliability

Before responses are presented as overall scores (by combining the scores of the individual items), the internal consistency of the scale, and thus its reliability, is described.

Items were first removed from the scale when disagreement/agreement responses were obtained from less than 2% of the respondents (i.e. if the item showed too little variance). This resulted in items 5,6,7 and 10 being discarded (Table 67) and left 12 items in the scale. For the shorter 12-item scale, the reliability coefficient alpha (Cronbach 1951) was calculated and the item to scale correlations were computed (Appendix 54). Alpha = 0.78 and none of the item to scale correlations were less than 0.2. Within the literature, there is no consensus of opinion on the minimal acceptable level of alpha; however, Bond (1974) stated that any value over 0.5 would be acceptable to most researchers when assessing the reliability of survey tools. For the purposes of the current research, the attitude scale showed an acceptable level of internal consistency reliability, thus it was considered appropriate to combine the 12 individual item scores to produce one overall attitude score. The presentation of results will subsequently refer to combined overall scale scores for these 12 items.

6.5.5.3. Variables associated with attitudes to incontinence

When the responses from the 12 items in the scale were combined, the maximum overall score which could be obtained was 60 and the minimum score was 12. The 379 nurses who completed the scale showed a mean combined score of 45.4 (S.D. = 5.2; range 26-60). Thus, on average, nurses' responses tended to agree with items which indicated favourable, rehabilitative/therapeutic attitudes to incontinence and disagree with items which indicated unfavourable, palliative attitudes towards the problem.

Table 67

Scale to measure nurses' attitudes towards aspects of urinary incontinence

Items

1. The nurse's primary role caring for patients with incontinence should be concerned with supplying appropriate aids.
2. Incontinence is really only a nursing problem.
3. During the early phase of stroke rehabilitation, bladder problems are best dealt with by a catheter.
4. The assessment and management of incontinence is most suited to a multidisciplinary team approach.
5. The only effective ways to achieve continence are surgery and drug therapy.
6. Rehabilitation is the task of the physio and OT and should not be an additional workload for the nursing staff.
7. Incontinence should always be investigated.
8. Two-hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly.
9. Patients are often incontinent due to laziness.
10. It is important for all nurses to have a good understanding about the causes of incontinence.
11. Elderly people with longstanding incontinence problems do not usually require investigation.
12. Incontinence is an inevitable consequence of the ageing process.
13. Continence promotion is a specialised skill and should be left to people such as a continence adviser.
14. Continence is a realistic goal for many incontinent elderly people.
15. I find it demoralising looking after incontinent patients because there is little I can do to help.
16. Incontinence is usually more distressing for a young person than for someone who is elderly.

Grade of respondent

The mean combined scores for the four grades of nurses are shown in Table 68. CNs showed the highest mean score (47.8) while the mean scores obtained by SNs (46.1) and NLs (45.9) were similar. The mean score obtained by ENs (42.9) suggested they had less favourable attitudes to incontinence when compared with the other grades of nurses (Table 68). Analysis of variance (Kruskal-Wallis) showed the differences between the mean scores obtained by the four grades of nurses were statistically significant ($p < 0.001$) (Table 68). Paired comparisons between grades of nurses using the Mann-Whitney U test showed that the CNs had significantly higher attitude scores than the SNs ($u = 2262.5$, $p < 0.04$), the ENs ($u = 1531.0$, $p = 0.0000$) and the NLs ($u = 2076.5$, $p < 0.01$). There were no significant differences between the scores obtained by the SNs and the NLs ($u = 5400.0$, $p < 0.63$) but the ENs had significantly lower attitude scores than either the SNs ($u = 3781.5$, $p = 0.0000$) or the NLs ($u = 3747.5$, $p = 0.0000$).

Age of respondent

Comparisons between age and attitude scores were made by grade of nurse using Kruskal-Wallis one-way analysis of variance (Table 69). No significant differences were shown for the SNs ($p < 0.25$), ENs ($p < 0.08$) and the NLs ($p < 0.61$) (Table 69). A significant difference between age and attitude score was observed in the CN group ($\chi^2 = 12.08$, $p < 0.02$) (Table 69). CNs who were 30 years or younger showed higher mean scores (less than 25 years 50.5, 25-30 years 51.4) than older CNs (Table 69). Within group comparisons are shown in Appendix 55.

Length of nursing experience/training

Comparisons were made between length of nursing experience or, in the case of the NLs, length of training, and the mean attitude scores obtained. There was no significant association between NLs' length of training and attitude scores (Table 70).

Table 68

Mean combined scores for items* on attitude scale

<u>Grade of nurse</u>	<u>n=</u>	<u>\bar{x}</u>	<u>S.D.</u>	<u>Range+</u>
Charge nurses	56	47.8	5.6	33-60
Staff nurses	109	46.1	4.6	32-56
Enrolled nurses	109	42.9	5.7	26-57
Nurse learners	105	45.9	3.9	38-59

* Additive scores for 12 items (4 items deleted with < 2% variance)

+ minimum score = 12

maximum score = 60

Kruskal-Wallis one-way Anova $X^2 = 33.84$ $p < 0.001$

Table 69**Relationship between age and attitudes to incontinence**

Age	n=	\bar{x}	CNs (n=53)		K-W	P Value
			S.D.	Range		
Less than 25 years	4	50.5	1.3	49-52	} $\chi^2=12.08$	0.017
25 - 30 years	14	51.4	4.5	46-60		
31 - 35 years	5	46.2	3.4	41-50		
36 - 45 years	17	44.7	7.8	21-55		
over 45 years	13	46.1	7.4	37-59		

Age	n=	\bar{x}	SNs (n=107)		K-W	P Value
			S.D.	Range		
20-24 years	53	45.6	1.4	32-55	} $\chi^2=5.43$	0.245*
25-30 years	28	47.9	4.3	39-56		
31-35 years	10	45.4	4.2	40-53		
36-45 years	10	44.5	6.4	35-56		
Over 45 years	6	47.0	4.8	43-56		

not significant

Age	n=	\bar{x}	ENs (n=109)		K-W	P Value
			S.D.	Range		
20-24 years	23	43.0	5.3	38-55	} $\chi^2=8.10$	0.08*
25-30 years	23	43.7	4.9	33-54		
31-35 years	13	43.7	5.3	37-52		
36-45 years	26	42.6	6.2	32-57		
Over 45 years	23	40.0	5.5	26-48		

*not significant

Age	n=	\bar{x}	NLs (n=105)		K-W	P Value
			Range			
17-19 years	32	44.6	41-57	} $\chi^2=2.76$	0.596*	
20-21 years	54	44.7	38-59			
22-23 years	7	46.4	42-54			
24-26 years	3	47.0	45-51			
Over 26 years	9	47.4	42-54			

*Not significant

K-W = Kruskal-Wallis ANOVA

Table 70

Relationship between length of NLS' training and attitudes to incontinence

Nurse Learners (n=105)					
<u>Length of Training</u>	<u>n</u>	<u>\bar{x}</u>	<u>Range</u>	<u>K-W*</u>	<u>p value</u>
9-12 months	33	46.2	41-57		
13 months - 2 years	22	46.1	42-55	0.402	0.819 n.s.*
> 2 years	50	46.3	41-54		

**Kruskal-Wallis one-way analysis of variance (corrected for ties)
n.s. not significant

The qualified staff (CNs, SNs and ENs) were categorised into three groups, those with less than five years, between five and 10 years and more than 10 years nursing experience. Qualified nurses with more than 10 years nursing experience showed a small, but statistically significant, lower mean attitude score than those with less nursing experience ($p < 0.0003$) (Table 71).

Paired comparisons between length of nursing experience and individual grade of qualified nurses were subsequently made (Table 72). CNs, SNs and ENs with 10 or more years nursing experience showed lower mean scores than those with less nursing experience. These differences were statistically significant in the case of the CNs ($p < 0.03$) and ENs ($p < 0.004$) but not for the SNs ($p < 0.12$).

Type of ward

The attitude scores obtained from respondents working on the four types of ward specialties were compared and are shown in Table 73. The mean scores obtained from nurses working in acute medical (45.8), acute HCE (46.5) and acute/rehabilitation HCE wards (46.0) were comparable. The mean score (39.4) obtained from respondents working in slow-stream rehabilitation HCE wards was lower, which suggested that the nurses in these wards exhibited less favourable attitudes towards the problem than those who worked on the other three types of wards. Differences between the mean scores obtained by nurses in the four types of wards were statistically significant ($p = 0.0000$) (Table 73). Paired comparisons between wards showed the mean attitude scores obtained from nurses working in the slow-stream rehabilitation wards differed significantly from those obtained from nurses in the acute medical ($u = 801.0$, $p = 0.0000$), acute HCE ($u = 465.5$, $p = 0.0000$) and the acute/rehabilitation HCE wards ($u = 394.5$, $p = 0.0000$) (Appendix 56). No significant differences were shown between the attitude scores obtained from nurses working in the other three types of wards.

Paired comparisons between the type of ward and mean attitude scores obtained by the CNs and ENs were made. Comparisons were not made in the

Table 71

Relationship between length of nursing experience and attitudes to incontinence

Qualified Nurses (n=269)						
Length of nursing experience	n =	\bar{x}	SD	Range	K-W	P value
< 5 years	129	46.1	5.0	32-56		
> 5-10 years	48	46.1	5.8	35-60	$\chi^2 = 16.572$	0.0003
> 10 years	92	44.7	5.1	26-59		

*K-W Kruskal-Wallis ANOVA (corrected for ties).

Table 72**Relationship between length of nursing experience and attitudes to incontinence**

Length of nursing experience	<u>CNs</u> (n=53)				K-W	P value
	n	\bar{x}	SD	Range		
< 5 years	9	47.7	6.0	35-55	} $\chi^2 = 7.0135$	0.0300
> 5-10 years	13	50.8	5.6	39-60		
> 10 years	31	46.6	5.3	37-59		

Length of nursing experience	<u>SNs</u> (n=107)				K-W	P value
	n	\bar{x}	SD	Range		
< 5 years	81	46.4	4.6	32-56	} $\chi^2 = 4.472$	0.1069*
> 5-10 years	13	46.3	5.0	35-54		
> 10 years	13	44.3	4.3	40-56		

Length of nursing experience	<u>ENs</u> (n=109)				K-W	P value
	n	\bar{x}	SD	Range		
< 5 years	39	45.2	5.5	33-55	} $\chi^2 = 10.936$	0.0042
> 5-10 years	22	43.2	4.5	36-52		
> 10 years	48	41.0	5.7	26-57		

K-W Kruskal-Wallis ANOVA (corrected for ties)

* N.S.

Table 73

Mean combined scores for items on attitude scale* by type of ward

Type of ward	n	\bar{x} score	S D	Range †	
Acute Medical	151	45.8	4.5	35-59	
HCE {	Acute	102	46.5	5.1	32-60
	Acute/Rehabilitation	68	46.0	5.6	35-59
	Slow-stream	31	39.4	5.1	24-48
	Rehabilitation				

27 NLs in classroom situation omitted from analysis.

* Additive scores for 12 items

4 items deleted with <2% variance

† Minimum score = 12

Maximum score = 60

Kruskal-Wallis one-way Anova $X^2 = 36.12$ $p = 0.0000$

case of SNs as only one worked on the slow-stream rehabilitation HCE wards at the time of the study. Statistically significant differences in attitude scores were obtained by both the CN ($p < 0.004$) and the EN ($p < 0.003$) groups working in the slow-stream rehabilitation HCE wards when compared with those obtained by CNs and ENs working in the other three types of wards (Appendices 57 and 58).

Day and night nursing staff

Comparisons were made between mean attitude scores obtained from the day staff with those of the night staff. Nurses who worked during the day showed significantly more favourable attitudes towards incontinence (45.9) than nurses who worked at night (43.6) ($u = 6247.4$, $p < 0.004$) (Table 74).

Relevant basic and continuing education

Comparisons between the attitude scores and responses to questions on aspects of training and continuing education were made (Table 75).

Teaching during basic training

No significant differences were found between the attitude scores of nurses who had received teaching about continence promotion and management of incontinence during their basic training and those who had not ($p < 0.7$).

Care of the elderly post-basic courses

Trained nurses (24 in number) who had undertaken a post-basic care of the elderly course (E.N.B. 298/940) showed significantly higher mean attitude scores (49.6) than those nurses who had not (44.5) ($p < 0.0001$).

Table 74

Comparison between mean combined attitude scores for the day and night nursing staff

<u>Qualified Nurses</u>	<u>n</u>	<u>\bar{x}</u>	<u>S D</u>	<u>Range†</u>
Day Staff	188	45.9	5.6	32-60
Night Staff	88	43.6	5.4	26-56

Mann-Whitney U corrected for ties U = 6247.4 p<0.004

*Additive scores for 12 items

4 items with < 2% variance deleted

† Minimum score = 12

Maximum score = 60

Table 75Relationship between aspects of basic and continuing education and attitudes to incontinence

<u>Training/ Continuing Education</u>		<u>n</u>	<u>\bar{x}</u>	<u>SD</u>	<u>Range</u>	<u>Mann- Whitney</u>	<u>P value</u>
Related classroom Teaching*	Yes	302	45.6	4.9	38-60	U=3902.0	0.711 n.s.
	No	27	45.0	7.4	26-50		
ENB 298/940 Care of the Elderly Courses	Yes	24	49.6	6.6	32-60	U=1516.0	0.0001
	No	248	44.5	6.8	21-59		
Related In-Service Training	Yes	44	47.2	7.0	33-60	U=3701.5	0.02
	No	230	44.8	5.2	26-59		
Conferences/ Study Days	Yes	48	46.1	6.6	32-60	U=4704.0	0.219 n.s.
	No	221	45.0	5.4	26-59		
Ward-Based** Teaching	Yes	43	46.1	4.1	38-57	U=1256.5	0.715 n.s.
	No	61	46.0	3.9	39-59		

* Includes NLs

** NLs only

n.s. not significant

Related in-service training

Trained nurses who received in-service training related to incontinence also showed significantly higher mean scores (47.2) than those who had not (44.8) but the difference was less marked than for nurses who had undertaken post-basic care of the elderly courses ($p < 0.02$) (Table 75).

Ward-based teaching

No differences in the mean scores were found between NLs who had received ward-based teaching related to incontinence (46.1) and those who had not (46.0) ($p < 0.72$).

Conferences/study days

Nurses who had attended at least one conference or study day related to incontinence had a slightly higher mean score (46.1) than those who had not (45.0) but these differences were not statistically significant ($p < 0.22$).

6.5.6 Definition of urinary incontinence

At the end of the questionnaire, nurses were asked to define, in their own words, the term "urinary incontinence". Responses were content analysed and coded. Responses tended to fall into six broad categories (Table 76). Three hundred and forty nurses (89.0%) answered the question; the majority (88.8%) wrote one answer, 37 respondents gave two, and one NL gave three responses. Four CNs, 12 SNs, 23 ENs and 3 NLs did not answer the question.

The most common answer given by nurses, irrespective of grade, was a broad, generalised definition stated as "loss of urine", "urine loss" or "lack of urinary (or bladder) control" (Table 76). This type of response was given by 23 CNs, 42 SNs, 46 ENs and 67 NLs, and accounted for 51.2% of the total number of answers given. The next most common category of responses defined incontinence in terms of urine voided in the wrong

Table 76**Definition of urinary incontinence**

Category of Response	CNs n=52		SNs n=98		ENs n=86		NLs n=104	
	n	(%)	n	(%)	n	(%)	n	(%)
Loss of urine in general	23	(44.2)	42	(42.8)	46	(53.5)	67	(64.4)
Urine loss at wrong time and/or place	14	(26.9)	35	(35.7)	11	(12.8)	26	(25.0)
Lack of awareness of need to void	8	(15.4)	4	(4.1)	6	(7.0)	12	(11.5)
Loss of urine due to a specific cause	3	(5.8)	10	(10.2)	16	(18.6)	2	(1.9)
Loss of urine regardless of amount	8	(15.4)	10	(10.2)	1	(1.1)	5	(4.8)
Social/psychological implications	1	(1.9)	3	(3.1)	6	(7.0)	1	(1.0)
Other*	-		8	(8.2)	7	(8.1)	4	(3.8)

OTHER:*

Complete lack of control (5), Breakdown of skills required for toileting (4), "Any loss of urine which is not just a "one off" occurrence" (1), Urine loss once or more a month (4), "Incontinence is urgency and lack of warning" (1), "Intricate disorder in which physical, psychological, social and economic disorders all play a part either directly or indirectly" (1), "Urinary incontinence is inability to keep dry during normal pursuits" (1), "Person who is unable to control passing urine and needs to seek or be given help by trained people" (1), "Inability of person to micturate independently" (1).

place and/or at the wrong time (Table 76), and accounted for 25.3% of the total number of responses. Fourteen CNs, 35 SNs, 11 ENs and 26 NLs gave such replies.

Other categories of responses defined incontinence in terms of the result of a specific cause (eg. "due to illness" or "loss of control of sphincter") (9.1%), as the individual's lack of awareness of the need to pass urine (8.8%), and urine loss irrespective of the quantity of leakage (7.1%). A small number of responses (11 in total) defined incontinence in terms of its social and/or psychological consequences (eg. "loss of urine sufficient to cause social or psychological problems). The other responses given are shown in Table 76.

6.6 DISCUSSION

A discussion of the main findings follows. The discussion is organised corresponding to the order of the results presented in section 6.5.

6.6.1 Limitations of the method

The wards in the five hospitals, from which the nurses in the sample were selected, were not considered atypical of acute medical and HCE wards in hospitals elsewhere. Nevertheless, no claims can be made as to how representative these wards were in comparison with similar types of wards in other health authorities in the U.K. Although all the nurses known to be working in acute medical and HCE wards in hospitals within one health authority were initially asked to participate in the study, this was a sample of convenience, thus the representativeness of the sample was unknown. However, the size of the sample was thought to be sufficiently large to include qualified and learner nurses who might be considered typical of other nurses working in similar clinical areas elsewhere. It could be argued that as respondents volunteered to participate, the results may be biased towards the more knowledgeable, or the more motivated groups of nurses in the sample. Caution is therefore required when interpreting the results, particularly in the case of the SNs and

the ENs, where the response rates obtained (65.6% and 66.1% respectively) were lower than for the CNs (83.6%) and NLs (74.8%).

Care should also be taken when interpreting results which depended upon the respondent's ability for accurate recall. Questions about specific aspects of basic training were likely to have posed difficulties for those nurses with many years nursing experience. Also, the education nurses remembered receiving may not necessarily have accurately reflected the education actually given.

Finally, the limitations imposed by the use of self-report techniques to measure attitudes have already been discussed in the methods section (6.4) of this chapter, and will not, therefore, be addressed again here. As previously mentioned, some effect of "social desirability" may have occurred and thus could have biased the results obtained.

Bearing in mind the limitations outlined above, a discussion of the main findings follows.

6.6.2 Response rate

The overall response rate (70.4%) appears favourable for a questionnaire of this nature. Although Heberlein and Baumgartner (1978) claimed increases in response rates in the region of 20% after the first follow-up questionnaire, it was interesting to note in the present study that only a small proportion of the initial non-responders (9.0%) returned their questionnaire.

The recruitment of NLs in the classroom situation, in the school of nursing, produced the highest level of response (100%) and indicates the success of a method of approach which employs a "captive audience". The next highest response rate was obtained in the slow-stream rehabilitation HCE wards (91.2%) where the majority of nurses were ENs (24; 77.4%). In comparison with the other types of wards used in the study, nurses in these wards appeared to be less frequently involved in research, and, as a consequence, were rarely approached to complete questionnaires. Nurses

in the slow-stream rehabilitation wards could, therefore, have been more motivated to participate in the present study.

6.6.3 Nurses' education about incontinence

The English National Board (ENB) syllabus guidelines for general nursing courses leading to the registration in part one of the professional register (ENB 1985 (19 ERDB) recognises that the promotion of continence and the management of incontinence is an essential nursing skill which should be included as part of nurses' basic education.

If nurses are to help incontinent patients, they need a thorough knowledge of the normal functioning of the bladder and the ways in which it may become disordered. It is only through understanding the mechanisms which maintain normal bladder function, and how these might be affected by disease, injury, therapy or psycho-social factors, that nurses will be able to provide informed, therapeutic nursing care. If nurses are to be involved with teaching about preventive care, and about management strategies such as pelvic floor exercises and bladder training, they need to ensure that the patients themselves have an adequate understanding of how the bladder functions. Equally, an awareness of normal as well as impaired bladder functioning is likely to enhance the nurse's understanding of the principles underlying the interventions aimed at restoring continence or managing incontinence.

In the present study, most of the nurses who could remember, stated that they had received some education about the subject of incontinence during their basic training. Responses about the content of this teaching indicated that the majority of nurses had covered the anatomy of the urinary system and the causes of incontinence. The majority of the CNs, SNs and NLs also stated that they had been taught about the physiology of micturition. More than half (53.4%) of the ENs, however, reported that this subject had not been included in their basic education; an omission which needs to be addressed by nurse educators responsible for the planning of the growing number of conversion courses currently running in

schools of nursing in the UK, in lieu of the discontinuation of enrolled nurse training.

The assessment of incontinence appeared to be a largely neglected component within the basic education received by the qualified staff and, in particular, the CNs. Less than half of the SNs, a third of the ENs and only seven (15.6%) of the CNs remembered having had any such teaching. In contrast, about three quarters of the NLs reported covering this area during their basic education. This variation between the teaching received by the qualified staff, and NLs, may be partly attributable to an increased awareness of the problem in recent years, together with developments in methods of incontinence assessment and management, and consequent changes in educational content. Much more emphasis is now placed upon the need to identify the causes of incontinence, through the process of systematic assessment, than was hitherto the case (Norton 1986, King's fund 1983, RCN 1982). The way in which the subject of continence promotion, and incontinence, is currently taught to nurses during basic nurse education is, therefore, likely to reflect these developments. This appears to be borne out in the present study. Qualified nurses, with fewer years nursing experience, were much more likely than the more experienced nurses to have had some education related to the assessment of incontinence during their basic training.

While all but one of the NLs and three quarters of the SNs remembered teaching about the management of incontinence during basic education, a surprisingly small proportion of the other qualified nurses, less than half of the CNs and less than a third of the ENs remembered covering this area. The disparity between grades of nurses may again be partly explained by differences in the way in which the subject is currently taught. The CNs and the ENs tended to have trained earlier than the SNs, when the inclusion of such teaching may have been less consistent than it is today.

The importance of continuing nurse education as a means of consolidating, supplementing and up-dating professional knowledge and skills is

increasingly recognised (United Kingdom Central Council 1983). Pembrey (1984) stated:

"Maintaining professional standards of competence requires frequent practice and continuing mastery of new knowledge and skills".

This assumes particular importance if nurses may have received either inadequate, or a lack of, educational opportunities during their basic nurse education. If nurses themselves fail to perceive a need for furthering their own education, however, they are unlikely to take up the available opportunities to do so.

In the current study, the majority of the qualified nurses considered it important, or very important, to have opportunities to attend study days, conferences and courses relevant to the promotion of continence and management of incontinence (CNs 100%; SNs 98.2%; ENs 97.2%). In practice, however, a disparity existed between what nurses stated should happen and what actually occurred. In spite of the majority of qualified staff expressing a need for further education, just less than half of the CNs (44.6%), and the majority of the other qualified nurses (SNs 80.9%; ENs 72.5%) stated they had not received any additional education relevant to the promotion of continence or management of incontinence since their basic training. Although the ENB 9⁷8 course "The promotion of continence and management of incontinence" had been running for four years, only one of the qualified nurses had attended such a course. These findings are cause for concern, particularly when it is remembered that the median length of time since the CNs, SNs and ENs had trained was 14 years, two years and nine years respectively.

Harrison, Saunders and Sims (1977) highlighted the importance of ward-based teaching, study days and afternoons, suggesting that they enhanced the integration of theory and nursing practice which helped students see beyond specific tasks, or conditions, to general principles. In the current study, however, almost three quarters of the NIs stated that they

had not had any ward-based teaching which had related to the subject of incontinence.

In spite of an increasing awareness for a need to expand and improve the educational opportunities available to health professionals within the area of continence promotion and incontinence management (King's Fund 1983, RCN 1982) it appears, from the results of this study, that a disparity remains between the size of the problem and the amount of relevant, structured education actually received by nurses in practice. Additional comments recorded by several of the nurses in the study highlighted their concern.

One SN from an acute/rehabilitation HCE ward commented:

"I've not covered the management of incontinence at all during my six years in nursing and feel totally ill-prepared".

Another SN from an acute medical ward stated:

"Personally, I feel this subject (incontinence) is often overlooked particularly as far as in-service training for qualified nurses is concerned".

The reasons few nurses appeared to have had any further education about continence promotion and incontinence management may be the result of a number of factors. A dearth of opportunities for relevant continuing education may have prevented nurses from being able to up-date their knowledge in this area. Equally, a lack of uptake of the available opportunities by nurses, due to lack of resources, time or because the subject was viewed as being of low priority in comparison with other areas of nursing, are factors which might have accounted for these findings.

Smith (1984) recognised the importance of nurse education within the area of continence promotion and incontinence management and stated that it was up to the nurse managers to ensure that there were staff resources for on-going in-service education specific to this area. Waters (1986)

commented that if nurses are to up-date their knowledge and skills, they must have the time and the access to the relevant materials. Thus, it is important not only to provide relevant educational opportunities, but also to ensure that nurses are released from their clinical commitments in order to further their education. There is evidence to suggest that this may not always be the case, at least in the case of learner nurses. Harrison, Saunders and Sims (1977) reported that although learners greatly appreciated study sessions and tutorials during their clinical allocations, they sometimes expressed difficulties in leaving wards to attend them, either because of pressure of work or due to lack of enthusiasm on the part of the nurses-in-charge.

Where nurses remembered receiving teaching about the promotion of continence and management of incontinence, it appeared to be limited and focused predominantly on palliative measures such as incontinence aids, appliances and indwelling catheters, or "regular", "two-hourly" or "frequent toileting". Rehabilitative interventions aimed at treatment, for example, pelvic floor exercises, intermittent catheterisation, or specific bladder, or habit training regimens were rarely identified. No-one mentioned teaching about the use of behaviour modification techniques as a method of management. Irrespective of grade of nurse, teaching about the wider aspects of management, for example, the prevention of incontinence (3.5%), patient education (4.0%), environmental factors (2.2%), or bowel management (1.8%) were rarely mentioned. Where nurses had mentioned related in-service education, this did not appear to have redressed the balance. Of those nurses who said they had received some post-basic education, or in the case of NLs, ward-based teaching, the content of teaching concerned with the management of incontinence was similar to that found during basic education. Emphasis was again upon the use of incontinence aids, appliances and indwelling catheters, while interventions aimed at treatment, or the wider aspects of management were similarly rarely identified.

As mentioned at the beginning of this discussion, these findings may not be representative of the true extent of the teaching received by nurses but merely reflect those areas of management about which nurses

remembered being taught. However, the fact that nurses failed to identify similar areas of management, irrespective of grade, does suggest that important aspects of nursing care may have been neglected during nurses' basic and post-basic education. There is some evidence to suggest that nurses are often unaware of the variety of management options that are available to prevent or control incontinence. Badger (1983) carried out an observational study to investigate the toileting and changing procedures carried out by nurses on four care of the elderly wards and one medical ward. She concluded that the nurses' inability to meet patients' needs was limited by their lack of knowledge and thus, nursing care was largely dictated by routine, infrequent toileting and change rounds. She stated:

"The nurses were aware that underpads were unsatisfactory and there might be alternatives, but in the absence of knowledge their use of underpads continued because they were the only way they knew of managing urinary incontinence".

The King's Fund Working Group (1983) carried out a study of 113 Directors of Nurse Education which found that many (the precise number is not specified) felt that teaching given to nurses concerning the promotion of continence was inadequate compared to teaching about the management of incontinence.

Thus, it appears that in spite of apparent changes in attitudes in recent years, much of the teaching nurses remembered receiving during their basic and post-basic education still centred upon measures aimed at containing the problem. This raises questions concerning the nature of the information taught to nurses, and the level of knowledge possessed by the nurse educators themselves. If it is the role of nursing education to impart a body of specific knowledge about the promotion of continence and management of incontinence, it is not only practising nurses but the nurse educators themselves, who need to regularly up-date and further their expertise within this area. There is evidence, however, to suggest that this may not always be the case. The results of a meeting held to evaluate the ENB 978 courses on the "Promotion of continence and management of incontinence" showed that few requests to attend such

courses came from nurse teachers (ACA 1987). The report commented that results from a questionnaire to nurse teachers in training revealed a disquieting lack of knowledge about incontinence. The details of this survey, however, were not reported. Should nurse educators fail to update their own knowledge and take account of the variety of treatment or management options that are available as alternatives to incontinence aids and indwelling catheters, practising nurses may perceive their role as restricted to palliation, limited to the provision of aids or to traditional, and sometimes inappropriate, practices such as "two-hourly" or "routine" toileting.

When nurses were asked to rate their level of preparation, as a result of specific areas of teaching about incontinence, namely the causes of incontinence and its assessment, methods to promote continence, and the use of incontinence aids and indwelling catheter management, the majority of nurses stated they felt well or fairly well prepared in all of these five areas.

The extent to which a nurse feels prepared about a particular area of care, however, does not necessarily correlate with her level of knowledge in that area or the quality of related nursing care delivered. For example, Wynne and Marteau (1987) found that nurses' self-assessments of their knowledge of cardio-pulmonary resuscitation were unrelated to their practical performance when these specific skills were tested in practice. Thus, nurses may overestimate their level of expertise in a particular area and, as a consequence, may fail to perceive a need to seek further opportunities to improve their knowledge or skills. This may partly explain why few of the qualified nurses reported having had any post-basic education relevant to the management of incontinence.

A substantial proportion of nurses, of all grades, (31.2%) rated assessment as the area of teaching about which they felt the least well prepared. This finding is, perhaps, unsurprising in view of the range of knowledge and skills required to carry out a comprehensive incontinence assessment. Interestingly, NLS were the largest proportion of respondents who had received teaching about the assessment of

incontinence, yet they were also the group who felt the least well prepared about the subject. This might have been due to their comparative lack of clinical experience in which to integrate their theoretical knowledge with their clinical skills.

Of those aspects of teaching about which respondents were asked, the majority, irrespective of grade, felt most prepared about the management of indwelling catheters. As discussed earlier, indwelling catheter management was stated to be the second most commonly taught subject about incontinence management during basic and post-basic nurse education.

Specific information concerning nurses' levels of knowledge about indwelling catheter management was not examined in this study. There is evidence to suggest, however, that nurses might have over-estimated their knowledge in this area. Results of a survey carried out in five district general hospitals showed that much of the nursing practice associated with the care of indwelling catheters was inadequate (Crow, Mulhall and Chapman 1988). The authors concluded that nursing practice associated with catheter care was not being based upon knowledge. A study by Roe (1989) has similarly identified deficits in nurses' knowledge related to catheter care, which she suggested indicated a need for further education in this area.

In spite of the widespread use of incontinence aids and appliances, particularly in the acute/rehabilitation and slow-stream rehabilitation HCE wards (as reported in Chapter 4), a substantial number of nurses (20.2%) did not feel well prepared about their use. There are currently a wide range of aids and appliances available for incontinence sufferers and nurses need to have a sufficient level of knowledge to be able to inform people of their availability and their correct use. Manley (1984a) noted that these products were in such profusion that problems arose in their choice and supply. The RCN report (1982) "The problem of promoting continence" claimed that nurses and doctors were very ill-informed about the relative advantages and disadvantages of different types of incontinence aids. A number of comments made by nurses in the current study indicated that confusion did exist about the basis upon

which choices of incontinence aids should be made. In spite of a growing body of research which has sought to evaluate some of these incontinence aids, for example, Fader et al (1986), Egan, Thomas and Meade (1985), Smith (1985), Malone-Lee, McCreery and Exton-Smith (1982), there remains a need for rational, up-to-date guidelines upon which nurses, other health professionals and incontinence sufferers themselves can make informed choices. A King's Fund project paper "Aids for the management of incontinence", compiled by Ryan-Woolley (1986), has produced a useful foundation from which such guidelines can be established. It would seem timely, in view of the increasing use of information technology within health care services, for the setting up of a national incontinence aid data base for use by health professionals in all relevant disciplines.

Clinical ward experience was identified by nurses, irrespective of grade, as contributing most to their knowledge about incontinence. More than three quarters of the ENs and over half of the other grades of nurses expressed this view. This finding is, perhaps, to be expected where nurses had received little relevant basic or post-basic education related to the subject of continence and incontinence. In the case of the CNs, however, where over a quarter had attended relevant post-basic courses and almost half a related study day or conference, it is disappointing to find that the largest proportion of the CNs still primarily relied upon their clinical experience. While clinical experience is an important factor in the development of a nurse's expertise, experience per se does not provide her with the rationale, nor the scientific principles upon which to base her practice. The way in which this question was worded, however, may have biased these results, as nurses were asked to make only one choice from a list of specified options. This question would probably have been more informative if respondents had been given the choice of making more than one response. Nevertheless, others have reported similar findings. In a survey carried out to assess nurses' knowledge about cancer, Elkind (1981) found that, in general, nurses had an inadequate level of understanding about the disease which she attributed to the undue emphasis nurses placed upon clinical experience as their major source of information about cancer.

In the current study, just over a quarter of the SNs and a few of the other qualified nurses identified education received during their training as their main source of knowledge about incontinence. This is perhaps to be expected when a large proportion of the qualified nurses had trained several years ago. Surprisingly, however, less than a third of the NLs identified classroom teaching, compared to over half (57.5%) who stated that ward experience had contributed most to their knowledge about incontinence. Thus, a large proportion of the NLs still relied primarily on clinical experience even though they had comparatively little upon which to guide their practice.

Few nurses (6.0%), of any grade, relied upon nursing books or journals as their primary means of gaining information about incontinence management. This is particularly surprising in view of the proliferation of relevant articles and research reports, as well as a growing number of books which are currently available. This is not, however, a problem peculiar to the management of incontinence. The minimal use of library facilities, or references made to the literature, by nurses, is well documented (Wells 1983, Barrett 1981, Myco 1980, Studdy 1980, Birch 1979).

The comparatively few nurses who appeared to rely upon methods, other than their clinical experience, as means of obtaining relevant information raises questions about the quality of their teaching, as well as about the way in which nurses perceived their work.

Nurses are unlikely to rely upon their basic and post-basic education where the information given fails to equip them with sufficient, relevant or up-to-date knowledge applicable to the clinical situation. Alternatively, the traditional "apprenticeship" style of nurse education may encourage nurses to place undue emphasis on their clinical experience as a basis for knowledge at the expense of the theoretical knowledge which should underpin rational nursing practice. As Elkind (1981) stated, there are a number of aspects of knowledge that cannot be gained directly through clinical experience and she encourages nurses to look beyond their day-to-day experience to a wider theoretical approach. The impending radical changes to nurse education (U.K.C.C. 1986) should offer

nurses an unprecedented opportunity to achieve this. If nurses rely solely on their clinical experience as a basis for practice, there is a danger that popular misconceptions, as well as traditional, often inappropriate nursing practices, associated with caring for patients with incontinence will be perpetuated.

6.6.4 Difficulties experienced by nurses caring for patients with incontinence

Almost three times as many CNs as other grades of nurses stated that problems associated with incontinence frequently occurred in the ward. As previously mentioned in section 6.5, slight differences in the way in which the question was posed to the CNs, compared to the other grades of nurses, might explain the variation between the perceived frequency of problems. The SNs, ENs and the NLs may have been less inclined to admit that they experienced problems caring for patients with incontinence, perceiving this to be a reflection of inadequacy on their part. The CNs might have been more willing to identify such problems due to the less personal way in which their question was worded. Alternatively, the CNs, as the nurses responsible for the overall management of nursing care in the ward, may be more aware than the other qualified staff of the extent to which problems actually occurred.

Problems associated with incontinence were perceived by respondents as occurring more frequently in the acute medical and acute HCE wards than in acute/rehabilitation HCE and slow-stream rehabilitation HCE wards, these differences being statistically significant in the case of the SNs and ENs but not CNs.

Thus, the perceived frequency of problems identified by nurses appeared unrelated to the extent to which incontinence occurred in the wards. As reported earlier in Chapter 4, the prevalence and severity of urinary incontinence was found to be greater in the acute/rehabilitation HCE and slow-stream rehabilitation HCE wards, yet the nursing staff in these wards identified fewer related problems than those in the acute wards. This may reflect the fact that nurses in the acute/rehabilitation HCE and

slow-stream rehabilitation HCE wards had sufficient knowledge, skills and resources available to them to cope adequately with the problem. None of the data obtained in this, or the previous studies, however, appeared to support this assumption. Alternatively, the above finding may have been a reflection of resigned acceptance on the part of nurses in these wards, who might more readily have perceived incontinence as part of the day-to-day routine nursing care of elderly people than as a problem deserving active intervention.

Predictably, insufficient time or nursing staff were the most common problems, identified by a third of all the respondents. There is little doubt that providing care for patients who are incontinent is time-consuming (Igou 1986, Wells 1975a, Norton, McClaren and Exton-Smith 1962). Norton et al (1962) found that caring for incontinent patients, together with pressure area care, were the two most time-consuming aspects of nursing care in wards for the elderly. Igou (1986), in the United States, estimated that nurses spent an average of one hour every 24 hours per patient carrying out incontinence and related care in nursing homes for the elderly.

In Wells' (1975a) study, lack of nursing staff was similarly identified as the most common problem, when nurses were asked to identify difficulties experienced when caring for elderly people in hospital. Wells maintained, however, that it was the system of delivery of care, rather than the shortfall of nurses, which was the main problem. Where nursing care focuses upon the completion of routine tasks rather than as a response to individual patient problems, needlessly time-consuming, often inappropriate interventions may be the result. For example, in a ward, the traditional nursing practice of routine toileting of individuals, or groups of patients, as a means of avoiding incontinence is demanding in terms of time and staff resources, and, in the absence of any assessment of individual patient's bladder requirements or, of any possible causes of the problem, is likely to be only sporadically successful. Thus, changes in the deployment of nursing care may be more important than merely increases in staff per se.

The nursing management of patients with incontinence is also dependent upon the way in which nurses perceive the problem. If incontinence is considered to be low priority in comparison with other patient problems, its management is also likely to be viewed as being of less importance than other aspects of nursing care. A number of nurses expressed opinions which implied that this might be the case. The following comment was made by one SN in an acute/rehabilitation HCE ward:

"I often find myself getting angry and frustrated with patients who are incontinent. I'm often too busy to spend time with patients in order to promote continence, i.e. two-hourly toileting. This is probably due to lack of knowledge about incontinence".

Another comment made by a SN in an acute/rehabilitation HCE ward expressed a similar view.

"Hourly or two-hourly toileting often doesn't work but patients find the concept of an indwelling catheter difficult to accept".

The first comment implied that despite the fact the SN worked in a HCE ward, incontinence management was regarded as something to be undertaken after other, more "legitimate" aspects of nursing care, had been carried out. This might partly have resulted from the way in which "continence promotion" was perceived. Both this and the latter comment, supported by other findings in this chapter, and in Chapters 4 and 5, indicated that nurses had only a limited appreciation of the ways in which they might help patients regain continence; this being predominantly restricted to the practice of regular toileting of patients. It seems from the second comment that the nurse considered the use of an indwelling catheter as the only alternative to regular toileting.

The second most common problem identified was concerned with either the supply of incontinence aids or problems associated with their use. This was the most common problem identified by the SNs. Some of the comments recorded are shown below:

"The main problem is patients not tolerating their aids and leakage around the pad".
(EN Acute/Rehabilitation HCE ward)

"There is no continuity of care about using the same aids on all three shifts".
(SN Acute/Rehabilitation HCE ward)

"There are many appliances but they rarely respond alike so it seems to be trial and error".
(SN Acute HCE ward)

"On our ward there is only one type of pad to use".
(EN Acute/Rehabilitation HCE ward)

"Finding the best incontinence aid for each patient without up-to-date knowledge of the specialty is the biggest problem".
(CN Acute medical ward)

"The pads used in the ward don't appear to work, the beds still get very wet".
(NL School of Nursing)

The issue of incontinence aids and appliances was addressed earlier in section 6.6.3. While almost a third of the SNs, ENs and the NLs had highlighted problems associated with skin care, for example, rashes, skin breakdown and pressure sores, CNs rarely mentioned this aspect, possibly because they were less likely to be involved in giving direct patient care. A number of comments made by nurses indicated that there was some confusion concerning the type of skin treatments which should be applied.

Approximately twice as many NLs as qualified staff identified problems associated with the emotional or psychological sequelae of incontinence. Responses given tended to highlight the embarrassment, humiliation and distress caused to patients as a consequence of their incontinence. In contrast to the qualified nurses, NLs also tended to identify their

personal concern or anxiety as a result of patients' emotional responses. For example one NL in the school of nursing commented:

"Being able to cope with the patient's feelings of disgust and shame is my main problem".

The variation in the extent to which problems associated with the emotional or psychological aspects of incontinence were identified might have been due, once again, to the NLs' comparative lack of clinical experience. It could, however, be that qualified staff become habituated to the problem, thus they may personally become more able to cope with incontinence but they may also tend to minimise its consequences for the sufferer. This might have accounted for the nurses' apparent lack of awareness of the psycho-social aspects of incontinence, as reported earlier in Chapters 4 and 5.

A small, but substantial, number of respondents (37 in all) considered their own lack of knowledge about incontinence to be a problem, while it is interesting to note that 10% of the respondents (none of the CNs) identified problems associated with some aspect of staff conflict. This latter problem was most frequently identified by the SNs and NLs. This may have resulted where nurses working in the same ward had differing educational backgrounds, expectations and attitudes. As a consequence, any attempts to change existing nursing practices, or the introduction of new ones, may have been met with resistance, thus serving as a source of staff conflict.

6.6.5 Nurses' knowledge about the causes, assessment and management of incontinence

6.6.5.1 The causes of incontinence

If frequency of answer is an indication of knowledge, it is disappointing to find that, irrespective of grade of nurse, the average number of causes of incontinence identified was only ^{three} ~~two~~. This is a particular cause for concern when one considers that incontinence may be the result

of a wide range of causes or predisposing factors. While frequency of answer is not necessarily an indication of knowledge, one would have expected the qualified staff to have identified a greater number of causes than the NIs. This may be explained by the fact that the NIs appeared to have had more education related to the subject of incontinence during their basic training than the qualified staff (section 6.5.2). A substantial proportion of the CNs, with many years nursing experience, however, had been on relevant post-basic courses or study days and conferences, yet their responses to this question remained limited.

When nurses were asked what they thought were the main reasons for incontinence, urinary tract infection (UTI) was the most frequent answer given, irrespective of grade of nurse. As discussed in section 1.4.4.1, an acute UTI is thought to cause sensory urge and frequency of micturition which can cause transient episodes of incontinence (Norton 1986, Ouslander 1986, Resnick and Yalla 1985, Brocklehurst 1978a) although the relationship of asymptomatic UTI as a cause of incontinence, particularly in the elderly is unclear (Boscia, Abrutyn and Kaye 1988, Ouslander 1986, Brocklehurst et al 1968, Boscia et al 1986).

The clinical setting in which the respondents worked, medical or HCE, was likely to have influenced the nature of the responses given, thus a similar proportion of nurses identified neurological disease as a causal factor of incontinence. Incontinence is a symptom commonly associated with neurological impairment and may be the result of a number of inter-related factors (Barer 1989, Green 1986, Brocklehurst 1984b, Farrar 1984, Milne 1976). For example, a stroke may cause impaired mobility, perceptual problems or communication dysfunction, together with one or more specific physiological bladder disturbances, such as detrusor instability, any one, or all of which, may predispose a patient to incontinence. The majority of responses given, however, were stated as disease entities and lacked specificity so that it was not possible to assess whether the nurses were aware of the precise factors involved. Should nurses fail to perceive incontinence as the result of specific, often multiple causal, or predisposing factors, but rather the result of

a global disease entity such as a stroke, the basis upon which therapeutic, not merely symptomatic, nursing care can be planned is likely to be compromised.

It is worrying to find that a substantial number of nurses, over a third overall, and just less than half of the SNs (47.3%) gave very vague reasons for incontinence, as indicated by the large proportion of non-specific responses recorded. These answers imply that many nurses had only a superficial, and in some cases, erroneous, understanding of the underlying causes of incontinence. Answers such as "weak bladder" or "natural wear and tear" suggested that some nurses viewed incontinence with a sense of resigned acceptance. Other responses given such as "disease" or "medical causes", which were categorised as "ill-health", were equally non-specific, as were answers which identified ageing as a cause. This latter group of responses indicated that some nurses perceived incontinence as concomitant with ageing rather than as the result of one, or several, potentially remediable factors. The emphasis of their responses implied that very few appeared to be aware of any specific age-related changes to which an individual may become increasingly susceptible. Edington Shepherd and Bainton (1983) carried out a study in 13 residential homes for the elderly and found that almost a third (31%) of the officers-in-charge interviewed, stated that the main cause of urinary incontinence was as the result of growing old. While comparatively few respondents in the current study gave such answers, it is, nevertheless, of particular concern to find that just less than a quarter of the CNs did so.

Hardy (1981) identified a need for nurse educators to increase the content of nursing curricula about the biological and sociological changes associated with ageing, in order that nurses might provide more appropriate care for the elderly. If nurses are not taught about the specific age-related physiological changes which can affect renal and bladder function, or fail to appreciate the difficulties associated with toileting which may accompany a gradual reduction in physical capabilities in the elderly (eg. mobility, dexterity) then many of the

common misconceptions about incontinence in the elderly are likely to persist.

Just over a third of the respondents in the current study indicated an awareness of the association between mobility and or mental impairment and incontinence. As immobility and mental impairment are very common problems in elderly patients admitted to hospital, it is surprising that the majority of nurses failed to identify these factors.

Although approximately a third of the nurses identified pelvic floor weakness (or gave similar, related answers) another common form of bladder dysfunction was very rarely identified. Detrusor instability, the unstable bladder or "urge" incontinence, was identified by less than 2% (five in number) of the respondents.

As discussed in section 1.4.2.1 in Chapter 1, detrusor instability can arise from local factors such as faecal impaction, a variety of neurological disorders, or it may be idiopathic or psychogenic in origin. Incontinence may result from involuntary bladder contractions normally associated with symptoms of urgency, frequency and nocturia (as previously described). As discussed in section 1.4.2.1 in Chapter 1, a substantial number of studies, while based on highly selected samples (mainly patients who have attended urodynamic clinics), have shown that detrusor instability is the commonest type of bladder dysfunction in those 65 years and older, and is probably responsible for the highest incidence of incontinence in the elderly (Ouslander et al 1986, Eastwood and Warrell 1984, Castleden and Duffin 1981, Hilton and Stanton 1981, Overstall, Rounce and Palmer 1980, Farrar 1984, Brocklehurst and Dillane 1966b, Abrams, Feneley and Torrens 1983).

It could be argued that a knowledge of underlying physiological concepts makes no difference to the ability of the nurse to care for the patient who is incontinent of urine. Alternatively, it could be argued that in the absence of such knowledge, the nurse is unlikely to recognise the patient's altered physiological responses so that her ability to make informed clinical observations, upon which to base appropriate nursing

practice, is compromised. Igou (1986), referring specifically to the care of patients with incontinence, claimed that carers need to understand the underlying principles of an intervention in order to be able to effectively carry it out. Whether this can be achieved without understanding the process of normal micturition, or without adequate knowledge of the factors which can disturb bladder function, is doubtful. For example, results obtained from urodynamic investigations have shown that patients with detrusor instability often experience warning of impending micturition simultaneously or only a few seconds before urine appears in the urethra (Castleden and Duffin 1981). In these circumstances, widely recommended nursing interventions such as the nearby positioning of bottles or commodes may not alleviate the situation.

As discussed in section 1.7.1 in Chapter 1 and in section 4.6.5, in Chapter 4, it had been suggested that frequent toileting often fails in some patients because bladder capacity is so small that it is exceeded even if urine is allowed to collect for two hours (Castleden and Duffin 1981).

Several respondents to the questionnaire commented that regular toileting practices were often ineffective. The following remark made by a SN in the current study typified these comments.

"Two-hourly toileting just doesn't work for most of the patients on our ward".

Frequent toileting may be contraindicated in patients with detrusor instability where efforts to increase bladder capacity by gradual lengthening of intervals between voiding can successfully cure incontinence. Clay (1986), among others, has suggested that in some circumstances frequent toileting can cause bladder capacity to be reduced further.

In the absence of knowledge concerning the underlying physiology of specific types of incontinence, continued episodes of urine loss in the

presence of interventions such as "regular" toileting, or the nearby positioning of toilet receptacles, as described above, may be inappropriately interpreted by nurses as "laziness", "attention-seeking" or "manipulative behaviour". Indeed, 15 respondents identified laziness on the part of the patient, as a common reason for incontinence. In the study by Edington, Shepherd and Bainton (1983), laziness and apathy were common reasons given for incontinence (the precise figure is not reported) by carers interviewed in residential homes for the elderly.

An impression gained by the researcher while carrying out earlier studies, was that patients who experienced symptoms suggestive of detrusor instability, were perceived by some nurses as being purposefully difficult or lazy. The nurses themselves appeared to be unaware of any possible underlying processes causing the incontinence. In the absence of such knowledge, it is understandable that nurses might misconstrue the reasons for specific types of incontinence.

As with findings reported in Chapters 4 and 5, several important predisposing or causal factors, which nurses are ideally positioned to recognise and manage, were infrequently mentioned. Thus, the adverse side-effects of drug therapy as a predisposing factor for incontinence were rarely identified. Similarly, environmental constraints such as inappropriate seating or clothing, or inadequate or inaccessible toilet facilities, were very rarely considered as factors which might predispose an individual towards incontinence. As respondents were ward-based nurses and in a position to recognise and alter, or adjust, many of these environmental factors, it is surprising to find so little mention of them. Wells (1975a) also found that nurses in her study appeared to have a minimal awareness of the problems that can result as a consequence of the ward environment. In the current study, severe constipation or faecal impaction were identified by only a minority of nurses (48 in number). This infrequent consideration of a number of easily treatable factors, with which nurses are often directly concerned, suggests that many had only a minimal awareness, or were largely unaware, of the multiplicity of causal factors involved.

The three short accounts which described specific types of incontinence - 1) stress incontinence, or urinary retention with overflow; 2) urinary retention with overflow; 3) sensory or motor urge incontinence and frequency - were intended to provide additional information about nurses' knowledge of the causes, assessment and management of incontinence. The responses which identified the causes of the three types of urine loss described will be briefly discussed.

The most common answer when asked to identify the possible causes of the urine loss described in the first account was "stress incontinence". Although the term has come to be referred to as a diagnosis (when confirmed by urodynamic investigation), a sign and a symptom, it gives very little indication of what the underlying causes of urine loss are. Of the 215 nurses who gave this response, 21 specifically mentioned pelvic floor weakness, 16 other gynaecological problems such as vaginal prolapse, and 28 mentioned childbirth or multiparity. Thus, of those nurses who identified stress incontinence, it is unclear in the majority of cases (70%) whether nurses were aware of any specific causal factors involved. In view of the substantial proportion of non-specific answers obtained earlier, when nurses were asked to identify specific reasons for incontinence (discussed above), it is possible that nurses were unclear about the precise factors involved. Twenty percent of the answers given to the first account were responses such as "weak bladder" or "bladder not working properly" and is indicative of a considerable lack of knowledge. In some cases, confusion existed between "stress" resulting from an emotional reaction and stress incontinence describing a specific type of urine loss.

As in the first account, the majority of responses (two thirds) to the second account identified the causes of urine loss in terms of symptoms (either as retention or retention with overflow) and not causes. Of the 230 respondents who gave this answer, only four indicated a specific underlying cause of the symptom. As in the first account, it was unclear whether nurses were actually aware of the causal factors which might give rise to retention of urine with overflow. It is particularly important that nurses be able to recognise and understand the underlying

mechanisms of urinary retention, as it has been suggested that this is an often under-diagnosed symptom, particularly in the elderly (Brocklehurst 1984t). It is some cause for concern that 32 nurses (21 of whom were qualified staff) were unable to suggest a single cause for the urine loss described. Over a third suggested bladder outlet obstruction, most commonly identified as caused by an enlarged prostate, 13% neurological impairment and three suggested post-operative complications. Only a small proportion of respondents identified faecal impaction (16%). None of the nurses identified inappropriate drug therapy (eg. anticholinergic drugs) as a possible cause.

It is interesting to note that the third account was the least answered of the three. Thirty three of the 40 nurses who stated that they did not know what the possible causes of urine loss described could be were qualified staff, eight of whom were CNs. As with the findings discussed above, the most common response was again urinary tract infection, identified by two thirds of the respondents. There was again a notable absence of other common causes, particularly detrusor instability (5%), or associated factors such as faecal impaction (0.6%) or the adverse side-effects of diuretic therapy (6%).

The vagueness of the responses to the question about causes of incontinence in general, and to the three accounts, as well as the infrequent consideration of a number of important factors, implies that a considerable proportion of nurses had only a superficial understanding about the causes of incontinence, and many may have been largely unaware of the multiplicity of causal or predisposing factors involved. Wells (1975a), reported similar findings. She attributed nurses' lack of knowledge about the causes of incontinence, in part, to an inadequate understanding of anatomy and physiology.

Although most of the CNs, SNs and NLs, and just less than half of the ENs in the current study stated that they had been taught about the physiology of micturition, and the majority of nurses about the causes of incontinence, their responses appeared to reflect marked deficits of knowledge in these particular areas. This must again raise questions

concerning the content and quality of nurses' education. There is evidence to suggest that nurse educators themselves are aware of their inadequate knowledge regarding the teaching of anatomy and physiology. A study by Haywood and Akinsanya (1982) found that of 324 nurse tutor students questioned in England and Wales, the majority (86%) expressed considerable anxiety about their lack of knowledge of the life sciences (anatomy, physiology, microbiology and pharmacology), about which they were expected to teach.

The dearth of recorded information which had identified the possible causes of incontinence in the nursing records, as reported in the document survey in Chapter 4, may have resulted from nurses' fundamental lack of knowledge about the causes of incontinence.

6.6.5.2 The assessment of incontinence

The formulation of planned nursing and medical interventions have a greater probability of success where the rationale for their use is based upon information derived from a systematic assessment. The assessment of urinary incontinence, however, can be complex due to its many causal or predisposing factors. This may have been a reason why many of the respondents (12.0%), in particular the ENs, failed to answer the question. It was worrying to find that one CN stated she did not know what was meant by the word "assessment", as the assessment of patient problems forms the basis upon which the Nursing Process is founded. In spite of the potential complexity of the assessment of incontinence, it was again disappointing to find that the nurses tended to identify an average of only three areas for consideration. As with the responses about causes of incontinence, there was surprisingly little variation between the number of assessment areas identified and the grade of the respondent.

Although a considerable proportion of the respondents (41.0%) had identified a need to assess the patient's functional status, one would have expected this area to have been mentioned by a greater number of nurses. Nurses are in an optimum position to observe the patient's

ability to carry out the many skills necessary for independent toileting, yet three quarters of the CNs, over half of the other trained staff and just less than half of the NLs who responded had failed to consider any aspect of assessment in this area.

Information which serves to define the type of incontinence, which nurses, particularly in the ward situation, are ideally placed to observe, was infrequently considered. The frequency, time or circumstances in which episodes of incontinence occur, responses which were categorised as "pattern" for the purposes of this question, provides nurses with information upon which appropriate, individualised nursing care can be planned, but of equal importance, may provide important cues in determining the possible underlying causes of the problem. Similarly, observations of the nature of the urine loss, and associated symptoms such as urgency, frequency or nocturia, not only have direct implications for the delivery of individualised nursing care but also contribute to information which can help to identify the specific type of incontinence. Few nurses (10.0%), however, mentioned any of these aspects as part of an assessment of incontinence. These findings are comparable with those of the document survey reported in Chapter 4, where very little evidence describing the pattern or nature of incontinence was found in either the nursing or the medical records. Just less than two thirds of respondents failed to identify a need to collect any information concerning the history of the problem.

The use of a continence chart was rarely mentioned (6.0%), a finding similar to that reported in Chapter 4, where in practice charts were observed to be used very infrequently.

As the majority of nurses had failed to identify several common causes of incontinence, as discussed in section 6.6.5.1, it was not surprising to find that a number of important aspects of assessment were correspondingly deficient. Thus, as few nurses had identified constipation or faecal impaction as causal or predisposing factors for incontinence, it followed that assessment of dietary intake or bowel

function, or the need for a rectal examination, were also areas rarely mentioned (6.5%).

Nurses had been asked to consider factors for assessment specifically within the context of a patient in the ward environment. The need to assess for environmental hazards which may predispose an individual towards incontinence was rarely recorded. It could be that nurses were unaware of the range of environmental factors which can affect a patient's ability to cope with eliminatory needs; alternatively, nurses may minimise their importance so that their consideration as part of an assessment is diminished.

With the exception of urinalysis or urine culture, few nurses identified the need to consider specific investigations, such as a physical examination, measurement of residual urine volume or urodynamic procedures.

The importance of an assessment of the patient's needs at home prior to discharge from hospital has long been recognised (Hockey 1968, Noble 1967, Skeet 1971). This remains, however, an area for concern. Studies by Victor and Vetter (1987), Waters (1987) and Armitage (1985), among others, have shown that a patient's discharge from hospital is frequently unplanned with little attention being paid to arranging appropriate community nursing assistance. The suitability of toileting facilities and the availability of care in the home, the need for specific aids, equipment, or adaptations to existing equipment, as well as establishing whether the patient and/or her relatives have been educated in their use, are some of the areas which need to be assessed by the nurse prior to the discharge of a patient with incontinence.

In order to ensure continuity of care, all patients who are incontinent on discharge from hospital should, ideally, be referred to the district nursing services to inform them about the assessment carried out while in hospital, and about any equipment needed to be used by the patient concerned. However, few nurses in the current study identified any factors which would be pertinent to discharge planning. As the CN is

ultimately responsible for the planning and co-ordination of nursing care in the ward, it is of particular concern that only one had mentioned this area as part of an assessment. It is interesting to note that the group least likely to be responsible for the planning and organisation of the patient's discharge, the NLS, were the respondents most likely to mention factors relevant to this area. Littlewood (1984) noted that when elderly patients were discharged from hospital, district nurses often felt ill-informed about the cause of an individual's incontinence, as well as about the reasons for the choice of aids.

As with other results mentioned above, these findings are similar to those found in the document survey in Chapter 4 where little recorded information pertinent to discharge planning was found in either the nursing or the medical documentation. These results suggest that the majority of nurses are either unaware of the need to gather such information, or else they do not view it as being part of their role, but rather the function of others, for example the district nurse or continence adviser. Where hospital care is perceived in isolation from community care, ward-based nurses may fail to see the relevance of gathering specific information which aims to facilitate and co-ordinate the patient's discharge from hospital.

As discussed with reference to the survey in Chapter 4, section 4.6, one might have expected nurses to be particularly aware of the psychological, social and sexual implications incontinence may pose an individual. The majority of responses given in the current study concentrated on the assessment of physical aspects. An assessment of the patient with incontinence should also include the identification of psycho-social factors which may not only contribute to incontinence, but also affect the patient's response to treatment (Ory, Wyman and Yu 1986). A small proportion of the respondents (13%) considered it important to assess the patient's attitude to her incontinence, and a smaller number of nurses (9.0%) identified the need for privacy and confidentiality during the process of assessment. However, very few of the nurses (6.0%) had included any assessment of the psychological, sexual or social implications which may affect the sufferer, her family

or carers. These findings correspond with those previously discussed in Chapter 4, in which little information pertaining to these areas was recorded in either the nursing or medical records. The infrequent consideration of psycho-social aspects of caring for elderly people in hospital was similarly reported by Wells (1975a).

These findings reinforce the suggestion made earlier in Chapter 4 that nurses tend to ignore or minimise the psycho-social effects incontinence may have upon the sufferer. As the respondents were either exclusively (HCE wards) or frequently (acute medical wards) caring for elderly patients, this apparent lack of awareness may have been a reflection of particular misconceptions about the elderly, incontinence or both. For example, where incontinence is perceived to be a natural consequence of ageing, the impact on the individual, psychologically or socially, may be trivialised in comparison with someone who is young. Equally, while sexuality is viewed as being of legitimate concern in the young, this is not always so in the elderly. Webb (1984) claimed that a general assumption prevails that old people are sexless and interest in sexuality is abnormal or even distasteful. Andrews (1988) stated that there is still embarrassment when discussing the sexuality of the disabled and the old; a factor which might explain why so few nurses had identified this area for assessment. This issue will be discussed further in connection with nurses' attitudes.

This limited consideration of factors associated with the assessment of incontinence was similarly identified when responses to the three accounts were examined. The phrasing of the second part of the question was intentionally non-specific in order to find out whether nurses would suggest strategies for the assessment, as well as the management, of incontinence. Thus, for each of the three accounts, nurses were asked to suggest what might help a patient suffering the urine loss described.

Interventions aimed at assessing the problem, with the exception of carrying out a urinalysis, were rarely identified. Thus, the monitoring of fluid intake and/or episodes of incontinence, a rectal examination of bowel management, a physical examination, measurement of residual urine

or the monitoring of drug therapy, for example, were infrequently mentioned.

Although an assessment of incontinence is specific to the needs of a particular individual, there are general principles upon which an assessment of the problem should be based. Whilst it would have been unrealistic to have expected nurses to identify all the factors that may need to be assessed, if the range and the scope of the responses to the question are considered, only a minority of nurses appeared to have a clear framework upon which an assessment of incontinence might be established. Luker (1981) evaluated the effect of health visitor intervention in a sample of elderly women living at home. She suggested that health visitors may have difficulty working with old people because they lack a framework for health assessment of the elderly. In the current study, nurses may have experienced similar difficulties when asked to identify factors specific to the assessment of incontinence. On eight of the wards in the study, the CNs stated that nurses used written guidelines for the assessment of incontinence. These consisted of a one-page checklist developed by the district continence adviser. Whether such checklists were used in practice was not established. Interestingly, there were no appreciable differences between the answers obtained from nurses in the wards where checklists were available and those in which they were not.

Voith and Smith (1985) developed a nursing decision tree (algorithm) based on critical indicators (signs and symptoms) of urinary dysfunction in an attempt to more precisely define incontinence problems. The tool has still to be validated in clinical practice but this may prove to be one means of helping nurses to improve their assessment skills in the future.

It is debatable whether merely changing the documentation, without an accompanying understanding of its underlying rationale, is sufficient to increase the quality of the assessment. This has been amply demonstrated in situations where the Nursing Process has been perceived solely as a form of nursing documentation, rather than as a system by

which nursing care is organised and delivered (Haywood 1986, O'Brien, Clinton and Cruddace 1985, Birch 1982). While a checklist or a questionnaire may serve as a useful aide-memoire during an incontinence assessment, it is unlikely that the information so obtained can be appropriately interpreted if used in the absence of adequate knowledge.

The nurse may not perceive the assessment of incontinence to be part of her role but rather the specific function of other health professionals, such as the doctor or the continence adviser. When asked who they considered to be mainly responsible for the assessment of a patient with incontinence, approximately 10% of the sample (five nurses, including one CN, identified the medical staff and 34, of whom 21 were qualified staff, identified the continence adviser) did not include the ward nurse. Nurses are unlikely to actively engage in collecting information for assessment if they do not perceive this to be a primary part of their role.

There appears to be a need for further basic and post-basic education specifically related to the assessment of incontinence. Systematic data were not directly collected on the quantity or quality of education concerning the subjects of continence and incontinence currently taught in the school of nursing. Information obtained from two of the nurse teachers in the school of nursing in the health authority in which the study took place, revealed that during basic training nurses received one hour of teaching specifically related to incontinence management. Nurses attending post-basic care of the elderly courses had one, and occasionally two hours of related teaching. In the main, teaching was carried out by the district continence adviser. It is doubtful that given the small amount of time currently allocated to teaching about the subject of incontinence overall, sufficient attention can be given to teaching the underlying theory and clinical skills necessary to enable nurses to make informative assessments of patients with incontinence.

Recently, Runciman (1989) reported a study which examined the ways in which different groups of health professionals working in the community assessed the health of elderly people at home. The assessment of the

patients' continence status, among a number of other areas, was identified as being particularly poor. Interestingly, of a small sample of general practitioners, health visitors and district nurses, it was the district nurses who were the group least likely to identify this aspect of assessment, yet they are often the health professionals who are most likely to encounter problems of incontinence in the community. Runciman (1989) advocated the use of video-recordings of real interviews as a teaching tool to enable health professionals to acquire specific health assessment skills in the elderly. The use of video-recordings of real or simulated situations, or alternatively the use of role play, to illustrate examples of types of continence problems commonly found in the clinical situation might equally help to improve nurses' knowledge and skills when assessing incontinent patients in their care.

6.6.5.3 The management of incontinence

The management interventions identified by nurses in response to the three descriptions of types of urine loss were limited. It was encouraging to find that the majority of nurses who had identified stress incontinence, suggested the use of pelvic floor exercises, this being the most common response given irrespective of grade of nurse. A few nurses specifically stated that the teaching of such exercises should be carried out by the physiotherapist, but in the majority of cases it was not possible to determine whether nurses perceived themselves as initiators of such treatment. Whether nurses had sufficient knowledge about the underlying rationale for pelvic floor exercises, in order to carry out appropriate patient teaching, is debatable. The vague nature of many of the responses given when nurses were asked about the causes of incontinence, as discussed previously, would suggest not.

A small number of nurses, 30 in all, suggested regular or two-hourly toileting. While regular toileting may avoid the accumulation of large amounts of urine, it does not, however, treat the underlying cause, and as soon as intra-abdominal pressure exceeds urethral pressure incontinence will occur.

The wider aspects of management were again infrequently considered. The abdication of the nurse's role as health educator has been highlighted by Wilson-Barnett (1988) and Syred (1981), among others. As many of the causes of stress incontinence are known, nurses have an important role in the health education of women, either helping to prevent the problem from first developing, or, where already present, preventing the symptom from becoming worse if treatment has failed. However, the general aspects of patient education such as advice about weight reduction, where appropriate, was recorded twice, while none of the respondents identified increasing exercise in general, or dietary advice to prevent constipation.

It was disconcerting to find that while over a quarter (28%) of the respondents identified the use of a residual catheter, more than half of the respondents suggested using an indwelling catheter to relieve urinary retention with overflow. While an indwelling catheter may well be necessary in such circumstances, many nurses failed to identify other helpful strategies, such as intermittent catheterisation, which might initially be carried out.

As previously mentioned, a rectal examination was rarely recorded and none of the respondents identified a need to review the patient's drug regimen. The use of diuretics, anticholinergic drugs, and a "muscle relaxant", as well as the giving of analgesia to relieve urinary retention, were a small but potentially harmful number of interventions recorded by six qualified nurses and one NL, and indicated a considerable lack of pharmacological knowledge on the part of the respondents. Where drug therapy was stated as a possible intervention, nurses rarely named the specific types of drugs to be used.

Few nurses (3%) identified the use of bladder or habit training, based on a prior assessment of the patient's usual pattern of micturition, in response to incontinence associated with urge, frequency and nocturia. Instead, toileting again focused upon a regular or two-hourly pattern (31.5%). The adjustment of environmental factors, or the patient's drug therapy, was infrequently mentioned. As with previous findings in this

study, and those of Chapter 4, the provision of emotional support, where necessary, or the giving of advice about methods of coping with either with the treatment or the problem itself, were rarely stated.

6.6.6 Nurses' attitudes towards specific aspects of the problem

As discussed earlier, there are a lack of data to support the premise that behaviour is necessarily influenced by an individual's attitudes. Nevertheless, the importance of nurses' attitudes as determinants of quality of care have been highlighted by many (Harrison 1988, Bond and Bond 1987, Fielding 1986, Gunter and Miller 1977, White 1977, Wells 1975a). Studies such as those of Fielding (1986), Kitson (1985) and Stockwell (1972) provided evidence that nurses do categorise patients and deploy nursing care accordingly. Referring specifically to the elderly, Brocklehurst (1977) acknowledged the importance of nurses' attitudes and stated:

".... the nurse is the key figure and her attitude and understanding will probably be the greatest single factor in the success of geriatric care".

Hardy (1981) suggested that most of us in nursing, in all settings, are at times culpable of yielding to the temptation of stereotyping those in our care. She stated that this stereotyping can lead us into errors of misconception and misinterpretation on which we proceed to base our decisions. This may be particularly relevant when one considers a health problem such as incontinence, where traditionally, misconceptions abound. Indeed, Wells and Brink (1981) stated that "the real problem in dealing with urinary incontinence is one of the attitude of health providers".

Before discussing the implications of the overall attitude scores obtained in the current study, comments about findings to some of the individual items in the scale are made.

The findings that almost all of the respondents (98.7%) believed it was important that nurses themselves had a good understanding about the causes of incontinence, and a similar proportion agreed that "incontinence should always be investigated", were encouraging.

It could be argued that the way in which nurses perceive their role is an important factor in determining their attitudes towards caring for patients with incontinence. A substantial proportion of the qualified staff, eight CNs, just less than a quarter of the SNs and a third of the ENs agreed with the statement that "the nurse's primary role caring for patients with incontinence should be concerned with supplying appropriate aids". While the provision of appropriate incontinence aids is undoubtedly an important nursing function, this suggests that a number of nurses in the sample may have perceived their role in caring for patients with incontinence as predominantly palliative, rather than therapeutic, in function. The preponderance of indwelling catheters on all four types of wards in the study, as well as the considerable use of pads, pads and pants, and sheath drainage systems in the acute/rehabilitation HCE and the slow-stream rehabilitation HCE wards, as reported in the document survey in Chapter 4, indicated that in practice, much of the management of incontinent patients focused upon the use of such aids. A small proportion of respondents (32 in all; six CNs, six SNs, 13 ENs and seven NLS) agreed with the statement "Continence is a specialised skill and should be left to people such as continence advisers", while a further 65 respondents answered that they were uncertain. Thus, as with the finding discussed above, there seemed a tendency for some nurses to perceive their role caring for patients with incontinence merely in terms of coping strategies.

Nurses' perceptions of their ability to intervene therapeutically with elderly incontinent patients was, in a number of cases, limited. Respondents who agreed with the statement that "two-hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly" indicated that a number of nurses appeared to have only a very limited appreciation of the management options available. The NLS were least likely to express this view, while it is worrying to find

that almost a quarter of the SNs (23.4%) and over half (51%) of the ENs agreed with this statement. The findings of the earlier studies in Chapters 4 and 5, again suggested that in many instances patients who were identified by the nursing staff as incontinent were frequently prescribed incontinence aids or "regular", "routine" or "two-hourly" toileting to the exclusion of any other methods of management. It is possible that the nurses who agreed with this statement did so as a result of their beliefs about, and low expectations of, what can be done to alleviate incontinence in old age. If incontinence is perceived by nurses as a normal outcome of ageing, this would not inspire them to attempt rehabilitation.

Alternatively, this may reflect nurses' general lack of awareness concerning the variety and scope of the management strategies that are available to treat or alleviate the problem. While incontinence aids and fixed-interval toileting have a place in the management of patients with incontinence, they are interventions that are primarily directed towards keeping the individual dry rather than treating the underlying cause of the symptom. These findings, together with those discussed earlier in this chapter, indicate that there may be a need for nurse educators to place greater emphasis upon teaching nurses about rehabilitation than is presently the case.

It is claimed that indwelling catheters are prescribed too readily, often before other, less invasive methods of management have been attempted (Castleden and Duffin 1981). As mentioned above, the findings reported in Chapter 4 indicated that a large proportion of patients, in all four types of wards, had indwelling catheters to control incontinence. Although the reasons for their use were not examined, their widespread application suggested that many might have been prescribed before the patient had been adequately assessed, or before other methods of management had been considered.

The NLs were again least likely to agree with the statement "During the early phase of stroke rehabilitation bladder problems are best dealt with by a catheter". A quarter of the SNs and 40% of the ENs (comprising

almost two thirds of those in the slow-stream rehabilitation HCE wards), however, did so. Although it is not possible to infer that these nurses would necessarily behave any differently in clinical practice to those who disagreed with this statement, it does, nevertheless, suggest that in such circumstances the consideration of less invasive techniques might possibly be overlooked.

It was disconcerting to find that 10 of the CNs, and approximately a quarter of the SNs and ENs agreed that "patients are often incontinent of urine due to laziness". It was particularly noticeable that three of the six CNs and almost half of the ENs (46%) in the slow-stream rehabilitation HCE wards agreed with this statement. As mentioned earlier in this discussion, a substantial proportion of nurses in the sample appeared very ill-informed about the underlying causes of incontinence. Should nurses interpret incontinence to be the result of laziness, and thus, of the patient's own doing, their motivation to initiate therapeutic intervention is likely to be reduced.

Eleven

Ten percent of the sample agreed that "incontinence was an inevitable part of the ageing process". Fewer of the NLs agreed with this statement compared with the qualified staff, with ENs accounting for the largest proportion (38.8%). In common with the statement discussed above, almost half of the qualified nurses working in the slow-stream rehabilitation HCE wards agreed with this view. Nurses' expectations of patient behaviour are likely to influence their perceptions of what can be done to help patients in their care. As already mentioned above, should incontinence be viewed as a natural consequence of ageing, nurses might be inclined to passively accept the problem as irremediable.

Although few nurses agreed with the statement "I find it demoralising looking after patients with incontinence because there is little I can do to help", it is disturbing to find that 27 nurses (nine SNs, ENs and NLs respectively), nevertheless, did so. If nurses themselves are unaware of their potential to provide therapeutic care for patients who are incontinent, either due to lack of knowledge, appropriate attitudes, or

both, the care they give to patients is likely to be severely compromised.

There are widely held, yet unsubstantiated assumptions, that an individual's emotional, social or sexual needs diminish with age (Webb 1984). As a consequence, the impact incontinence might have upon the elderly sufferer may be underestimated in comparison with a younger sufferer. There is evidence to suggest that elderly incontinent women (65 years or older) are just as likely to suffer feelings of stigma, reflected in self-assessed isolation and low self-esteem, as younger women with incontinence (Norton et al 1988). Although the evidence to support Norton et al's (1988) findings is lacking for males, there is no reason to believe that the emotional impact experienced by older incontinent men will be any different to that of younger men who suffer from incontinence. Over a quarter of all respondents, nine CNS, almost a quarter of the SNS, just less than a third of the NLS and over a third of the ENS agreed with the statement that "incontinence is usually more distressing for a young person than for someone who is elderly". Two thirds of the CNS and half of the ENS in the slow-stream rehabilitation HCE wards agreed with this statement. If the psychological or social impact of being incontinent is perceived as being of less importance in the elderly, there is a risk that nurses will be less inclined to view it as a problem to the individual concerned. This finding is supported by previous results in this study and by those of Chapters 4 and 5, in which psycho-social support to sufferers with incontinence in general appeared to be a largely neglected area of nursing care. It is particularly important that nurses be aware of the emotional and psychological sequelae incontinence might pose the individual, young or old, as well as her family, so that they might help alleviate these problems and foster appropriate coping skills so the patient might better manage her symptoms.

Judging by the moderately high coefficient alpha (0.78), obtained when the attitude scale was subjected to internal consistency reliability testing, it appeared that the individual items were equivalent in terms of measuring the same attribute. Thus, when the individual scores from

the 12 items were combined to produce an overall score, tentative suggestions can be made as to whether nurses displayed rehabilitative or therapeutic tendencies or conversely, palliative or less rehabilitative tendencies towards specific aspects of caring for patients with urinary incontinence.

The minimum combined scale score which could have been obtained was 12 and the maximum was 60. The mean score obtained by respondents was 45.4, thus, in general, nurses appeared to have positive, rehabilitative or therapeutic attitudes towards aspects of caring for patients with incontinence.

Overall scores varied according to the grade of nurse, with CNs having significantly more favourable attitudes in comparison with other grades of nurses. It is of particular importance that CNs have positive, therapeutic attitudes towards specific health problems, such as urinary incontinence, since it is they who are ultimately responsible for the prevailing ethos of the ward environment, a factor likely to influence the nature and the quality of nursing care provision. There is evidence to suggest that the quality of patient care delivered by ward nurses is directly influenced by the sister's organisational attitudes to her work. Kitson (1985) found that where sister's of HCE wards organised and planned care based on the performance of tasks and procedures, the delivery of nursing care in these wards was observed to be less therapeutic than in wards where the sisters organised care in response to individual patient needs.

In the current study, the CNs, in comparison with the other qualified staff, were much more likely to have had post-basic education relevant to the promotion of continence and management of incontinence; a factor which may well have influenced the responses obtained here.

Although there was little difference in the attitude scores between SNs and NLs, the ENs showed significantly less favourable attitudes in comparison with each of the other grades of nurses.

Campbell (1971) investigated ward nurses' attitudes towards the elderly in the United States. She found that the licenced practical nurses (LPNs) (equivalent to ENs in the UK) were more likely to accept stereotyped attitudes about the elderly than the registered nurses (RNs) who demonstrated more positive attitudes. Interestingly, the LPNs spent more time caring for the elderly than the RNs.

Hardy (1981), referring specifically to caring for the elderly, maintains that breaking down negative attitudinal mores, and providing the support needed to enable staff to accept change, will largely be achieved through education. Differences in the educational preparation of ENs, compared with that of registered nurses, might have accounted for the variation in attitude scores obtained. The educational preparation of enrolled nurses had traditionally emphasised the application of practical skills with, perhaps, less emphasis on imparting theoretical knowledge necessary, in part, for the inculcation of appropriate attitudes.

ENs might have had fewer opportunities for participating in relevant basic and post-basic education than either the CNs or SNs. ENs' basic education, currently being discontinued in the UK, is two years in duration in comparison with three years for registered general nurses. However, as discussed earlier, with the exception of the CNs, there was little difference between the ENs and SNs concerning the amount, and content, of relevant basic and post-basic education received.

The system in which nursing care is organised might have accounted for the ENs displaying less positive attitudes in comparison with other grades of nursing staff. In contrast to the CNs and the SNs, ENs are primarily involved with giving direct personal care to patients and are less often involved with the prescribing or organising of nursing care. Hardy (1981) suggested that as a consequence, the EN may well become task orientated and develop stereotyped attitudes because the system of work allows her little scope beyond "getting the work done". In the slow-stream rehabilitation HCE wards in the current study, however, the ENs, with the exception of the CNs and one SN, comprised the majority of the nursing staff. In these circumstances, the ENs were likely to have been

as accountable as the other qualified staff for the organisation of much of the nursing work, yet they still demonstrated significantly less positive attitudes than the CNs in these wards.

Where the role of the EN is primarily involved with the giving of what is often termed "basic nursing care", for example activities associated with elimination, washing and feeding, care is often assumed to be less skilled, or of low status and thus less valued than other aspects of nursing work. This may be particularly true when considering nursing care associated with patients' needs for elimination, which Badger (1983) and Myco (1984) claim is an area often perceived by nurses to be of low priority. Where ENs themselves, or other members of the ward staff, undervalue the importance of these essential nursing activities, their expectations of what can be done to assist patients with such skills are also likely to be limited.

As ENs form a substantial proportion of the qualified workforce, particularly in HCE wards, and because in the ward situation they are likely to provide much of the care associated with the patients' eliminatory needs, it is important that they adopt positive attitudes towards the care of patients who are incontinent. While the simple provision of education may not automatically lead to changes in nurses' attitudes, it is likely to be one way through which many of the misconceptions surrounding incontinence may be gradually dispelled. As the findings indicated that ENs, compared with other grades of nurses, had the least positive attitudes, educational programmes directed at this specific group of nurses might be indicated. It is also important that the educational content of the enrolled nurse conversion courses pays sufficient attention to the promotion of positive attitudes towards the management of incontinence.

The night staff demonstrated significantly less positive attitudes than the day staff. The reduction of nursing staff at night, thereby increasing the nursing workload, as well as fewer opportunities for continuing education, might have accounted for these findings. The need

to provide regular in-service education, specifically targeted at night staff, should be encouraged.

Significant differences emerged between the attitudes of those nurses who had completed particular types of post-basic education and those who had not. There were no differences between the attitudes of nurses who had received specific education relevant to continence and incontinence during basic training, or those who had attended relevant conferences or study days. Unless nurses have opportunities to consolidate and update information, it is unlikely that the education received during their basic training will be sufficient for any sustained effect upon their attitudes, particularly if nurses trained a number of years ago. Equally, the possible benefits accrued from attending study days or conferences might rapidly dissipate once the nurse returns to the clinical situation. It was interesting to find that nurses who had completed the ENB 298 or 940 care of the elderly courses showed significantly more positive attitudes than those who had not. Nurses who had some in-service training relevant to the care of patients with incontinence also had significantly more positive attitudes, although differences were less marked than in those cases where nurses had undertaken the above mentioned courses. It is not possible, however, to assume that these differences are directly attributable to the attendance of such courses or in-service training. Nurses who had undertaken the ENB 298 or 940 courses, or relevant in-service training, may already have had more positive attitudes than those who had not.

Age and length of nursing experience appeared to have some influence on nurses' attitudes. Although there were no statistical differences between age and attitude scores for SNs, ENs and NIs, age was a factor in the case of the CNs. Younger CNs (30 years or less) had significantly more positive attitudes than older CNs. The younger CNs would tend to have trained more recently, when changes in attitudes towards incontinence and developments in continence promotion have occurred. Younger CNs were also more likely to have completed relevant post-basic courses than older CNs, which as discussed above, may have been a factor influencing nurses' attitudes.

SNs and ENs with less than 10 years nursing experience also tended to have more favourable attitudes than nurses who had a longer length of service; these differences being statistically significant for the ENs. Similar reasons to those mentioned for age might have accounted for these findings.

The type of ward in which the nurse worked was found to have a highly significant effect upon the attitude scores obtained. The qualified nurses working in the slow-stream rehabilitation HCE wards appeared to have significantly less positive attitudes, compared with nurses working in any of the other three types of wards. These differences remained when separate comparisons for the CNs and the ENs in the four types of wards were carried out. Although the CNs tended to have more positive attitudes overall, the CNs in the slow-stream rehabilitation HCE wards scored significantly lower than the CNs in the other types of wards. Thus, nurses' attitudes towards aspects of caring for patients with incontinence were different depending on the type of ward in which they worked.

There is evidence that the more dependent the patient the more negative the attitudes evoked by the nurses who care for them. A small study by Fielding (1979) which examined nurses' attitudes towards the elderly in general found that patients in a continuing care ward were rated significantly more negatively by nurses than elderly out-patients attending a day hospital. A number of other studies have observed that the more dependent the patient the more negative the attitudes evoked from nurses (Kappeli 1987, Stockwell 1972, Brown 1971).

In the current study, the variation in attitudes reported between different types of wards may have been related to differences in the characteristics of the patients for whom nurses cared, which in turn, may have influenced the way in which nurses perceived patients' needs for nursing care. Although the slow-stream rehabilitation HCE wards in the current study were not considered "long-stay", in comparison with the other three types of wards, the average length of patient stay (as reported in Chapter 4) was considerable (nine months). While data on

patient characteristics were not collected systematically, patients in the slow-stream rehabilitation HCE wards were likely to have been more functionally and mentally impaired than patients in the other types of wards. Urinary incontinence, as reported in Chapter 4, was more prevalent in the slow-stream rehabilitation HCE wards (71%), a factor which has been shown to be associated with increasing levels of physical and mental impairment (Sier, Ouslander and Orzeck 1987, Berrios, 1986, Brocklehurst and Dillane 1966b, Isaacs and Walkey 1964).

The wider context in which nurses perceive their role is likely to influence their attitudes towards nursing care in general. Bond and Bond (1987) and Evers (1981) suggested that dependent elderly people in long term care are perceived as a low status social group and suggest that no caring professional seeks positive involvement with this area of work. They also pointed out that the nature and the objectives of care in these wards are confused and inconsistent. Hardy (1981) remarked that the style of care in such wards is often interpreted as "tender loving care" which is interpreted as keeping patients clean, well fed, preventing pressure sores and being kind and cheery to patients. At worst, the style of nursing is "routine geriatric" as indicated by research by Wells (1975a) and Baker (1978).

There is a risk that if patient problems, such as incontinence, are perceived as the result of a particular level of dependency, an environment is created in which people are expected to behave in a certain way. Should nurses fail to perceive incontinence as a problem, but rather as a routine part of caring for elderly people, their motivation to help treat or ameliorate the condition is likely to be diminished. In these circumstances, nursing staff are more likely to support, or may even induce, dependent behaviour in patients in their care. Evidence to suggest that this may be the case has been provided by Miller's (1985) study in long term care for the elderly, as discussed in section 1.4.3.5, in Chapter 1.

Bond and Bond (1987) stated that while the emphasis of care may be different in longer term care than in the acute settings, the goals of

nursing care should fundamentally remain those of rehabilitation; for example, promoting independence in mobility, feeding and, where incontinence is a problem, the restoration of continence. Partial restoration, where complete restoration is not possible, should also be perceived as a legitimate goal in itself.

It must be acknowledged that the assessment and management of patients with urinary incontinence, often with other attendant functional impairments, in the slow-stream rehabilitation HCE wards is complex. This should not, however, prohibit the nursing or the medical staff from attempting to restore continence where possible, or initiating measures to ameliorate the problem where it is not. In contrast to the acute care setting where, due to the comparatively rapid discharge of patients, comprehensive assessment and the evaluation of management strategies may be impeded or prohibited, nurses and other ward staff in the slow-stream rehabilitation HCE wards may be in a much better position to carry out such care. Specific management techniques, such as pelvic floor exercises, habit or bladder training regimens, which may require several weeks or months in order to carefully evaluate their effectiveness, may be more feasible to implement in the slow-stream rehabilitation HCE wards, where patients are likely to be admitted for longer than patients in the acute care settings. Greater opportunities for patient teaching, for example about the use and care of specific types of incontinence aids, where needed, may also be afforded in the longer stay setting. However, unless nurses who work in such wards adopt a positive approach towards caring for patients with incontinence, measures to exploit the patient's rehabilitative potential are unlikely to be realised.

An improved, or adapted version of the tool used to measure nurses' attitudes in the current study, might be a useful method of assessing the extent to which knowledge influenced attitudes, following the completion of courses relevant to the management of patients with incontinence. It might be one particularly useful way to evaluate the effectiveness of the ENB 9⁷/₈ "The promotion of continence and management of incontinence" course. A pre-test/post-test design would ensure that a measure of nurses' attitudes was established prior to the intervention of an

educational programme. There is some evidence to suggest that specific educational programmes for nurses can be effective in enhancing nurses' attitudes towards particular aspects of nursing care. For example in Sweden, Hamrin (1982) reported a significantly positive change in nurses' attitudes towards the rehabilitation of stroke patients following a course of ward-based lectures. Harrison and Novak (1988) in the United States, evaluated the effect of an educational programme for nurses caring for the elderly in hospital. They found a significant increase in nurses' knowledge, and a small but positive change in nurses' attitudes, as measured on the Kogans Attitudes to Old People Scale, after completion of the course.

Further research is now needed to determine the relationship between nurses' attitudes and nursing practice.

6.6.7 Definition of incontinence

The difficulties associated with defining urinary incontinence were discussed earlier in section 1.3.1, in Chapter 1, and in section 3.6.4, in Chapter 3. When asked to define incontinence in the current study, the answers given by a number of nurses had identified the difficulties inherent in attempting to define the problem. The way in which the nurse defines incontinence, however, may be an important factor in determining whether or not she perceives the condition as constituting a health problem necessitating intervention. As discussed in Chapter 3 section 3.6.4, where nurses, other health professionals, and the patient herself lack a shared commonality of meaning for common health problems, such as urinary incontinence, conflicting expectations and goals of care are likely to result.

The most common response (52.4%) given by nurses, irrespective of grade, defined incontinence simply as the loss of urine, or loss of bladder function. This broad definition avoids the complexity of some other definitions commonly used, and may serve as a useful starting point in the process of identifying patient problems. It does, nevertheless, imply that all urine loss constitutes incontinence which, as discussed in

Chapter 1 section 1.3.1, is clearly not always the case (for example, inappropriate use of a toilet receptacle resulting in spillage of urine).

Equally, incontinence may not necessarily be the result of impaired bladder function but the result of extrinsic factors affecting the incontinence sufferer's ability to cope with her bladder. Where the definition of incontinence encompasses all instances of urine loss, or is perceived solely in terms of impaired bladder function, important aspects of the problem may be easily overlooked. The dearth of responses indicating an appreciation of many of the factors which can predispose to incontinence, such as immobility, environmental hazards or the side-effects of drugs, as discussed earlier in sections 6.5.4.3 and 6.5.4.4, may have been due to the nurses' limited perception of the problem.

It is interesting to note that a number of nurses (30 in all) interpreted incontinence as the result of a person's lack of awareness of the need to void, and five respondents perceived incontinence as being a complete lack of bladder control. Urine loss in circumstances where patients were aware of the need to void, or in those with partial bladder control may not, therefore, have been perceived as incontinence. Only a small number of nurses (11 in number) defined incontinence in terms of its social or psychological consequences; factors which may be the most useful means of determining the clinical significance of the problem.

Asking nurses to define incontinence is one means of providing some information concerning the way in which they perceive the problem. Any definition of such a complex symptom, however, is going to be inadequate, since the problem demands greater specificity than is available in any single definition. As discussed in section 3.6.4 in Chapter 3, nurses may re-define the problem of incontinence depending on factors such as the patient's age, level of dependency or degree of urine loss. Thus, nurses' individual definitions of what constitutes incontinence may alter depending on a number of different factors; an area which was not examined in the current study. Other research, using methods such as in-depth interviews in order to explore further the ways in which nurses define incontinence, are clearly needed.

6.7 CONCLUSION

While the majority of nurses in the study had covered some aspect of teaching relevant to the promotion of continence and management of incontinence, either during basic or post-basic education, or both, it appears that deficiencies existed in the extent to which the assessment and the management of the problem was approached. A substantial proportion of the CNs, and the majority of the SNs and the ENs had not up-dated their knowledge in this area since the time of their basic training. Insufficient emphasis appeared to have been given to teaching about the assessment of patients with incontinence in the case of many of the qualified nurses. The teaching nurses remembered receiving during their basic, and post-basic education, centred mainly upon measures aimed to contain the problem, rather than efforts directed towards rehabilitation or treatment. It is worrying to find that in spite of advances in knowledge, and apparent changes in attitudes towards incontinence in recent years, there was little difference in the nature of the responses recorded by the NLs and the qualified staff.

If it is assumed that the responses given to the questions concerning the causes and assessment of incontinence are representative of the respondents' knowledge of these areas, these results indicate that many nurses, irrespective of grade, lack sufficient knowledge upon which informed nursing practice should be based. Although about half of the CNs and the ENs, and the majority of the SNs and the NLs, had stated that they had received teaching about the causes of incontinence, the often ill-defined nature of many of the reasons given for incontinence indicated that a substantial proportion of nurses had only a hazy understanding of the various processes involved. These findings are similar to those of Wells

(1975a), 14 years ago. The infrequent consideration of many important factors which should be incorporated into the assessment suggests that the majority of nurses, of all grades, are largely unaware of the multiplicity of areas which should be considered. Doubts must again be raised about the adequacy of the basic and post-basic education about continence care currently received by nurses.

Whilst overall, nurses appeared to demonstrate positive, therapeutic attitudes towards aspects of caring for patients with incontinence, as judged by the mean scores obtained on the attitude scale, there were, nevertheless, a number of findings which are cause for concern. The responses given to a number of the attitude statements indicated that a considerable proportion of the qualified staff perceived their role in caring for patients with incontinence as one which was predominantly palliative, rather than therapeutic, in function. A small but substantial number of CNs, and between a quarter and a third of the other qualified staff, agreed with common misconceptions that incontinence is often the result of laziness, or an inevitable part of ageing.

Similarly, more than a fifth of the CNs, and between a quarter to a third of the SNs, ENs and NLs, believed that incontinence was more distressing for a young person than for someone who is elderly. Clearly, there is still a need for further education to help dispel some of the common misconceptions that still surround the problem of incontinence. The type of ward in which nurses worked, as well as the grade of nurse, were variables which had a highly significant effect upon the attitude scores obtained. ENs, irrespective of type of ward, and the nursing staff who worked in the slow-stream rehabilitation HCE wards, demonstrated significantly less positive attitudes when compared with the attitude scores obtained from the CNs, SNs and NLs, or nurses working in other types of wards, respectively. It would appear there is a need to focus attention specifically at ENs, as well as the nursing staff working in the slow-stream rehabilitation HCE settings, in order to increase their level of awareness of the therapeutic, rather than merely the palliative aspects, of caring for patients who suffer from incontinence for whom they are responsible.

CHAPTER 7

FINAL DISCUSSION

CHAPTER 7

FINAL DISCUSSION

7.1 INTRODUCTION

The limitations of the methods are considered, followed by an overall summary of the findings for each of the studies reported in Chapters 2, 3, 4, 5 and 6. In the light of these findings, a number of recommendations for nursing practice and education are discussed. Finally, suggestions for further research in this area are made.

7.2 LIMITATIONS OF THE METHODS

McGrath (1982) stated that all research methods are inherently flawed and it is the task of the researcher to acknowledge the flaws and to balance them, overall, in the acquisition of knowledge. The limitations of the methods specific to the individual studies have already been addressed in previous chapters of this thesis and will not, therefore, be referred to again here. This section is concerned with the appropriateness of the methods used in the light of the overall aim of the thesis, which was to examine the nursing assessment and management of the care of incontinent patients in medical and HCE wards.

The methods employed in the studies described in this thesis can be criticised for their over-reliance on indirect means of data collection. The information obtained primarily relied upon the use of nurses, and to a lesser extent patient self-reports, the examination of nursing and medical documentation, and self-completed nurse questionnaires. Some data were collected by means of direct observation. Thus, the extent to which the information collected during the course of these studies is representative of clinical nursing practice, is difficult to ascertain.

It could be argued that a greater use of observational techniques might have provided more direct insight into the means by which nurses assess and manage the care of incontinent patients in the ward. Observation is a useful research tool which has been successfully employed to examine a variety of clinical problems and aspects of nursing care in the ward setting. Observational methods, however, are not without their limitations, in particular, the problem of observer bias.

The selection of the research design is dependent upon the research question initially posed. The difficulties inherent in the detection and assessment of incontinence, as highlighted in Chapter 1 and Chapter 3, limited the value of using non-participant observational methods. Preliminary fieldwork, in which the researcher observed patients and nurses in the ward, had shown that very little useful information could be gained by such a method for the purposes of the current investigation.

Alternatively, the use of participant observation (i.e. the researcher would have worked as a nurse with the ward nursing staff) in a longitudinal study of a sample of patients from admission to discharge might have been one means of providing a more accurate reflection of current nursing practice, as well as increasing the opportunity for the collection of more qualitative, as well as quantitative data, than was the case in the present study. The time-consuming nature of such a method, however, would have severely limited the number and range of wards observed, and thus, the generalisability of the results obtained. In addition, the opportunity for greater subjective interpretation of the events observed, associated with this method, may have compromised further the reliability and validity of the findings. Thus, the utilisation of more direct means of data collection, through the use of observational techniques, would not necessarily have enhanced the validity of the findings, and, for the purposes of the current studies, was considered to be impracticable.

It was hoped that by employing several different methods of data collection, and examining the research problem from a number of different perspectives, the findings, when considered overall, would provide a

reasonably accurate and reliable representation of current nursing practice associated with the care of incontinent patients in medical and HCE wards. Whilst it is not possible to know to what extent this aim was achieved, many of the findings of one study were subsequently supported by those of successive studies undertaken for this thesis, thus enhancing the level of reliability of the data obtained. Similar studies with which to directly compare the findings of the current study are not available. A number of studies in which other aspects of nursing care in ward settings were investigated, as discussed in Chapter 1 have, however, provided evidence which tends to support the overall findings of the current work.

7.3 SUMMARY OF THE MAIN FINDINGS

7.3.1 The size and nature of the problem

It is clear from the findings reported in Chapter 2 and Chapter 4 that urinary incontinence is a common problem in the acute medical and HCE ward setting. Between 11% and 19% of the patients in acute medical wards, and, depending on the type of admissions policy, approximately half (48-53%) to almost three quarters (71%) of those in the HCE wards were identified by nursing staff as incontinent of urine. Over half (60%) of those patients, for whom information was available, were identified as already incontinent on admission to the ward, although the reliability of this information was not established. Of those patients identified as incontinent by the nursing staff, more than two thirds (69.5%) had either an incontinence aid (pads, pads and pants or sheath drainage appliance) or an indwelling catheter to manage the problem. Incontinence aids were used significantly more often on the acute/rehabilitation HCE and slow-stream rehabilitation HCE wards than on other types of wards. Almost two thirds (63%) of those patients without indwelling catheters were identified by the nursing staff as incontinent of urine one or more times during the day and/or night. Evidence collected in the study reported in Chapter 3, suggested that information obtained from qualified nurses concerning the frequency of incontinence

episodes, was unreliable. These findings may not, therefore, have been a reliable estimate of the frequency of the problem in these wards.

7.3.2 The identification of the problem

If a co-ordinated, rehabilitative approach to the care of incontinent patients is to be adopted, all members of the ward team need first to be aware that the problem exists. In this thesis, it has been argued that nurses in the ward situation, by virtue of their close involvement with patients, are more likely than other members of the team to be in a position to identify, and assess, many of the difficulties associated with patients' eliminatory functions.

Evidence was collected which suggested that in practice, nurses were not always aware of patients' incontinence problems. During the course of collecting data, it became clear that a considerable proportion of the qualified nurses did not consider themselves sufficiently well-informed about patients in their wards when asked to provide information regarding their continence status. In circumstances where qualified nurses considered they knew the patients well enough to be able to provide such information, discrepancies between nurses frequently arose. In addition, it was shown that incontinence was an under-reported problem in the nursing care plans, medical records and nurse verbal hand-over reports. Whilst in the majority of cases (77%), incontinence was found to be recorded somewhere in the nursing records, the information was often difficult to ascertain and frequently out-of-date. Although widely recommended in the literature, continence charts were found to be very rarely used in the wards included in the studies. On no occasion were such charts found to be used in the acute medical and slow-stream rehabilitation HCE wards.

7.3.3 The assessment of the problem

It was identified in the literature that a comprehensive assessment of incontinence necessitates the examination of many areas which may predispose towards, or cause, an individual to become incontinent.

Evidence from the studies in this thesis would suggest that the assessment of patients with urinary incontinence was inconsistent and often incomplete.

As discussed in section 7.3.2, continence charts appeared to be very rarely used. This may have accounted for the poor level of reliability obtained when qualified nurses were asked to assess the pattern and frequency of episodes of incontinence experienced by patients in their wards. Unless methods of objectively measuring and recording specific aspects of the problem are utilised, such as continence charts, nurses' assessments are likely to be wholly subjective and thus, inherently unreliable.

The findings of the document survey and observations of the verbal hand-over reports provided little evidence to indicate that any comprehensive assessment of patients' incontinence problems was being carried out by nurses. It is stressed, however, that the written information may not have been an accurate reflection of the care carried out in practice. Where incontinence had been recorded as a problem in the nursing records, additional information from which an assessment could be established, was frequently lacking. In cases where there was recorded evidence to suggest that an assessment of the problem was being carried out, information was, in the main, fragmentary and lacked detail. In only a minority of cases were any of the causes, or predisposing factors, of incontinence documented in the nursing or medical records. On no occasion during verbal hand-over reports were the possible causes of the problem identified or discussed. Evidence was collected which indicated that a small proportion of nurses (10%) may not have perceived the assessment of incontinence to be part of their role, but rather the function of others such as the doctor or the continence adviser.

The lack of evidence to suggest that any assessment of incontinence was being carried out, as indicated by the survey of nursing records, was supported by the findings obtained from the study of nurses' knowledge. Evidence from nurses' self-completed questionnaires suggested that many nurses may have lacked the specific knowledge necessary to carry out a

comprehensive assessment. Nurses appeared ill-informed about the causes of and factors predisposing to incontinence and the majority of nurses, irrespective of grade, had only a limited appreciation of the range of factors which should be considered in order to ensure that a systematic assessment of incontinence is carried out. A number of important, easily preventable factors of direct concern to nurses, such as assessment of the patient's bowel function or the consideration of environmental hazards, were infrequently identified. The assessment of factors which are relevant for discharge planning were rarely mentioned, while the assessment of psycho-social consequences of incontinence appeared to have been largely ignored, as reflected by the dearth of information concerned with these aspects recorded in the nursing documentation and questionnaires. Whilst the majority of learner nurses stated they had been taught about the assessment of incontinence, this appeared to have been a largely neglected component of the qualified nurses' basic and post-basic education. In addition, just less than a third of those nurses who stated they had received such teaching did not feel adequately prepared in this area. It is noteworthy that the nature of the learners' responses, of whom the majority had stated they had received specific education about the assessment of incontinence, differed little from those of the qualified staff. This would suggest that closer attention needs to be paid not only to the quantity, but also the quality, of the information given to nurses concerning the assessment of incontinence during their basic education.

Almost half of the charge nurses and the majority of the other qualified nursing staff stated that they had not had any continuing in-service education related to the promotion of continence and management of incontinence since their basic training.

7.3.4 Management and evaluation of care

As identified in section 7.3.1, a large proportion of the patients in the medical and HCE wards had indwelling catheters to manage incontinence. In addition, evidence was collected which indicated that the use of incontinence aids in the acute/rehabilitation HCE and slow-stream

rehabilitation HCE wards was widespread. Whilst no claims can be made concerning the suitability of these modes of management, there was little evidence in the nursing or medical records, or verbal hand-over reports, to suggest that such aids had been prescribed on the basis of any assessment of incontinence. Written evidence concerned with aspects of the management of incontinence was lacking in approximately half of the nursing and medical records in which incontinence had been identified. Evidence collected from the nursing and medical records, the verbal hand-over reports, and nurses' questionnaires indicates that the nursing management of patients with incontinence still focuses predominantly on measures which are intended to contain the problem with little attention being given to rehabilitative interventions. In the absence of direct observations, however, these findings may not be representative of actual nursing practice. However, a number of observational studies of nursing practice carried out by other investigators, as discussed in Chapter 1, have reported similar findings which support those of the current studies.

The basic and post-basic education concerned with the management of incontinence which nurses remembered receiving appeared to concentrate mainly on the use of incontinence aids, fixed-interval toileting regimens and indwelling catheters. In accordance with the findings concerned with the assessment of incontinence, there was little evidence to suggest that nurses were aware of the wider aspects of management such as bowel care, the adjustment of drug regimens or environmental adaptations. Supportive, psycho-social aspects of care were also very infrequently considered. Despite an increasing emphasis, in recent years, for nursing to focus upon health and prevention of disease, nursing is still primarily illness-orientated. This was reflected in the current findings where there appeared to be very little consideration by nurses of aspects concerning the prevention of incontinence, health education or patient teaching.

The measurement and evaluation of patient outcomes is a relatively new concept to nursing. If nurses, together with other members of the ward team, aim to help patients to regain continence, or to better manage

incontinence, it is imperative that objective, reliable and valid outcome measures are developed and utilised. Measurements should also be sufficiently sensitive to detect changes in the pattern of episodes of incontinence, in circumstances where complete cure may not be achievable. Equally, the measurement of patient outcomes should include the subjective benefits accrued from treatment, which may not necessarily be associated with any objective changes in symptoms. Evidence that nurses in the current studies were collecting any information which could be usefully applied to evaluate the outcomes of management for incontinence was, however, found to be lacking.

7.3.5 Nurses' attitudes

Despite apparent changes in attitudes towards the care of incontinence sufferers in recent years, evidence collected in the current study suggests that a number of common misconceptions remain. Areas of particular concern related to the nurse's perception of her capacity to help incontinence sufferers and her attitudes towards the incontinent elderly.

In spite of considerable scope for the provision of rehabilitative care for incontinence sufferers, many nurses appeared to have a very limited appreciation of their own potential for initiating such care. A large number of qualified nurses appeared to view their role as being restricted primarily to the provision of incontinence aids while approximately a quarter were either uncertain, or agreed that continence promotion should be left to specialists such as continence advisers. Similarly, a substantial proportion of staff nurses and enrolled nurses appeared to view methods of restoring continence in the elderly as being restricted to two-hourly toileting and incontinence aids.

Evidence was collected to suggest that a small proportion of the charge nurses, and approximately a quarter of the other qualified nursing staff, believed that patients were often incontinent of urine due to laziness, while 10% believed incontinence to be an inevitable part of ageing.

A small proportion of the charge nurses, a quarter of the staff nurses and approximately a third of the enrolled and learner nurses considered incontinence to be more distressing for a young person than for someone who is elderly.

When individual items scores in the attitude scale were combined, nurses, overall, appeared to demonstrate positive, therapeutic attitudes towards the care of patients with incontinence.

Attitudes were found to vary according to a number of specific variables, which included the grade of nurse and the type of ward in which she worked. Enrolled nurses demonstrated significantly less positive attitudes towards the care of patients with incontinence than other grades of nurses, as did nurses working in the slow-stream rehabilitation HCE wards when compared with the nursing staff working in the other types of wards.

7.4 RECOMMENDATIONS FOR NURSING

The research undertaken for this thesis has highlighted a number of areas which have important implications for the way in which hospital nurses assess and subsequently manage the care of patients who are incontinent. These recommendations have been broadly divided into two main areas, the first is concerned with issues relating to nursing practice, the second with nurse education.

7.4.1. Nursing practice

1) Identification of the problem

Findings from these studies indicated that nurses, and other members of the ward team, may not always be aware of their patients' continence problems. If a co-ordinated, team approach to the assessment and subsequent management of incontinence is to be encouraged, it is imperative that the problem is brought to the attention of all those

involved in the care of the patient. As the ward nurse is in the best position to identify problems associated with the patient's eliminatory function, including incontinence, she should ensure not only that such information is collected, but also that it is effectively communicated to all those involved in the care of the patient. Suggestions as to how this may be achieved include the following:

- Determining the patient's usual habits of micturition and bowel function as soon as possible after admission, and ensuring the information is clearly recorded in the nursing care plan. Any subsequent problems associated with bladder function which may arise during hospital admission should be assessed in the light of information concerning the patient's usual habits of micturition.
- Establishing between patient, nurse, doctor and other members of the ward team involved in the care of the patient, a clear, mutually agreed definition about what constitutes a "continence" problem.
- Ensuring that nurses are made aware that patients may deny, or be reluctant to admit to being incontinent. Just asking the patient whether they have any problems associated with bladder function, as is common nursing practice when patients are admitted to hospital, may not be sufficient to elicit reliable information concerning the patient's bladder status. Nurses should ensure that patients are given the privacy and time in which to feel confident about discussing any continence problems they may have. Where patients cannot be interviewed, efforts to obtain the relevant information from relatives/carers should be made.
- Where incontinence is identified to be a problem, ensuring that the problem is brought to the attention of all those involved in the care of the patient. This should include a clear, written statement of the problem in the nursing, medical and therapists' records. The issue of a single patient record as a means of

facilitating inter-disciplinary communication is discussed below, in the section concerned with the assessment of incontinence.

ii) Assessment of incontinence

The findings of the studies reported in this thesis suggest that the assessment of patients, who are identified as incontinent by nurses, is inconsistent and incomplete. Nurses need to be made aware that the aim of the assessment is to identify, where possible, all the factors (physical, psychological, and social) which affect the patient's ability to maintain continence. Suggestions as to how the assessment of incontinent patients in hospital might be improved include the following:

- Determining whether or not incontinence is associated with the patient's current reason for admission, when the problem first started and whether it was associated with a specific, precipitating factor.
- Ensuring that information necessary for a co-ordinated, planned discharge, where appropriate, is elicited from the patient, relatives or carers, during the first few days of admission. Areas of enquiry should include the patient's usual method of coping with the problem (if applicable), the availability of support from carers, and the provision of toilet facilities in the home.
- Ensuring that an assessment of the physical, physiological, psychological, environmental, social and economic dimensions of the problem, where relevant, are considered. Any assessment of the psychological, sexual and social implications of incontinence should include not only the patient, but also, where relevant, the relatives and carers. The findings of the assessment should be recorded and easily accessible to all those involved in the care of the patient.
- The utilisation of a single assessment sheet or checklist to which nurses, doctors, therapists and other members of the ward team all

contribute, might ensure that relevant areas are not overlooked, and reduce the possibility of ward-based information becoming fragmented. Whilst the general principles of an assessment are similar, irrespective of clinical specialty, the assessment sheet could be modified to suit the needs of the patient in the specialty in which it is used. The assessment sheet could subsequently accompany the patient after discharge, helping to assist in the continuity of community care, where it is appropriate.

- Observing the patient's functional abilities to perform independent toileting in the ward setting, and, where possible, in the home situation. In the light of these observations, establishing the need for specific equipment, adaptations and aids necessary to facilitate toileting in hospital and, where applicable, in the home.
- Nurses should be particularly aware of, and assess for, preventable factors which can predispose a patient to become incontinent. This should include checking for constipation/faecal impaction, the side-effects of drug regimens, and environmental hazards.
- Establishing useful, reliable base-line information, such as the frequency and timing of episodes of incontinence, by the accurate completion of a continence chart for a period of three days, as recommended by Robb (1985). Nurses should know how to interpret the information obtained, to help identify the causes of the problem, to assist in the planning of patient care, and to measure and evaluate the management outcome.
- Ensuring that the word "incontinence" is avoided during verbal and written communication, unless it is clarified by additional information which defines the problem more precisely. Such information would include when episodes of leakage occurred, an estimation of how much leakage occurred, the association of leakage of urine with particular activities, and the frequency of episodes of incontinence.

iii) Management of incontinence

Care concerned with the management of incontinence should be planned (and recorded) on the basis of an assessment of the problem. Findings from the studies provided little evidence to suggest that this was occurring in practice. In addition, interventions appeared to focus predominantly on methods to keep the patient dry rather than helping the individual, where possible, to regain continence. This may have been partly attributable to nurses' lack of knowledge, or to the way in which they perceived their role in the management of the care of patients with incontinence, issues which are addressed in section 7.4.2. Some suggestions as to how the management of incontinent patients in hospital might be improved include the following:

- Ensuring that other methods of management are always considered before patients are prescribed incontinence aids. Avoiding the use of indwelling catheters, even as a short-term measure, until the inadequacy of other, less invasive methods of management has been established.
- Where incontinence aids are necessary, ensuring that they are prescribed on the basis of the findings of an assessment of the problem. Nurses need to be made aware that incontinence aids, where used, are not necessarily the sole means of management but may serve as a useful measure during rehabilitation in conjunction with other methods, such as bladder training regimens.

All patients who are discharged with incontinence aids should be informed of their availability in the community, prior to going home.

- Where the use of a urinary catheter is deemed necessary, to establish whether the use of intermittent catheterisation, performed either by the patient, or where this is not possible, by the nurse, is a viable alternative to indwelling catheterisation.

- Prior to discharge, nurses need to ensure that patients (and their relatives or carers, where relevant) are educated in the methods prescribed to treat or manage their incontinence whilst in hospital, and that the community nursing services are fully informed of the reasons for the choice of these interventions.
- Prior to commencing a toileting regimen, the nurse should ensure that the patient's pattern of micturition/incontinence is ascertained, and where possible, an estimation of the patient's bladder capacity is made.
- Nurses should be aware of other methods of toileting regimens that are available in addition to fixed-interval or "regular" toileting. Based upon the findings of the assessment, nurses should be able to choose the most appropriate toileting regimen to suit the specific needs of the individual.
- Nurses should always consider the wider aspects of incontinence management, where appropriate, such as bowel care, dietary alterations, environmental adaptations, and adjustment of the patient's fluid intake or drug regimens.

iv) General aspects

- Standard setting, a process whereby acceptable and achievable standards of nursing care are defined, is currently one method which attempts to monitor quality of nursing care provision. Teams of nurses, comprising of practitioners, managers and educators, who are responsible for examining specific practices associated with the management of the care of incontinent patients in hospital, may be one way in which local standards of nursing care in this area might be established.
- One means of increasing the standard of nursing care provided for incontinence sufferers in hospital might be to ensure that all qualified nurses working in areas such as medical, care of the

elderly, neurological, gynaecological and obstetric wards, as well as the nurse educators responsible for teaching the subject, attend a specialist continence course.

- Hospital nursing practice may be enhanced by the appointment of a qualified nurse from each ward, or a group of wards, to act as a resource person from whom other members of the ward team could obtain advice or to whom patients might be referred. The resource nurse would need to be given sufficient time and facilities in which to keep up-to-date with current developments in this field, and she should ensure that such information was regularly disseminated to other members of the ward team. The expertise of the continence adviser would be drawn upon in circumstances where the resource nurse was unable to provide the appropriate advice or care required.

7.4.2 Nurse education

During the course of the current investigation, a number of issues were raised relating to the education which qualified and learner nurses receive concerning the subject of continence and incontinence. In the light of these findings, a number of recommendations are made.

Findings indicate a need to re-examine the content of the teaching currently given to nurses concerning continence and incontinence related patient care. Areas which appear to deserve particular attention include the following:

- More effective teaching is needed, at basic and post-basic level, to equip nurses with the knowledge and skills necessary to enable them to carry out comprehensive assessments of patients who have continence problems. Such teaching should ensure that nurses have a thorough knowledge of the causes of incontinence and an awareness of the multifactorial nature of the problem. In addition, education directed specifically to the appropriate use of

continence charts, both as an aid to assessment and as a means of evaluating intervention, is indicated.

- Nurse educators responsible for the planning of conversion courses, to enable enrolled nurses to become registered general nurses, should ensure that an up-to-date and comprehensive module concerned with continence and incontinence related patient care is included in the curriculum. In view of the findings of the study reported in Chapter 6, particular attention should be given to dispelling the many misconceptions which commonly surround incontinence, which may inhibit appropriate rehabilitative care being delivered to the patient. The specific issue of nurses' attitudes will be addressed further, later on in this section.
- Care needs to be taken to ensure that nurse educators are given the time and resources necessary to up-date their knowledge on the subject of continence and incontinence.
- The educational needs of the auxiliary staff, as well as the soon to be appointed support worker, also need to be carefully considered if the quality of care given to patients with incontinence is to be enhanced.
- Nurses need to be made more aware of the importance of their role in preventive health care, particularly in the care of specific "at risk" groups of individuals, such as pregnant or menopausal women, and the elderly.
- Care should be taken to ensure that all nurses, and in particular, those who care for the elderly, are made much more aware of the far reaching psychological, sexual and social implications that incontinence may pose the sufferer, her family and carers.
- There appears to be a need for increased teaching about rehabilitative methods of incontinence management. This should include nursing interventions such as pelvic floor exercises, habit

and bladder training regimens, intermittent catheterisation, and behaviour modification techniques, together with the theoretical teaching concerned with the principles underlying these methods.

- The development of guidelines to assist nurses (and patients) to make rational decisions concerning the choice of incontinence aids needs to continue. The setting up of a national incontinence aid data base (as discussed in section 6.6.3, Chapter 6) needs to be given serious consideration.
- In addition, learner and qualified nurses need to be given regular opportunities to keep up-to-date, and familiarise themselves with the correct application of the incontinence aids which are currently available. The regular provision of workshops, or the establishment of a demonstration room in the hospital in which a range of aids are displayed, and their correct use demonstrated, include ways in which this might be facilitated.
- Opportunities for learner and qualified nurses to attend urodynamic clinics, continence clinics and to accompany the continence adviser on domiciliary visits, include some of the ways in which ward-based nurses might gain a broader perspective and a better understanding of the problem. Accompanying the continence adviser whilst visiting patients in their own homes might provide one means of increasing the ward-based nurses' awareness of the importance of discharge planning. Alternatively, learner nurses could be given opportunities to follow-up patients after discharge, for whom they had been caring in hospital. Opportunities for follow-up visits might help learner nurses to gain a better understanding of the problems which face the incontinence sufferer in her home situation.
- Methods of consolidating and up-dating knowledge about continence and incontinence related patient care by means of specific educational programmes, workshops, conferences, study days and specialist courses should be provided for qualified nurses in all

relevant ward specialties. Nurse managers need to ensure that nurses are given sufficient time and resources to enable them to take up the opportunities that are presented to them. In addition, it is important that nurses themselves perceive the need to up-date their own knowledge in this area. This is much more likely to occur where the assessment and planning of care to help people meet their eliminatory needs is taught as being skilled, thoughtful nursing activity, rather than, as perhaps has traditionally been the case, perceived as just "basic nursing care".

- There appears to be a pressing need for increased education to help nurses develop and utilise more precise, measurable criteria to evaluate patient outcomes. Measuring the frequency of episodes of incontinence in association with the accurate completion of a continence chart, monitoring by counting or weighing incontinence pads, where used, and the collection of information related to the patients' subjective reports of changes in their symptoms, and the perceived benefits (or otherwise) of management, in terms of physical, psychological and social well-being, include some of the ways this may be achieved.

- Educational programmes aimed at increasing nurses' knowledge concerning the care of patients who are incontinent should pay particular attention to the inculcation of positive attitudes towards its management. Giving nurses the opportunity to examine and articulate their own feelings and attitudes concerned with caring for patients with incontinence, may serve to highlight areas of popular misconception which need to be addressed. Findings from the study reported in Chapter 6 would suggest that efforts to dispel some of the common misconceptions surrounding the subject of incontinence should be directed particularly at enrolled nurses, and those nurses working in long-stay care of the elderly wards.

Finally, one of the recommendations of the King's Fund report (1983) was that nursing and medical schools should consider how, and where, the subject of urinary (and faecal) incontinence should be taught in the

curricula. Although, for the purpose of the present study, this question was not specifically examined, nurses in the school of nursing in the health authority in which the studies took place, received one hour of teaching specifically related to the subject of incontinence during their basic education. The majority of the teaching concerning the subject of incontinence took place during the learners' health care of the elderly module. As incontinence is a problem which can affect an individual at any age, and occurs in most types of wards, it is important that the subject is given thorough consideration in other nursing modules, for example, during the teaching about the care of the patient with gynaecological, urological or psychiatric problems. If a multidisciplinary team approach to the management of the care of patients with incontinence is to be a realistic goal a core teaching programme in which learners, medical students and therapists participate together, would seem to be one way this aim might be achieved.

7.5 SUGGESTIONS FOR FURTHER RESEARCH

In these studies, as with all research, more questions were raised than were answered. The findings have highlighted a number of issues which warrant further investigation, while the need for research into other areas, not examined in the current studies, was also indicated. Areas for consideration include further work concerning nurses' knowledge and attitudes towards the care of patients who are incontinent, the development of clinical tools for use in the assessment of incontinence in the ward situation, and research to evaluate the efficacy of different management strategies used to help incontinence sufferers. In addition, further work to investigate the psychological and social consequences of incontinence upon the sufferer, and her family or carers, is indicated.

7.5.1 Nurses' knowledge and attitudes

The acquisition of knowledge by nurses does not necessarily guarantee the delivery of good nursing practice. Similarly, the relationship between attitudes and nursing care is relatively unknown. Thus, experimental

studies to evaluate the effects on nursing practice of educational programmes designed to increase nurses' knowledge about incontinence are needed. Outcome measures might include not only alterations in the levels of incontinence, but also other variables such as changes in the patient's emotional and social status, staff morale and, in the longer term, changes in financial costs. An indirect method of assessing the benefits of increased education might also include the examination of nursing records for changes in the quality of the information documented.

Further descriptive work is needed to examine the knowledge and attitudes towards incontinence of the unqualified nursing staff, namely the auxiliaries (and in the future, the support workers), particularly as they are (or will be) responsible for much of the direct care given to patients in the ward situation. Equally, research to investigate the nurse teachers' levels of knowledge about incontinence, and to identify their specific educational needs in this area, is also indicated. A recent report compiled by the Social Policy Research Unit (1989), in York, has recently highlighted a need to develop knowledge and expertise about incontinence among those who provide community care. The studies reported in this thesis concentrated on the problem of incontinence in hospital. Further work, therefore, is needed to establish the community nurse's level of knowledge and attitudes towards the problem.

In addition, research to establish the most appropriate and effective methods of increasing nurses' knowledge of the subject, in hospital and in the community, needs to be undertaken.

Further study is needed concerned specifically with nurses' attitudes towards incontinence, and in particular, to ascertain their effect on patient care. The instrument used to examine nurses' attitudes towards incontinence in this study, reported in Chapter 6, might be further refined for other research in the area. For example, such an instrument might be considered useful as one means of evaluating the relationship of increased knowledge about incontinence upon nurses' attitudes to the problem. While the instrument used in this study appeared to have face

validity and an acceptable level of internal consistency reliability, further refinement prior to its use is recommended.

7.5.2 Assessment tools.

There is a need for the development of simple, reliable, valid and practical tools for use by nurses, and other members of the ward team, to assist in the assessment of incontinence in the ward situation. To date, little work has been done in this area, and the majority of the assessment tools which are currently available are either impractical for use in the ward environment, or have not been subjected to rigorous testing. This is particularly apparent in the lack of work conducted to systematically evaluate the effectiveness of the continence chart, either as an aid to assessment, or in the management of incontinence. Similarly, a number of guidelines and checklists exist to assist nurses in the assessment of incontinence but none have been evaluated for their clinical usefulness. These are areas which clearly need investigation if the quality of nurses' assessments of patients who are incontinent is to be enhanced.

7.5.3 Management of incontinence

There is an urgent need for more experimental work to evaluate the benefits of different management strategies, in particular the effectiveness of specific nursing interventions such as bladder training, habit training and pelvic floor exercises. Follow-up studies of patients after discharge would provide useful information about the long-term benefits of particular interventions. The issue of outcome measures has already been mentioned in section 7.5.1. It is important that the measurement of the subjective benefits of management, as perceived by the patient, are considered as well as objective measures such as a reduction or a cessation of incontinence.

Research designed to identify the types of patients who are most likely to benefit from the different methods of management for incontinence needs to continue, to enable health professionals to make rational

choices, based on valid and reliably established criteria, when deciding which method of care is appropriate for an individual patient.

Where incontinence is an intractable problem, the development and evaluation of different methods, designed to support and help the patient cope physically, and psychologically, with the problem is required. To date, little evaluation of the efficacy of support groups, individual counselling and other methods of helping to raise patient morale and self-esteem has been undertaken.

The clarification and, where possible, the standardisation of terms currently used to describe the various toileting/training interventions employed should be given serious consideration. Terms such as bladder training, bladder drill, habit training or bladder conditioning, for example, are frequently used interchangeably, and protocols for such interventions vary considerably, thus making problematic any comparisons between studies employing such techniques.

7.5.4 Psycho-social effects

Research into the psycho-social effects on the sufferer and the implications for her family and/or carers have been little investigated and is an area which deserves much more attention. While a small amount of work has been done concerning the emotional and social implications of the problem on the life styles of women, little research has been undertaken which has examined its effects on men, or on elderly people in general.

7.6 CONCLUSION

The nursing assessment and management of patients with urinary incontinence in acute medical and HCE wards was examined in the studies described in this thesis. Evidence from these studies suggests that the nursing care of patients with incontinence is inconsistent and incomplete

despite an increased awareness, in recent years, of the need to improve the care provided by health professionals for incontinence sufferers.

Nurses were not always aware of patients' incontinence problems. The content of the nursing records and hand-over reports indicated that practice was not being planned or carried out on the basis of identified causes or predisposing factors of the problem. Although there have been considerable advances in the diagnosis and treatment of incontinence in the last 20 years, nurses appeared ill-informed about its causes, assessment and management. A considerable proportion of the charge nurses, and the majority of the other qualified nursing staff, stated that they had not received any continuing in-service education relating to the subject of incontinence. Despite considerable scope for the provision of rehabilitative care for incontinence sufferers, many nurses appeared to have a limited appreciation of their own potential for initiating such care. In addition, while nurses showed positive attitudes, overall, towards the management of incontinence, evidence was collected to suggest that a number of common misconceptions surrounding the problem persist.

In 1979 Isaacs, referring to the provision of care for incontinence sufferers, stated "there is a wide gap between what can be done and what is being done". Undoubtedly the scope and quality of health service provision for people who suffer from this condition has improved in recent years, but the impetus, and indeed the desire, to better understand the problem and to seek effective remedies must be sustained and built upon further. In conclusion, the overall findings of these studies clearly indicate a fundamental need for further improvement in nursing education and practice, if the quality of life for those suffering from incontinence is to be enhanced.

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Appendix 2a Instructions for completion of form (day)

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Clifton Boulevard,
Nottingham. NG7 2UH

Telephone: (0602) 700111
Ext 4373/4130

WARD

DATE

TO: Sister or Staff Nurse in charge

Please list the patients on your ward who are known to be incontinent of urine during the day (i.e. from the beginning of the early shift to the end of the late shift).

For the purposes of this survey, urinary incontinence is defined as "involuntary excretion or leakage of urine in inappropriate places or inappropriate times regardless of the amount of urine lost".

Regularly incontinent is defined as wet one or more times per day.

Occasionally incontinent is defined as wet less than once a day.

Where there is doubt as to whether a patient is regularly or occasionally incontinent of urine (e.g. a newly admitted incontinent patient), please tick the box you think is most appropriate and put a D.K. next to it.

Patients who are doubly incontinent should be included as being incontinent of urine.

If there are any queries concerning the completion of this form, please do not hesitate to contact me on the above number.

Thank you very much for your help and co-operation.

Signed

Francine Cheater MA SRN
Research Assistant

Appendix 2b Instructions for completion of form (night)

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Clifton Boulevard,
Nottingham. NG7 2UH

Telephone: (0602) 700111

Ext 4373/4130

WARD

DATE

TO: Sister or Staff Nurse in charge

Please list the patients on your ward who are known to be incontinent of urine during the night (i.e. from the beginning to the end of the night shift).

For the purposes of this survey, urinary incontinence is defined as "involuntary excretion or leakage of urine in inappropriate places or inappropriate times regardless of the amount of urine lost".

Regularly incontinent is defined as wet one or more times per night.

Occasionally incontinent is defined as wet less than once a night.

Where there is doubt as to whether a patient is regularly or occasionally incontinent of urine (e.g. a newly admitted incontinent patient), please tick the box you think is most appropriate and put a D.K. next to it.

Patients who are doubly incontinent should be included as being incontinent of urine.

If there are any queries concerning the completion of this form, please do not hesitate to let me know when I collect the form tomorrow morning.

Thank you very much for your help and co-operation.

Signed

Francine Cheater MA SRN
Research Assistant

Appendix 4 Instructions for completion of inter-rater
reliability form

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Clifton Boulevard,
Nottingham. NG7 2UH

Telephone: (0602) 700111

Dr. P. J. Hawthorn
Director

INSTRUCTIONS

Urinary incontinence is defined as :

' Involuntary excretion or leakage of urine in inappropriate places regardless of the amount of urine lost'.

Please record the name of any patient on your ward known to you to be incontinent of urine either (a) in the past week (b) since admission (if admitted less than 1 week ago).

Include patients with external drainage appliances eg condom or aids such as pads/pants. Exclude patients with indwelling urinary catheters.

Where you are unsure if a patient is also wet at night, or how often patient is wet, mark the appropriate box with D.K. (don't know).

Finally note briefly the reason(s) you consider to be cause/causes of urinary incontinence for each patient you have recorded.

The information on these forms is treated as confidential.
Please do not confer with other nursing staff for the purposes of completing the form.

Thank you very much for your help and co-operation.

Appendix 6

Inter-rater agreement between pairs of qualified
nurses by ward

Ward 1 : Acute Medical

	<u>Nurse A</u>		
	continent	incontinent	
continent	27	0	27

Nurse B

incontinent	1	1	2
	28	1	29

Ward 2 : Acute Medical

	<u>Nurse A</u>		
	continent	incontinent	
continent	29	0	29

Nurse B

incontinent	0	1	1
	29	1	30

Appendix 6/continued

Ward 3 : Acute Medical

	<u>Nurse A</u>		
	continent	incontinent	
continent	29	0	29

Nurse B

incontinent	0	1	1
	29	1	30

Ward 4 : Acute Medical

	<u>Nurse A</u>		
	continent	incontinent	
continent	26	1	27

Nurse B

incontinent	0	1	1
	26	2	28

Appendix 6/continued

Ward 5 : Acute Medical

	<u>Nurse A</u>		
	continent	incontinent	
continent	21	0	21

Nurse B

incontinent	1	2	3
-------------	---	---	---

Ward 6 : Acute HCE

	<u>Nurse A</u>		
	continent	incontinent	
continent	12	2	14

Nurse B

incontinent	1	5	6
	13	7	20

Appendix 6/continued

Ward 7 : Acute HCE

	<u>Nurse A</u>		
	continent	incontinent	
continent	12	1	13

Nurse B

incontinent	1	4	5
	13	5	18

Ward 8 : Acute HCE

	<u>Nurse A</u>		
	continent	incontinent	
continent	16	0	16

Nurse B

incontinent	2	4	6
	18	4	22

Appendix 6/continued

Ward 9 : Acute HCE

		<u>Nurse A</u>		
		continent	incontinent	
continent	12		1	13
<hr/>				
incontinent	1		6	7
	13		7	20

ASSESSMENT

CODE
 A = APPLICABLE
 N/A = NOT APPLICABLE
 R = RESOLVED

SURNAME	FORENAMES	REGISTRATION NO.

Enter appropriate code in box provided. Each entry must be signed and dated.

No.	MAINTAINING SAFE ENVIRONMENT	COMMUNI-CATING	BREATHING	EATING AND DRINKING	ELIMINATING	PERSONAL CLEANSING AND DRESSING	CONTROLLING BODY TEMPERATURE	MOBILISING	WORKING AND PLAYING	EXPRESSING SEXUALITY	SLEEPING	DYING
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												M216

Appendix 10 Document Survey Record Form

CONFIDENTIAL

Date

MEDICAL/NURSING DOCUMENT SURVEY

Patient Name	Patient ID No.	<input type="text"/>	<input type="text"/>
Hospital			<input type="text"/>
Ward			<input type="text"/>
Type <input type="checkbox"/>			<input type="text"/>
Total bed number <input type="text"/>	Total number of patients	<input type="text"/>	<input type="text"/>
Total number of incontinent patients	<input type="text"/>		<input type="text"/>
Sex	Age		<input type="text"/>
Admission diagnosis			<input type="text"/>
Other			<input type="text"/>
Admission date			
Direct admission <input type="checkbox"/>	Transfer	<input type="checkbox"/>	<input type="text"/>
Total days on ward	<input type="text"/>		<input type="text"/>
(If transfer) total hospital days	<input type="text"/>		<input type="text"/>

Appendix 10 continued

6. a) Incontinence identified as current problem?

Yes
No

b) Incontinence identified as a current problem - inclusion of potential/actual problems?

	Yes	No
Skin breakdown	<input type="checkbox"/>	<input type="checkbox"/>
Infection	<input type="checkbox"/>	<input type="checkbox"/>
Smell	<input type="checkbox"/>	<input type="checkbox"/>
Psycho-social impact	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>

.....

Total number

c) Identified problem: documentation of causes?

Yes
No

Specify

d) Documentation of nature of incontinence?

Yes
No

Specify

e) Documentation of pattern of incontinence?

Yes
No

Specify

7. Nursing aims/objectives documented?

Yes
No

Specify

8. Nursing action documented?

Yes
No

Specify

9. Nursing evaluation documented?

Yes
No

Date of last entry Days

Outcome?
Resolved
Not resolved
Not recorded

Appendix 10 continued

MEDICAL ASSESSMENT FORM

1. Pre-admission/illness bladder function documented?

Recorded
Not recorded

Details

2. Assessment admission/since admission

	Recorded	Not Recorded
Mobility	<input type="checkbox"/>	<input type="checkbox"/>
Communication	<input type="checkbox"/>	<input type="checkbox"/>
Vision	<input type="checkbox"/>	<input type="checkbox"/>
Mental state	<input type="checkbox"/>	<input type="checkbox"/>

3. Incontinence identified as a current problem?

Recorded
Not recorded

--

4. a) Cause of incontinence?

Recorded
Not recorded

--

b) Nature of incontinence?

Recorded
Not recorded

--

c) Pattern of incontinence?

Recorded
Not recorded

--

5. Clinical examination

Rectal examination? Yes
No

--

Pelvic examination? Yes
No

--

Referral to:-

	Yes	No
GU	<input type="checkbox"/>	<input type="checkbox"/>
Gynae.	<input type="checkbox"/>	<input type="checkbox"/>
Inc.Ad.	<input type="checkbox"/>	<input type="checkbox"/>
Psych.	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>

.....

6. Request for routine investigations:-

MSU? Yes
No

--

Other (specify) - 481 -

--	--	--	--	--	--

Appendix 10 continued

7. Management plan documented?

Yes
No

--

Specify

Comments:-

Appendix 10 continued

PATIENT DRUG CHART

	Y	N	Drug	Times	Drug	Times	
<u>DIURETICS</u>							<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
							<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<u>SEDATIVES</u>							<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
							<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<u>HYPNOTICS</u>	Y	N					<input type="checkbox"/>

SPECIFIC DRUGS FOR INCONTINENCE

Y N

- DRUG 1
- DRUG 2
- DRUG 3
- DRUG 4
- DRUG 5
- DRUG 6

TOTAL NO.

Appendix 11

Documented Reasons for Admission
(n=371)

Reason for Admission	n	(%)
Circulatory Disorder	149	(40.2)
Mental Impairment	86	(23.2)
Musculoskeletal Disorder	68	(18.3)
Respiratory Disorder	55	(14.8)
"Immobility"	23	(6.2)
Central Nervous System disorder	19	(5.1)
Urinary Incontinence	12	(3.2)
Neoplasm	12	(3.2)
Gastro-intestinal Disorder	7	(1.9)
Blood disorder	1	(0.3)
Other	20	(5.4)

Other: Pressure sores (4), Social admission (4), Respite care (4), Leg ulcers (2), Obesity (1), Falls (1), Collapse (1), Blackouts (1), Overdose (1), Cellulitis (1).

Appendix 12

Documentation of the causes of incontinence

Nursing Records (n=7)	n	Type of ward
"Incontinent due to drowsy state"	1	{ Acute
"Incontinent due to medication"	1	{ Medical
"Incontinence caused by immobility"	1	{ Acute
"Incontinence due to urinary tract infection"	2	{ HCE
		{ Acute/Rehab
		{ HCE
"Incontinence caused by catheter removal"	2	{ Slow-stream
		{ Rehab. HCE
Total	7	

Appendix 13

Documentation of the causes of incontinence

Medical records (n=15)	n	Type of ward
"Unstable bladder"	1	Acute medical
"Stress"	2	{ Acute HCE
"Upper motor neuron"	1	
"Urinary retention with infection"	1	
"Immobility"	1	
"Prostatic enlargement"	1	
"Stress incontinence"	3	{ Acute/Rehab. HCE
"Prostate"	1	
"Unstable bladder"	1	
"Impaction"	1	{ Slow-stream Rehab. HCE
"Senile vaginitis"	1	
"Urethral structure"	1	
Total	15	

Appendix 14

WARD REPORT OBSERVATION SCHEDULE

Ward..... No.patients No.beds Tot.Nurs staff

Time Start _____

Total No present

Intrpts. No.

Time _____

Grade

CN	<input type="text"/>
SN	<input type="text"/>
EN	<input type="text"/>
NL	<input type="text"/>
AN	<input type="text"/>

Time finish _____

No.not present

Who gives report?.....

Report from:

CP	<input type="text"/>
FS	<input type="text"/>
PN	<input type="text"/>
Other	<input type="text"/>

Grade	<input type="text"/>
Grade	<input type="text"/>
Grade	<input type="text"/>
Grade	<input type="text"/>

E	<input type="text"/>	L	<input type="text"/>
E	<input type="text"/>	L	<input type="text"/>
E	<input type="text"/>	L	<input type="text"/>
E	<input type="text"/>	L	<input type="text"/>

.....

Report Comments:

Other Formal Communication
Case conferences etc.

Appendix 16

OPERATIONAL DEFINITIONS USED FOR OBSERVATIONAL FRAMEWORK

A. ELIMINATION

Information conveyed such identified a problem or problems with micturition eg frequency of micturition, inability to locate toilet but incontinence NOT identified a problem.

B. INCONTINENCE

Information conveyed which identified a problem with patient's ability to control bladder function, for what ever reason, resulting in incontinence. (Definition of incontinence from Thomas et al. 1981).

C. POTENTIAL PROBLEM

Information conveyed which identified a potential problem/problems from either (a) or (b).

For example, risk of becoming incontinent, skin problems, odour, psychosocial impact on patient.

D. NATURE

Information conveyed which describes episode/episodes of incontinence EXCLUDING the pattern of incontinence (see below) for example, describing symptoms such as urgency or dribbling incontinence or information which describes the severity of incontinence eg. Mrs. X loses large amounts of urine when incontinent.

E. PATTERN

Information conveyed which indicates WHEN incontinence occurs either in terms of time or at particular events. E.g. incontinence at night, incontinent always after meals etc.

F. CAUSE

Information conveyed which identifies a factor or factors thought to be possible cause/causes of incontinence.

G. EVALUATION

Information conveyed that describes the outcome of any intervention or investigation (nursing, medical or other) in relation to incontinence for example, the outcome of a toileting regime, results of specific drug therapy or the results of an msu. OR a general comment which indicates the progress of incontinence e.g. its worse, better, the same.

H. ASSESSMENT

Information conveyed either of a retrospective or prospective nature relating to any factor that could be considered to form part of an assessment of incontinence. E.g. has had an msu taken, monitor when incontinent on chart etc.

I. NURSING MANAGEMENT

Any information conveyed either of a retrospective or prospective nature that relates to nursing intervention/management for incontinence.

J. MEDICAL MANAGEMENT

Information conveyed relating to medical intervention for incontinence.

K. OTHER

Other information relating to incontinence which does not fit into other categories.

Appendix 17b Identification of incontinence during hand-over report compared with information in written records

	PATIENT											
	1	2	3	4	5	6	7	8	9	10	11	12
WARD REPORT												
NURSE-IN-CHARGE												
NURSING CARE PLAN												
PROGRESS NOTES												
MEDICAL NOTES												

Appendix 18a continued

For Official Use Only

6. Do you work:-

- 1) Days only
- 2) Nights only
- 3) Both (internal rotation)

9

7. How long have you been a Sister/Charge Nurse on your present ward?

- 1) Up to 6 months
- 2) More than 6 months up to 1 year
- 3) More than 1 year up to 3 years
- 4) More than 3 years up to 5 years
- 5) More than 5 years up to 7 years
- 6) More than 7 years

8. Apart from your present ward, have you worked on any of the following wards since you have trained? (Please tick which apply with length of time worked. If you have worked in any of these wards as a Sister/Charge Nurse, instead of a tick insert an 's' in the appropriate box.)

	Up to 6 mths	>6 mths up to 1 year	>1 yr up to 3 yrs	>3 yrs up to 5 yrs	>5 yrs up to 7 yrs	More than 7 yrs
General Medical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health Care Elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psychogeriatric	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Surgical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gynaecology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthopaedic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Neurosurgical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NB > = more than

Appendix 18a continued

Please note that when the word 'incontinence' is used, it refers only to URINARY incontinence.

The next few questions relate to any teaching you may have had relating to continence/incontinence.

For Office
Use Only

--	--	--	--

9. a) During your basic nurse training, did you have any classroom teaching relating to the subject of incontinence?

- 1) Yes
- 2) No
- 3) Don't remember/unsure

--

If YES

b) Did this cover any of the following? (Please tick which apply. If you are not sure, put a ? in the appropriate box)

- 1) Anatomy of the urinary system
- 2) Physiology of micturition
- 3) Causes of incontinence
- 4) Assessment of incontinence

c) Briefly, what aspects of the management of incontinence, if any, did you cover?

10. a) Have you completed the following post-basic courses?

If YES (please tick which apply, giving the year in which it was taken)

- 1) ENB 298 course 'Nursing Elderly People' year
- 2) ENB 940/941 course 'Nursing Elderly People' year
- 3) ENB 978 course 'Promotion of Continence and Management of Incontinence' year
- 4) Other course(s) on continence/incontinence (EXCLUDE CONFERENCES/STUDY DAYS)? Please record which course and year taken

--	--

--	--

--	--

--

..... year

--	--

..... year

--	--

Appendix 18a continued

For Office
Use Only

9 (x12)

b) Have you attended any conferences/study days relating to promoting continence and managing incontinence?

- 1) Yes
- 2) No

If YES

Please record which and year(s) when attended.

.....
.....
.....

11. Do you belong to any group or association concerned with problems of incontinence/continence (e.g. the Association of Continence Advisers)?

- 1) Yes
- 2) No

If YES

Please record which.

12. a) Have you had any in-service training relating to the management of incontinence?

- 1) Yes
- 2) No

If YES

b) Briefly, what area(s) did this cover?

c) Was this within the last 12 months?

- 1) Yes
- 2) No

Appendix 18a continued

For Office
Use Only

13. Looking at the teaching you have received, how prepared do you feel concerning the following areas?

	Well prepared	Fairly well prepared	Not very well prepared	Not at all prepared	
Causes of incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to assess incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methods to promote continence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indwelling catheter management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Which one of the following do you feel has contributed MOST to your knowledge relating to incontinence (PLEASE TICK ONE BOX ONLY)

- 1) Teaching during basic training
- 2) Conference/study days
- 3) In-service training
- 4) Ward experience
- 5) Post basic course (e.g. ENB 978)
- 6) Nursing books/journals
- 7) Other (please specify below)

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

.....

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

9
9.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

The next few questions relate to specific aspects of incontinence.

9 (x11)

15. a) On your ward, are there problems relating to caring for patients who are incontinent?

- 1) Frequently
- 2) Sometimes
- 3) Occasionally
- 4) Rarely
- 5) Never

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

<input type="checkbox"/>

b) Can you explain what the MAIN problems are?

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Appendix 18a continued

For Office
Use Only

16. People have different ideas about the causes of incontinence. What do you think are the MAIN reasons why some people are incontinent?

17. a) Who do you think should be MAINLY responsible for the assessment of incontinence on the ward? (PLEASE TICK ONE BOX ONLY)

- 1) Medical staff
- 2) Nursing staff
- 3) Specialists (e.g. continence adviser)
- 4) Medical and nursing staff

b) Who do you think should be MAINLY responsible for promoting continence/management of incontinence on the ward? (PLEASE TICK ONE BOX ONLY)

- 1) Medical staff
- 2) Nursing staff
- 3) Specialists (e.g. continence adviser)
- 4) Medical and nursing staff

18. What factors do you think are important when assessing a patient on the ward who is incontinent?

19. How important do you think it is for nurses on your ward to have the opportunity to attend courses/study days/conferences, etc., relating to promoting continence/managing incontinence?

- 1) Very important
- 2) Important
- 3) Not very important
- 4) Unimportant

Appendix 18a continued

For Official
Use Only

--	--	--	--

20. Below are three short accounts describing some observations from patients who are incontinent of urine. If you are unsure about any of the answers to the questions below, then please put a ? in the space and go on to the next question.

A female patient loses small amounts of urine only when coughing, sneezing or during physical exercise.

- a) What do you think might be the possible cause(s) of the above?

- b) What might be done for a patient with this problem?

A patient with a distended bladder is frequently leaking small amounts of urine.

- a) What do you think might be the possible cause(s) of the above?

- b) What might be done for a patient with this problem?

A patient has a strong desire to void and needs the toilet frequently but is usually incontinent before reaching it.

- a) What do you think might be the possible cause(s) of the above?

Appendix 18a continued

b) What might be done for a patient with this problem?

For Official Use Only

21. Below are a number of statements. Please would you tick the category to show how strongly you agree/disagree with each statement. (PLEASE TICK ONE BOX ONLY FOR EACH STATEMENT).

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
The nurse's primary role caring for patients with incontinence should be concerned with supplying appropriate aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is really only a nursing problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the early phase of stroke rehabilitation, bladder problems are best dealt with by a catheter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The assessment and management of incontinence is most suited to a multidisciplinary team approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The only effective ways to achieve continence are surgery and drug therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rehabilitation is the task of the physio and OT and should not be an additional workload for nursing staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence should always be investigated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patients are often incontinent due to laziness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important for all nurses to have a good understanding about the causes of incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 18a continued

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	<u>For Official Use Only</u>
Elderly people with longstanding incontinence problems do not usually require investigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is an inevitable part of the ageing process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continence promotion is a specialised skill and should therefore be left to people such as continence advisers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continence is a realistic goal for many incontinent elderly people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I find it demoralising looking after incontinent patients because there is little I can do to help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is usually more distressing for a young person than for someone who is elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. On your ward, do nurses use any written guidelines for the:-

a) Assessment of incontinence?

- 1) Yes
- 2) No

If YES

What do these consist of?

b) Management of incontinence?

- 1) Yes
- 2) No

If YES

What do these consist of?

Appendix 18a continued

10

23. Finally, I have not defined the term 'urinary incontinence' and I would be interested to know what you mean by it.

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Use Only

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Thank you very much for taking the time and effort to complete the questionnaire. Your help is greatly appreciated.

I look forward to being able to give you a summary of the results of the questionnaire as well as results from other parts of the project in the future.

Please would you enclose the completed form in the addressed envelope provided and return it via your ward internal mailing system.

If you have mislaid the envelope, please would you send the completed questionnaire via the internal mailing system to:-

Francine Cheater
Research Assistant
Nursing Studies Unit
Floor E
Medical School
Queen's Medical Centre
Nottingham

Once again, thank you very much.

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Nottingham, NG7 2UH

Telephone: (0602) 421421
Ext 4795/4130

Dr. P. J. Hawthorn S.R.N. S.C.M.
Director

--	--	--	--

For Official
Use Only

CONFIDENTIAL

TRAINED NURSE QUESTIONNAIRE (Staff/Enrolled Nurses)

For many questions only a tick in the relevant box is needed. Other questions require you to give information. Please feel free to make any additional comments you may have on the back of the questionnaire. The first few questions relate to details about you and your nursing experience.

1. Please indicate whether you are: 1) Female
2) Male

2. Please tick the box which corresponds with your age group.

- 1) 20-24 years
- 2) 25-30 years
- 3) 31-35 years
- 4) 36-45 years
- 5) Over 45 years

9

9

3. Please tick the box to show which of the following qualifications you hold.

- 1) Registered General Nurse (SRN)
- 2) Enrolled Nurse (SEN)
- 3) Registered Mental Nurse (RMN)
- 4) Registered Midwife (SCM)
- 5) District Nurse (QN, NDN)

4. Please list below any other nursing qualifications you may have.

9

5. What is your total length of nursing experience since qualifying (please include any part-time nursing experience)?

..... year(s) month(s)

--	--	--

9 9
9 9

Appendix 18b continued

Please note that when the word 'incontinence' is used, it refers only to URINARY incontinence.

The next few questions relate to any teaching you may have had relating to continence/incontinence.

For Official Use Only

--	--	--	--

9. a) During your basic nurse training, did you have any classroom teaching relating to the subject of incontinence?

- 1) Yes
- 2) No
- 3) Don't remember/unsure

--

If YES

b) Did this cover any of the following? (Please tick which apply. If you are not sure, put a ? in the appropriate box)

- 1) Anatomy of the urinary system
- 2) Physiology of micturition
- 3) Causes of incontinence
- 4) Assessment of incontinence

c) Briefly, what aspects of the management of incontinence, if any, did you cover?

10. a) Have you completed the following post-basic courses?

If YES (please tick which apply, giving the year in which it was taken)

- 1) ENB 298 course 'Nursing Elderly People' year
- 2) ENB 940/941 course 'Nursing Elderly People' year
- 3) ENB 978 course 'Promotion of Continence and Management of Incontinence' year
- 4) Other course(s) on continence/incontinence (EXCLUDE CONFERENCES/STUDY DAYS)? Please record which course and year taken

--	--

--	--

--	--

--

..... year

--	--

..... year

--	--

Appendix 18b continued

b) Have you attended any conferences/study days relating to promoting continence and managing incontinence?

- 1) Yes
- 2) No

If YES

Please record which and year(s) when attended.

.....
.....
.....

11. Do you belong to any group or association concerned with problems of incontinence/continence (e.g. the Association of Continence Advisers)?

- 1) Yes
- 2) No

If YES

Please record which.

12. a) Have you had any in-service training relating to the management of incontinence?

- 1) Yes
- 2) No

If YES

b) Briefly, what area(s) did this cover?

c) Was this within the last 12 months?

- 1) Yes
- 2) No

For Official Use Only

9 (x12)

--

Appendix 18b continued

For Official
Use Only

13. Looking at the teaching you have received, how prepared do you feel concerning the following areas?

	Well prepared	Fairly well prepared	Not very well prepared	Not at all prepared	
Causes of incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to assess incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Methods to promote continence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indwelling catheter management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Which one of the following do you feel has contributed MOST to your knowledge relating to incontinence (PLEASE TICK ONE BOX ONLY)

- 1) Teaching during basic training
- 2) Conference/study days
- 3) In-service training
- 4) Ward experience
- 5) Post basic course (e.g. ENB 978)
- 6) Nursing books/journals
- 7) Other (please specify below)

.....

<input type="checkbox"/>	<input type="checkbox"/>
9	
9	

The next few questions relate to specific aspects of incontinence.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

15. a) Do you experience difficulties caring for patients who are incontinent?

- 1) Frequently
- 2) Sometimes
- 3) Occasionally
- 4) Rarely
- 5) Never

<input type="checkbox"/>

b) Can you explain what the MAIN problems are?

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Appendix 18b continued

16. People have different ideas about the causes of incontinence. What do you think are the MAIN reasons why some people are incontinent?

For Office
Use Only

17. a) Who do you think should be MAINLY responsible for the assessment of incontinence on the ward? (PLEASE TICK ONE BOX ONLY)

- 1) Medical staff
- 2) Nursing staff
- 3) Specialists (e.g. continence adviser)
- 4) Medical and nursing staff

b) Who do you think should be MAINLY responsible for promoting continence/management of incontinence on the ward? (PLEASE TICK ONE BOX ONLY)

- 1) Medical staff
- 2) Nursing staff
- 3) Specialists (e.g. continence adviser)
- 4) Medical and nursing staff

18. What factors do you think are important when assessing a patient on the ward who is incontinent?

19. How important do you think it is for nurses on your ward to have the opportunity to attend courses/study days/conferences, etc., relating to promoting continence/managing incontinence?

- 1) Very important
- 2) Important
- 3) Not very important
- 4) Unimportant

Appendix 18b continued

For Office
Use Only

20. Below are three short accounts describing some observations from patients who are incontinent of urine. If you are unsure about any of the answers to the questions below, then please put a ? in the space and go on to the next question.

--	--	--	--

A female patient loses small amounts of urine only when coughing, sneezing or during physical exercise.

- a) What do you think might be the possible cause(s) of the above?

- b) What might be done for a patient with this problem?

A patient with a distended bladder is frequently leaking small amounts of urine.

- a) What do you think might be the possible cause(s) of the above?

- b) What might be done for a patient with this problem?

A patient has a strong desire to void and needs the toilet frequently but is usually incontinent before reaching it.

- a) What do you think might be the possible cause(s) of the above?

Appendix 18b continued

b) What might be done for a patient with this problem?

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21. Below are a number of statements. Please would you tick the category to show how strongly you agree/disagree with each statement. (PLEASE TICK ONE BOX ONLY FOR EACH STATEMENT)

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
The nurse's primary role caring for patients with incontinence should be concerned with supplying appropriate aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is really only a nursing problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the early phase of stroke rehabilitation, bladder problems are best dealt with by a catheter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The assessment and management of incontinence is most suited to a multidisciplinary team approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The only effective ways to achieve continence are surgery and drug therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rehabilitation is the task of the physio and OT and should not be an additional workload for nursing staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence should always be investigated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patients are often incontinent due to laziness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important for all nurses to have a good understanding about the causes of incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 18b continued

9

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Elderly people with longstanding incontinence problems do not usually require investigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is an inevitable part of the ageing process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continence promotion is a specialised skill and should therefore be left to people such as continence advisers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continence is a realistic goal for many incontinent elderly people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I find it demoralising looking after incontinent patients because there is little I can do to help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is usually more distressing for a young person than for someone who is elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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22. Finally, I have not defined the term 'urinary incontinence' and I would be interested to know what you mean by it.

9 (x8)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

Appendix 18b continued

10

Thank you very much for taking the time and effort to complete the questionnaire. Your help is greatly appreciated.

I look forward to being able to give you a summary of the results of the questionnaire as well as results from other parts of the project in the future.

Please would you enclose the completed form in the addressed envelope provided and return it via your ward internal mailing system.

If you have mislaid the envelope, please would you send the completed questionnaire via the internal mailing system to:-

Francine Cheater
Research Assistant
Nursing Studies Unit
Floor E
Medical School
Queen's Medical Centre
Nottingham

Once again, thank you very much.

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Nottingham. NG7 2UH

Telephone: (0602) 421421
Ext 4795/4130

Dr. P. J. Hawthorn S.R.N. S.C.M.
Director

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NURSE LEARNER QUESTIONNAIRE

For many questions only a tick in the relevant box is needed. Other questions require you to give information. Please feel free to make any additional comments you may have on the back of the questionnaire. The first few questions relate to you and your nurse training.

1. Please indicate whether you are: 1) Female
2) Male

2. Please tick the box which corresponds with your age group.

- 1) 17-19 years
- 2) 20-21 years
- 3) 22-23 years
- 4) 24-26 years
- 5) Over 26 years

9
9

3. Please tick the box to show which one of the nurse training courses you are currently taking.

- 1) Registered General Nurse training (RGN/SRN)
- 2) Registered Mental Nurse training (RMN)
- 3) Registered Sick Children's Nurse training (RSCN)
- 4) Other (please specify below)

9 (x5)

9 (x9)

4. How much of your training have you already completed?

..... year(s) month(s)

--	--

5. How long have you been working on your present ward?

..... week(s)

--	--

6. At the moment are you working:-

- 1) Days?
- 2) Nights?

9

Appendix 18c continued

7. Apart from your present ward, have you worked on any of the following wards (please tick which apply with length of time worked)?

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9 (x23)

	4-6 weeks	7-9 weeks	10-12 weeks	More than 12 weeks	
General Medical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health Care Elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Psychogeriatric	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Surgical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gynaecology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthopaedic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Neurosurgical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
.....					<input type="checkbox"/>
.....					<input type="checkbox"/>

Appendix 18c continued

Please note that when the word 'incontinence' is used, it refers only to URINARY incontinence.

The next few questions relate to any teaching you may have had on continence/incontinence.

8. a) So far in your nurse training, have you had any classroom teaching relating to the subject of incontinence?

- 1) Yes
- 2) No

If YES

b) Has this covered any of the following? (Please tick which apply. If you are not sure, put a ? in the appropriate box)

- 1) Anatomy of the urinary system
- 2) Physiology of micturition
- 3) Causes of incontinence
- 4) Assessment of incontinence

c) Briefly, what aspects of the management of incontinence, if any, have you covered?

--	--	--	--

9 (x11)

9. So far in your nurse training, have you:-

a) had any ward-based teaching relating to continence/incontinence?

- 1) Yes
- 2) No

If YES, briefly, what area(s) did this cover?

--	--	--	--	--	--	--

b) Attended any study days/conferences relating to promoting continence/managing incontinence?

If YES, please record which and year when attended.

..... year

..... year

--	--

--	--

9 (x18)

Appendix 18c continued

13. People have different ideas about the causes of incontinence. What do you think are the MAIN reasons why some people are incontinent?

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14. a) Who do you think should be MAINLY responsible for the assessment of incontinence on the ward? (PLEASE TICK ONE BOX ONLY)

- 1) Medical staff
- 2) Nursing staff
- 3) Specialists (e.g. continence adviser)
- 4) Medical and nursing staff

- b) Who do you think should be MAINLY responsible for promoting continence/management of incontinence on the ward? (PLEASE TICK ONE BOX ONLY)

- 1) Medical staff
- 2) Nursing staff
- 3) Specialists (e.g. continence adviser)
- 4) Medical and nursing staff

15. What factors do you think are important when assessing a patient on the ward who is incontinent?

16. Below are three short accounts describing some observations from patients who are incontinent of urine. If you are unsure about any of the answers to the following questions, please put a ? in the space provided and go on to the next question.

--	--	--	--	--

A female patient complains of losing small amounts of urine when she coughs, sneezes or during physical exercise but not at other times.

- a) What do you think might be the possible cause(s) of the above?

Appendix 18c continued

For Office
Use Only

b) What might be done for a patient with this problem?

A patient with a distended bladder frequently leaks small amounts of urine.

a) What do you think might be the possible cause(s) of the above?

b) What might be done for a patient with this problem?

A patient has a strong desire to void and needs the toilet frequently but is usually incontinent before reaching it.

a) What do you think might be the possible cause(s) of the above?

b) What might be done for a patient with this problem?

17. Below are a number of statements. Please would you tick the category to show how strongly you agree/disagree with each statement. (PLEASE TICK ONE BOX ONLY FOR EACH STATEMENT)

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	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
The nurse's primary role caring for patients with incontinence should be concerned with supplying appropriate aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is really only a nursing problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During the early phase of stroke rehabilitation, bladder problems are best dealt with by a catheter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The assessment and management of incontinence is most suited to a multidisciplinary team approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The only effective ways to achieve continence are surgery and drug therapy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rehabilitation is the task of the physio and OT and should not be an additional workload for nursing staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence should always be investigated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two hourly toileting and incontinence aids are the only realistic ways to promote continence in the elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patients are often incontinent due to laziness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important for all nurses to have a good understanding about the causes of incontinence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elderly people with longstanding incontinence problems do not usually require investigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is an inevitable part of the ageing process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continence promotion is a specialised skill and should therefore be left to people such as continence advisers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	For Office Use Only
Continence is a realistic goal for many incontinent elderly people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I find it demoralising looking after incontinent patients because there is little I can do to help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incontinence is usually more distressing for a young person than for someone who is elderly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Finally, I have not defined the term 'urinary incontinence' and I would be interested to know what you mean by it.

9 (x8)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

Thank you very much for taking the time and effort to complete the questionnaire. Your help is greatly appreciated.

I look forward to being able to give you a summary of the results of the questionnaire as well as results from other parts of the project in the future.

Please would you enclose the completed form in the addressed envelope provided and return it via your ward internal mailing system.

If you have mislaid the envelope, please would you send the completed questionnaire via the internal mailing system to:-

Francine Cheater
 Research Assistant
 Nursing Studies Unit
 Floor E
 Medical School
 Queen's Medical Centre
 Nottingham

Once again, thank you very much.

Appendix 18d Covering letter accompanying nurses questionnaire

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Nottingham. NG7 2UH

Telephone: (0602) 421421
Ext 4795/4130

Dr. P. J. Hawthorn S.R.N. S.C.M.
Director

Our Ref FMC/AJB

June 1987

Dear

Re: An Enquiry into Problems of Incontinence in Hospital Patients: A Nursing Perspective

In order to complete the final phase of data collection for the above research project, I have prepared a questionnaire for trained nursing staff working on general medical and health care of the elderly wards.

The Director of Nursing Services, Divisional Nurse Manager and Mrs Lathwood (Director of Nurse Education) have all given me permission to approach the nursing staff.

I realise how busy you are but would be grateful if you could spare a little time to complete the enclosed questionnaire. This should take you about 20 minutes. I do hope that you will return your questionnaire as it is important to hear from as many nurses as possible.

I have not asked you to give your name. The code in the top righthand corner is so that I know who has been kind enough to reply. On return of the completed questionnaire, the code number will be blanked out immediately and anonymity maintained.

If you have any queries concerning the completion of the questionnaire, please do not hesitate to contact me on the above telephone number.

I should be very grateful if you would kindly return the completed questionnaire in the addressed envelope provided using your internal ward mailing system by Friday, 26 June 1987.

Thank you very much in anticipation of your help.

Yours sincerely

Francine Cheater

Francine Cheater MA RGN
Research Assistant

Appendix 18e Follow-up letter

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Nottingham. NG7 2UH

Telephone: (0602) 421421
Ext 4795/4130

Dr. P. J. Hawthorn S.R.N. S.C.M.
Director

Our Ref FMC/AJB

July 1987

Dear

Re: An Enquiry into Problems of Incontinence in Hospital Patients: A Nursing Perspective

About three weeks ago, I sent you a questionnaire concerning the above project. So far, the number of questionnaires which have been returned from student nurses has been very encouraging. However, I am still keen to hear from as many student nurses as possible, and wondered if you would be able to spare the time to complete your questionnaire and return it to me via your internal ward mailing system.

Should you have mislaid the original questionnaire, I have enclosed a further copy for your use.

Please ignore this letter if, in the meantime, you have already returned the questionnaire.

Thanking you again in anticipation of your help.

Yours sincerely

Francine Cheater

Francine Cheater MA RGN
Research Assistant

Enc

Appendix 18f Thank you letter

The University of Nottingham Medical School



Nursing Studies Unit,
Medical School,
Queen's Medical Centre,
Nottingham. NG7 2UH

Telephone: (0602) 421421
Ext 4795/4130

Dr. P. J. Hawthorn S.R.N. S.C.M.
Director

Our Ref FMC/AJB

23 July 1987

Dear

Re: An Enquiry into Problems of Incontinence in Hospital Patients: A Nursing Perspective

I would like to thank all the nurses (day and night staff) who kindly spared the time recently to complete a questionnaire on incontinence. I was very grateful for their help.

If there is anyone who has not yet returned their questionnaire, I would still be very pleased to hear from them.

As already mentioned, a summary of the results of the questionnaire will be sent to your ward when analysis has been completed.

Thank you once again.

Yours sincerely

Francine Cheater MA RGN
Research Assistant

Appendix 19

Three short accounts to describe specific types of urine loss

ACCOUNT ONE:

A female patient loses small amounts of urine only when coughing , sneezing or during physical exercise.

ACCOUNT TWO:

A patient with a distended bladder is frequently leaking small amounts of urine.

ACCOUNT THREE:

A patient has a strong desire to void and needs the toilet frequently but is usually incontinent before reaching it.

Appendix 20

Qualified Nurses:

Length of Time on Current Ward

Length of time on ward	CN		SN		EN	
	n	(%)	n	(%)	n	(%)
Up to 6 months	10	(17.9)	53	(48.2)	26	(24.1)
> 6 months - 1 year	6	(10.7)	22	(20.0)	18	(16.7)
> 1 - 3 years	14	(25.0)	27	(24.5)	30	(27.8)
> 3 - 5 years	6	(10.7)	5	(4.5)	13	(12.0)
> 5 - 7 years	8	(14.3)	1	(0.9)	10	(9.3)
> 7 years	12	(21.4)	2	(1.8)	11	(10.2)
	56	(100.00)	110	(100.0)	108	(100.1)

* 1 missing value

Appendix 21Other Nursing Qualifications

Qualifications	CN (n=56)	SN (n=110)	EN (n=108)
Diploma in Nursing	3	1	-
Diploma in Child Psychiatry	-	1	-
Developments in Nursing Care (ENB 923)	2	-	-
Ophthalmic (ENB 346)	2	-	1
Orthopaedic (ENB 219)	1	3	1
Obstetrics certificate	1	1	-
Research (ENB 995)		1	-
First line management course	1	-	-
Advances in Mental Handicap Nursing (ENB 935)	-	-	1
Nursery Nurse (NNEB)	-	2	1
Staff Nurse Professional Development Course	-	2	-
General Intensive Care (ENB 100)	-	1	-
Coronary Care (ENB 124)	-	2	-
Cardio-Thoracic (ENB 249)	-	1	-
Theatre (ENs) (ENB 188)	-	-	1
Thoracic Nursing Certificate	-	-	1

Appendix 21/Continued

Qualifications	CN (n=56)	SN (n=110)	EN (n=108)
Otology & Laryngology Certificate	-	-	1
Sexually Transmitted Disease certificate	-	-	1
Pharmacy part one Certificate			1
Occupational health nurse qualification	-	1	-
Total	10	16	9

Appendix 22

Qualified nurses : Previous Ward Specialty Experience

Previous experience	CNS n=56		SNs n=110		ENs n=109	
	n	(%)	n	(%)	n	(%)
General medical	42	(75.0)	35	(31.8)	45	(41.3)
HCE	30	(53.6)	32	(29.1)	64	(58.7)
Psychogeriatric	8	(14.3)	5	(4.6)	12	(11.0)
General Surgical	25	(44.6)	19	(17.3)	42	(38.5)
Gynaecology	13	(23.2)	11	(19.6)	23	(21.1)
Urology	6	(10.7)	6	(5.5)	10	(9.2)
Orthopaedic	19	(33.9)	11	(19.6)	23	(21.1)
Neurosurgical	2	(3.6)	5	(4.5)	4	(3.7)
Other*	30	(53.6)	27	(24.5)	19	(17.4)

* Appendix 23

Appendix 23

Qualified Nurses: Other Previous Ward Specialty Experience

Previous Experience	CNs n	SNs n	ENs n
Intensive care	4	1	4
Maternity/obstetrics	5	3	-
Casualty	2	2	1
Coronary care	2	2	1
Renal Unit	1	2	-
Psychiatry	1	3	1
Paediatrics	-	3	1
Dermatology	3	-	1
Rheumatology	1	-	-
Bone Marrow Transplant Unit	1	-	-
Industrial Nursing	2	-	-
Oncology	1	-	-
Neuromedical	1	-	-
Theatre	1	1	3
Community Nursing	2	1	-
Ophthalmology	1	-	-
Gynaecology Outpatient clinic	1	-	-
Private nursing	1	1	1
Plastic surgery	-	1	-
Special clinic	-	-	1
Ear, Nose and Throat	-	2	2

Appendix 23/Continued

Previous Experience	CNs n	SNs n	ENs n
Young Disabled Unit	-	2	-
Burns Unit	-	2	-
Cardio-thoracic	-	-	2
Endocrinology	-	1	-
Total	30	27	18

Appendix 24

Teaching during basic training about the management
of incontinence; Charge Nurses (n=19)

Category of Response	n	(%)*
Aids/appliances	14	(73.7)
"Toileting" Activities	8	(42.1)
Indwelling Catheters	9	(47.4)
Skin care/ hygiene	6	(31.6)
"Psychological" care	3	(15.8)
Bladder/habit training	3	(15.8)
Pelvic Floor Exercises	2	(10.5)
Care of patients confined to bed	2	(10.5)
Other	4	(21.1)
Total	51	

* Expressed as a percentage of the total number of respondents

OTHER

"General nursing care" 1
Continence charts 1
Surgical treatment 1
Clothing adaptations 1

Appendix 25

Teaching during basic training about the management of
incontinence; Staff Nurses (n=75)

Category of Response	n	(%)*
Aids/appliances	51	(68.0)
"Toileting" Activities	31	(41.3)
Indwelling Catheters	29	(38.7)
Continence Chart	11	(14.7)
"Psychological" care	11	(14.7)
Skin care/hygiene	8	(10.7)
Environmental Factors	7	(9.3)
Role of the continence adviser	7	(9.3)
Methods of Prevention	5	(6.7)
Bladder/Habit training	4	(5.3)
Drug therapy	4	(5.3)
Management in the community	4	(5.3)
Pelvic floor exercises	4	(5.3)
Other	8	(10.7)
Total	184	

* Expressed as a percentage of the total number of respondents

OTHER

"Promotion" of continence 2, Research 2, Treatment of infection 1, Self help groups/societies 1, Intermittent catheterisation 1, Management of incontinence in the elderly 1.

Appendix 26

Teaching during basic training about the management of incontinence;
Enrolled Nurses (n=27)

Category of Response	n	(%)*
Aids/appliances	25	(92.6)
Indwelling catheters	20	(74.1)
"Toileting" activities	19	(70.4)
Skin Care/ hygiene	6	(22.2)
Pelvic Floor Exercises	5	(18.5)
Bladder/habit training	3	(11.1)
Other	11	(40.7)
Total	89	

*Expressed as a percentage of the total number of respondents

OTHER

Methods of prevention of incontinence 2, Management in the community 2, Continence charts 2, "Promotion" of continence 1, Problems caused by incontinence 1, Role of Continence adviser 1, Research 1, Management options available 1.

Appendix 27

Teaching during basic training about the management of incontinence;
Nurse Learners (n=106)

Category of Response	n	(%)*
Aids/appliances	74	(69.8)
"Toileting" Activities	36	(34.9)
Indwelling Catheters	35	(33.0)
Continence Chart	20	(18.9)
Pelvic floor exercises	11	(10.4)
"Psychological" care	11	(10.4)
Role of the continence adviser	4	(3.8)
Bladder/Habit training	3	(2.8)
Environmental Factors	3	(2.8)
Drug therapy	3	(2.8)
Bowel management	3	(2.8)
Methods of Prevention	3	(2.8)
Other	9	(8.5)
Total	215	

* Expressed as a percentage of the total number of respondents

OTHER

Role of the continence adviser 3, Complications caused incontinence 2, Management of functional impairment 2, "Promotion" of continence 1, Social implications 1, Intermittent catheterisation 1, Management of stress incontinence 1, Fluid intake 1.

Appendix 28

In-service education/ward-based training:
Content related to the management of incontinence

n=	CNs		SNs/ENs		NLs		Total 87
	21	(%)	23	(%)	43	(%)	
Category of response							
Aids/appliances	10	(47.6)	8	(34.8)	22	(51.2)	40 (46.0)
Indwelling catheter	10	(47.6)	5	(21.7)	14	(32.6)	29 (33.3)
"Toileting" Activities	1	(4.4)	1	(4.4)	4	(9.3)	6 (6.9)
"General" Management	9	(42.9)	4	(17.4)	7	(16.3)	29 (33.3)
Care specific to the elderly	2	(9.5)	2	(8.7)	3	(7.0)	7 (8.1)
Pelvic floor Exercises	-		3	(13.0)	1	(2.3)	4 (4.6)
Continence Clinic	-		1	(4.3)	-		1 (1.2)
Continence Charts	1	(4.8)	-		-		1 (1.2)
Residual Urine volume	1	(4.8)	1	(4.3)	-		2 (0.2)
Drug therapy	-		1	(4.3)	-		1 (1.2)
Clothing adaptations	1	(4.8)	-		-		1 (1.2)
"Psychological" Care	-		-		1	(2.3)	1 (1.2)
Promotion of Continence	-		1	(4.3)	-		1 (1.2)

Appendix 29

SNs' rating of teaching received

Aspect of Teaching	Well/Fairly Well prepared n (%)	Not very well/ Not at all prepared n (%)	Total n
Causes of Incontinence	85 (78.7)	23 (21.3)	108
Assessment of Incontinence	73 (67.6)	35 (32.4)	108
Methods to promote Continenence	75 (68.8)	34 (31.2)	109
Incontinence Aids	74 (71.2)	27 (26.0)	104
Indwelling catheter Management	103 (94.5)	6 (5.5)	109

Statistical differences were found when SNs' rating of teaching about indwelling catheter management was compared with their rating of teaching concerning the causes of incontinence ($\chi^2 = 11.69$ df=1 $p < 0.001$), the assessment of incontinence ($\chi^2 = 25.61$ df=1 $p < 0.001$), the promotion of continence ($\chi^2 = 24.00$ df=1 $p < 0.001$) and incontinence aids ($\chi^2 = 17.84$ df=1 $p < 0.001$).

Appendix 30

ENs' rating of teaching received

Aspect of Teaching	Well/Fairly Well prepared		Not very well/ Not at all prepared		Total n
	n	(%)	n	(%)	
Causes of Incontinence	84	(85.7)	14	(14.3)	98
Assessment of Incontinence	68	(70.1)	29	(29.9)	97
Methods to promote Continence	80	(81.6)	18	(18.4)	98
Incontinence Aids	83	(83.0)	17	(17.0)	100
Indwelling catheter Management	97	(96.0)	4	(4.0)	101

Statistical differences were found when ENs' rating of teaching about the assessment of incontinence was compared with their rating of teaching related to incontinence ($\chi^2 = 4.56$ df=1 $p < 0.05$).

Statistical differences were found when ENs' rating of teaching about indwelling catheter management was compared with their rating of teaching about the causes of incontinence ($\chi^2 = 6.46$ df=1 $p < 0.02$), assessment of incontinence ($\chi^2 = 23.95$ df=1 $p < 0.0001$), the promotion of continence ($\chi^2 = 0.51$ df=1 $p < 0.01$) and incontinence aids ($\chi^2 = 9.13$ df=1 $p < 0.001$).

Appendix 31

NLs' rating of teaching received

Aspect of Teaching	Well/Fairly Well prepared n (%)	Not very well/Not at all prepared n (%)	Total n
Causes of Incontinence	89 (83.2)	18 (16.8)	107
Assessment of Incontinence	66 (62.3)	40 (37.7)	106
Methods to promote Continence	78 (72.9)	29 (27.1)	107
Incontinence Aids	84 (79.2)	22 (20.8)	106
Indwelling catheter Management	104 (97.2)	3 (2.8)	107

Statistical differences were found when NLs' rating of teaching about the assessment of incontinence was compared with their rating of teaching related to incontinence aids ($\chi^2 = 7.39$ df=1 $p < 0.01$).

Statistical differences were found when NLs' rating of teaching about indwelling catheter management was compared with their rating of teaching about the causes of incontinence ($\chi^2 = 11.8$ df=1 $p < 0.001$), the assessment of incontinence ($\chi^2 = 40.14$ df=1 $p < 0.001$), the promotion of continence ($\chi^2 = 24.84$ df=1 $p < 0.001$) and incontinence aids ($\chi^2 = 16.57$ df=1 $p < 0.001$).

Appendix 32

Frequency of problems compared with type of ward

Charge Nurses (n=52)

Frequency of Problems	Acute medical		Acute		HCE Acute & Rehab.		Slow-stream rehab.	
	n	(%)	n	(%)	n	(%)	n	(%)
Frequently	6	(42.9)	7	(43.8)	6	(37.5)	2	(33.3)
Sometimes	5	(35.7)	3	(18.8)	4	(25.0)	2	(33.3)
Occasionally	3	(21.4)	6	(37.5)	5	(31.3)	2	(33.3)
Rarely	0	-	0	-	1	(6.2)	0	-
Never	0	-	0	-	0	-	0	-
Total	14	(100.0)	16	(100.0)	16	(100.0)	6	(100.0)

* 4 missing values

Kruskal-Wallis one-way analysis of variance

(Frequency of problems vs. type of ward) χ^2 corrected for ties = 0.67

p<0.88 N.S.

Appendix 33

Frequency of difficulties experienced compared by grade of nurse

Frequency of Difficulty	Grade of Nurse					
	SNs n=109*		ENs n=108**		NLs n=107	
	n	(%)	n	(%)	n	(%)
Frequently	16	(14.7)	10	(9.3)	19	(17.8)
Sometimes	43	(39.4)	33	(30.5)	58	(54.2)
Occasionally	37	(33.9)	34	(31.5)	24	(22.4)
Rarely	9	(8.3)	19	(17.6)	5	(4.7)
Never	4	(3.7)	12	(11.1)	1	(0.9)
Total	109	(100.0)	108	(100.0)	107	(100.0)

* 1 missing value

** 2 missing values

Kruskal-Wallis one-way analysis of variance

(Frequency of difficulty vs grade of nurse) χ^2 corrected for ties = 24.05

P=0.000.

Appendix 34

Frequency of difficulties experienced when caring for patients with incontinence compared with type of ward : SNs, ENs and NLs combined (n=279)*

Frequency of Problems	Acute medical		Acute		HCE Acute & Rehab		Slow-stream rehab	
	n	(%)	n	(%)	n	(%)	n	(%)
Frequently	21	(15.7)	14	(15.7)	4	(8.0)	1	(4.2)
Sometimes	59	(44.0)	42	(47.2)	14	(28.0)	5	(20.8)
Occasionally	36	(26.9)	25	(28.1)	18	(36.0)	8	(33.3)
Rarely	13	(9.7)	5	(5.6)	11	(22.0)	4	(16.7)
Never	5	(3.7)	3	(3.4)	3	(6.0)	6	(25.0)
Total	134	(100.0)	89	(100.0)	50	(100.0)	24	(100.0)

* 27 NLs not included from the school of nursing

2 missing values

Kruskal-Wallis one-way analysis of variance

(Frequency of difficulties vs. type of ward) χ^2 corrected for ties = 21.76 p=0.000 (responses from SNs, ENs and NLs combined).

Kruskal-Wallis one-way analysis of variance

(Frequency of difficulties vs. type of ward) χ^2 corrected for ties = 15.76 p<0.001 (responses from SNs and ENs combined).

Appendix 35

Other/Category : Main problems identified when caring for patients with incontinence; all nurses (n=314)

Nursing anger/frustration (4), Establishing 'type' of incontinence (4), Establishing the cause of incontinence (3), Problems with indwelling catheters (3), Problems at night (2), Patients reluctant to take fluids (2), Patients reluctant to void frequently (2), Education of relatives (2), Patients who do not use toilet receptacle (2), Urinary tract infection (2), Incontinence in the young (2), Night staff (2), Not knowing when patient is incontinent (2), Linen shortage (2), Patients who are incontinent on admission (2), Maintaining patients' dignity (1), Problems following indwelling catheter removal (1), Difficulties with establishing a pattern (1), Difficulties with two-hourly toileting (1), Keeping patients dry (1), Faecal incontinence (1), Education of patient and nurse re: aids (1), Drug side effects (1), Patients who are lazy (1).

Appendix 36

Main problems identified : Charge Nurses (n=49)*

Category of Responses	Responses n=	(%)**
Lack of nursing Time	14	(28.6)
Problems associated with specific diagnosis	13	(26.5)
Diminished mental awareness	12	(24.5)
Problems with the use/ supply of aids	12	(24.5)
Patient handling	6	(12.2)
Lack of knowledge	5	(10.2)
Psychological impact on patient	5	(10.2)
Care of the skin	4	(8.2)
Problems associated with specific "types" of incontinence	4	(8.2)
Establishing the causes of incontinence	3	(6.1)
Patients' denial of problem	3	(6.1)
Nurses' attitudes	3	(6.1)
Other	9	(18.4)

Total 93

Mean number of problems identified 1.6 (range 1-4)

* 3 missing values,

** Expressed as a percentage of the total number of respondents

Other

Problems associated with indwelling catheters (2), Problems at night (2), Patients reluctant to take fluids (1), Patients reluctant to void frequently (1), Education of relatives (1), Patients who are incontinent before admission (1), Patients who will not ask/do not use toilet receptacles (1).

Appendix 37

Main problems identified : Staff nurses (n=91)*

Category of responses	Response n	(%)**
Problems with the supply/ use of aids	36	(39.6)
Lack of nursing time	34	(37.4)
Care of skin	27	(29.7)
Psychological impact on patient	13	(14.3)
Staff conflict	12	(13.2)
Diminished mental awareness	11	(12.1)
Lack of knowledge	11	(12.1)
Patient handling	8	(8.8)
Patients' denial of problem	5	(5.5)
Nursing staff anger/ frustration	4	(4.4)
Odour	4	(4.4)
Nurses' attitudes	3	(3.3)
Other	16	(17.6)
Total	191	

Mean number of problems identified 2.0 (range 1-4)

* Missing values 14

* Expressed as a percentage of the total number of respondents

Other:

Difficulties with communication (2), Maintaining patient's dignity (2), Problems with types of incontinence (1), Urinary tract infection (1), Incontinence in young patients (1), Incontinence following indwelling catheter removal (1), Night staff unwilling to toilet patients (1), Difficulties with establishing a pattern of incontinence (1), Difficulties with two-hourly toileting (1), "Knowing" when to catheterise (1), "Keeping patients dry" (1), Faecal incontinence (1), Educating patients and nurses about use of aids (1), Patient's understanding when incontinent (1).

Appendix 38

Main problems identified : Enrolled nurses (n=74)*

Category of responses	Responses n	(%)**
Diminished mental awareness	21	(28.4)
Care of skin	16	(21.6)
Lack of nursing time	15	(20.3)
Problems with the supply/ use of aids	12	(16.2)
Lack of knowledge	9	(12.2)
Patient handling	11	(14.9)
Psychological impact for patient	8	(10.8)
Communication difficulties	6	(8.1)
Staff conflict	6	(8.1)
Patients' denial of problem	3	(4.1)
Other	11	(14.9)
Total	118	

Mean number of problems identified 1.6 (range 1-5)

* Missing values 22

** Expressed as a percentage of the total number of respondents

Other

Problems at night (2), Problems with specific types of incontinence (2), Odour (1), Recurrent urinary tract infection (1), Drug side effects (1), Linen shortage (1), Problems associated with use of toilet receptacles (1), Incontinence in young adults (1), Lack of understanding (1).

Appendix 39

Main problems identified : Nurse Learners (n=100)*

<u>Category of Responses</u>	<u>Response n</u>	<u>(%)**</u>
Lack of nursing time	30	(30.0)
Psychological impact on patient	27	(27.0)
Care of skin	22	(22.0)
Problems associated with the use of/supply of aids	18	(18.0)
Staff conflict	12	(12.0)
Lack of knowledge	12	(12.0)
Patient handling	8	(8.0)
Patients' denial of problem	8	(8.0)
Diminished mental awareness	5	(5.0)
Establishing the "type" of incontinence	4	(4.0)
Other	5	(5.0)
Total	151	

Mean number of problems identified 1.7 (range 1-5)

* 6 missing values

** Expressed as a percentage of the total number of respondents

Other

Frequent changing of linen (1), Educating relatives about incontinence aids (1), Patients who have had a stroke (1), Patients who are "lazy" (1), Not being aware a patient had been incontinent (1).

Appendix 40

Other Category : Causes of incontinence; All nurse's responses combined
(n=364)

Patient unaware of the need to void (9), "Poor management" (8),
Communication impairment (7), Detrusor instability/unstable bladder (5),
Staff shortages (5), Tumour (4), "Waiting too long before voiding" (3),
Carers' lack of knowledge (2), Post-surgery (3), Pregnancy (3), Frequency
(3), Indwelling catheter removal (3), Visual problems (2),
Institutionalisation (1), Self-neglect (1), Poor diabetic control (1),
Electrolyte imbalance (1), "Patient resentment" (1), Fistula (1),
Unsuitable clothing (1), Obesity (1), "Stress" (1), Lack of stimulating
environment (1), Low level of ADH (1), Lack of dexterity (1), Lack of
privacy (1).

Appendix 42

Assessment of incontinence : All grades of nurses combined (n=336)

***Other Category:

Monitor drug side-effects (16), Observation of skin (11), Assess if long or short term problem (4), Assess if other problems (3), Attitude of staff (3), Diet (3), Residual urine (3), Ensure all staff aware of problem (2), Communication ability (2), Specialist referral (2), Physical examination (2), Type of ward (1), Assess behaviour of patient (1), Ensure coherent approach to management (1), Stress test (1), Assess awareness of patient (1), Assess for retention of urine (1), Assess availability of aids (1).

Appendix 43

Assessment of incontinence; categorised by grade of nurse

Other category:

<u>CNs</u>	n	<u>SNs</u>	n
Residual urine	1	Monitor drug side-effects	8
Monitor drug side-effects	2	Diet	3
		Ensure all staff	2
		Aware of problem	1
		Residual urine	1
		Stress test	1
		Specialist referral	1
		Assess if a short/long term problem	1
		Other problems caused by incontinence	1
		Physical examination	1
		Attitude of staff	1
<u>FNs</u>	n	<u>NLs</u>	n
Communication ability	2	Observation of skin	10
Residual urine	1	Monitor drug side-effects	5
Observation of skin	1	Temporary or permanent problem	3
Monitor drug side-effects	1	Staff attitudes	2
Specialist referral	1	Assess other problems	2
Assess what aids are available	1	Physical examination	1
"Type" of ward	1	Assess if aware of need to pass urine	1
Assess behaviour of patient	1	Assess for retention of urine	1
Ensure coherent approach to management	1		

Appendix 44

ACCOUNT ONE : Possible causes of Incontinence; categorised by grade of nurse

<u>CNS</u>	n	<u>SNS</u>	n
'Vaginitis'	1	'Old age'	2
'Muscular contraction of the bladder	1	Neurological impairment	1
		Congestive cardiac failure	1
		Prostatism	1
<u>ENS</u>	n	<u>NLS</u>	n
Pregnancy	1	Detrusor instability	1
Pressure on the bladder	1	Increase in abdominal pressure	1
Neurological impairment	1		
Small bladder capacity	1		

Appendix 45

ACCOUNT ONE : Suggested interventions; categorised by grade of nurse

<u>CNs</u>	n	SNs	n
Treat cause	2	Reducing diet	2
Aperients/enema	1	'Reduce stress'	1
Monitor fluid intake	1	'Stress' help group	1
		Training regimen	1
<u>ENs</u>	n	Intermittent catheterisation	1
Aperients/enema	2	Monitor fluid intake	1
Medical treatment	2	Faradism	1
Teflon coating to bladder	1	Aperients	1
Investigate cause	1		
Physiotherapy	1	<u>NLS</u>	n
Training regimen	1	Monitor fluid intake	1
Reduce fluid intake	1	Training regimens	1
"Encourage to cough when passing urine"	1	Intermittent catheterisation	1
"Encourage to train abdominal muscles"	1	Patient education	1

Appendix 46

ACCOUNT TWO : Possible causes of incontinence; categorised by grade of nurse

<u>CNs</u>	n	<u>SNs</u>	n
"Not recognising the need to pass urine"	2	Bladder stones	3
Congenital abnormalities	1	Sphincter spasm	1
		Congestive cardiac failure	1
<u>ENs</u>	n	Effects of anaesthetic	1
Renal failure	3	Drugs eg. imipramine	1
Bladder stones	1	Renal infection	1
'Laziness'	1	Post-surgery	1
Post-surgical	1		
Catheter blocked	1	<u>NLs</u>	n
Residual urine left after voiding	1	Gynaecological problems	10
Prolapse	1	Infrequent micturition	1
		Bowel obstruction	1
		Loss of sensation	1
		Drug side-effects	1

Appendix 47

ACCOUNT TWO: Suggested intervention; categorised by grade of nurse

Other category:

<u>CNs</u>		<u>SNs</u>	
Training regimens	n 2	Palpate bladder	n 2
Continence chart	1	'Final causes'	1
Physical examination	1	'Treat cause'	1
'Treat cause'	1	Increase mobility	1
Reduce fluid intake	1	Reduce fluid intake	1
'Relieve stress/nervousness'	1	Empty bladder	1
		Teach exercises	1
<u>ENs</u>		Educate patient	1
Encourage oral fluid intake	n 3	Give analgesics	1
Bladder washouts	2	Environmental adjustment	1
Medical referral	2	Phenol injection	1
Training regimens	2	Medical treatment	1
Pelvic floor exercises	1		
Investigate cause	1	<u>NLS</u>	n
Urinalysis	1	Reducing diet if obese	1
Continence charte	1	Assess cause and treat	1
		Drug therapy	1
		Training regimen	1
		Ensure patient has buzzer to communicate	1

Appendix 48

ACCOUNT THREE : Possible causes of incontinence; categorised by grade of nurse

Other category;

<u>CNs</u>	n	<u>SNs</u>	n
Dehydration	2	Increased fluid intake	2
'Not emptying bladder'	2	Diabetes	2
Poor diabetic control	1	'Laziness'	1
Retention of urine	1	Mental impairment	1
Physical disabilities	1	'Ageing'	1
"Waiting too long"	1	Venereal disease	1
		Small bladder capacity	1
<u>ENs</u>	n	Bladder stones	1
Mental impairment	4	Retention of urine	1
Laziness	4	Lack of staff	1
'Ageing'	2	Gynaecological problems	1
Faecal impaction	2		
Lack of staff	2	<u>NLs</u>	n
Gynaecological problems	1	Retention of urine	3
'Waiting too long before	1	Bladder distention'	1
going to the toilet		"Bladder full before the urge	1
Polyuria	1	to go"	
Pregnancy	1	Mental impairment	1
Dribbling incontinence	1		
Not emptying bladder	1		
completely			

Appendix 50

Item by item analysis

Frequency distribution for attitude scale scores

Charge nurses (n=56)

Item*	Scores				
	1	2	3	4	5
1. Nurse's role	3	5	5	25	18
2. Nursing problem	0	1	1	32	22
3. Stroke/indwelling catheter	1	7	7	30	11
4. Multidisciplinary approach	2	3	5	27	19
5. Surgery/drugs	0	0	2	27	27
6. Rehabilitation	0	0	3	29	24
7. Investigation	0	1	2	23	30
8. Toileting/aids	3	7	12	26	8
9. Laziness	1	9	8	23	15
10. Understanding	0	3	0	20	33
11. Longstanding problem	0	0	4	40	12
12. Ageing	0	6	3	27	20
13. Continence Adviser	1	5	8	30	12
14. Elderly/goal	0	1	3	39	13
15. Demoralising	0	0	1	34	21
16. Young/elderly	2	7	2	29	16

*Item abbreviations presented in full in Table 67.

Appendix 51

Item by item analysis

Frequency distribution for attitude scale scores
Staff Nurses (n=109)

Item	Scores				
	1	2	3	4	5
1. Nurse's role	2	21	9	63	14
2. Nursing problem	1	1	0	67	40
3. Stroke/indwelling catheter	5	22	25	44	13
4. Multidisciplinary approach	0	2	11	67	29
5. Surgery/drugs	0	0	3	50	56
6. Rehabilitation	0	0	3	61	45
7. Investigation	0	1	1	46	61
8. Toileting/aids	3	22	23	45	16
9. Laziness	1	17	16	58	17
10. Understanding	1	0	0	39	69
11. Longstanding problem	1	3	11	73	21
12. Ageing	2	8	10	58	31
13. Continence Adviser	2	4	16	75	12
14. Elderly/goal	1	4	14	70	20
15. Demoralising	1	8	6	60	34
16. Young/elderly	3	23	9	50	24

*Item abbreviations presented in full in Table 67.

Appendix 52
Item by item analysis

Frequency distribution for attitude scale scores
Enrolled Nurses (n=109)

Item*	Scores				
	1	2	3	4	5
1. Nurse's role	9	27	15	45	13
2. Nursing problem	0	2	8	72	27
3. Stroke/indwelling catheter	6	38	23	34	8
4. Multidisciplinary approach	1	5	24	58	21
5. Surgery/drugs	0	2	4	65	38
6. Rehabilitation	2	2	8	68	29
7. Investigation	1	3	1	57	47
8. Toileting/aids	5	50	18	29	7
9. Laziness	3	22	17	46	21
10. Understanding	0	0	0	50	59
11. Longstanding problem	1	19	18	59	12
12. Ageing	0	20	7	57	25
13. Continence Adviser	3	10	20	61	15
14. Elderly/goal	1	4	18	74	12
15. Demoralising	5	4	1	58	41
16. Young/elderly	14	25	7	46	17

*Item abbreviations presented in full in Table 67.

Appendix 53

Item by item analysis

Frequency distribution for attitude scale scores
Nurse Learners (n=105)

Item*	Scores				
	1	2	3	4	5
1. Nurse's role	0	14	19	59	13
2. Nursing problem	0	2	3	75	25
3. Stroke/indwelling catheter	0	13	33	40	19
4. Multidisciplinary approach	0	0	12	54	39
5. Surgery/drugs	0	1	4	51	49
6. Rehabilitation	0	0	3	54	48
7. Investigation	0	0	1	40	64
8. Toileting/aids	2	15	33	46	9
9. Laziness	1	7	27	45	25
10. Understanding	1	0	0	37	67
11. Longstanding problem	2	4	16	63	20
12. Ageing	1	5	16	64	19
13. Contenance Adviser	1	6	21	68	9
14. Elderly/goal	0	2	18	65	20
15. Demoralising	0	5	8	66	26
16. Young/Elderly	3	29	17	38	18

*Item abbreviations presented in full in Table 67.

Appendix 54

Attitude scale

Item - total statistics n=379

<u>Item+</u>	<u>Item-Total Correlation</u>	<u>Alpha Coefficient if item deleted</u>
1. N ROLE	0.3696	0.7698
2. N PROB	0.4417	0.7643
3. STRIDC	0.3094	0.7768
4. MULTIAPP	0.3847	0.7673
8. TOILAIID	0.4980	0.7546
9. LAZINESS	0.3892	0.7672
11. LONG PB	0.4897	0.7572
12. AGEING	0.5590	0.7484
13. CONTAD	0.4256	0.7633
14. ELDGOAL	0.4170	0.7648
15. DEMOR	0.3764	0.7679
16. YNGELD	0.4325	0.7639

* Item abbreviations presented in full in Table 67.

Alpha Coefficient = 0.7793

Appendix 55

Within group comparisons between age and attitude scores

CNs (n=53)

Age	n	\bar{x} score	P value	
Less than 25 years	4	50.5	0.79	n.s.
25 - 30 years	14	51.4		
Less than 25 years	4	50.5	0.04	
31 - 35 years	5	46.2		
Less than 25 years	4	50.5	0.05	
36 - 45 years	17	44.7		
Less than 25 years	4	50.5	0.13	n.s.
More than 45 years	13	46.1		
25 - 30 years	14	50.5	0.03	
31 - 35 years	5	46.2		
25 - 30 years	5	51.4	0.005	
36 - 45 years	17	44.7		
25 - 30 years	5	51.4	0.02	
More than 45 years	13	46.1		
31 - 35 years	5	46.2	0.61	n.s.
36 - 45 years	17	44.7		
31 - 35 years	5	46.2	0.85	n.s.
More than 45 years	13	46.1		
36 - 45 years	17	44.7	0.86	n.s.
More than 45 years	13	46.1		

n.s. Not Significant

Appendix 56

Paired comparisons between type of ward and mean attitude score

Type of Ward	n	\bar{x} score	S D	Mann Whitney	P value
Acute Medical	151	45.8	4.5	U=6755.0	0.18 n.s
Acute HCE	105	46.5	5.1		
Acute Medical	151	45.8	4.5	U=4854.5	0.96 n.s
Acute/Rehabilitation	68	46.0	5.6		
Acute Medical	151	45.8	4.5	U=801.0	0.0000
Slow-stream Rehabilitation	31	39.4	5.1		
Acute HCE	151	46.5	5.1	U=2946.0	0.310 n.s
Acute/Rehabilitation	68	46.0	5.6		
Acute HCE	105	46.5	5.1	U=465.5	0.0000
Slow-stream Rehabilitation	31	39.4	5.1		
Acute/Rehabilitation	68	46.0	5.6	U=394.5	0.0000
Slow-stream Rehabilitatio	31	39.4	5.1		

n.s. not significant

Appendix 57

Mean combined scores for items on attitude scale by type of ward

CNs (n=56)

Type of Ward	n	\bar{X} Score	S D	Range	
Acute Medical	17	47.7	4.0	39-59	
HCE {	Acute	16	50.7	4.0	45-60
	Acute/Rehabilitation	17	49.0	5.2	42-59
	Slow-stream rehabilitation	6	39.0	4.1	33-44

*Kruskal-Wallis one-way Anova $X^2 = 13.09$ $p < 0.004$

ENs (n=109)

Type of Ward	n	\bar{X} Score	S D	Range	
Acute Medical	31	43.8	4.5	37-53	
HCE {	Acute	25	45.2	6.2	33-55
	Acute/Rehabilitation	29	43.4	5.2	35-57
	Slow-stream rehabilitation	24	39.0	5.2	26-47

*Kruskal-Wallis one-way Anova $X^2 = 16.25$ $p < 0.003$

Appendix 58

Within group comparisons between type of ward and attitude scores

CNs (n=56)

Type of Ward	n	\bar{x} score	p value	
Acute Medical	17	47.7	0.12	n.s.
Acute HCE	16	50.7		
Acute Medical	17	47.7	0.73	n.s.
Acute Rehabilitation	17	49.0		
Acute Medical	17	47.7	0.003	
Slow-stream Rehabilitation	6	39.0		
Acute HCE	16	50.7	0.44	n.s.
Acute/Rehabilitation	17	49.0		
Acute HCE	17	50.7	0.003	
Slow-stream Rehabilitation	6	39.0		
<u>ENs (n=109)</u>				
Acute Medical	31	43.8	0.29	n.s.
Acute HCE	25	45.2		
Acute Medical	31	43.8	0.60	n.s.
Acute Rehabilitation	29	43.4		
Acute Medical	31	43.8	0.003	
Slow-stream Rehabilitation	24	39.0		
Acute HCE	25	50.7	0.18	n.s.
Acute/Rehabilitation	29	43.4		
Acute HCE	25	50.7	0.002	
Slow-stream Rehabilitation	24	39.0		

n.s. not significant