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THE ROLE OF LOCAL AUTHORITY HOMES IN
THE CARE OF THE DEPENDENT ELDERLY

GEORGE MASTERTON

Thesis submitted for the Degree of Doctor of Medicine to
the Faculty of Medicine, University of Glasgow from the
Department of Psychological Medicine, University of Glasgow.

Submitted December, 1981.

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SUMMARY

THE ROLE OF LOCAL AUTHORITY HOMES IN THE CARE OF THE DEPENDENT ELDERLY.

The radical 1948 legislation, which established a comprehensive health and welfare system for the elderly, asserted that it was the duty of the State to provide appropriate facilities for not only the sick, but for all old people "in need of care and attention". The intention was that the welfare services (retermed social services in 1968) would develop small group homes to accommodate the fit elderly who were in need of care primarily as a result of social disadvantage. However, Townsend's penetrating study, *The Last Refuge* (1962), destroyed any illusion that these were State analogues of guest houses, and since 1970 occasional publications arising from surveys of Local Authority homes have consistently reported high levels of physical, mental and behavioural disabilities among the residents.

Assessing this literature, and following discussions with social services staff, two fundamental, unanswered questions about the role of Local Authority homes in the care of the dependent elderly could be delineated-

1. Was the level of behaviour disabilities increasing in the homes?

2. What made an old person suitable for this type of care?

Following a detailed review of the literature five hypotheses to be tested in the project were generated from these questions.

Hypothesis One: If Local Authority homes are modifying their role because of increases in the number of elderly, then there will be an increase in the mean levels of disabilities managed in the homes and/or an increase in the number of dependent or demented residents.

Hypothesis Two: The prediction of mortality may be a useful method of determining suitability for care.

Hypothesis Three: Residents who are considered unsuitable for the home by the staff will have behaviour disabilities of a different nature or severity from those of other residents.

Hypothesis Four: A standardised behaviour rating scale with designated cut-off values, accurately reflects the staff's opinion of suitability for the home.

Hypothesis Five: The admission of old people to Local Authority homes may shorten their life and/or increase their dependency.

The project was carried out prospectively between 1978 and 1980 upon the population (about 400 residents) living in the eleven Local Authority homes for the elderly within Gartnavel Royal Hospital's catchment area. Investigations consisted of a behavioural assessment of each resident by the senior members of staff in the home, using the Shortened Stockton Geriatric Rating Scale (SSGRS) and a psychometric assessment of each resident by a psychiatrist using the Crichton Orientation Test and the Modified Kew Test. The psychometric instrument was a novel combination of tests and therefore had to be validated as a method of identifying cases of dementia.

The results of the study, summarised in Chapter 11, rejected hypotheses one, two and five, and supported hypotheses three and four.

The interpretation of these findings was that Local Authority homes for the elderly contain large numbers of highly dependent residents within a population characterised by its wide range and nature of disabilities. However they do not have the capacity or resources to admit severely dependent old people indefinitely, and having determined to employ a more defensive selection

posture, repercussions occur in the hospital services and in the community.

Local Authority homes can cope with most types of disability and do accept that their role involves the care of the dependent elderly. However old people with severe physical disabilities which are intimate, and unpleasant and time-consuming to nurse are not suitable for this form of care. The identification of these traits is one method of developing exclusion criteria, although the agreement between a standardised behaviour rating scale (SSGRS) and staff opinion of suitability for care is high enough to warrant its application in this task.

Recommendations were divided into two categories. Firstly short term, relatively inexpensive measures that increase liaison between the health and social services, improve the health care input into the homes and develop better assessment procedures.

More important however is the need to provide a long-term solution to the growing problem of highly dependent old people whose disabilities are beyond the scope of the Local Authority homes, and the shared care

arrangements that have evolved between hospital day and domiciliary services and relatives or friends in the community. The justification for health service continuing care units sited in the community to be served has been established. The failure to develop this type of accommodation can only aggravate the plight of all those involved with this section of the population, and through the abrogation of State responsibility, may ultimately recreate a pre-1948 climate for the dependent elderly in our society.

PREFACE

1949

The workhouse is doomed. Instead Local Authorities are busy planning and opening small, comfortable Homes where old people, many of them lonely, can live pleasantly and with dignity. The old "Master and inmate" relationship is being replaced by one more nearly approaching that of an hotel manager and his guest.

Ministry of Health CMND 7910.

CHAPTER ONE

INTRODUCTION

INTRODUCTION

An urgent requirement exists to investigate the social and medical needs of the elderly and to determine how best they might be met, the urgency stemming particularly from the projected growth in numbers of this section of the population between now and the end of the century^[1].

Unfortunately the elderly have not been well served in this area in the past, probably because of the nature of our welfare system, which was created upon the twin autonomous bastions of the National Health Service and the Social Services. The perseverance of this dichotomy of care from 1948 until the present, has resulted in scant research attempting to cross or bridge the division, each discipline concentrating upon what it sees as its sector of responsibility.

Policy documents too, have emphasised distinctions rather than similarities in the roles of the National Health Service and the Social Services^[2,3]. The management of dementia reflects this philosophy with three broad categories of individual recognised:

- a) those with mild dementia but not suffering from significant physical disease or illness - the responsibility of the social services.
- b) those with severe dementia but not suffering from other significant physical disease or

illness - the responsibility of the psychiatric services.

- c) those with dementia, whether mild or severe, and also suffering from other significant physical disease or illness - the responsibility of the geriatric services.

The inherent danger of such a compartmentalised approach surfaces when one of these services changes its policies. Such unilateral action was witnessed in the English and Welsh psychogeriatric services during the early 1970's^[4,5], when the number of elderly demented admitted to long-stay care sagged by 25%, apparently in response to a series of well-publicised scandals in mental hospitals - most notably at Ely^[6] and Whittingham hospitals^[7]. Because psychiatric hospitals became less willing to accept demented patients for long term care it did not mean that these old people would then obligingly disappear! Presumably compensatory shifts must have occurred, and for those patients who could not be maintained in the community, other residential care options must have modified their policies to accept them, for available evidence suggests that the shortfall in bed provisions of one service is not made up by expansion of another type of care^[8].

While this reversal phenomenon was not observed in Scotland^[9], the provision of long-stay accommodation for

the elderly in psychiatric hospitals has lagged behind the growth in numbers of elderly people.

So far, the sole investigation to examine prospectively the relationship between the health service and social service residential provisions discovered "a substantial shift of the burden of care" to the Local Authority homes during the year of study^[10]. The implications of this finding are enormous, not only provoking "a radical reappraisal of the systems of care" as the authors suggest but also stimulating further scientific research of these institutions.

Although this project was originally conceived to provide service information for both the management of the Local Authority homes and for Gartnavel Royal Hospital's geriatric psychiatry service, and, as a by-product, to strengthen collaboration between them at field level, the author appreciated that the pre-existing high level of co-operation among senior staff (fostered through the Local Mental Health Liaison Committee) allowed him the opportunity to devise a more ambitious investigation which could attempt to answer two fundamental questions about the role of Local Authority homes in the care of the dependent elderly.

The first of these questions stemmed directly from Wilkin et al's publication^[10], which contained methodological weaknesses that stimulated the need for a replication. So, was the level of behaviour disabilities in residential homes increasing, or not?

The second question was derived from another source, the staff who worked in Local Authority homes. In preliminary discussions with them it became apparent that conflicting opinions existed about the type of old person who was appropriate for this type of care, and no guidelines were available to resolve the issue. So what determines whether an old person is suitable or unsuitable for life in a Local Authority home?

The answers to these questions would provide important new knowledge in the contemporary problem of the dependent elderly and their residential requirements.

CHAPTER TWO

LITERATURE REVIEW

Before reviewing in detail published work relevant to the questions posed in the Introduction (Sections 3 and 4), it is essential to place this literature and the current investigation into the correct historical and temporal context. The first two sections of literature review have been devoted to these aspects.

Section 1 deals with the trends in numbers and proportions of elderly in the community and in care, the implications of these changes now and for the future.

Section 2 covers the structured provisions for caring for the elderly from their advent in 1601 up to Carstairs and Morrison's major survey of Scottish residential homes in 1969^[11]. In describing the historical development of Local Authority homes, it is necessary to consider the official, traditional and actual roles - for these were seldom the same.

SECTION 1

The elderly in care and in the community
- the Scottish trends until the year 2001.

1. THE ELDERLY IN CARE AND IN THE COMMUNITY - THE SCOTTISH TRENDS UNTIL THE YEAR 2001.

Many publications devoted to the problems of the elderly commence by pointing out the growing numbers of elderly and their increasing proportion of our society. However it is seldom recorded that these numbers have been increasing steadily since 1901, and that it is during the present decade that the first signs of a reversal will occur^[12].

Confining attention to the Scottish population (which differs little in the trends to be presented from its English and Welsh counterparts) the peak number of elderly people was projected for 1980 (715,000) and the numbers and proportion of the population over 65 years of age are already falling (Table I).

TABLE I

The Numbers of Elderly and Their Proportion of the Total Scottish Population 1951-2001.

<u>YEAR</u>	<u>NUMBER OF ELDERLY</u>	<u>PERCENTAGE OF THE POPULATION</u>
1951	509,000	9.85
1961	549,000	10.51
1971	639,000	12.23
1981	714,000	13.36
1991	708,000	12.67
2001	660,000	11.20

Table derived from analysis of census data and projected changes [1].

Unfortunately this does not mean that the health and social services will find themselves coping with fewer elderly people - the reverse in fact is true. For disguised within this general statistic, important changes are taking place, with the numerically smaller older age bands (80 years of age and over) continuing to increase at a rapid rate, while the reductions are confined to the 65-74 year olds. The change in numbers within five year age bands projected over the second half of this century reveals how different the constitution of the elderly population will be by 2001, with almost a three-fold increase in the number of individuals of 85 years of age and more (Table II).

TABLE II

The Changes in Constitution of the Scottish Elderly Population Considered in Five-Year Age Bands 1951-2001.

<u>AGE GROUP (Years)</u>	<u>CHANGE IN NUMBERS 1951-2001.</u>
65 - 69	+ 2.6%
70 - 74	+ 16.4%
75 - 79	+ 42.4%
80 - 84	+ 91.3%
85+	+185.0%
Total	+ 29.7%

Table derived from analysis of census data and projected changes^[1].

This will create a process which can best be described as "a continuous aging of the elderly population", and its effects may be illustrated by considering the epidemiology

of dementia.

Dementia is a disease process closely linked with aging^[13] and it is particularly amongst the over 80's that the prevalence of dementia rises sharply (Table III). So one effect of the population changes will be that the

TABLE III

The Relationship between Prevalence of Dementia and Age.

<u>AGE (Years)</u>	<u>PREVALENCE OF DEMENTIA</u>
65 - 69	2.3%
70 - 74	2.8%
75 - 79	5.5%
80+	22.0%

Table taken from^[13].

number of cases of dementia will continue to increase in spite of the overall decrease in size of the elderly population (Table IV), and dementia too will undergo the

TABLE IV

Scottish Trends for Senile Dementia 1951-2001.

<u>YEAR</u>	<u>CASES OF SENILE DEMENTIA</u>	<u>CHANGE DURING PRECEDING DECADE</u>	<u>PROPORTION OF CASES OVER 80 YEARS OF AGE.</u>
1951	28,637		50.7%
1961	33,502	+ 17.0%	55.8%
1971	39,004	+ 16.4%	56.4%
1981	45,865	+ 17.6%	58.0%
1991	50,808	+ 10.8%	63.7%
2001	49,142	- 3.3%	64.9%

These figures are estimates calculated from census data and projected changes^[1] and the prevalence of dementia in relation to age^[13]

same process of "continuous aging".

Many other physical and psychological changes take place as the old become the very old but of greatest relevance to this thesis are the social effects. Social networks disintegrate as spouses, siblings and friends die, so that living alone occurs almost twice as frequently amongst the over 85's as it does in the 65-74 age group (44% vs. 25%)^[14]. Children may move away, work, or, as seems to be becoming increasingly common, pass retiral age and begin to suffer from age-related disease processes themselves.

In the case of demented individuals it has been demonstrated that the factor most closely associated with long-stay hospital care was neither the degree of physical, mental nor behavioural disability, but living alone^[15]. The relationship of the supporter was also important, with organically impaired old people who were cared for by their children much more likely to continue in the community. Oddly, 12% of the English and Welsh elderly population are cared for by their children while the corresponding figure for Scotland is only 6%^[16], implying that the prospect of prolonged institutional care will enter the lives of a higher proportion of the Scottish elderly.

The combined effects of the physical, mental and social

changes associated with aging results in a twelvefold increase in the proportion of elderly living in institutions when the two age extremes of the elderly population are compared (Table V). The balance of care

TABLE V

The Relationship between the Proportion of Scottish Elderly in Institutional Care and Age.

<u>AGE (Years)</u>	<u>PROPORTION OF OLD PEOPLE IN INSTITUTIONAL CARE (%)</u>
65 - 69	2.5
70 - 74	3.9
75 - 79	6.4
80 - 84	11.8
85 - 89	19.2
90+	29.7

Table derived from analysis of 1971 census data^[16].

provided by the three main types of institution is altered too with advancing age associated with a steady increase in the proportion cared for in residential homes (Table VI).

TABLE VI

The Balance of Institutional Care by Age in Scotland.

<u>AGE (Years)</u>	<u>IN PSYCHIATRIC HOSPITALS</u>	<u>IN OTHER HOSPITALS</u>	<u>IN RESIDENTIAL HOMES</u>
65 - 69	36.8%	47.2%	16.0%
70 - 74	30.6%	44.3%	25.1%
75 - 79	24.5%	43.5%	32.1%
80 - 84	19.6%	41.2%	39.1%
85 - 89	16.7%	39.6%	43.7%
90+	11.8%	43.3%	44.8%

Table derived from analysis of 1971 census data^[16].

Nevertheless the statistics available for Scottish mental hospitals indicate that between 1964 and 1975 the number of patients over 75 years of age was increasing as was the proportion of long-stay patients with a primary diagnosis of dementia - and this was in spite of an overall decrease in bed complement^[17]. There was no evidence of a fall in admissions amongst this age and diagnostic group as had occurred in England and Wales during the early 1970's^[4,9] and, analysing the most recent statistics^[18] suggests that the number of elderly demented patients cared for in Scottish psychiatric hospitals is continuing to increase, albeit erratically (Table VII).

TABLE VII

The Number of Inpatients with a Diagnosis of Senile Psychosis in Scottish Mental Hospitals and Psychiatric Units, 1970-78.

<u>YEAR</u>	<u>NUMBER OF RESIDENTS</u>	<u>% CHANGE FROM 1970</u>
1970	2843	
1971	3110	+ 9.4
1972	3094	+ 8.8
1973	3231	+ 13.7
1974	3123	+ 9.9
1975	3129	+ 10.1
1976	3135	+ 10.3
1977	3302	+ 16.1
1978	3440	+ 21.0

Table derived from analysis of data supplied in^[18].

N.B. Senile psychosis includes patients with a diagnosis of presenile dementia. In 1978, there were 287 such patients - 8.3% of the whole category.

In conclusion, the critical trend is the continued rate of growth in the numbers of very old people (80 years of age and over) who have higher levels of physical, psychological and social morbidity, and consequently more often require to be in the care of the health and social services.

SECTION 2

The development of Local Authority homes
for the elderly (1601-1969).

2. THE DEVELOPMENT OF LOCAL AUTHORITY HOMES
FOR THE ELDERLY (1601-1969).

1948 is regarded as a watershed year in Britain's social policies with major reforms to health care, social services and national insurance, advocated during the war years, being implemented amidst the euphoria and expectancy of the immediate post-war period. Here was a Britain successfully united against foreign tyranny, determined to sweep away the tyrannies of poverty, disease, ignorance and loneliness that had been present for so long within its own frontiers.

Prior to 1948, the evils of the workhouse, so vividly described to millions in Oliver Twist, was the ultimate fate of many old people: and yet, the Poor Relief Act of 1601 which had established the first corporate system of public relief - the Elizabethan Poor Houses - had been seen as a major humanitarian reform in its time, saving the old, young, blind and ill from destitution and neglect on the streets.

Indeed for over two hundred years these institutions had functioned successfully, being accepted as a necessary concomitant of disadvantage. However in the 1820's and 30's England was swept by a wave of radical social changes (not unlike that of the 1940's) during which slavery was

abolished in the colonies (1828), Factory Acts passed to curb child labour (1833) and even Parliament itself was reformed (1832).

Paradoxically the Poor Houses were singled out for attack in the reactionary backlash led by Edwin Chadwick, who saw them as a cause of laziness amongst the workers. He was supported by the most powerful bloc in Parliament, the Landowners, who had persistently objected to the Speenhamland System that Pitt had introduced in 1795 to aid the rural poor, allowing outdoor relief to be earned through farm labouring whilst living in the poor house. Following a protracted Commission of Inquiry (1832-34), the Poor Law Amendment Act was passed in 1834. The Speenhamland System, outdoor relief and the traditional poor house were all abolished, and in their place a system of workhouses controlled by Boards of Guardians was established to ensure that "conditions of life should not be as good as those experienced by the independent labourer of the lowest social class"^[19].

The legislation's principal aim was to punish the able bodied poor who were regarded as indolent and in need of the dissuasion which would be provided by the rigorous discipline of the new workhouses. While the Act also acknowledged that poor houses contained other,

more deserving sections of the population - orphans, old people, the handicapped and ill - its hope was that these people would best be served by the almshouses and voluntary hospitals and homes that were beginning to emerge in greater numbers at that time: so no statutory steps were taken on behalf of these disadvantaged groups - and the result was that, with few exceptions, the poor house population became the workhouse population.

The hated workhouses, contemptuously nicknamed "Bastilles", aggravated the plight of the sick and elderly, and as systematic investigation of the needs of the inmates was not carried out, another century was to pass before the next relevant legislation was passed, the Local Government Act of 1929.

Even such pioneers of social reform as Beatrice and Sydney Webb failed to appreciate the injustice perpetrated upon the elderly, commenting that "for old men and women of this kind, the General Mixed Workhouse with its stigma of pauperism, dull routine, exaction of such work as its inmates can perform, and its deterrent regulations, seems a fitting place in which to end a misspent life"^[20], thus sharing the commonly held assumption that the 140,000 old people in workhouses in 1909 were receiving retribution for leading an improvident life.

And dreadful retribution it certainly could be, for at its worst dull routine and work consisted of stone-breaking, bone crushing and oakum picking (all recognised as occupations particularly hazardous to health, as well as tedious and tiring), while deterrent regulations included separation of children from parents, husbands from wives, no visitors, no smoking, enforced silences, no going out except to church, little food and no health care.

The Local Government Act's intentions were firstly the reclassification of those Poor Law institutions which had specialised in the care of the ill, the young and the mentally handicapped as hospitals, children's homes and mental deficiency institutions respectively, and secondly the transfer of powers of control from the frequently corrupt or unscrupulous Boards of Guardians to the Burgh or County Councils. While this Act effectively established that responsibility was now held at Local Authority level, it did nothing at all to improve the conditions for the residents, or end the admission of old people, whose proportion of the Workhouse population had steadily increased from 45% in 1909, including 12% of all people over the age of 85^[21], to over 60% in 1930, despite the avowed aim of the Old Age Pensions

scheme enacted in 1908, to keep the old out of the workhouses.

And so to 1948, and the eradication of the workhouses. The Nuffield Survey Committee Report (1947) recommended that "all normal old people who are no longer able to live an independent life should be accommodated in small Homes rather than in large institutions. This would require the provision of several thousand new buildings over the next fifteen to twenty years"^[22]. This Report's recommendations formed the basis of Part III of the Minister of Health's National Assistance Bill, introduced with typical Aneurin Bevan rhetoric - "We have decided to make a great departure in the treatment of old people. The workhouse is to go it was a very evil institution. The Welfare Authorities, as we shall now describe them, have the power to establish separate Homes which to avoid reproduction of the workhouse atmosphere, must contain about 25 or 30 persons"^[23].

Part III of the National Assistance Act (1948), and hence the alternative name Part III Homes, placed a statutory duty on the Local Authorities to provide "residential accommodation for persons who by reason of age, infirmity or other circumstances are in need of care and attention not otherwise available to them", and advocated

the introduction of welfare committees to administer the service. An attempt was made to distinguish between 'the sick' and 'those in need of care and attention' by transferring those institutions which had catered entirely, or mainly, for the elderly sick to the National Health Service, the intention being for the Local Authority Homes to function more like guesthouses (see Preface, page 18).

These sentiments were clearly admirable, but just how far they deviated from the real nature of life for old people in Local Authority Homes only became widely recognised following the publication of Peter Townsend's penetrating study "The Last Refuge" in 1962^[24]. This book contained vignettes of caring and uncaring staff, helpful, awkward and ill residents, purpose-built small homes and workhouses continuing virtually unaltered, all supplemented most effectively with a series of photographs capturing facets of everyday life.

A series of shortcomings were identified - a shortage of new buildings (only 207 had been opened between 1948 and 1962 instead of the proposed "several thousand"), gross inequities in the facilities offered by residential homes, the uneven quality of relationships between residents and staff, relatives, friends and neighbours, and first and foremost, a general, and sometimes total,

failure to meet the psychological and physical needs of the inhabitants.

In addition to presenting his observations and opinions backed up by case histories, Townsend also provided the first survey of the prevalences of various disabilities in a sample of 530 new residents. He found higher levels of all disabilities than would be expected in the community - 25% were deaf, 17% were blind, 37% frequently fell, 14% were often incontinent, 21% had marked physical disability and 17% marked mental impairment. He concluded that, in general terms, 30% of his sample were severely or completely dependent upon the staff, 50% were mild to moderately dependent and only 20% were the type of fit resident envisaged by the legislation, yet, due to the very spirit of the Act, most residents received less medical supervision and nursing attention than many housebound old people. Indeed, a substantial minority of the sample (21% of the men and 28% of the women) had been admitted directly from hospital because they required basic nursing care and were unable to live on their own. Townsend concluded that one of the implicit functions of the residential homes was to provide prolonged nursing care although they were neither envisaged, equipped, staffed nor officially recognised for this role.

However this distinction between 'sick' and 'in need of care and attention' which the 1948 legislation had introduced, was perpetuated by successive Governments and supplemented with a series of circulars purporting to clarify the division. For example in 1957 "in need of care and attention" was defined as including:

- i) care of the otherwise active resident during minor illnesses which might involve a short period in bed.
- ii) care of the infirm who require help to dress, toilet, etc. and cannot manage stairs.
- iii) care of residents who are bedfast if death is anticipated within not more than a few weeks^[25].

Nursing duties outwith or in excess of those specifically described were deemed not to be the responsibility of the Welfare Authority. Townsend pointed out this circular merely spun a further web of confusion - the definitions of "infirm", "nursing" and "short period", the anticipation of death, etc.

However as far as the health care input into residential homes has been concerned, the latest policy (1977) remains a reiteration of 1957 - "'care' provided in residential homes is limited to that appropriate in a residential setting. This includes help with washing, bathing and

dressing; assistance with toilet needs; the administration of medicines, and when a resident falls sick, the kind of attention someone would receive in his own home from a caring relative It does not include the professional kind of health care that is properly the function of the primary health care services. Nor should residential homes be used as nursing homes or extensions of hospitals^[26]".

Townsend had suggested that, if the residential homes were to accept a role caring for severely dependent people, then they should be not only better staffed, equipped and designed but the involvement of the health services in the homes should be much greater. That no steps have been taken might partially have been the result of his own emphasis on the deleterious effects of institutionalisation which at that time was a topical consideration^[27] that overshadowed the health care aspects.

It has also to be appreciated that Townsend was not trained in the health care specialties, and he openly expressed his reservations, and lack of confidence in the data on self care. He warned the reader that "the method should be regarded as no more than a provisional attemptto develop a form of measurement reproducible by others". His main concern was to minimise rater

bias - even at the expense of validity - and in no area was his dilemma more apparent than in the assessment of psychological function. Here he frankly admitted that "the absence of proper diagnosis made it difficult to measure the incidence of mental impairment" and concluded that "the question of the mental state of the elderly in institutions is one of major importance which deserves intensive investigation".

His rather vague definition of mental impairment was in terms of two sociologically orientated deficits - firstly, the mental incapacity to organise personal services for himself/herself, and secondly, the inability to communicate with others. Certainly this approach would not yield the quality or quantity of data upon which major policy decisions could be based. On reflection, the Last Refuge's main achievement was to make it no longer respectable to institutionalise old people as a solution to loneliness^[28] and this in turn paved the way towards policies directed at an increasing commitment to community care and the maintenance of an elderly person in a familiar environment whenever possible^[29].

The Last Refuge investigated homes in England and Wales, excluding Scotland. How relevant these findings were to the Scottish experience can only be a matter for

conjecture, but there is nothing to suppose that the situation North of the Border was different.

In Scotland the Social Work (Scotland) Act 1968 transferred responsibility for residential care for the elderly from the Health and Welfare Departments to the newly constituted Social Work Departments without altering the content of the relevant sections and this remains the legislation currently on the statute books.

Historically therefore Local Authority homes for the elderly are the direct descendants of the workhouses, and were established in a political and national mood of optimism. That these were not old age pensioners' guest houses was amply demonstrated by The Last Refuge, yet policies have maintained that a workable distinction exists between "in need of care and attention" and "ill", and the organisation of the service has been geared upon this basis.

SECTION 3

Recent studies of Local Authority homes
for the elderly (1970-present).

3. RECENT STUDIES OF LOCAL AUTHORITY HOMES
FOR THE ELDERLY (1970-Present).

Over the past decade there have been a trickle of publications stemming from health service investigations of residential homes for the elderly.

The first, and largest, was the postal survey carried out in 1969 by the Scottish Health Services Research Unit^[11]. Where the Last Refuge had been anecdotal and humanist, *The Elderly in Residential Care* provided a strictly statistical account of the homes and their residents, from admission source to mode of discharge, with emphasis on their disabilities.

In essence the findings relating to the disabilities among residents were similar to Townsend's, with a heterogenous population described, varying from the bedfast to the totally independent. Unlike Townsend's, the majority of residents were designated "fit", with only 12% highly dependent upon staff and a further 22% incapable of full self-care. This interpretation was based upon an imposing, if impractical, fifteen category scale of dependency (whereas Townsend's had been based upon his opinion).

Methodologically the survey was of a very high standard, and a great deal of useful information was

obtained; however, once again the assessment of mental disorder proved a major difficulty both in terms of validity and reliability. In Para 7.33, the authors admitted that, they "had failed to arrive at a satisfactory objective statement of severity of mental disorder" and that "the Matrons' recordings would be of varying degrees of impairment (depending upon what they as individuals found acceptable behaviour)". Their psychological assessment was based upon the staff response to a single, four point, item on confusion. Like Townsend^[24], Carstairs and Morrison^[11] failed to resolve the measurement of mental impairment because they defined it as a behavioural trait, akin to incontinence or immobility, instead of appreciating that a much wider concept was involved.

During the past seven years smaller studies of Local Authority homes have been reported from Edinburgh^[30,31], Manchester^[32,10], Southampton^[33] and North Yorkshire^[34]. In addition, two surveys of the provisions for the elderly in Essex^[35] and Leicestershire^[36] have yielded valuable data about their residential homes.

The first of these studies to be reviewed concerned the admission characteristics and four year outcome of two hundred consecutive admissions to a large Edinburgh

welfare home^[30,31]. The authors reported that the home contained many extremely disabled and dependent residents who were indistinguishable from patients in the long-term wards of any geriatric unit. The four year mortality rate was much greater than in the normal elderly population, particularly in the early weeks following admission and this was believed to be a direct effect of not having an admission policy in which the physical and mental health of the potential resident had been assessed. However, the study lacked research discipline, the data consisting of the routine records made by the authors and other physicians or psychiatrists who had assessed the resident.

The second pair of studies to be reviewed were carried out in South Manchester's residential homes. The first^[32] was a straightforward assessment of the 518 residents (in 14 homes) using the Crichton Royal Behaviour Rating Scale, including comparisons made with the levels of disabilities in the hospital provisions which, surprisingly, consisted of only 37 psychogeriatric beds and 36 geriatric beds. The main findings were that greater numbers of mentally and physically impaired old people were cared for in residential homes than in long-stay wards although the proportion of such individuals was lower, and secondly, there was considerable variation among the homes which

did not match the grading given by the local Social Services Department. While the investigators did not assess mental impairment per se, they divided the eight items of the scale into two groups of four, one mainly rating physical dependence and the other mental disturbance. They limited their discussion of this manoeuvre to commenting that the item on orientation provided a "crude assessment of the proportions of residents/patients suffering some degree of mental impairment".

The second of their studies was the only prospective study of a residential home population hitherto published, and a major stimulus to the present investigation^[10]. The aim was to discover whether the Local Authority homes in their area were having to cope with increasingly disabled residents in the light of the changes in the composition of the elderly population. In consultation with the care attendants, a research worker rated 236 residents in 7 Local Authority homes and 83 long-stay geriatric patients on the Crichton Royal Behaviour Rating Scale. These measurements were repeated one year later. An increase in overall behaviour disability within the homes and a decrease within the hospital wards was demonstrated and it was concluded that, in this particular area over the year's study, there had been a measurable shift in the

pattern of care with much of the burden of increased mental and physical impairment among old people being absorbed into the Local Authority homes. The authors recommended a radical reappraisal of the provisions for care in view of their findings - but a series of criticisms can be levelled which would render such a move unjustified, if it was to be based solely upon this study.

Firstly, the method used to collect data was open to investigator bias, in that all the ratings were made by "a research worker helped by the officer in charge or ward sister". It is puzzling why such an approach was used - the scale is short and simple, and there is no logical reason why the ratings could not have been made by the staff who were familiar with the patient's/resident's behaviour.

The second criticism relates to their choice of rating scale. The Crichton Royal Behaviour Rating Scale is an 8 item, 5 point scale which for many years was the only validated measurement of its type in common use. According to one of its developers^[37] it is ideally suited to measuring subtle changes of behaviour in an individual, such as during drug trials or behaviour therapies when modifying behaviour is the goal. However

its design makes it less well adapted for studying grosser changes of behaviour in a large population because of its narrowness (eight traits) and secondly the reduced inter-rater reliability that arises from the more subtle 5 point scale, compared with, for example, the three point scale of the Shortened Stockton Geriatric Rating Scale^[34].

The third criticism concerns the way the authors measured "severe mental impairment" - for in this study they did not qualify this shortcoming as they had done in their earlier publication. Here it was derived from the Crichton Royal Behaviour Rating Scale's relationship with an information and orientation test given to a mixed Local Authority home/hospital ward population in another, unpublished study. It is simply not valid to use an instrument designed for assessing behaviour in the elderly as a measurement of intellectual performance. In clinical practice the demented patient may present with a host of behavioural disabilities - or as the result of a single indiscretion - or without much behavioural disability and as a consequence of intellectual impairment. It is also well recognised that as the dementing process progresses behaviour often "improves" in the sense that the degree of apathy increases as the socially disruptive,

importunate behaviour declines. If these authors wished to comment specifically upon intellectual performance they should have investigated it - after all, there is no shortage of psychometric tests available!

In adequately replicating this study these three issues - observer bias, choice of scale and assessment of mental impairment, must be settled.

A more recent study from Southampton^[33] of one hundred consecutive admissions to sheltered housing, Part III homes and a geriatric unit, tried to assess whether the Part III homes were having to cope with more dependent residents as pressure on the hospital service grew, and if this in turn resulted in higher levels of dependency among sheltered housing residents. Their findings indicated each population had distinct characteristics both in terms of demography and level of dependency, the distinction being clearest between admissions to sheltered housing and Part III homes. Part III homes and the geriatric unit provided a continuum of care for the more dependent residents, but with very little overlap or misplacement between them. By implication, the Part III homes were not coping with more dependent residents that would be more appropriately placed in hospital. Unfortunately there was not an

examination of the geriatric psychiatry provisions, which was a pity in view of the soundness of the methodology.

Most recently published was a study from North Yorkshire^[34], primarily concerned with comparing the behaviour disabilities of 202 psychogeriatric patients with those of 684 residents in old people's homes. Using a well validated scale, the Shortened Stockton Geriatric Rating Scale, the investigators found greater frequencies of most disabilities in the hospital population - but also considerable levels of impairment among the residents. Unlike Alexander and Eldon^[33] they found considerable overlap between the services especially in the items relating to social disturbance.

Gilleard et al^[34] went on to compare their results with those published by Carstairs and Morrison a decade earlier^[11], and found considerably more impairment in their own sample - "suggesting a continuing increase in the size of this 'minority' (dependent residents) within social services homes for the elderly, and extrapolation of this trend might lead to a prediction that this minority will in the near future become a majority".

In a second, more discursive paper by the first

author^[38], the same method and result was presented but the conclusion that the homes were evolving to become more like health service wards in terms of their occupants' disabilities, was couched with much greater affirmation.

While the authors did accept drawbacks existed in making these comparisons, they restricted their reservation to the topic of possible marked regional variation. Two other methodological criticisms which they did not mention are firstly, the comparability of collecting data by postal questionnaire in a national survey with supervising data collection in a small number of local institutions, and secondly, the validity of subsuming items and gradations in Carstairs and Morrison's scale to fit their own scale.

Two further studies have examined the complete range of provisions available for elderly people within their areas. The Essex study^[35] was based upon the responses of health and social service employees to a questionnaire about their patients'/clients'/residents' mental health. The investigators discovered that greater numbers of severely demented, dependent old people were living in Local Authority homes and geriatric hospitals than in psychiatric hospitals, and concluded that the DHSS policy for dealing with

dementia^[2,3] was ineffective.

However, once again there are basic criticisms about the validity of their data (and the authors themselves admitted they had had reservations on this score). Their method was to ask staff who, more often than not, had no basic grounding in psychiatry or medicine, to assess the presence and severity of mental illness on the basis of responses to an undescribed, unvalidated questionnaire covering the presence or absence of various psychiatric symptoms over the preceding six months. Indeed their findings could be reasonably interpreted as demonstrating that staff who are trained and experienced in working with the mentally ill are more tolerant of their disabilities than those who are not.

The Leicestershire survey of all old people in institutional care in their area at midnight November 30th, 1976 was the first of a series of studies from a large, multidisciplinary group whose purpose was to provide the relevant information for planning and running an efficient local psychogeriatric service^[36]. They also reported that Local Authority homes bore the institutional brunt of heavily dependent old people in terms of total numbers, although proportionally less than in the hospital milieu. They commented that most of their

findings were similar to those of earlier studies including Townsend's work twenty years earlier, suggesting that general levels of disability had changed very little over this period. The exception to this was the prevalence of incontinence which had increased considerably.

The method they employed was a short behavioural questionnaire with items on incontinence, immobility and the ability to wash, dress and feed, which was completed by nurses/care officers and other staff where appropriate. There was no attempt made to assess mental impairment.

Many highly dependent residents were found to be living in Local Authority homes for the elderly in all seven populations that have been investigated during the past decade. The prevalence of behaviour disabilities was, also, as would be predicted, intermediate between sheltered housing^[33] and long-stay geriatric and psychogeriatric wards^[32,36]. Three studies have reported that the majority of dependent, demented old people living in institutions, reside in Local Authority homes^[32,35,36].

Of the four studies that have addressed themselves to the first question posed in this thesis, namely whether the residential homes are having to cope with increasing levels of dependency as a result of the population changes,

two have reported in the affirmative and two in the negative.

Clarke et al^[36] found the prevalences of behaviour disabilities in their Leicestershire population were roughly similar to those reported by Townsend^[24], Carstairs and Morrison^[11] and Pasker et al^[35]. On the other hand, Gilleard et al^[34] discovered much higher prevalences of incontinence, immobility and confusion in their Yorkshire sample than Carstairs and Morrison had found in South West Scotland a decade earlier.

Alexander and Eldon^[33] reasoned that as the admissions to hospital and to residential homes had quite distinct dependency characteristics, this implied that each service was coping with its own sector of responsibility.

The only study specifically and prospectively designed to answer this question^[10] found a marked increase in the burden coped with by the Local Authority homes during the year of investigation.

The methodology of these studies (and Townsends's) was remarkably similar with the exception of the Edinburgh work^[30,31] where no specific research method was used and data was obtained from the case records. Reliance was placed upon staff assessment of functional disabilities

sometimes using standard behaviour rating scales^[10,32,34], and sometimes developing similar types of scale for the purpose^[11,24,33,36]. With the exception of the Southampton and Leicestershire teams, who disregarded this aspect, all chose to define mental impairment, by which they meant dementia, as a functional disability identified usually by from 1 to 4 behaviour traits. Most commented about the inadequacy of their approach but none attempted to correct this. Likewise authors criticised themselves for having no objective data, alluding to the variation in training, experience, tolerance and expectations among their residential home staff raters, yet none attempted to accommodate this by carrying out independent ratings.

Finally, a problem referred to in several of these studies is that of regional variation in the priority given to the elderly by the social services, the amount and type of facility that is supplied, the variation in hospital provisions, and the concentration of old people in popular retirement resorts and inner city areas; because of these variables it has been suggested that generalisation of results is not valid^[39].

This may be so, but when the prevalence of a reliably rated, key disability (frequent incontinence) was examined, it was found to be consistently reported at 17% in four

large surveys carried out in different regions within a year or two of each other^[38], suggesting that in practice regional variation may be less marked than might be theoretically supposed. This issue may also be relevant in many other studies carried out on health service populations, yet rarely seems to be considered.

SECTION 4

Aspects of suitability/unsuitability
for Local Authority home care.

1. The prediction of mortality.
2. Staff tolerance of disability.
3. Misplacement of elderly people
in institutions.
4. The effect of admission to an
institution upon outcome.

4. ASPECTS OF SUITABILITY/UNSUITABILITY FOR
LOCAL AUTHORITY HOME CARE

1. THE PREDICTION OF MORTALITY

A consistent feature of official policies relating to who should and should not be looked after in residential homes is the concern to exclude old people whose death is imminent^[25,26] yet no attempt has been made to convert this bald concept into definable and practical variables.

Part of the problem rests in an underlying failure to understand scientifically the processes involved in longevity, aging and dying^[40]. Longevity, when it can be authenticated, appears to be more common among certain subcultures in Asia and South America where life styles are simple, stress is low, and physical exercise and low caloric intake are combined with living at high altitude. On the other hand, animal experiments indicate that high caloric intake, high levels of stress and exposure to excessive radiation may all accelerate aging, while there exists a rare and fascinating, probably inherited, disorder of rapid aging known as progeria^[41].

Setting aside these theoretical issues, there have been a number of epidemiological studies which have examined predictors of mortality among elderly populations in the community, in hospitals and in residential homes. While only the residential home studies need be described

in detail, it is worthwhile summarising investigations carried out in other settings for comparative purposes.

a) Community Studies.

In the United States, the Duke Longitudinal Study of Aging and the Normative Aging Study of Boston Veterans are responses to the problems caused by aging in a climate in which scientific interest and financial backing have been attracted into its study. Although West Germany, Russia and Hungary have mounted similar investigations, Great Britain has not.

The conclusions so far have been variable and generally disappointing for the expenditure in manpower and money. The only consistent findings are that older people are more likely to die than younger ones within the over 65 age group, and that, when age is controlled, mortality rates are higher in males than females. Variations in definition and classification, and item selection and measurement, prevent other results gaining wide acceptance.

In Great Britain, smaller studies have been carried out in Newcastle by psychiatric investigators^[42] and in six areas of the U.K. by geriatricians^[43]. Apart from confirming the predictive importance of older age, male sex and ill-health, these two studies highlight the range and type of factor found to correlate with mortality,

and their inconsistency when one study and population is compared with another study and population. As an example, memory loss was the best predictor discovered by Kay et al^[42]; yet Hodkinson and Exton-Smith^[43] not only failed to find memory loss predictive but even the clinical diagnosis of dementia failed to predict outcome - a finding, they note, also made in the Duke Hospital study.

In conclusion, studies of outcome in the community involve very large cohorts of subjects followed up for a long time (as much as twenty years). Having many subjects and a low mortality rate dilutes the predictor effects and increases the importance of chance events resulting in many variables being detected, none of which are very powerful.

b) Hospital Studies.

When considering outcome studies conducted in hospital-based populations, the natural starting point is undoubtedly Roth's classical work^[44]. This paper marked a watershed in the nosology of psychiatric disorders in the elderly between the phenomenological classification of Kraepelin, and the scientific consideration of these conditions in terms of outcome.

Dividing all psychiatric disorders of the elderly into two functional groups (late paraphrenia and affective psychosis) and three organic groups (acute confusion, senile psychosis and arteriosclerotic psychosis) Roth demonstrated that the organic groups were associated with much higher mortality rates both in the short term (six months) and the long term (two years). While the two year prognosis for patients with acute confusion was approximately the same as it had been at six months, i.e. their fate was quickly determined, the chronic organic groups maintained a high mortality rate so that 80% were dead within two years.

Roth's findings were confirmed in a series of studies of mental hospital admissions^[45,46,47,48] then mainstream research concentrated upon what particular features of organic disorders were associated with outcome.

The first of these studies^[49] produced possibly the most unusual results - results that are frequently quoted but have never been replicated. In a series of gerontology referrals to his Montreal clinic, Kral^[49] demonstrated that forgetfulness could be divided into two sorts with differing outcomes - incidentally, both types having a poorer prognosis than patients with normal memory function. Benign memory loss, which consisted

of patchy impairment of details which could often be retrieved on another occasion, was associated with about half the four year mortality rate of malignant memory loss, the inability to recall major events in the recent past. Whether this distinction represents different cognitive processes or is merely related to the degree of impairment is debatable. There is no doubt that the more advanced or severe the degree of dementia, the poorer the prognosis^[50,51,52], so that it would not be unexpected for patients with severe memory impairment to have a poorer prognosis than those with mild impairment.

Isaac's Glasgow study of geriatric hospital in-patients was the first study of outcome in this type of population^[50]. His findings bridged the outcome studies of community and mental hospital populations, reproducing the main factors in each - advanced age and male sex in the former, focal brain lesions and impaired mental functioning in the latter. Here was evidence that factors predicting mortality depended upon the type of population selected, and consequently inferences could not necessarily be drawn from one population to another.

Conversely Goldfarb's seven year study of institutional populations in the United States^[52] succeeded in identifying four common factors which determined outcome

independent of setting. Two cognitive factors - the presence of a severe chronic brain syndrome and nine or ten errors on the Mental Status Questionnaire , were already well-established, and indeed were no more than a single factor of severe organic cerebral impairment considered from the clinical and psychometric standpoints. The other factors, which were behavioural, severe physical dependence and incontinence of urine or faeces, initiated a fresh approach to the prediction of outcome.

The relationship among behavioural disabilities, cerebral organic impairment and outcome, defined as death or continuous hospitalisation, has been explored in two more recent studies of mental hospital admissions [53,54]. Both studies found that indices of cognitive impairment provided the best predictors, and, generally, behavioural disabilities were poor predictors although the presence of physical dependency was associated with a bad prognosis (whether this was in terms of death as well as permanent hospitalisation was unstated). These studies also failed to demonstrate that any particular cognitive deficit was a superior discriminator of poor prognosis.

Within a demented population, therefore, Kral's observations concerning the predictive value of different forms of memory impairment have not been replicated.

Indeed Hare has found that the presence of amnesia alone was associated with only half the overall mortality rate in her sample of two hundred psychogeriatric admissions^[55]. Her study had been stimulated by an earlier finding that demented female in-patients with evidence of parietal lobe damage had six to eight times the six-month mortality rate of demented patients with intact parietal lobe function^[56] and while she failed to replicate this result, she did demonstrate that it was extent of cortical involvement rather than the specificity of site of damage that was associated with mortality.

In conclusion, hospital studies, and especially psychiatric hospital studies, of the prediction of outcome have been numerous. There is no doubt that dementia is associated with diminished life expectancy, and the more severe and/or extensive the dementia is, the poorer the prognosis. While behavioural indices do give some indication of outcome, cognitive indices are much better predictors. Finally, the factors predicting outcome vary according to the type of population examined, and inferences should not be applied from one sort of population to another.

c) Residential Home Studies.

There have been few investigations of the predictors

of mortality in residential home populations^[30,31,52,57,58] and only one^[58] in which this was the specific target of the research.

In the United States, Goldfarb^[52] identified the same four predictors operant in residential home populations as he had in the State Hospital population - namely severe chronic brain syndrome, nine or ten errors on the Mental Status Questionnaire, severe physical dependence and incontinence of urine or faeces.

In Leicestershire a similar type of study involving a range of institutions was carried out^[57], although measurements of disability were confined to a single five item behaviour rating scale. The authors reported that mortality was greater in older age groups and in residents with more severe degrees of behaviour impairment.

Neither investigation examined the relationships they had detected beyond a simple expression of mortality rate against independent variable, thereby ignoring all interactions among their independent variables, although these are clearly crucial - for example (and most obviously) there will be a strong correlation between the psychiatric diagnosis of chronic brain syndrome and a score of zero or one on the Mental Status Questionnaire,

a scale used in the identification of cases of dementia^[59].

The studies from Edinburgh^[30,31] identified three factors which were associated with a higher mortality rate in their residential home population, followed up for four years. Two factors were not unexpected findings - older age and cerebrovascular disease, but their third factor - removal to another Long Stay Unit - was a new and unexpected variable to select. This facet will be reviewed more intensively in the last section of this review.

The data that formed the basis of these studies was derived from routine clinical records and has already been criticised on the grounds of lacking research discipline. There was also no attempt made to assess the interactions among the variables - and, indeed, it is not even stated what variables were examined.

The only study of value in this area has, unfortunately, to be considered in the light of the population selected - sixty-four mentally impaired women in a Home for the Jewish Aged in Philadelphia^[58].

One hundred and sixty-three variables involving past and present clinical history, baseline physical, mental,

personality and behavioural ratings were assessed.

Factor analysis and then step-wise discriminant analyses allowed the extent of the predictions about death and survival to be calculated.

Twenty-two significant mortality predictors were identified, and when subjected to principal component analysis, five primary factors emerged - diminished interpersonal responsiveness, loss of bowel control, poor self-care, impaired cognitive functioning and general medical and psychiatric condition. These five factors correctly predicted outcome in 78% of cases, but there was a considerable degree of overlap among the factors, so that two - diminished interpersonal responsiveness and general medical and psychiatric condition - could predict outcome correctly in 75% of cases.

While the design and especially the analysis of this investigation was exemplary, yielding not only a level of prediction but also deriving factors (which are intrinsically more stable than individual items), the results were contrary to what might have been anticipated from the previous literature.

The best single predictor was general medical and psychiatric condition, a factor reported in several

community studies^[42,43,60], but which had failed to be of predictive value in institutional populations - and indeed comment had even been passed about the notable inaccuracy of predictions made by psychiatrists and physicians^[61].

Furthermore cognitive measures were discovered to be poor predictors in this study, ranking below behavioural measures, which was again the converse of hospital-based investigations^[53,54]. The explanation given by the authors was that all their subjects had moderate to severe dementia and that the range of this variable was therefore very restricted. As a corollary, they questioned the sensitivity of their psychometric tests at differentiating degrees of dementia, this argument being supported by the evidence that psychiatrists' opinions of cognitive impairment were superior predictors to the test-rated measures.

In conclusion, there has been only one investigation of note into the prediction of mortality in residential home populations and this was carried out on a small number of demented, Jewish-American old ladies^[58]. There is a consensus among the studies however that about one quarter of the population will die each year, a rate significantly above that of the general population, and

only a little below the rate reported in hospital-based populations.

d) Summary

Three main conclusions may be drawn from this review:

- i) Institutions have higher mortality rates than general populations.
- ii) Hospital-based investigations have demonstrated the association between dementia and poor prognosis, and have found cognitive indices to be the best predictors of mortality.
- iii) Residential Home-based investigations have been few, and with one exception, methodologically poor.

Factors predicting mortality, the strength of their prediction and the effect of considering various time intervals are unresolved issues within residential home populations.

But how important should fatal outcome be in determining suitability for care? Here there are two distinct issues. Firstly, the provision of terminal care is an accepted function of the homes, so identifying the rapidly dying has little logistical significance other than to exclude them from admission, and in these circumstances admission could often be compelling on humanitarian grounds.

Secondly, the main mode of discharge is by death^[11], so that the admission rate will depend to a large extent upon the mortality rate. To avoid lengthening waiting lists with increasingly needy old people being unable to gain admission, it will be essential to maintain a population with a predictable finite life expectancy, and in this role predictors of mortality may have some relevance in determining suitability for care.

2. STAFF TOLERANCE OF DISABILITY

The most obvious method of deciding what makes an individual suitable or unsuitable for a particular care option will be determined by what disabilities the staff or relatives are prepared to tolerate.

However this field of research is complex in that distinction should be made between what has been described as subjective and objective burden^[62,63], for what tolerance involves is a dynamic interaction between the resident's (or patient's or relative's) disabilities and the staff's (or supporting relative's) attitude towards them.

Many of these issues have been examined in the case of younger age groups such as head injured adults^[64,65] and mentally handicapped children^[66,67] where the relationship between patient and relative is usually

child/parent or spouse/spouse.

The problems faced by relatives giving home support to a dependent elderly parent have also been investigated. Lowther and Williamson^[68] found that only 1% of relatives in their large survey were unreasonably refusing to provide home care while many more were attempting to provide care for a severely dependent old person who should realistically have been in an institutional setting. They concluded that the tolerance of many relatives was remarkable, and a far-off cry from the commonly held belief that the elderly in society were rejected by their families.

Isaacs^[69] formed the same conclusion after demonstrating that neglect of old people by their family was a factor in the reasons for admission in less than 1% of cases. He also identified the patient factors responsible for "strain of such severity as to constitute a threat to either the physical or mental health of relatives" as immobility, incontinence and mental abnormality - Carstairs and Morrison's three cardinal features of dependency^[11]. Of a range of disabilities considered mental disturbance which led to the helper never being able to relax was clearly the source of greatest strain, while physical burdens, including incontinence, could often be managed with little complaint. This contrasted

with Carstairs and Morrison's view that staff in residential homes were more tolerant of mental impairment than physical disabilities, as a defence against the possible transfer of the demented resident to a milieu envisaged as less caring.

Sanford^[70] repeated Isaac's study, using a more detailed assessment of behaviour traits. He also found that the social disturbances related to senile dementia were tolerated much more poorly than physical complaints other than faecal incontinence and total immobility. Of greatest distress to the relative were symptoms associated with sleep disturbance.

These findings are of doubtful validity when a residential home population is considered, because the subjective component of tolerance is so different. The relative's behaviour will be determined to some extent by the ties of kinship, ties which do not exist with professional staff. Thus the role the caring relatives assume has usually been forced upon them by internal and/or external pressures, while the institution's staff have opted to do this type of work and can always resign if they wish. Staff too have their own families and pursuits outwith their job, while the caring relative has often had to make considerable financial, social and

personal sacrifices. All these factors may influence emotional responses such as guilt, anger and love which will fashion the attitude to the dependent person.

Two recent studies have examined reasons for referral to the psychogeriatric services from residential homes^[71,72]. Ross and Kedward^[71] found that there was an over-representation of old people from residential homes among their referrals, and that referral was most commonly due to an episode of aggressive or harmful behaviour. Margo et al^[72] found agitated, restless, interfering behaviour the commonest reason for referral, followed by aggression and "socially unacceptable behaviour" (public micturition or masturbation, slopping food about). Over half of their subjects had potentially reversible conditions and only 9% became long-stay mental hospital patients.

The traits these studies reported are characteristic of what constitutes "the difficult patient" in mental hospitals^[73] and are the commonest types of behavioural disturbance in the general hospital psychiatric unit^[74]. It seems probable that people who act in many of these antisocial ways are liable to be referred as emergencies to the psychiatric services, independent of age or situation in the community.

These are different circumstances from that in which the staff seek permanent transfer, rather than emergency treatment, for their severely dependent residents, the problem here being a prolonged requirement to meet nursing demands. Neither study investigated this aspect, concentrating on the "acute incident" referrals.

The need therefore remains to investigate the characteristics of severely dependent residents who offer unacceptable chronic behavioural disabilities and for whom the only obvious solution is transfer to long-stay hospital care.

3. MISPLACEMENT OF ELDERLY PEOPLE IN INSTITUTIONS.

The reason why misplacement of residents should be included among a review of indications of suitability for care stems at least partially from a historical perspective, although more recent investigations have considered this as a method of assessing the efficacy of selection procedures and the degree of overlap amongst the different types of institutional service^[33,35].

The initial controversy about the potential effects of misplacement arose from the Belfast studies of Kidd^[75,76], who demonstrated two findings, which, if verified, would have had serious implications for the organisation of services

for the elderly. He reported a very high level of misplacement of patients between the mental hospital and the geriatric hospital, with 24% of the mental hospital patients and 34% of the geriatric hospital patients defined as misplaced; but it was his second finding that created greater contention, for he demonstrated that these misplaced patients had a considerably higher mortality rate and concluded that "misplacement was detrimental to patient outcome".

Two English studies^[77,78] failed to replicate Kidd's results, reporting both much lower misplacement rates (in the order of 5-10%) and no adverse effects on prognosis, yet the influence of Kidd's results on the minds of the medical planners of the time remained evident^[39].

The issue was eventually resolved by a methodologically superior study from London^[79] in which 5% of mental hospital patients and 12% of geriatric hospital patients were found to be "probably misplaced" but this epithet had no association with a poorer outcome.

Considering misplacements involving residential homes and the effect upon outcome, Lowther and McLeod^[30] commented that many considerably disabled old people were wrongly placed in Local Authority homes and, as a direct consequence of the "inadequate facilities" sustained a

high mortality rate. In the follow-up study^[31] they did not detract from this statement, which amounted to a resurrection of Kidd's thesis applied to a different environment - namely that severely debilitated residents in Local Authority homes were not receiving the high level of nursing and medical care that was warranted, and were dying more rapidly than they should in consequence.

This opinion - it can be regarded as no more than that because of the absence of objective data - stimulated a further, well-executed, comparative study involving psychogeriatric wards, long-stay psychiatric wards and hostels for the elderly mentally infirm (run by the Social Services)^[80], which had the merit of investigating deterioration in behavioural and cognitive functioning as well as mortality.

Gilleard and Pattie^[80] discovered that when the most important determinants of mortality and deterioration were controlled (that is, age and initial levels of behavioural and mental competence) the effect of location had no bearing on mortality, nor on the eventual levels of physical disability or the degree of apathy.

Interestingly, however, communication difficulties and socially disruptive behaviour appeared to become much worse in both health service settings compared with the

Social Service's hostels - an unexpected and unexplained observation.

Thus it seems reasonable to conclude that misplacement does not affect the resident's eventual prognosis, but possibly influences more subtle, behavioural changes.

Another relevant observation made by Clarke et al in their Leicestershire survey^[36] stemmed from the residential homes' staff considering that only 6% of their residents were misplaced. This level of reported misplacement implied that 140 of the 300 residents discovered to be maximally dependent on the behaviour rating scale were considered correctly placed in a residential home by the staff - and thus indicated that the Social Services were accepting as their responsibility many old people with severe disabilities who were theoretically thought to be more appropriately placed in hospitals.

This investigation exemplified the major methodological problems that studies of misplacement face. Firstly, there is a conceptual issue concerning emphasis. Most investigators have only examined misplacement from the viewpoint of dependency needs remaining unmet^[75,76,77,78,79,80] yet Townsend^[24] and other studies^[81], have highlighted the enforced dependency/institutionalisation that arises

from misplacing fit old people in dependent regimes.

Then there is the problem of definition. In areas where a shortage of resources for the elderly is reported^[30,31,35] higher misplacement rates have been recorded than in other areas where the services appear to meet the needs of the elderly more adequately^[33,36]. In the former group of studies maximising the levels of misplacement was in the interests of the authors, whose message was often a thinly disguised political one of seeking change and higher priority, and here the definition of misplacement was a decision taken by the investigator.

However the issue of how to assess misplacement has been a source of difficulty in all investigations. Two objective approaches have been used. Clarke et al^[36] directly asked the staff for their opinion; but more commonly the decision has been made on the basis of cut-off values on behaviour rating scales or the presence of particular disabilities or illnesses.

It has been proposed that the Clifton Assessment Schedules for the Elderly^[82] should be used when management decisions have to be taken^[83], and the routine use of a reliable, well validated scale would help to overcome many of the problems in this area, if it can be

demonstrated that the scales are reflecting a generally agreed view of misplacement.

4. EFFECT OF ADMISSION TO AN INSTITUTION ON OUTCOME.

The three concepts of suitability examined so far have been concerned with residents' characteristics that make them appropriately or inappropriately placed in Local Authority homes. There is another angle that can be examined, however, and this refers to the potential effects that the home might have on susceptible elderly people.

The possibility that the admission of an older person to institutional care, or transfer from one type of care to another, might be held responsible for subsequent deleterious changes, both in increased mortality^[84] and deterioration in physical and psychological functioning^[85] was raised in the United States.

Goldfarb too, ^{sub} ascribed to this conclusion (despite demonstrating that life span was related to general physical and mental condition), and summarised the concept well when he commented that the relatively fit may live longer in "shelters which have services that contribute to pleasure and the maintenance of dignity" while the severely impaired suffer premature death "as a result of shifts which make demands or lead to relative neglect"^[52].

His observation of an excessively high mortality rate in the year after admission^[52] has been replicated in British studies of residential homes^[31] and psychogeriatric wards^[53,86]. Further, Smith and Lowther^[31] also noted an association between transfer from the residential home to another form of long-stay unit and subsequent rapid death.

However, only one British investigation has set out specifically to examine this phenomenon in residential homes^[87]. Selecting forty-four admissions to Local Authority homes for the elderly, Pattie and Gilleard investigated cognitive and behavioural function before and after admission, and again six and twelve months later. Dividing the sample into three groups on the basis of outcome (dead/hospitalised, low adjustment, high adjustment), the group which had the worst outcome was discovered to have deteriorated rapidly following admission, especially in the degree of behavioural disability. The hypothesis that these people were the most disorientated and thus most vulnerable to change of living environment, was not confirmed. Indeed the authors were unable to identify any factor which might have been responsible for the apparently sudden drop from a preadmission level of behaviour disabilities similar to the other groups.

The authors concluded that there was a group of residents who showed an immediate "negative relocation effect", with a particularly poor outcome. These susceptible individuals could not be identified ^{before} preadmission on the basis of their level of behaviour disability or ^{after} post-admission by their degree of cognitive impairment.

Three broad areas of criticism may be levelled at this study, which can be divided for discussion into methodological, interpretative and conceptual.

Methodologically, there were a series of weaknesses. Firstly the initial number of subjects was small (forty-four), and dividing them into three groups resulted in mean levels of disability being calculated on as few as four residents. More crucially however the preadmission data was incomplete and of doubtful reliability. Why data was not available preadmission on 9 residents (including 5 in one group) was not explained, nor was the absence of preadmission cognitive ratings. Furthermore, although the inter-rater reliabilities of the Stockton Scales are satisfactory^[82], the observations of a visiting social worker can hardly be compared with that of the caring relative, whose knowledge of the subject's disabilities is bound to be in greater depth. Finally,

the timing of, and interval between, the pre- and post-admission ratings is not stated. The preadmission data was collected "before admission", the post-admission data "shortly afterwards" and "within a few weeks".

To have improved the validity of their pre-admission ratings, the researchers should at least have compared the missing cases with the rest of the group or excluded them, indicated the timing of the measurements (did it vary significantly among the groups?) and examined other important preadmission characteristics such as the level of support at home; the circumstances at home and reasons for admission of the subjects assessed by relatives would differ from those assessed by social workers as the latter group probably lived alone.

Secondly, the findings were interpreted retrospectively, after distilling the residents into three distinct groups. Hence it is not surprising that the high adjustment group performed better than the low adjustment group who did better than the dead/hospitalised group. What is surprising is the need to inculcate admission as instrumental in this poor outcome. The available data demonstrates that deterioration continued rapidly and steadily following admission so that at six months those that remained in the poor outcome group performed very

badly on all tests; but the authors failed to demonstrate that this group were not already deteriorating before admission. Admission could be envisaged as an unrelated event during the course of a rapidly progressing illness - and this leads to an entirely different interpretation - that the authors have isolated a group of residents who had been admitted because of their rapid deterioration.

Thirdly, a conceptual problem exists. That admission to an institution affects outcome is not yet accepted as ~~a valid entity~~^[84], nor are the characteristics and duration of any proposed effect agreed. Pattie and Gilleard's concept was of a continuous process, until death or hospitalisation intervened, the admission being seen as triggering off an irreversible and remorseless decline.

The theoretical possibility that the effects of admission are limited to an unknown but finite duration after admission, and thereafter the sufferer continues to function at a greater level of disability, but non-progressively, remains untested.

Other problems arise when trying to implicate admission to an institution as causal in subsequent deterioration/mortality. Many hospitalised old people pick up unrelated complications while in hospital^[88] and the decimation

of wards of frail elderly following the emergence of a virulent organism is not uncommon. An apparent admission effect could also arise from accepting ill or moribund old people under emergency circumstances - a sequence of events which is not an uncommon occurrence in the psychogeriatric services, and not unknown to the Social Services either.

Evidence also exists to support the hypothesis that admission to an institution may prolong life - for example, demented people are surviving longer in hospital now than they did twenty years ago^[54,86]. Clinically this is easily understandable, for institutional care provides nutrition, warmth and shelter, safety from accidents, and the earlier diagnosis and treatment of intercurrent disorders.

In conclusion mortality rates to all types of institutions are highest during the year after admission. This may be because the cause of admission has killed the subject or sometimes due to exposure to new environmental hazards such as epidemic organisms, but on the other hand, there is also evidence that life can be prolonged due to the higher standard of care^[89]. Whether the effect of admission per se is responsible for greater mortality, quicker deterioration or more

morbidity is unclear^[84].

CHAPTER THREE

AIMS

In the Introduction, two important research themes relating to Local Authority homes for the elderly were identified: firstly, whether the homes were having to cope with increasing levels of disability, and secondly, what determined suitability for this type of care.

The first two sections of the Literature Review provide the backdrop to the current investigations. The population projections demonstrate that the greatest increase proportionally will occur among the very old, while advanced age is associated with increased medical and social requirements, and most importantly for this investigation, increasing need for institutional care.

Utilising a historical perspective to assess the role that the Social Services have played - and been expected to play - in the institutional care of the elderly, there is evidence of confusion, predating the 1948 legislation, and unmitigated by the pronouncements of successive governments. It would seem that the consensus opinion holds that Local Authority homes should contain residents who are incapable of living independently, but what degree or types of disability are acceptable remains undetermined.

Certainly the published surveys of residential homes have consistently reported substantial prevalences of physical, mental, sensory and behavioural disabilities.

However comparisons between studies are dogged by regional variations in the services and the diverse definitions and aims of the investigators, while the only prospective study^[10] had methodological problems.

In view of these considerations the first question posed in the Introduction can be redefined and restated as a testable hypothesis. If the Local Authority homes are modifying their role because of the population developments, then there will be an increase in the mean levels of disabilities managed in the homes and/or an increase in the number of dependent residents.

What should determine suitability for care in Local Authority homes is a much more complex issue which cannot be resolved by a single, satisfactory approach. In this Literature Review, four aspects that might be relevant in the determination of suitability for care were examined.

Official documents have placed some emphasis on expected life-span as a determinant of suitability^[25,26], but reviewing the literature reveals that few investigations have been based on residential home populations, and that generalisations from studies of other groups such as hospital in-patients are invalid.

It was argued that the pretext for identifying

predictors of mortality - to exclude from admission old people in whom death could be anticipated - was invalid, as the provision of terminal care is an accepted function of the homes, and in these circumstances admission could often be compelling on humanitarian grounds. On the other hand it might be useful to maintain a population with a predictably finite life expectancy or there could be repercussions for others in need who would be obliged to remain in the community as waiting-lists lengthened.

The second hypothesis to be tested in this project is that the prediction of mortality may be a useful method of determining suitability for care. Three issues to be examined are firstly, the identity of the best factors for predicting mortality, secondly, the strength of their prediction and finally, the effect of varying the time interval upon these factors and their predictive capability.

A more immediately obvious determinant of suitability for care is what disabilities the staff are prepared to tolerate. There have been no investigations of the tolerance of disabilities of institutional staff in circumstances other than a psychiatric emergency.

The third hypothesis to be tested in this project is that residents who are considered unsuitable for the home by the staff will have behaviour disabilities of a

different nature or severity from those of other residents.

The misplacement of residents is a more direct approach to the problem, and has been studied frequently as a measure of the degree of improper utilisation of resources - by implication all residents considered misplaced are regarded as unsuitable for the home. If a reliable method of determining misplacement can be agreed, then this could form the basis of a screening instrument for selecting residents, but unfortunately misplacement has been defined and assessed in many different ways.

The fourth hypothesis to be tested in this project is that a standardised behaviour rating scale with widely accepted cut-off values, accurately reflects the staff's opinion of suitability for the home, and may therefore make a useful screening instrument for avoiding misplacement.

The effect of admission upon the outcome introduces a novel approach to the issue of suitability for care, so that rather than determining what disabilities allow an old person to be suitable for Local Authority homes, the question now becomes can Local Authority homes create or aggravate disabilities. The Literature Review described some studies examining this intriguing subject but concluded that the issue remained unresolved.

The fifth hypothesis to be tested in this project is that the admission of old people to Local Authority homes may shorten their life and/or increase their dependency.

If this hypothesis is supported then an attempt could be made to identify the characteristics of susceptible residents, who, it could be argued, should not be admitted to Local Authority homes for their own health's sake.

CHAPTER FOUR

GENERAL METHOD

This chapter describes the general aspects of the project's design, with particular attention paid to the selection and validation of investigations. The detailed method employed to test each hypothesis is more appropriately described with the results and discussion of the issue.

1. SUBJECTS

The population upon which this investigation was based consisted of the residents of the eleven Local Authority homes for the elderly within the catchment area of Gartnavel Royal Hospital, Glasgow. The homes were situated in three Social Work Districts - Glasgow West, Clydebank and Dumbarton, and in 1978 contained provisions for 412 residents (Table VIII). By 1980, this figure had risen

TABLE VIII

The Local Authority Homes Included in This Study
With Their Bed Complement.

<u>SOCIAL WORK DISTRICT</u>	<u>RESIDENTIAL HOME</u>	<u>NO. OF BEDS</u>
GLASGOW WEST	RANNOCH	40 (a)
	RAVELSTON	24 (b)
	STONELEIGH	23
	WOODBURN	37
	MAINSHOLM	43
CLYDEBANK	FRANK DOWNIE	35
	BOQUHANRAN	37 (c)
	MOUNT PLEASANT	36
DUMBARTON	STRATHCLYDE	80
	CRANNOG COTTAGES	26 (d)
	WILLOX PARK	31 (e)
	TOTAL	412 (f)

(a) Increased to 43 in 1980
(b) Increased to 27 in 1980
(c) Increased to 40 in 1980

(d) Increased to 27 in 1980
(e) Increased to 32 in 1980
(f) 1980 Total = 423.

to 423 although the actual number of residents had fallen from 404 to 400 (Table IX). The fall in bed occupancy

TABLE IX

Bed Occupancy Rates and Proportion of Population Assessed in 1978 and 1980.

	<u>1978</u>	<u>1980</u>
NUMBER OF BEDS	412	423
NUMBER OF RESIDENTS]	404	400
BED OCCUPANCY RATE]	98.1.1%	94.6%
NUMBER OF SUBJECTS]	388	383
INCLUSION RATE]	96.0%	95.8%

rate reflected a minor policy change in all three districts with a small proportion of the available beds being allocated for holiday admissions.

All permanent residents were eligible for inclusion, although not all subjects were expected to be over the age of 65, as residential homes have always contained a small number of physically or mentally handicapped people for whom more suitable accommodation has not been forthcoming^[11,24].

The design of the investigation required assessments of all the residents in these homes in the autumn of 1978 and again in autumn 1980. Complete data was collected on 388 residents in 1978 and 383 residents in 1980, yielding inclusion rates of 96.0% and 95.8% respectively (Table IX).

To ensure that each analysis was based on the same number of subjects, residents on whom complete information was not obtained were excluded from the study.

Table X presents the numbers and reasons for exclusion of residents which were similar in 1978 and

TABLE X

Numbers and Reasons for Exclusion of Residents.

<u>REASON</u>	<u>1978</u>	<u>1980</u>
TOO ILL	6	7
REFUSED	5	4
OUT	3	3
SENSORY IMPAIRMENT	1	3
FOREIGN (SPOKE NO ENGLISH)	<u>1</u>	<u>0</u>
TOTAL	16	17

1980. The excluded residents were probably atypical representatives of Local Authority homes^[90] but as they formed less than 5% of the population under study and seemed a consistent little subgroup, their effect upon the results and particularly upon the comparison between the 1978 and 1980 samples was probably slight, and justified their exclusion on the grounds of clarity and ease of interpretation of the results.

2. INVESTIGATIONS

a) DEMOGRAPHY

The senior member of staff in the home completed a demographical questionnaire on each resident (Appendix A). The information requested in 1978 consisted of name, age and sex of the resident; duration in the home; address prior to admission; next of kin; physical illnesses; current medication; presence on a geriatric/psychogeriatric waiting list.

The items on physical illness and medication were omitted in 1980 and an additional question asked the member of staff to comment on whether they considered the resident was correctly placed in the home. If they believed the resident to be misplaced, they were asked to select the appropriate placement (in their opinion) from a list of types of care provision.

In 1980 the senior member of staff was also given a list of all residents assessed in 1978, and asked to provide information from their records about those who were no longer in the home. The outcome of discharged residents was determined by contacting the hospitals, hostels or homes to which they had been transferred. All 388 original subjects were traced.

b) FUNCTIONAL DISABILITIES

The senior member of staff in the home completed the Shortened Stockton Geriatric Rating Scale (SSGRS) on all residents (Appendix B). The SSGRS is an eighteen item, three point scale derived by British workers^[91] from the original 33 item American scale^[92] which had been developed to assess the behaviour of the elderly in hospital. Pattie and Gilleard have now fully standardised the test for a range of elderly populations^[82] and it has emerged as the foremost scale of its type available at present in this country^[93,94].

In addition to its excellent validation, the SSGRS has two other attractive features. Firstly, it is flexible with four disability factors derived by factor analysis^[92] and five dependency grades based upon the total score^[82]. Secondly, because of the three point scale the inter-rater reliability is high, even down to the level of the individual items^[82] - a critical consideration in this investigation where ratings were being made by staff in eleven homes.

c) COGNITIVE DISABILITIES

i) The Concept of Dementia and Its Measurement.

There were four reasons why an assessment of cognitive function should be included among the investigations:

- 1) As the literature review revealed previous studies of residential homes had concentrated upon assessments of functional disabilities rated by the staff. Dementia had been inappropriately considered as a disorder of function akin to incontinence or immobility, and no investigator had performed psychometric ratings of the residents (or indeed any direct technique involving the residents).
- 2) Dementia is an important factor in the development of dependency^[11,34] and burden upon others^[69,70].
- 3) While the subject's physical abilities, or self-care capacity are of paramount importance, modern scales for use in geriatric psychiatry have attempted to combine the traditional intellectual rating scale with a behaviour rating scale to obtain as global, valid and reliable an assessment of the individual as possible^[82,94,95,96].
- 4) No instrument existed for assessing the complete mental state which was suitable for use in a large survey of the elderly^[97].

Before describing the psychometric instruments used in this investigation, it is necessary to discuss briefly the problems encountered when embarking on this type of assessment.

The first problem that all investigators who assess the elderly face are the restrictions imposed by the common changes that occur with aging (Table XI). When contemplating research with elderly people the mere fact

TABLE XI

Problems Commonly Presented by Elderly Subjects.

1. SHORTENED CONCENTRATION SPAN
2. SLOWING OF COGNITIVE FUNCTIONS
3. IMPAIRED SENSORY FUNCTIONS - HEARING, EYESIGHT
4. IMPAIRED MOTOR FUNCTION - JOINT PAIN or STIFFNESS, PARALYSIS
5. PERSONALITY CHANGES/INSIGHT INTO FAILING FACULTIES
 - a) Undue Anxiety
 - b) Refusal to co-operate
 - c) Catastrophic reactions.
6. THE GROSSLY DEMENTED INDIVIDUAL WHO CANNOT BE ASSESSED
7. LACK OF MOTIVATION TO CO-OPERATE WITH RESEARCH.

they are old may seem of little importance - however this dictates above all else what can be done in practice.

Impaired motor function may hinder performance tests, the impairment of hearing or eyesight - any test - yet these limitations seem to have been overlooked in the development of many tests. From the psychological point of view a reduced concentration span, perhaps with some insight into failing faculties may lead to undue anxiety, refusal to co-operate or even catastrophic reactions. As Myre Sim rightly points out, for an old person, a battery of tests may seem exactly like battery^[98].

Furthermore many of the tests (especially those involving performance) are derived from children's IQ tests, and this may add insult to injury^[99,100].

The second problem concerns what the term senile dementia refers to. It is thirty-five years since Sir Aubrey Lewis wrote that the diagnosis of senile disorders and the adoption of appropriate terminology was "in a mess"^[101]. By 1972, when a major review of the progress in the delineation of senile dementia was published^[102], the concept remained muddled in spite of the major nosological advances stemming principally from Roth's work^[44].

Wang supplied an excellent example of the confusion in terminology when he quoted the numerous changes in fashion of Index Medicus where senile and presenile psychosis, senile and presenile dementia, organic brain* syndrome and organic brain disease had appeared as synonymous headings during the previous fifteen years^[103].

Attempts have been made to find less imprecise terminology. The important contribution of "brain failure" with its various subcategories^[104] is an attractive and credible alternative, but unfortunately, this type of approach tends to supplement, rather than replace existing terminology.

Part of the difficulty arises from the distinct changes in meaning of the term dementia over the years. In the nineteenth century, dementia described a non-specific psychiatric end-state characterised by dirty habits, inactivity or purposeless activity, and mutism or gibbering^[105]. Then with the advent of careful clinical descriptions and neuropathological investigations, senile dementia began to refer to a specific disease process with consistent neuropathological changes. During the 1930's and 1940's however the term mutated to describe a non-specific organic brain syndrome, and it was discarded from most classifications of mental diseases to be replaced by terms like organic psychosis and chronic brain disease. "Senile dementia" has re-emerged during the past twenty-five years as a utilitarian term describing a specific disease entity with a distinct neuropathological process and a non-specific clinical syndrome^[103].

While confusion may surround the meaning of dementia, it is fortunate that in clinical practice its usage is much less confounding. British psychiatrists have a high consensus of agreement when making the diagnosis^[106], and, once established, the diagnosis remains stable^[107].

The diagnosis of senile dementia is also usually quite straightforward to make, being founded upon a detailed

history from a close relative, thorough psychiatric and physical examinations, and judicious investigations^[108]. While the typical features of the "organic mental state" are generally readily elicited, the development of adequately standardised psychometric instruments both for diagnostic and research purposes has remained an area of considerable debate with a vast literature^[109,110].

The first tests were developed in the early 1940's and were derived from intelligence tests. Such tests as the Wechsler Deterioration Indices (1944), the Hunt-Minnesota Test (1943) and the Shipley-Hartford Test (1940) were neither adequately standardised nor correctly validated^[111]. They relied heavily upon statistical comparisons with samples of (usually young) people, and the controversial assumption that increasing dementia corresponded with diminishing intelligence^[112,113]. False positives were common, and difficulty was found in discriminating the demented from non-demented individuals of low intelligence^[114,115] and from other functionally ill patients^[114,116].

A major theoretical advance occurred when deficiency in the ability to learn new material was recognised as a key, early deficit in dementia^[117]. Popular tests like the Paired Associate Learning test^[118] and the

Modified Word Learning test^[119] were useful identifiers of dementia, although false positives remained a difficulty. False positives also proved a problem with many of the psychomotor tests and especially tests that included a speed element^[120], which anxious or depressed patients failed regularly.

Until recently, the accepted means of assessing dementia was by using one of the available test batteries - the most popular being those of Savage^[121], Kendrick^[122] and the Crichton Royal Hospital group^[123]. These were lengthy procedures, difficult to administer on a routine basis, unacceptable to many patients and unable to be completed on many patients^[124,125].

The characteristics of the modern psychometric test battery however have changed, particularly in its length. Indeed brevity is now regarded as crucial in obtaining an optimum response from an elderly individual and the improvement in patient compliance is not at the expense of diminished validity^[125,126].

The second feature to be stressed is the assessment of multiple deficits^[110,126,127]. Single procedures or multiple tests of one underlying type of deficit are no longer acceptable, because dementia, by definition,

is a global cortical disorder. So modern test batteries usually incorporate tests of disabilities that are not purely intellectual such as aphasias and parietal lobe dysfunctions.

The third feature is based upon the consistent demonstration that certain tests of intellectual function differentiate demented from normals, people of low intelligence and depressives^[40,110,114]. These are the tests of orientation and block construction. Other tests, including new learning abilities and even vocabulary tend to decay with age^[40].

Two test batteries which incorporated all three features and had been successfully used to identify cases of dementia in large surveys of elderly people were available.

The Foresthall Test Battery, developed in the early 1960's, was ahead of its time^[125]. This consisted of an Orientation test, a Simplified Paired Associate Learning test and a Block Construction test, and had been used to identify dementia in a geriatric hospital in-patient population. It was never widely used, and lacked adequate validation or standardisation upon other groups of elderly subjects. There were problems too with the Block

Construction test which employed children's equipment and was therefore unacceptable to many patients^[99,100] and the Simplified Paired Associate Learning Test which had been developed for use with a deteriorated population^[128].

The Clifton Assessment Schedule, on the other hand, had been thoroughly evaluated on a range of elderly groups^[82,126], and had the advantage of being developed in conjunction with the Shortened Stockton Geriatric Rating Scale. It consisted of an Orientation Test, a Mental Abilities Test and the Gibson Spiral Maze (a psychomotor test). However it too presented practical problems. The Gibson Spiral Maze was uncompleted or refused by more than half the subjects tested by its developers^[93], and the use of timed tests (the Mental Abilities Test) has been criticised as not only being less discriminatory, but also being more distressing to the elderly subject^[40,120,129].

The technique of psychometric assessment that was developed for this investigation was inspired by these two test batteries and formulated upon the same principles of brevity, key deficits and multiple deficits. It was designed to be shorter, have better compliance, be less distressing and avoid the use of special equipment

including the stop-watch.

To obtain this balance, two tests which had already been developed by others were selected.

The Crichton Orientation Test^[123] (Appendix C) was a twelve item test of personal orientation and recent events devised as part of a large test battery. It was found to differentiate functionally ill elderly psychiatric patients from organically impaired patients at the time of admission with a high degree of accuracy. The authors had considered that it, along with three of their other six tests, had high validity which permitted clinical application.

The Modified Kew Test^[55] (Appendix D) consisted of seventeen items, five related to memory, six to aphasia and six to parietal lobe dysfunction. It was a shortened and Anglicised version of an Australian test known as the Kew Cognitive Map^[56] which had been devised to differentiate between different forms of dementia. Hare had applied the Modified Kew Test to 214 psychogeriatric referrals and had found that it accurately predicted "true poor outcome dementia" if errors were present in all three subtests^[55].

While the Modified Kew Test was used for assessing

multiple deficits, its subtests should not be regarded as strictly representing localised cortical function.

In senile dementia, the distinction between different types of aphasia and individual parietal lobe dysfunctions is confounded by the changes in intellect^[130] and the loss of other relevant functions such as motor or sensory impairment^[131]. The relationship between neuropsychological dysfunction and underlying neuroanatomical change is rarely simple^[132]. However this type of test does incorporate a wider range of function than many of the standard intellectually orientated tests, and therefore attempts to present a broader concept of dementia

In practice sessions one of the items (two point discrimination) was found to be unreliable and difficult to perform properly. It is a lengthy procedure requiring patient comprehension and compliance^[133], and hence it was dropped from this investigation, leaving five tests of parietal lobe function.

The interpretation of the results of these tests was also innovative. To be diagnosed as demented the subject had to meet the criteria for dementia on both tests, which implied the presence of both the key deficits of orientation/recent memory and multiple deficits in

cortical function. To be diagnosed as unimpaired the subject had to meet the criteria for a normal response on both tests. As normality had not been defined on the Modified Kew Test, it was necessary to reintroduce the criterion of the original Kew Cognitive Map^[56], which was less than two errors in each of the subtests.

This left a band of possible results on the Modified Kew Test which fitted neither category. These equivocal responses, together with subjects who had a normal result on one test but demented on the other, were placed in an intermediate category - borderline dementia. This grouping represented individuals whose responses were outwith the normal range, yet whose impairment was either not severe enough or not global enough to warrant a diagnosis of dementia. It was derived from the principle of the "mild psycho-organic syndrome" introduced by the W.H.O's Working Party on dementia^[134], which recognised that there was a group of elderly individuals who could neither be deemed normal nor demented. In a follow-up study of twenty old people diagnosed as borderline dementia, Bergmann discovered that one third had become definitely demented, one third were unchanged and one third had improved and could be regarded as normal^[115]. Thus the category by no means consisted entirely of senile dementia at an early stage of the process.

ii) The Validation of the Psychometric Instrument

Introduction.

Although the Crichton Orientation Test was thoroughly validated^[123], the Modified Kew Test had only been validated as a predictor of poor outcome, and not as an identifier of cases of dementia. Hare's emphasis on poor outcome as the critical feature of dementia^[55] suggested that her test would probably fail to pick up many cases of dementia where the process was not advanced or deterioration was not rapid.

On inspecting the Modified Kew Test with the restoration of the criterion for normality of the Kew Cognitive Map, three operational problems were apparent. Firstly, the wide band of equivocal responses that were possible might make the definitions of dementia and normality too conservative. Secondly, all three subtests had to be impaired to establish the diagnosis of dementia: this was obviously too stringent as even in Alzheimer's Disease, where parietal lobe disorders are considered to be common, one study found they occurred in only half their patients^[135]. The third problem arose from the failure to include a numerical component, making it possible to be demented with three errors (one in each subtest) and not demented with eleven (two subtests entirely wrong, the third correct).

If the Modified Kew Test was as conservative as its developer intended, then new criteria would have to be introduced which improved its capability of identifying cases of dementia.

The second purpose of the validation study was to examine the effects on validity of using the two tests in the novel combination outlined.

Method

It is correct to validate a test on a similar type of population to the one upon which the test is designed to be used^[97,136]. Unfortunately no other population of residential home subjects was available for this purpose, so the validation studies had to be performed on a group of subjects who clearly would have different characteristics.

Three factors contributed to the decision to select long-stay geriatric psychiatry patients. Firstly, there was the obvious ease of access and the fact that all the subjects and staff were accustomed to doctors and most of them had been exposed to some form of research. Secondly, the test was to be used on an institutionalised population, so it had to be validated on an institutionalised population^[97]. Disorientation is more prevalent among

the institutionalised elderly^[137], partly because the routines imposed in institutions tend to remove customary orientators from the individual.

The third reason for selecting this population was that their diagnosis had been established in the best possible way, by experienced psychogeriatricians who had had the opportunity to observe and interview the patients over a prolonged period. Using another type of population would have involved the recruitment of other specialists to interview the subjects, or more feasibly, would have involved giving the subjects other psychometric tests with known characteristics and comparing the performances of the tests under validation with these other tests.

The study involved two samples of 50 geriatric psychiatry long-stay patients, Sample A being taken from Gartnavel Royal Hospital and Sample B from the Southern General Hospital. Both samples were chosen by the ward sisters or charge nurses who were asked to select "any patient who was able to participate in a conversation", so that non-respondents could be excluded (and the results would not be ameliorated by using grossly demented individuals). Sample A was limited to the wards in which the author had not worked, so his ratings were not influenced by previous knowledge of the patients. The demographical

characteristics of the samples were compared.

Both samples were given the Crichton Orientation Test and Modified Kew Test in the same order and using the same procedure. Sample A was rated simultaneously and independently by the two raters who had practised together with the tests and were to carry out the testing in the residential homes. Sample B was assessed by a third, independent psychiatrist who was unfamiliar with the tests and otherwise uninvolved with the project.

Five characteristics of the tests, alone and in combination, were examined:

- a) Sensitivity - what proportion of cases of dementia were recognised as such by the test(s).
- b) Specificity - what proportion of cases designated as demented by the test(s) had been diagnosed as demented by the clinicians.
- c) Overall misclassification.
- d) Borderline dementia - equivocal responses on the Modified Kew Test or contradictory results on the two tests.
- e) Inter-rater reliability - the analysis chosen was Maxwell's Random Error (RE) Coefficient of Agreement^[138]. It is less well known than the Kappa Coefficient of Agreement^[139] but has the advantages of being easier to calculate, involving less assumptions about the data and being straightforward to interpret, as it measures the excess of agreements over disagreements between the two raters.

Results

i) Characteristics of the samples (Table XII).

The two samples differed considerably in their basic characteristics and therefore could not be jointly analysed. In general terms the sample from the Southern General Hospital was younger, fitter, less dependent, less organically impaired and less institutionalised.

Two patients in Sample A and one in Sample B had a double diagnosis - senile dementia and affective psychosis (two), senile dementia and paranoid psychosis (one). As the purpose of the test was to identify cases of dementia, these patients were allocated to the demented groups.

The association between aging and decline in cognitive functions has already been commented upon, p.102. The demented group in Sample A was significantly older than the non-demented group, but the average age of the groups in Sample B was almost identical (Table XIII).

ii) Characteristics of the tests (Table XIV).

The results of the Crichton Orientation Test presented the classic profile of the good, psychometric test with very high sensitivity and inter-rater reliability, lower specificity and approximately 10% of subjects misclassified.

The Modified Kew Test performed, as its development had forecast, in a different manner. It proved to have

TABLE XII

The Characteristics of Samples A and B.

<u>CHARACTERISTIC</u>	<u>SAMPLE A</u>	<u>SAMPLE B</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
ORIGIN	GARTNAVEL ROYAL HOSPITAL	SOUTHERN GENERAL HOSPITAL		
NO. OF SUBJECTS	50	50		
SEX DISTRIBUTION	7M 43F	12M 38F	Chi ² = 1.62	NS
AVERAGE AGE (Years)	78.7 SD 6.4	74.0 SD 6.7	t = 3.59	p < 0.001
AVERAGE DURATION IN HOSPITAL (Years)	9.3 SD 6.8	3.3 SD 2.0	t = 5.99	p < 0.001
DIAGNOSIS	29 Demented 21 Not demented	22 Demented 28 Not demented	Chi ² = 1.96	NS

Degrees of freedom, Chi² = 1, t = 98.

TABLE XIII

The Average Age by Diagnosis of Samples A and B.

	<u>DEMENTED</u>	<u>NOT DEMENTED</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
SAMPLE A	80.4 SD 5.7	76.4 SD 6.7	t = 2.27	p < 0.05
SAMPLE B	74.1 SD 6.2	74.0 SD 7.2	t = 0.08	NS

Degrees of freedom, t = 48.

TABLE XIV

Characteristics of the Psychometric Tests.

<u>TEST</u>	<u>RATER</u>	<u>SENSITIVITY</u>	<u>SPECIFICITY</u>	<u>OVERALL MISCLASSIFICATION</u>	<u>BORDERLINE DEMENTIA</u>	<u>INTER-RATER RELIABILITY</u>
CRICHTON ORIENTATION TEST (COT)	1	97%	85%	12%	-	1.0
	2	97%	85%	12%	-	
	3	100%	88%	6%	-	
MODIFIED KEW TEST (MKT)	1	69%	91%	4%	36%	0.88
	2	72%	84%	8%	30%	
	3	45%	91%	4%	40%	
COMBINATION OF COT and MKT	1	69%	95%	2%	40%	0.88
	2	72%	88%	6%	34%	
	3	45%	100%	0%	44%	

SAMPLE A Assessed by Raters 1 and 2

SAMPLE B Assessed by Rater 3.

higher specificity and half the misclassification rate of the Crichton Orientation Test, but at the cost of a great deal of sensitivity, and with approximately one in three subjects having an equivocal response.

Combining the tests increased the specificity still further and resulted in almost no misclassifications. However the sensitivity remained low and the proportion of subjects in the borderline dementia category rose to around 40%.

iii) Characteristics of the tests with new criteria
for the Modified Kew Test (Table XV).

As an instrument to be used in the identification of cases of dementia, these characteristics were clearly unsatisfactory. The difficulties stemmed from the Modified Kew Test's original function, and, as discussed earlier, might be overcome by introducing new criteria while attempting to maintain its underlying principle of assessing breadth of deficit.

A single cut-off, demented vs not demented, removed the equivocal band of responses, and a numerical component was introduced. Four or more errors involving at least two of the areas being indicative of dementia produced the best balance between sensitivity and specificity, and therefore was selected as the new criterion.

The effect of the developed criteria was to increase the sensitivity of the Modified Kew Test to about 90%, at the expense of specificity and a higher overall misclassification rate (Table XV). Even these criteria failed to achieve the levels of discrimination reached by the Crichton Orientation Test, highlighting once again how crucial disorientation/recent memory impairment is in the clinical diagnosis of dementia.

However the combination of the two tests which was to be used in the survey of the residential homes now had satisfactory characteristics - sensitivity 86-93%, specificity 87-100%, misclassification 0-10%, borderline dementia 10-20%, inter-rater reliability 1.0.

Discussion

Developing a psychometric test which adequately differentiates between functionally and organically ill long-stay, elderly psychiatric in-patients is a difficult problem - for example, the Revised Kendrick Test Battery produced 50% false positives^[93].

The demented elderly who are cared for in geriatric psychiatry wards should have reached^[3] (and generally ~~do~~ have reached) an advanced stage of the disorder, so false negative results are unusual with tests employed

TABLE XV

Characteristics of the Psychometric Tests, with New Criteria for the Modified Kew Test.

<u>TEST</u>	<u>RATER</u>	<u>SENSITIVITY</u>	<u>SPECIFICITY</u>	<u>OVERALL MISCLASSIFICATION</u>	<u>BORDERLINE DEMENTIA</u>	<u>INTER-RATER RELIABILITY</u>
CRICHTON ORIENTATION TEST (COT)	1	97%	85%	12%	-	}
	2	97%	85%	12%	-	
	3	100%	88%	6%	-	
MODIFIED KEW TEST (MKT)	1	93%	77%	20%	-	}
	2	93%	77%	20%	-	
	3	86%	83%	14%	-	
COMBINATION OF COT and MKT	1	93%	87%	10%	10%	}
	2	93%	87%	10%	10%	
	3	86%	100%	0%	20%	

SAMPLE A Assessed by Raters 1 and 2.

SAMPLE B Assessed by Rater 3.

on this type of population. The difficulties arise from the pseudodementing features of the other major subgroup of the population - the chronic functionally psychotic elderly patients.

Depressed patients are particularly liable to be misdiagnosed as demented^[140], particularly when the individual is retarded and where memory defects and cognitive impairment appear to be present. While the intellectual impairment is generally more patchy, the diagnosis of depression may only be made retrospectively by the response to antidepressant therapy. Sometimes there may be no distinction, for multiple pathology amongst the elderly is common, both dementia and depression being common disorders. Furthermore there is an association between arteriosclerotic dementia and affective symptoms^[141].

Other pseudodementias may occur in mania, hysteria and acute schizophrenia^[142], but none of these are commonly encountered in the elderly.

In chronic schizophrenia, there have been exciting findings recently which suggest that a dementing process may be an integral part of the disorder. Intellectual impairment, cerebral ventricular enlargement, and

neurological abnormalities have all been described^[143,144] and appear unrelated to treatment. Age disorientation occurs in a consistently reported 25% of chronic schizophrenics, many of whom have temporal disorientation as well^[145,146].

Thus the problems that testing this population pose relate to the specificity of the test, and the results of the current investigation appear to have overcome this, with specificities of 87% and 100% in the two samples.

But how the test is liable to function with a residential home population is the crucial point. With this population the problem is likely to be the reverse - namely the non-demented group are much less likely to have pseudodementia or other confusing clinical pictures, while the demented subjects are more likely to have mild degrees of disorder. The effect of this should be to reduce the number of false positives, i.e. increase specificity and increase the number of false negatives, i.e. lower sensitivity.

There is support for this hypothesis in the results obtained in the validation study. Sample B (Rater 3) was a fitter, less chronic population than Sample A (Raters 1 and 2), B being obtained from the psychiatric

wards of a district general hospital while A came from a district mental hospital. Sample B therefore probably more resembles a residential home population than Sample A.

The specificity of the test(s) was higher in Sample B in nine out of ten instances, and equal in the tenth, while the sensitivity of the test(s) was lower in Sample B in eight out of ten instances and slightly higher in the other two - results which support the predicted trend.

Another interesting feature was that overall misclassification rates were lower in Sample B in nine out of ten instances, and equal in the tenth. Misclassification was also consistently lower with the tests used in combination than when used singly. Indeed the effect of combining the tests was to increase specificity by reclassifying false positives on one or other test as borderline dementers. The sensitivity of the combination of tests was that of the Modified Kew Test alone because the Crichton Orientation Test picked up 97-100% of cases. If it had been less sensitive then the effect on the tests used in combination would have been to reduce sensitivity further by reclassifying all true positives on one test only as borderline dementers. Both processes may reduce the overall misclassification rate.

Summarising this interpretation of how the psychometric instrument's characteristics would be anticipated to alter when investigating a residential home population - the test is likely to be highly specific with very few misclassified residents, but at the cost of some sensitivity: conservative characteristics that render it suitable for assessing any change in the proportion of the population that is demented.

3. PROCEDURE

That this project took place at all testifies to the goodwill and co-operation built up between Gartnavel Royal Hospital and the three Social Work Districts, mainly through the local Mental Health Liaison Committee.

It should be recalled that all previous studies relied entirely upon ratings made by the staff, and none involved direct contact between the investigator and the resident. Intruding into the residents' lives, for no matter how short a period, caused unease among factions of the Social Service's Management as did the issue of the degree of informed consent. Obtaining only verbal consent for what consisted of a twenty-minute interview involving twenty-eight questions seemed sufficient. If the written consent that some considered a prerequisite

had been insisted upon, the study could not have taken place as the sample would have been much smaller, the old being notoriously difficult to enrol in epidemiological studies since they tend to be less strongly motivated towards co-operation in medical research^[136]. That the authorities, staff and residents were not accustomed to research, had to be taken into account in the planning of the project and a design maximising the amount of meaningful information from the minimum amount of intrusion and possible upset to the residents was agreed. Once organised, the support and interest of the staff and management of the Social Work Districts involved was considerable.

The design consisted of two surveys of the entire population which were carried out in September/October 1978 and September/October 1980.

On both occasions, the senior member of staff in each home completed the demographical and behavioural questionnaires on all their residents. The psychometric ratings were carried out by the author and a psychiatrist colleague. The homes were divided into two groups of approximately 200 residents, each of which had representatives from all three districts. Cross-over took place in 1980 so both investigators had visited all the homes

once and no home twice.

4. ANALYSIS AND PRESENTATION OF THE RESULTS.

The data obtained from the surveys was coded, and most of the analyses were computed using the Statistical Package for the Social Sciences^[147]. Individual items of behaviour were not coded, and the analyses including these, which involved smaller numbers of subjects, were carried out using the prepared statistical programmes for the Hewlett-Packard Desk Computer until latterly when the establishment of a computer terminal in the University Department allowed access to the Minitab computer programmes^[148].

The principles of analysis and presentation that were adopted owed much to recent reviews of the subject^[90,149,150,151,152,153,154,155]. These papers, all by statisticians, point out the pit-falls and limitations of statistics, and emphasise their role as adjuncts to the results.

The data was organised in such a manner that, wherever possible, the statistical component of the analysis was simple, conservative and contained few assumptions about the nature of the data. The specific statistical approaches employed are described in the

appropriate chapters.

Another aspect of the presentation of results discussed in these articles, and given close attention in this thesis, was an emphasis upon clear, visual presentation of results wherever possible.

CHAPTER FIVE

RESULTS I. THE CHARACTERISTICS OF
THE RESIDENTIAL HOMES' POPULATION.

CHARACTERISTICS OF THE RESIDENTIAL HOMES' POPULATION

INTRODUCTION

Before proceeding to test the five hypotheses that have been developed, it is useful to describe the population in greater detail, and examine some of the potential problems mentioned in earlier chapters that could influence the results.

The problem posed by regional variations in the numbers of elderly and the level and priority of services has already been discussed (p. 10). If generalisation from the results of this thesis is to be made with confidence, then consideration must be given to how typical the subjects are of residential home populations. Comparisons can be made in two ways:

- a) the demographical characteristics of the subjects compared with the characteristics of residents in similar institutions recently surveyed elsewhere.
- b) the behavioural characteristics of the subjects compared with those of the long-stay psychogeriatric in-patient population and the results contrasted with the findings obtained in recent studies elsewhere.

Also, from the methodological viewpoint of the project, two further topics require exploration:

- c) whether the demographical characteristics of

the 1978 and 1980 subjects differed.

- 4) what the demographical and behavioural characteristics of the excluded cases in 1978 and 1980 were, how they differed from each other and how they differed from their parent population.

METHOD

1. The demographical characteristics of the 1978 subjects.

The data from the population surveyed in 1978 was coded and descriptive statistics were performed using the SPSS computer package^[136].

2. The comparison of the 1978 subjects with the long-stay psychogeriatric in-patients of the local district mental hospital.

In 1979, all 259 in-patients occupying the nine long-stay psychogeriatric wards in Gartnavel Royal Hospital had their behaviour disabilities assessed by a ward sister or charge nurse, using the Shortened Stockton Geriatric Rating Scale.

The mean levels of the four disability factor scores and the total disability score in the eleven Local Authority homes and nine hospital wards were calculated and a non-parametric statistic, the Mann Whitney U Test, was employed to test the independence of the samples^[156]. The test was one-tailed, the predicted direction being greater disabilities in the hospital population.

The distribution of Stockton Dependency Grades was also examined and the significance of differences in frequency tested using the Chi² test.

3. Changes in the demographical characteristics of the subjects between 1978 and 1980.

The mean ages and durations in the homes of the two groups of subjects were computed, and the significance of difference tested statistically using the t-test. Change in sex distribution was examined by Chi² test. All tests were two-tailed as no direction was predicted.

4. Characteristics of the excluded cases.

Complete information was available upon the demographical and behavioural characteristics of all individuals who did not, or could not, participate in the psychometric tests. These groups of residents were compared with their parent populations, and with each other, and the significance of differences was examined statistically using two-tailed t-tests with Chi² tests for the sex distribution.

RESULTS

1. The demographical characteristics of the 1978 population.

a) Age (Figure 1)

Age formed a normal distribution, with a slight tail to the left. Ages ranged from 43 years to 98 years with a mean of 79.5 years. 23 residents (5.9%) were less than 65 years of age.

b) Sex

There were 116 males and 272 females, a male to female ratio of 1:2.3.

c) Duration in the Home (Figure 2)

75% of the population had been present for less than 5 years, 25% for less than one year. Lengths of stay varied from 2 days to 30 years with a mean of 3.4 years.

d) Previous Residence (Figure 3)

About one third of the residents had been admitted from a source other than their own or a relative's home, the commonest alternative being from hospital.

e) Next of Kin (Figure 4)

While only 7.2% of the subjects had no next of kin, 25.5% of the remainder gave a second degree relative. Staff frequently commented on the questionnaire that no contact occurred with the nominated next of kin.

Figure 1: AGE DISTRIBUTION of the SUBJECTS (1978)

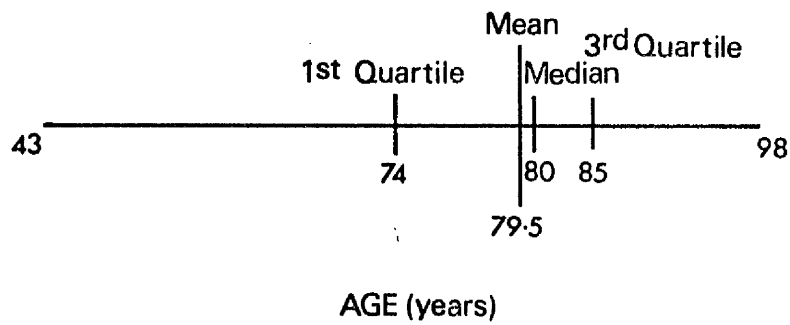


Figure 2: DURATION in the HOME of the SUBJECTS (1978)

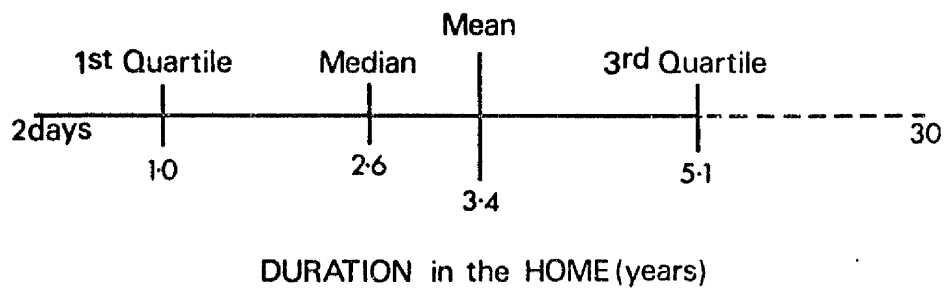


Figure 3: PREVIOUS RESIDENCE of the SUBJECTS (1978)

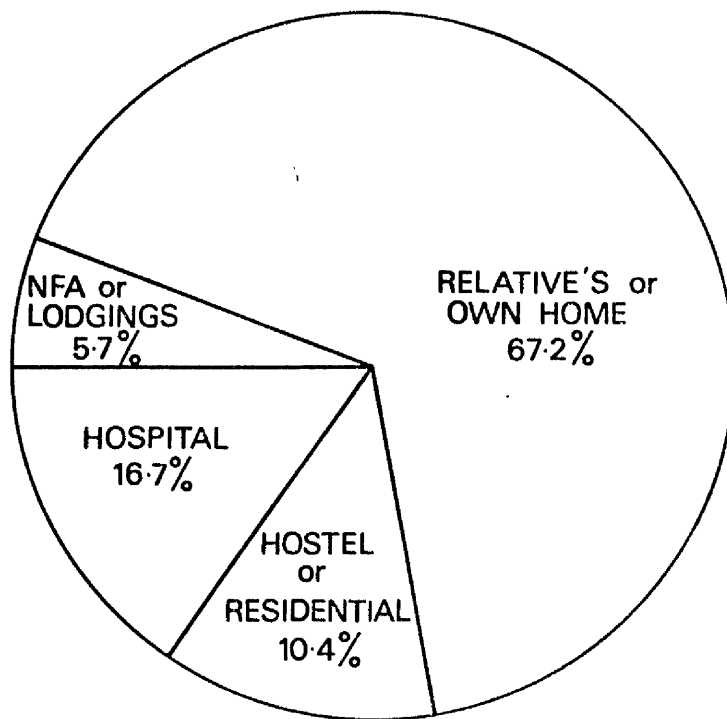
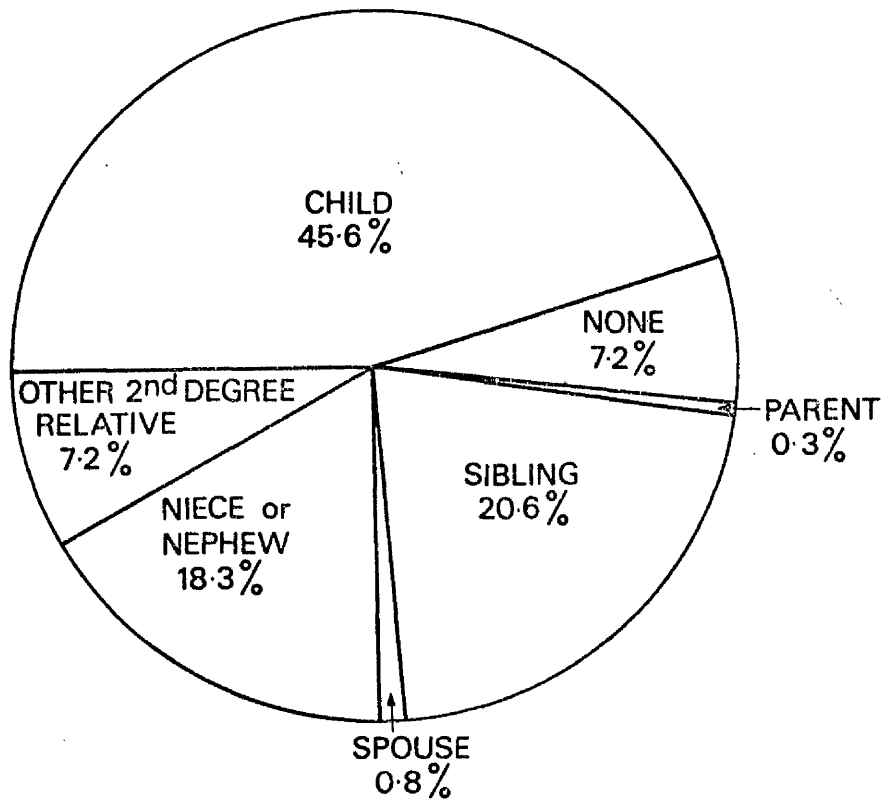


Figure 4: NEXT of KIN of the SUBJECTS (1978)



f) Current illnesses and medication

The replies to the topic of medication were extracted directly from the drug prescription sheets, and this made it apparent that the answers to the item on illnesses were wrong or incomplete in many cases. For this reason only the proportion of residents considered not to have a physical illness by the staff is reported - 46.2% - and even this must be of dubious authenticity.

The information on medication is more reliable. 95 residents (24.5%) were not on any medication; but the important finding concerns the number of different drug preparations in use (Table XVI) which ranged from 15 in Rannoch to 57 in Frank Downie, with an average of 36.4.

TABLE XVI

The Number of Different Drug Preparations in Use in 1978.

<u>RESIDENTIAL HOME</u>	<u>NUMBER OF DIFFERENT DRUG PREPARATIONS CURRENTLY PRESCRIBED.</u>
WOODBURN	30
RANNOCH	15
RAVELSTON	22
STONELEIGH	22
MAINSHOLM	49
WILLOX PARK	40
CRANNÖG COTTAGES	35
STRATHCLYDE	52
MOUNT PLEASANT	36
FRANK DOWNIE	57
BOQUANHRAN	42

In two homes eight different types of diuretic were being prescribed and most of the homes dispensed a wide selection of analgesics, hypnotics and tranquillisers. For residents to be on six or seven drugs was not uncommon, some tolerated eight or nine - and one resident was on eleven, including four different diuretics. Surprisingly barbiturate preparations (Tuinal, Soneryl, Sodium Amytal) were still being dispensed in several of the homes.

2. The comparison of the 1978 subjects with the long-stay psychogeriatric in-patients of the local district mental hospital.

The differences between the two populations were highly significant when the mean levels of total behaviour disability (Figure 5A), physical disability (Figure 5B), apathy/inactivity (Figure 5C) and communication difficulty (Figure 5D) were examined, with levels in the psychogeriatric wards being consistently (and predictably) higher.

However the results for the social disturbance factor were different. Figure 5E demonstrates that the median level was higher in the residential homes, and the Mann Whitney U Test failed to confirm the independence of the two populations.

When the dependency grades of the two populations were examined (Table XVII) significantly more maximally dependent (Grade E) old people were to be found in

Figure 5: MEAN LEVELS of BEHAVIOUR DISABILITIES in RESIDENTIAL HOMES • and PSYCHOGERIATRIC WARDS ○

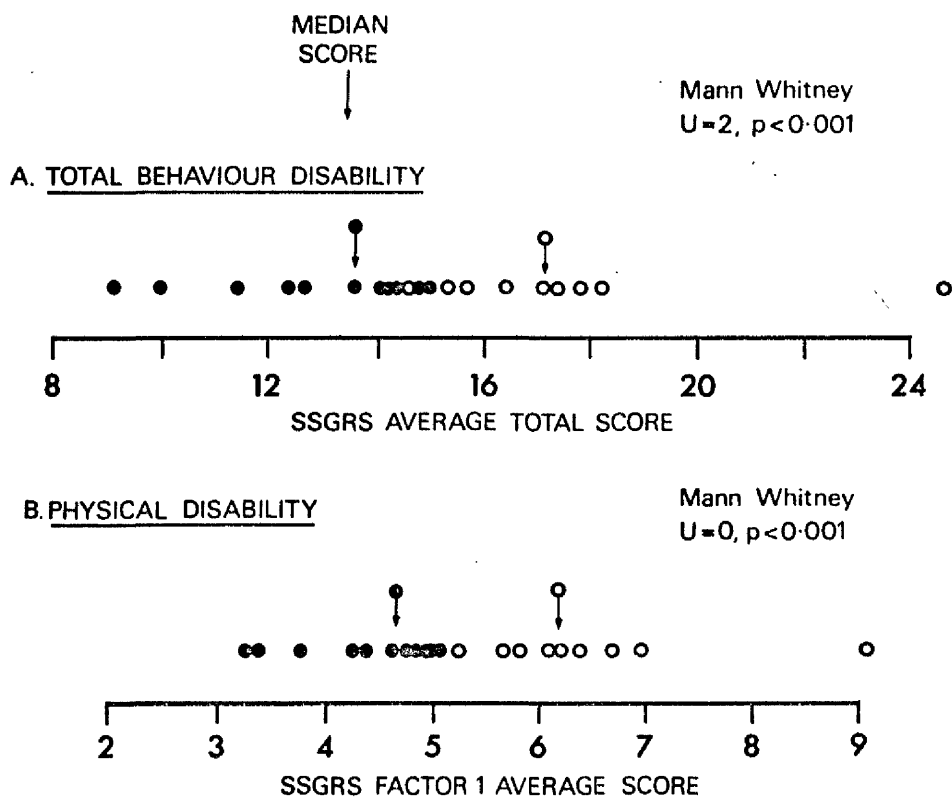
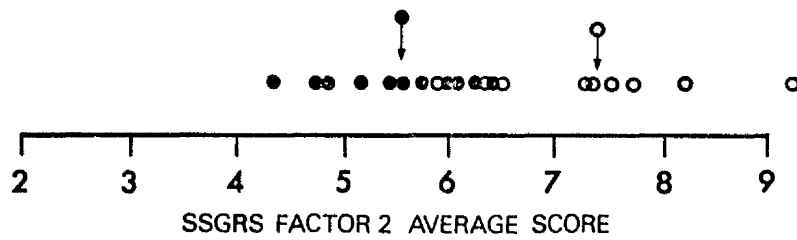


Fig.5 continued

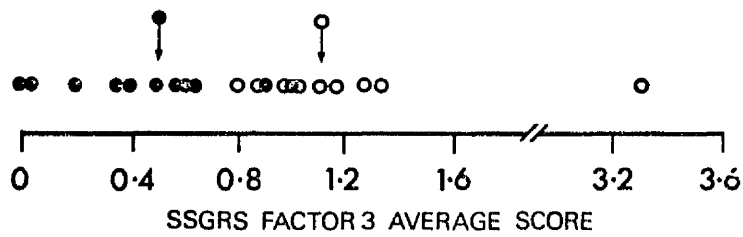
C. APATHY/ INACTIVITY

Mann Whitney
U=5, p<0.001



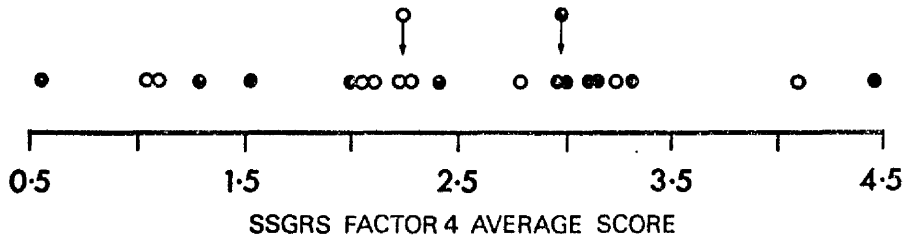
D. COMMUNICATION DIFFICULTY

Mann Whitney
U=5, p<0.001



E. SOCIAL DISTURBANCE

Mann Whitney
U=57, NS



hospital and significantly more people with mild to moderate dependency needs (Grades B and C) were to be

TABLE XVII

The Dependency Grades of the Residential Home Population Compared with the Psychogeriatric Population.

<u>SSGRS DEPENDENCY GRADE</u>	<u>LOCAL AUTHORITY HOMES (n = 388)</u>	<u>PSYCHOGERIATRIC WARDS (n = 259)</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
A	39	16	Chi ² = 3.00	NS
B	68	15	Chi ² = 19.12	p < 0.001
C	105	39	Chi ² = 12.93	p < 0.001
D	71	51	Chi ² = 0.20	NS
E	105	138	Chi ² = 45.53	p < 0.001

Degrees of Freedom, Chi² = 1.

found in residential homes. Interestingly, the frequency of independent old people (Grade A) was not significantly different in the two forms of institutional care.

3. Changes in the demographical characteristics of the subjects between 1978 and 1980.

There were no significant differences in terms of average age, average duration in the home and sex distribution (Table XVIII).

TABLE XVIII

A Comparison of the Demographical Characteristics
of the 1978 and 1980 subjects.

<u>CHARACTERISTIC</u>	<u>SUBJECTS</u> <u>1978</u>		<u>SUBJECTS</u> <u>1980</u>		<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
NUMBER	388		383			
MEAN AGE (Years)	79.5	SD 9.2	80.2	SD 9.2	t = 1.06	NS
SEX	116M	272F	108M	275F	Chi ² = 0.27	NS
MEAN DURATION IN THE HOME (Years)	3.4	SD 3.8	3.6	SD 3.9	t = 0.71	NS

Degrees of Freedom, Chi² = 1, t = 769.
Two tailed t tests of significance.

4. Characteristics of the excluded cases.

Comparing the 16 cases excluded in 1978 with the remainder of the 1978 population revealed non-significant differences in age (excluded cases averaging 2 years younger) and sex distribution (Table XIX). The excluded cases however had only been resident for an average 1.3 years which was almost one third the average length of stay of the subjects, a difference significant at the 0.1% level.

The mean levels of behaviour disabilities were consistently higher in the excluded cases, and for socially disruptive behaviour, this difference just

TABLE XIX

A Comparison of the Characteristics of the Residents
Excluded in 1978 with the Remainder of the Population.

<u>CHARACTERISTIC</u>	<u>RESIDENTS EXCLUDED in 1978</u>	<u>SUBJECTS 1978</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
NUMBER	16	388		
MEAN AGE (Yrs)	77.3 SD 4.9	79.5 SD 9.2	t = 1.68	NS
SEX	5M 11F	116M 272F	Chi ² = 0.01	NS
MEAN DURATION IN THE HOME (Years)	1.3 SD 1.0	3.4 SD 3.8	t = 6.64	p < 0.001
<u>BEHAVIOUR DISABILITIES</u>				
SSGRS TOTAL SCORE	16.3 SD 8.9	13.0 SD 7.7	t = 1.46	NS
PHYSICAL DISABILITY	5.1 SD 3.4	4.4 SD 3.0	t = 0.81	NS
APATHY/ INACTIVITY	6.3 SD 3.0	5.5 SD 2.8	t = 1.05	NS
COMMUNICATION DIFFICULTIES	1.1 SD 1.5	0.6 SD 1.0	t = 1.34	NS
SOCIALLY DISRUPTIVE BEHAVIOUR	3.8 SD 2.3	2.6 SD 2.6	t = 2.03	p < 0.05

Degrees of freedom, Chi² = 1, t = 402
Two tailed t tests of significance.

reached significance at the 5% level.

When the 17 cases excluded in 1980 were compared with the remainder of the 1980 population, there were no significant differences between the groups in their demographical characteristics (Table XX). Indeed this

time the excluded residents had actually been in the home slightly longer on average.

TABLE XX

A Comparison of the Characteristics of the Residents Excluded in 1980 with the Remainder of the Population.

<u>CHARACTERISTIC</u>	<u>RESIDENTS EXCLUDED in 1980</u>	<u>SUBJECTS 1980</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
NUMBER	17	383		
MEAN AGE (Yrs)	76.4 SD 12.1	80.2 SD 9.2	t = 1.28	NS
SEX	8M 9F	108M 275F	Chi ² = 2.81	NS
MEAN DURATION IN THE HOME (Years)	4.0 SD 3.1	3.6 SD 3.9	t = 0.51	NS
<u>BEHAVIOUR DISABILITIES</u>				
SSGRS TOTAL SCORE	16.0 SD 9.3	12.7 SD 7.7	t = 1.44	NS
PHYSICAL DISABILITY	5.6 SD 3.5	4.5 SD 3.3	t = 1.27	NS
APATHY/ INACTIVITY	6.1 SD 3.0	5.3 SD 2.9	t = 1.08	NS
COMMUNICATION DIFFICULTIES	1.2 SD 1.4	0.5 SD 1.1	t = 2.02	p 0.05
SOCIALLY DISRUPTIVE BEHAVIOUR	3.2 SD 3.0	2.4 SD 2.6	t = 1.08	NS

Degrees of freedom, Chi² = 1, t = 398.

Two tailed t tests of significance.

The mean levels of behaviour disabilities were again, consistently higher in the excluded cases, and for communication difficulties on this occasion, the difference just reached significance at the 5% level.

When the two groups of excluded residents were compared

the differences in mean age, sex distribution and all aspects of behaviour disability were slight and non-significant (Table XXI). However, the 1978 group had

TABLE XXI

A Comparison of the Characteristics of the Residents Excluded in 1978 and 1980.

<u>CHARACTERISTIC</u>	<u>RESIDENTS EXCLUDED in 1978</u>	<u>RESIDENTS EXCLUDED in 1980</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
NUMBER	16	17		
MEAN AGE (Yrs)	77.3 SD 4.9	76.4 SD 12.1	t = 0.28	NS
SEX	5M 11F	8M 9F	Chi ² = 0.86	NS
MEAN DURATION IN THE HOME (Years)	1.3 SD 1.0	4.0 SD 3.1	t = 3.40	p < 0.001
<u>BEHAVIOUR DISABILITIES</u>				
SSGRS TOTAL SCORE	16.3 SD 8.9	16.0 SD 9.3	t = 0.09	NS
PHYSICAL DISABILITY	5.1 SD 3.4	5.6 SD 3.5	t = 0.42	NS
APATHY/ INACTIVITY	6.3 SD 3.0	6.1 SD 3.0	t = 0.19	NS
COMMUNICATION DIFFICULTIES	1.1 SD 1.5	1.2 SD 1.4	t = 0.20	NS
SOCCIALY DISRUPTIVE	3.8 SD 2.3	3.2 SD 3.0	t = 0.65	NS

Degrees of freedom, Chi² = 1, t = 31

Two tailed t tests of significance.

been residents for less than one third of the average duration of the 1980 group, a difference significant at the 0.1% level.

DISCUSSION

There are three themes relating to the characteristics of this residential home population that merit discussion - how representative this population is of residential home populations; how atypical the excluded cases are; and the issues relating to the medical management of the residents arising from the 1978 survey.

1. The representativeness of this Local Authority Home Population.

The 1978 and 1980 subjects can be considered together as there were no differences in their basic demographical characteristics (Table XVIII).

Of the recent Local Authority home investigations, two concerned admissions to the homes^[30,33] and were therefore not comparable samples. Wilkin and Jolley however did have comparable information from their survey of fourteen residential homes in South Manchester which had been carried out in 1977^[32]. Their sample of 518 residents had an average age of 81.8 years, an average length of stay of "just under" four years and a 74% female population - characteristics that closely resemble those of the population under investigation (Table XVIII).

The comparison made between the behavioural characteristics of the Local Authority Home population and the long-stay patients in the district psychogeriatric

wards is more interesting as three other studies have carried out a similar exercise^[32,34,91], two using the Shortened Stockton Geriatric Rating Scale^[34,91].

Using the Crichton Royal Behaviour Rating Scale, Wilkin and Jolley^[32] noted that the psychogeriatric ward contained far fewer mentally disturbed old people who were rated as "unco-operative" or "persistently restless" by the staff, when compared with the residential home population.

Gilleard and Pattie^[91] reported mean levels of behaviour disabilities in a variety of elderly populations, to supply normative data for their behaviour rating scale. They did not analyse the differences between these populations, but when such an analysis is performed using t-tests, then the psychogeriatric wards are found to contain significantly higher mean levels of total disability, physical disability, apathy/inactivity and communication difficulties than all other samples - but the mean levels of socially disruptive behaviour is not only highest in Part III accommodation but significantly higher than that of psychogeriatric wards.

Gilleard et al's specific investigation of this topic^[34] analysed the frequency distributions of the scores on the eighteen individual items of the SSGRS

in the two types of institution using Chi² analyses. They found differentiation between the populations at the 1% level in all six items of physical disability, four of the five items of apathy/inactivity, both items of communication difficulties - but for only one of the five items of social disturbance - and for this item (sleep pattern at night) the disability was more severe in the residential home population. The authors concluded conservatively that differences between the populations was least marked for the social disturbance factor.

Using a different, and more appropriately, non-parametric statistic, the present investigation has replicated this finding. Wilkin and Jolley proposed that staff tolerance or lower staffing ratios might be responsible; Gilleard et al did not venture an explanation. While the origin of this consistent finding must remain obscure two other hypotheses may be added. Firstly drugs (and in particular psychotropic preparations) may be prescribed inappropriately or under-prescribed by medical practitioners who have little or no specialised knowledge of the management of the elderly. Alternatively, and more plausibly, it is recognised that the more severe degrees of dementia are characterised by progressive apathy and inactivity. The

homes contain few of these individuals, but many of the less mentally impaired old people who might display the importunate and restless behaviour which is typically found at an earlier stage of the dementing process.

The main conclusion from this section of the discussion however is that the present investigation is based upon a population whose basic demographical features, and behavioural characteristics compared with local long-stay psychogeriatric patients, are similar to those published by authors in other regions of the United Kingdom. The results of this study may not be applicable to all regions, but the evidence suggests that the population is typical rather than atypical of Local Authority home populations.

2. The excluded cases

As Altman points out, subjects who cannot be included, or drop out of a study, are usually atypical members of the population^[90]. Fortunately in this investigation, which involves an institutional population, their numbers are small and a great deal of information about them is available. This has been presented in Tables X, XIX, XX and XXI.

The excluded residents had higher average levels of behaviour disabilities than the subjects, and this

reflects the reasons for exclusion, terminal illness being the commonest factor.

Why the 1978 excluded residents should have had a much shorter average length of stay in the home than the other group is more difficult to explain convincingly. In 1978 the refusals were among recently admitted residents, while in 1980 the refusers had been in the home for 8-10 years in three of the four cases. This may be because in 1980 the refusers remembered the earlier study and were not prepared to participate again, while the staff were aware of the requirements and could prepare and reassure new residents who were initially unwilling to participate. This explanation would account for part of the difference, but it has to be admitted that the origins of this finding are not entirely clear.

What can be reasonably concluded is that the 4% of the population who were not included did not differ greatly from the subjects in demographical or behavioural characteristics, hence their influence on the results of this investigation does not require to be taken into account.

3. Medical aspects of the care of the residents.

The reliable information obtained on current medication indicated that the staff's knowledge of the residents'

illnesses was incomplete and inaccurate, particularly in the case of "silent" disease processes such as maturity onset diabetes mellitus, pernicious anaemia, chronic glaucoma and congestive cardiac failure. Many of the principle members of staff had nursing qualifications, but the absence of health training among the others was apparent in the use of terms like "cardiac impotence", "generalised hanging", "water on the ankles" and "stiff bones".

Not knowing the correct terms, or perhaps even what illnesses were present, may not seem vitally important, as the staff were not primarily employed as medical/nursing agents. However they did dispense large quantities of drugs to the residents, and the lack of this basic information must increase the chances of errors occurring. Dispensing procedures were observed in most of the homes - and it was clear that many of the safeguards and routines involving dispensing in hospital wards, including rigorous documentation of prescription charts, were not used.

The primary medical cover for the homes compounded these difficulties. None of the homes was covered by a single practitioner or practice, and in some homes the potential number of doctors who might visit almost

equalled the number of residents. Crannog Cottages for example had a list of 23 doctors for their 25 residents, while Woodburn's GP list contained 29 names for their 35 residents. The result of their different prescribing practices was the subject of Table XVI, and must increase the dangers of confusion arising from like-sounding or like-spelt drugs^[157].

Furthermore the prescribing habits of some of the practitioners were poor, both in terms of the number and type of preparation prescribed. There are many potential hazards when prescribing for the elderly^[158,159], most of which can be overcome with sensible prescribing and careful monitoring of the effects and side-effects. That most adverse responses are the result of careless prescribing rather than ignorance^[158] can be instanced in this survey by the example of the use of barbiturates, which continued to be prescribed in four of the eleven homes in spite of the extensive CURB campaign and a recent publication on their hazards in the elderly^[160] which had been given wide exposure by the mass media.

The relationship between the Social Services and the National Health Service is a fundamental issue considered in a series of committee reports which have unanimously concluded that closer, more effective

collaboration was required - the "Dunlop" Committee^[161], the "Allan" Committee^[162], the "Millar" Report^[163], the "Merrison" Report^[164] and the "Timbury" Report^[165]. This relationship determines the standard of medical care in Local Authority homes, as well as having a bearing upon what type of care system will be introduced and under whose responsibility it will be implemented. However as the Royal Commission on the National Health Service noted, "Local Authorities often argued for local government control of the NHS, and health authorities advocated the absorption by the NHS of the Social Work Services"^[166].

The issues raised here illustrate their discordance about priorities. Both the National Health Service and the Social Services would agree that the highest possible standard of medical care and the maintenance of the rights of individuals within institutions are laudable and desirable. However these priorities are not necessarily compatible - and here the right to retain or choose one's own general practitioner may result in a lower standard of care and increased hazards to all residents. In these circumstances the National Health Service priority is to favour the advantages of having a single primary care team caring for all the residents of a home^[165], while

the Social Service's management tend to place the individual's right of choice as the over-riding determinant, pointing out that the severance of what has often been a long and trusted relationship with a familiar face in the community would enhance the process of institutionalisation.

It is difficult to envisage close collaboration between two services which have such differing philosophies about aging, illness and the elderly, although their polarity may be as much a political expression of independence as a practical difference of approach.

CHAPTER SIX

RESULTS II. CHANGES IN THE BEHAVIOURAL
AND PSYCHOMETRIC CHARACTERISTICS OF
THE RESIDENTS 1978-1980.

CHANGES IN THE BEHAVIOURAL AND PSYCHOMETRIC CHARACTERISTICS OF THE RESIDENTS, 1978-1980.

INTRODUCTION

The first hypothesis to be tested is that Local Authority homes are having to care for increasing numbers of dependent and/or demented old people or increasingly more severely dependent old people, as a result of the population changes and the uncertainty about the role of this type of institutional care.

The literature review (Section Three) concluded that few investigations of this important issue had been carried out, and all had suffered from methodological inadequacies. Only one investigation^[10] had been truly prospective, and while other investigations shared its conclusion that the levels of behaviour disabilities among residents was increasing^[34,38], two studies suggested it was not^[33,36].

METHOD

Three parameters were chosen for comparison between the 1978 and 1980 subjects:

- a) the Shortened Stockton Geriatric Rating Scale (SSGRS), total behaviour disability score and four factor scores.
- b) the Shortened Stockton Geriatric Rating Scale (SSGRS) dependency grade.
- c) the psychometric status, determined by the Crichton Orientation Test and the Modified Kew Test.

1. The whole population.

The mean levels of behaviour disabilities were calculated, and the difference measured by the percentage change and one tailed t-tests (the prediction being that levels will be increasing).

The number of residents in each dependency grade was calculated, and the differences between 1978 and 1980 measured by the percentage change and Chi² tests of frequency distribution.

The psychometric status of all subjects was determined, and the differences between 1978 and 1980 measured by the percentage change and Chi² tests of frequency distribution.

2. The individual homes

The changes that took place within the individual homes on all three parameters were calculated, and demonstrated as figures with the median value indicated. Statistical analysis of significance was carried out using the non-parametric Wilcoxon Matched-Pairs Signed-Ranks Test^[168]. This test is appropriate for paired scores where both the direction and magnitude of the change is available and can be ranked. T is the smaller sum of ranks, and as there were 11 pairs of observations

in this study $T \ll 33$ (sum of ranks being 66). Again, one tailed tests were used as the predicted direction was an increase in disability.

RESULTS

1. The whole population

a) SSGRS Total Score and Factor Scores (Table XXII).

Falls in the mean level of total disability and three of the four behaviour factors were recorded, the only increase being in the physical disability factor. None of the differences reached conventional levels of significance, although a 16.1% decrease in the mean level of communication difficulties occurred.

b) SSGRS Dependency Grades (Table XXIII).

On this parameter, no change exceeding 1% was recorded.

c) Psychometric Status (Table XXIV).

The proportion of the population that was categorised as demented fell by 0.5% to 41.5% There was a 3 to 4% shift from the borderline dementia category to unimpaired.

2. The individual homes

a) SSGRS Total Score and Factor Scores (Figures 6A-6E).

The distribution of changes within individual homes was scattered around zero for total score and all four

TABLE XXII

A Comparison of the Behavioural Characteristics of the 1978 and 1980 Subjects.

<u>BEHAVIOUR DISABILITY</u>	<u>MEAN LEVEL SUBJECTS 1978</u>		<u>MEAN LEVEL SUBJECTS 1980</u>		<u>PERCENTAGE CHANGE</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
	MEAN	SD	MEAN	SD			
TOTAL SCORE	13.0	SD 7.7	12.7	SD 7.7	-2.5%	t = 0.55	NS
PHYSICAL DISABILITY	4.4	SD 3.0	4.5	SD 3.3	+2.5%	t = 0.45	NS
APATHY/INACTIVITY	5.5	SD 2.8	5.3	SD 2.9	-3.5%	t = 1.00	NS
COMMUNICATION DIFFICULTY	0.6	SD 1.0	0.5	SD 1.1	-16.1%	t = 1.41	NS
SOCIAL DISTURBANCE	2.6	SD 2.6	2.4	SD 2.6	-5.1%	t = 1.00	NS

Degrees of freedom t = 769

One tailed t tests of significance.

TABLE XXIII

A Comparison of the Dependency Grades of the 1978 and 1980 Subjects.

<u>SSGRS DEPENDENCY GRADE</u>	<u>NUMBER OF SUBJECTS 1978</u>	<u>NUMBER OF SUBJECTS 1980</u>	<u>PERCENTAGE CHANGE</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
A	39	37	-0.4%	$\text{Chi}^2 = 0.03$	NS
B	68	66	-0.3%	$\text{Chi}^2 = 0.01$	NS
C	105	107	+0.8%	$\text{Chi}^2 = 0.07$	NS
D	71	71	+0.2%	$\text{Chi}^2 = 0.01$	NS
E	105	102	-0.5%	$\text{Chi}^2 = 0.02$	NS

Degress of freedom, $\text{Chi}^2 = 1$.

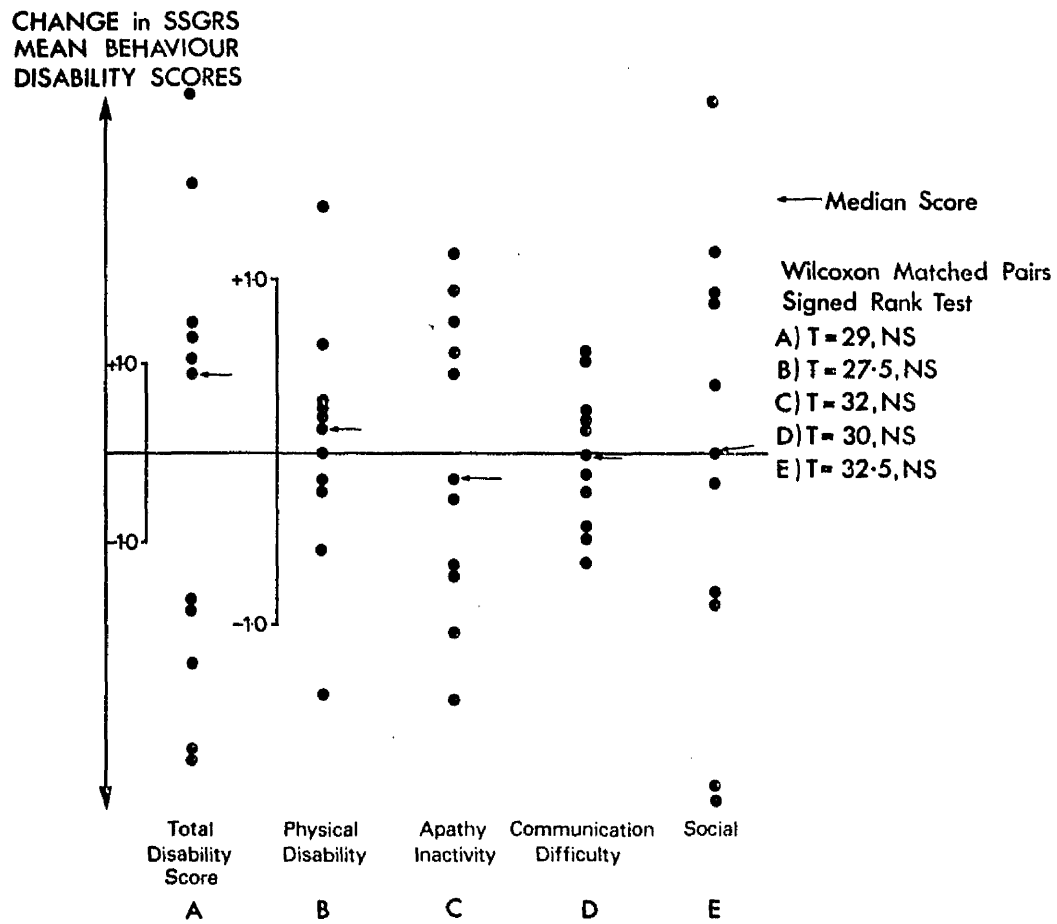
TABLE XXIV

A Comparison of the Psychometric Status of the 1978 and 1980 Subjects.

<u>PSYCHOMETRIC STATUS</u>	<u>NUMBER OF SUBJECTS 1978</u>	<u>NUMBER OF SUBJECTS 1980</u>	<u>PERCENTAGE CHANGE</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
DEMENTED	163	159	-0.5%	$\text{Chi}^2 = 0.02$	NS
BORDERLINE DEMENTIA	73	60	-3.1%	$\text{Chi}^2 = 1.34$	NS
NOT DEMENTED	152	164	+3.6%	$\text{Chi}^2 = 0.53$	NS

Degrees of freedom, $\text{Chi}^2 = 1$.

**Fig. 6: Changes in Behaviour Disabilities Between 1978 -1980
by Individual Homes**



factors, with the median value the closest to zero in four of the five figures (the exception being physical disability)

b) SSGRS Dependency Grades (Figures 7A-7E).

Changes within individual homes were scattered around zero with no obvious trend. In the case of Grade E (maximally dependent) residents the distribution was clearly bimodal.

c) Psychometric Status (Figures 8A-8C).

More evidence of a trend was apparent with this parameter than with the behavioural parameters. Eight of the eleven homes had decreases in the proportions of residents who were demented or had boderline dementia, and the median values were negative. Seven of the eleven homes had increases in the proportion of unimpaired residents. The T values were smaller than with either of the behavioural parameters, but failed to reach the 5% level of significance.

d) Summary of the statistical findings (Table XXV).

The results of the Wilcoxon T Test and the median values of all the variables were summarised to clarify the emerging trends.

It should be noted that as T represents the smaller

Fig. 7: Percentage Changes in Dependency Grade Between 1978 - 1980 by Individual

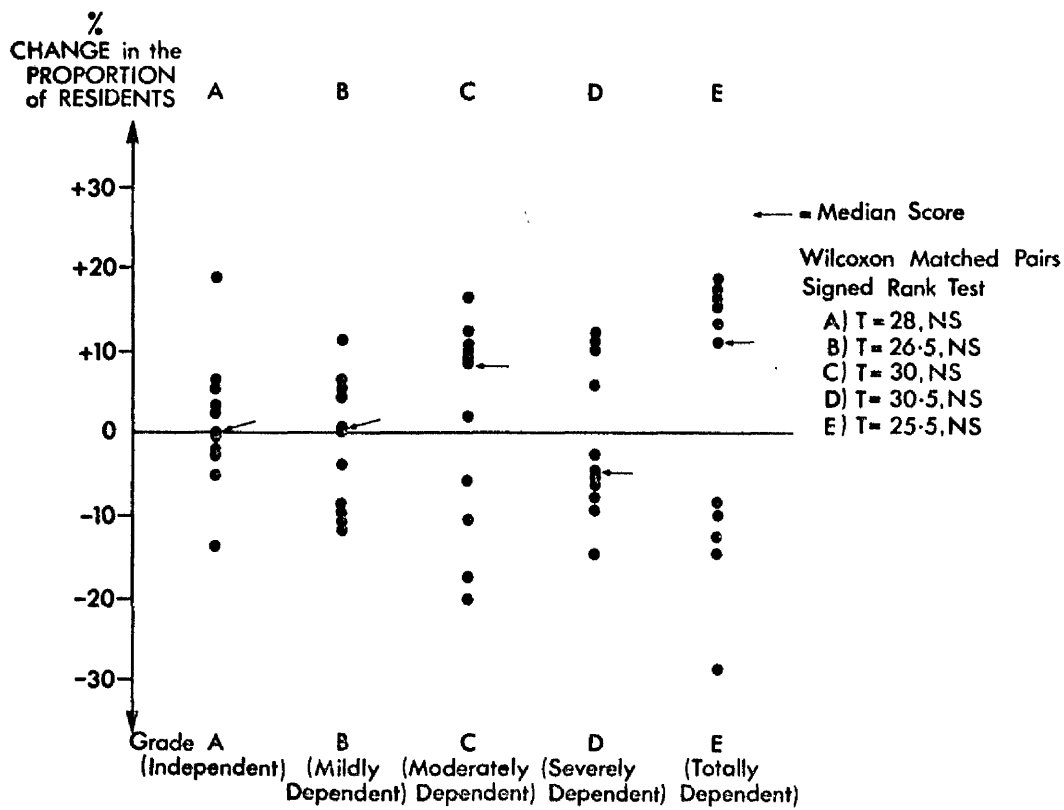


Figure 8: Percentage Changes in Psychometric Status Between 1978-1980
by Individual Homes

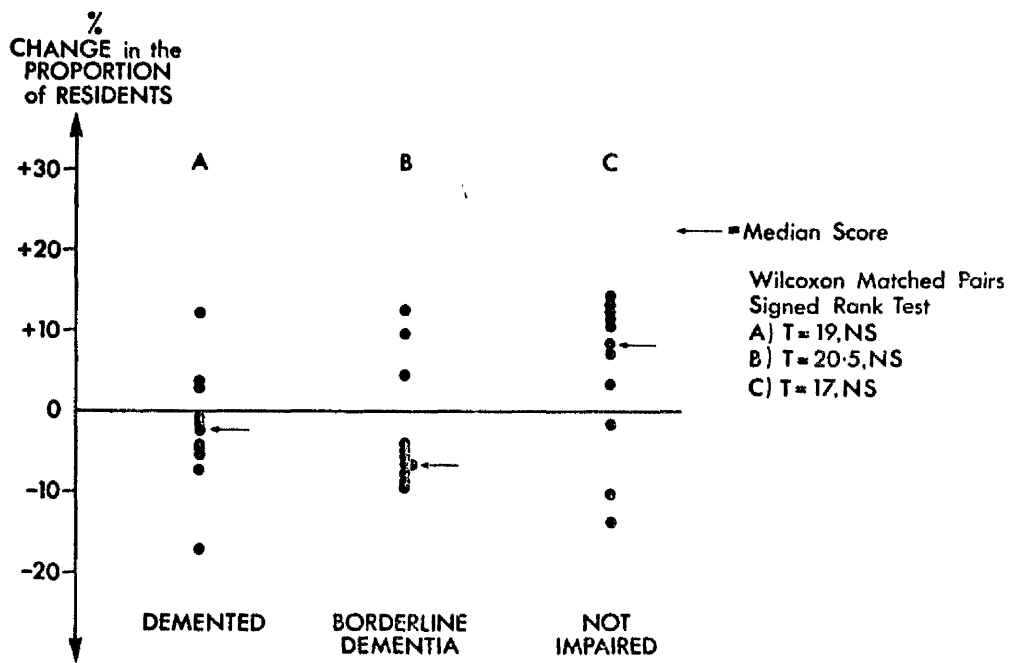


TABLE XXV

Summary of Changes in Variables in the Homes Between
1978 and 1980.

<u>CHARACTERISTIC</u>	<u>MEDIAN CHANGE</u>	TREND	<u>WILCOXON T VALUE</u>
SSGRS TOTAL SCORE	+0.90	-	29
PHYSICAL DISABILITY	+0.12	+	27.5
APATHY/INACTIVITY	-0.14	-	32
COMMUNICATION DIFFICULTY	-0.03	-	30
SOCIAL DISTURBANCE	0	+	32.5
GRADE A (INDEPENDENT)	0	+	28
GRADE B (MILDLY DEPENDENT)	0	-	26.5
GRADE C (MODERATELY DEPENDENT)	+8%	+	30
GRADE D (SEVERELY DEPENDENT)	-5%	-	30.5
GRADE E (TOTALLY DEPENDENT)	+11%	+	25.5
DEMENTED	-2%	-	19
BORDERLINE DEMENTIA	-7%	-	20.5
UNIMPAIRED	+7%	+	17

N = 11, T \leq 33

p $<$ 0.05, T \leq 11

p $<$ 0.01, T \leq 5

sum of ranks, then the trend is opposite in sign to that of T.

Considering the mean levels of behaviour disabilities, all changes were very small, with only physical disability consistently being found to increase.

Considering the dependency grades, the results within individual homes demonstrate greater changes than the frequency changes reported for the whole population (Table XXIII), in particular with most homes containing more maximally dependent residents.

Considering psychometric status the results within individual homes reinforce the findings of changes in frequency among the whole population (Table XXIV) with the trend being for homes to contain fewer borderline demented residents and more unimpaired residents.

DISCUSSION

These findings reject the hypothesis that Local Authority homes are caring for increasingly dependent residents or increasing numbers of dependent and/or demented residents. There appears to have been little or no change on any parameter within the homes during the two year's prospective investigation.

It may be argued that the duration of the study was too short to allow for change, yet Wilkin et al^[10] followed up slightly more than half this number of residents for half the length of time and demonstrated clearly that their homes were caring for increasing numbers of severely disabled elderly people.

Although precise figures for the district are unavailable the study was carried out at a time when the numbers of elderly in Glasgow as a whole were increasing. Over the same period, within the geriatric psychiatry service of Gartnavel Royal Hospital, substantial increases occurred in the number of referrals (+14%), day hospital attenders (+62%) and holiday admissions (+63%), although admissions to the long-stay wards and discharges by death remained constant.

Nor can these findings be accounted for by the introduction of a fully co-ordinated district policy for the elderly (although liaison had been sufficiently well established to allow this project to take place).

Poor collaboration between the social services and health services (geriatric and psychogeriatric) has been identified on many occasions^[161,162,163,164,165].

The further potential effects of each service determining

its own selection and admission policies and having the capacity to unilaterally modify them without reference to the other services was the opening point made in the Introduction (p.21).

The current dilemma that is faced by the social services as a result of the rapid increase in the numbers of dependent elderly is either to continue to admit old people with greatest dependency needs on the basis that Local Authority homes are dutybound to tend those most in need of care (with the consequences reported in earlier studies^[10,34,38]) or to select those old people who require the level of care which maintains a manageable prevalence of disabilities in the home, suggested by the present results.

Wherever the emphasis in policy is placed, the effect will be that many highly dependent old people who require the intensive nursing and medical supervision provided with NHS in-patient care will not receive it - being either misplaced in Local Authority homes or being maintained in the community by a system of shared care between the health service day and domiciliary provisions, and relatives or friends until such time as a bed becomes available.

A policy of the selection panels for Local Authority residential care which rejects severely disabled old people is a realistic acknowledgement that the resources of their staff and buildings are finite. However it will have repercussions on the health services which are more appropriately considered in the recommendations of this thesis.

CHAPTER SEVEN

RESULTS III. THE PREDICTION OF
MORTALITY.

THE PREDICTION OF MORTALITY

INTRODUCTION

The second hypothesis to be tested in this project is that the prediction of mortality may be a useful method of determining suitability for care.

Only one satisfactory study^[58] has, so far, been carried out in a residential home population, but unfortunately the subjects were highly selected. Factors predicting mortality, the strength of their prediction, and the effect of considering various time intervals were therefore unresolved issues within this population.

It has been argued (p.73) that the original pretext for identifying predictors of mortality - the official policy of excluding from admission old people in whom death could be anticipated (presumably imminently) was invalid, as the provision of terminal care had become an accepted function of homes, and in these circumstances admission could often be compelling on humanitarian grounds.

However as the main mode of discharge is by death^[11], the admission rate would depend mainly upon the mortality rate, in the absence of additional accommodation becoming available. To avoid lengthening waiting lists with increasingly needy old people being unable to gain admission, it would become relevant to identify predictors

of mortality as a method of selecting a population with a predictably finite life expectancy.

METHOD

The population examined in this investigation were the 388 subjects who had been surveyed in 1978. The two year outcome was determined for all these subjects, including the date of death, where appropriate.

The number of deaths and cumulative mortality rate were calculated for 3, 6, 12 and 24 months post-assessment; but as there were only nine deaths during the first three months, subsequent analyses excluded the three-month outcome. The dependent variable in this study was therefore deemed to be outcome status (living v. dead) at 6, 12 and 24 months post-assessment.

The independent variables included for predicting mortality were considered under three headings - general, cognitive and functional variables - based upon the demographical questionnaire, the psychometric assessment and the behavioural ratings respectively. These are presented in detail in Appendix E, with the coding procedures.

The analysis was carried out using the SPSS programme^[136], a package which first computed Pearson

correlation coefficients between all possible combinations of pairs of variables.

The significance of Pearson correlations between the dependent and independent variables was calculated by a formula which converted the r value to a student t-test^[169]. However it should be borne in mind that many apparently significant correlations could spuriously arise from shared variance among the independent variables.

The amount of variance in the dependent variable explained by the combined effect of the independent variables was determined by the total R² change in the multiple regression which was subsequently computed by the SPSS programme. The significance of the additional variance explained by each independent variable was calculated by a formula which converted the R² change to an F value^[170], for which tables were available.

RESULTS

1. Number of deaths and mortality rate (Table XXVI).

110 of the 388 subjects died during the two year follow-up.

2. Pearson correlation coefficients.

a) General independent variables (Table XXVII).

No significant relationships existed between outcome and sex or duration in the home. The correlation between

TABLE XXVI

Number of Deaths and Cumulative Mortality Rate 1978-1980.

<u>DURATION SINCE ASSESSMENT (MONTHS)</u>	<u>NUMBER OF DEATHS</u>	<u>CUMULATIVE MORTALITY RATE</u>
3	9	2.3%
6	26	6.7%
12	52	13.4%
24	110	28.4%

TABLE XXVII.

Pearson correlation coefficients of general independent variables with death by 6, 12 and 24 months post-assessment.

<u>INDEPENDENT VARIABLE</u>	<u>DEAD BY 6 MONTHS</u>		<u>DEAD BY 12 MONTHS</u>		<u>DEAD BY 24 MONTHS</u>	
	<u>r</u>	<u>Sig.</u>	<u>r</u>	<u>Sig.</u>	<u>r</u>	<u>Sig.</u>
Age	0.091	NS	0.116	p < 0.05	0.138	p < 0.001
Sex	0.058	NS	-0.009	NS	0.089	NS
Duration in the Home	-0.040	NS	-0.053	NS	-0.067	NS
Next of Kin	0.110	p < 0.05	0.102	p < 0.05	0.113	p < 0.05

death and advancing age rose from insignificance to a highly significant level at 2 years post-assessment. A consistently significant positive correlation was found between death and the closeness of the relationship with the next of kin.

b) Cognitive independent variables (Table XXVIII)

Here the findings were all in a predictable direction, with death correlating with increasing cognitive impairment.

TABLE XXVIII

Pearson correlation coefficients of cognitive independent variables with death by 6, 12 and 24 months post-assessment.

<u>INDEPENDENT VARIABLE</u>	<u>DEAD BY 6 MONTHS</u>		<u>DEAD BY 12 MONTHS</u>		<u>DEAD BY 24 MONTHS</u>	
	<u>r</u>	<u>Sig.</u>	<u>r</u>	<u>Sig.</u>	<u>r</u>	<u>Sig.</u>
Diagnosis	0.049	NS	0.080	NS	0.161	p < 0.001
COT	0.120	p < 0.01	0.145	p < 0.001	0.185	p < 0.001
MKT - Memory	0.047	NS	0.079	NS	0.117	p < 0.01
MKT - Aphasia	0.046	NS	0.078	NS	0.151	p < 0.001
MKT - Parietal	0.074	NS	0.032	NS	0.077	NS
MKT - Total	0.061	NS	0.078	NS	0.138	p < 0.001
MKT - Areas	0.006	NS	0.076	NS	0.108	p < 0.05

However the only variable that reached conventional levels of significance at 6 and 12 months was the Crichton Orientation Test. By two years six of the seven variables reached the 5% level of significance, with four exceeding the 0.1% level.

c) Functional independent variables (Table XXIX)

Correlations between outcome and all the functional variables except the social disturbance factor score were generally greater than those obtained with the general and cognitive variables. Highly significant relationships existed between death and the total disability score, the physical disability score and the communication difficulty score at all three time intervals. The highest r value obtained, 0.230, was for the correlation between death by 24 months and level of communication difficulty.

3. Multiple Regression

a) Proportion of variance in outcome explained (Table XXX)

The proportion of variance in outcome explained by the 17 independent variables was disappointingly small, reaching a peak of 12.52% at two years, and even these values were likely to be too high as each independent variable added to the equation contributes more chance to the level of R^2 [170]. A more conservative estimate which accounts for the additional chance is adjusted R^2 . These results

TABLE XXIX

Pearson correlation coefficients of functional independent variables with death by 6, 12 and 24 months post-assessment.

<u>INDEPENDENT VARIABLE</u>	<u>DEAD BY 6 MONTHS</u>		<u>DEAD BY 12 MONTHS</u>		<u>DEAD BY 24 MONTHS</u>	
	<u>r</u>	<u>Sig</u>	<u>r</u>	<u>Sig</u>	<u>r</u>	<u>Sig</u>
SSGRS - Total	0.144	p < 0.001	0.118	p < 0.01	0.185	p < 0.001
SSGRS - Physical Disability	0.166	p < 0.001	0.133	p < 0.01	0.193	p < 0.001
SSGRS - Apathy Inactivity	0.083	NS	0.100	p < 0.05	0.158	p < 0.001
SSGRS - Communication Difficulty	0.193	p < 0.001	0.168	p < 0.001	0.230	p < 0.001
SSGRS - Social Disturbance	0.083	NS	0.028	NS	0.074	NS
SSGRS - Dependency Grade	0.109	p < 0.05	0.105	p < 0.05	0.146	p < 0.001

TABLE XXX

Proportion of variance in outcome explained by general, cognitive and functional independent variables at 6, 12 and 24 months post-assessment.

<u>INDEPENDENT VARIABLES</u>	<u>DEAD BY 6 MONTHS</u>	<u>DEAD BY 12 MONTHS</u>	<u>DEAD BY 24 MONTHS</u>
General	1.62%	2.17%	4.55%
Cognitive	2.27%	2.18%	4.45%
Functional	6.15%	2.77%	3.52%
Total (R ²)	10.03%	7.12%	12.52%
Total corrected for chance (Adjusted R ²)	6.41%	3.11%	8.75%

indicated that the variables included predicted only 3-9% of the variance in outcome.

The amount of variance explained did not increase successively, being lowest at one year follow-up.

In view of this low level of prediction the independent variables were summated in a single analysis - general then cognitive then functional factors. The additional variance explained by the functional variables was greatest at the 6 and 12 month cut-offs, and particularly at the former where it contributed over 60% of the explained variance after partialling out the effects of the general and cognitive factors.

b) General variables contributing significantly to the variance in outcome (Table XXXI)

Although first variables into the equation, these contributed little to the variance in outcome except at 2 years where advancing age and male sex both made significant contributions.

TABLE XXXI

General independent variables contributing significantly to the variance in outcome at 6, 12 and 24 months.

<u>INDEPENDENT VARIABLE</u>	<u>DEAD BY 6 MONTHS</u>	<u>DEAD BY 12 MONTHS</u>		<u>DEAD BY 24 MONTHS</u>	
		<u>R² change</u>	<u>Sig.</u>	<u>R² change</u>	<u>Sig.</u>
Age		0.0134	p < 0.05	0.0190	p < 0.01
Sex				0.0145	p < 0.05

- c) Cognitive variables contributing significantly to the variance in outcome (Table XXXII).

Having partialled out the effects of the general variables, the only variable to add significantly to the variance in outcome was the Crichton Orientation Test. Its contribution was significant at 6, 12 and 24 months, and at the latter added a further 3.55% to the explained variance.

TABLE XXXII.

Cognitive independent variables contributing significantly to the variance in outcome at 6, 12 and 24 months.

<u>INDEPENDENT VARIABLE</u>	<u>DEAD BY 6 MONTHS</u>		<u>DEAD BY 12 MONTHS</u>		<u>DEAD BY 24 MONTHS</u>	
	<u>R² change</u>	<u>Sig.</u>	<u>R² change</u>	<u>Sig.</u>	<u>R² change</u>	<u>Sig.</u>
Crichton Orientation Test	0.0151	p < 0.05	0.0176	p < 0.01	0.0355	p < 0.001

- d) Functional variables contributing significantly to the variance in outcome (Table XXXIII).

Having partialled out the effects of both the general and the cognitive variables, the functional variables

TABLE XXXIII

Functional independent variables contributing significantly to the variance in outcome at 6, 12 and 24 months.

<u>INDEPENDENT VARIABLE</u>	<u>DEAD BY 6 MONTHS</u>		<u>DEAD BY 12 MONTHS</u>		<u>DEAD BY 24 MONTHS</u>	
	<u>R² change</u>	<u>Sig.</u>	<u>R² change</u>	<u>Sig.</u>	<u>R² change</u>	<u>Sig.</u>
SSGRS - Communication difficulty	0.0188	p < 0.01	0.0164	p < 0.05	0.0176	p < 0.01
SSGRS - Social disturbance	0.0172	p < 0.01				
SSGRS - Total score					0.0099	p < 0.01

contributing most additional variance were the social

disturbance factor at 6 months, the total disability score at 24 months, and the communication difficulty factor at 6, 12 and 24 months.

DISCUSSION

The results of this investigation will be discussed under two headings - firstly, their practical implications for the social services in determining suitability for care, and secondly, their theoretical implications in relation to the literature on prediction of mortality.

Practical implications

These results reject the hypothesis that predicting mortality is a useful method of determining suitability for care. Having already debated the validity of this approach, this investigation demonstrates that the correlation of variables with outcome is low, the best single predictor, the communication difficulty factor, explaining only 5% of the variance in outcome at 2 years ($r = 0.23$) while the combined effect of all the independent variables examined by multiple regression, can only account for 8.75% of the variance in outcome at 2 years.

There were obviously many other variables that might have improved the prediction, particularly those relating to serious physical illnesses, and the data collected was such that some of these factors could have been

examined. However diseases which are processes with low incidences and high mortality rates might add to the prediction of outcome, but would be irrelevant to the great majority of the population who are unaffected.

The independent variables that were examined here are universal and are therefore more relevant to the prediction of outcome in any individual.

Theoretical implications

The theoretical implications of this investigation are more interesting. It must first be borne in mind however that the mortality rates were appreciably lower than those reported in earlier studies^[52, 57, 58].

There is not a convincing explanation that can be offered for this finding, and it might be suggested that if the population was atypical in this respect perhaps other findings will also be atypical.

However most of the results do replicate findings in previous studies.

The level of correlation between outcome and individual factors was in the expected range, between community and hospital-based populations.

Advancing age, which had been found to be a significant correlate in most previous studies involving residential

homes^[30,31,57] and in community-based studies^[42,43] was found to be of relevance. Male sex (when the effect of age is partialled out) has also been reported to be a significant variable in the community-based studies^[42,43] and Isaac's[✓] geriatric hospital population^[50].

The consistent demonstration of a significant relationship between outcome and the degree of relationship of the next of kin is a nicety reflecting the simple practical point that independent existence in the community may depend primarily on the home support available^[15], and the closer this relationship is, the greater the disability that will be tolerated^[15]. Hence old people admitted for predominantly social rather than physical reasons will survive longer than those admitted because relatives can no longer cope. In general terms, the more diseased, demented and/or disabled the population is, the less important these general factors become - hence their unimportance in hospital-based studies and in the study of a population of mentally impaired ladies in a residential home^[58].

The results also replicate Murphy et al's finding^[58] that in a residential home population behavioural factors are better predictors of mortality than cognitive predictors - which is the converse of findings in psychogeriatric

wards^[53,54].

While cognitive variables contributed very little to the explained variance in outcome, particularly in the short term, detailed examination of these variables reveals interesting theoretical points. Firstly, neither the total level of disability, nor the extent of cortical involvement nor the presence of parietal lobe damage had the predictive value that earlier studies might have indicated^[55,56]. Conversely, and in accordance with earlier work in the community^[42] and in geriatric and mental hospitals^[49,50], memory disturbance was a much better predictor.

Two tests of memory were employed - the Kew Test subscale which is mainly concerned with long term memory and the Crichton Orientation Test which exclusively tests orientation/recent memory. The fact that the latter explained about four times as much of the variance in outcome at 6, 12 and 24 months is in keeping with Kral's observations^[49], that recent memory loss is associated with a poorer prognosis than long term memory loss.

Finally, the original variable examined in this study, that of varying the outcome time, produced inconclusive results as far as when the best prediction of outcome can be made. In the short term (six months

outcome) it appears that functional variables were the only worthwhile contributors to explained variance in outcome. In the long-term (two year outcome) this distinction had gone, and almost all the variables showed up as significantly correlated with outcome, but none to a sufficiently high degree to warrant clinical application.

CHAPTER EIGHT

RESULTS IV. STAFF TOLERANCE OF
DISABILITY.

STAFF TOLERANCE OF DISABILITY

INTRODUCTION

The third hypothesis to be tested in this project is that residents who are considered unsuitable for the home by the staff will have behaviour disabilities of a different nature or severity from those of other residents.

Previous studies of the tolerance of disabilities in the elderly had concentrated on the supporting relative at home [69,70] or emergency circumstances in residential homes [71,72]. There were no directly comparable studies.

METHOD

1. 1978 Subjects.

At the time of the 1978 assessment, 22 residents were on the geriatric psychiatry at-risk register of Gartnavel Royal Hospital awaiting transfer to the long-stay wards. These individuals were grossly demented and presented chronic behavioural difficulties for the staff. Elderly people with functional mental illness or presenting as a psychiatric emergency were managed by another part of the hospital's services, so that the residents on the at-risk register represented a distinct problem - the chronic behavioural burden. This implied that staff were no longer willing to, or capable of, managing them and had thus become intolerant of their

behaviour. An investigation of the characteristics of these residents seemed one method of assessing unsuitability for the home.

As every home had at least one resident on the at-risk register, all eleven homes were included. Comparisons of the 22 residents on the at-risk register were made with three groups of fellow residents:

a) Referred residents were compared with the 363 residents not on any waiting-list. Demographical characteristics and SSGRS Total Disability and factor scores were compared using t-tests, with a Chi² test for the sex distribution.

b) Each referred resident was matched with two residents from the same home (hence rated by the same individual) for their overall level of behaviour disability (i.e. SSGRS Total Score), this match being satisfactory (Table XXXIV). The behavioural profiles were then compared

TABLE XXXIV

The Matching of the 22 Residents on the Geriatric Psychiatry At Risk Register with 44 Controls.

<u>MATCHED CHARACTERISTIC</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
SSGRS Total Score	t = 1.54	NS
Age	t = 0.19	NS
Duration in the Home	t = 0.80	NS

Degrees of freedom, t = 64
Two tailed t-tests.

using Chi² tests for an item by item analysis^[171,172].

Two analyses were performed for each item: firstly the frequency of a trait's presence v absence was assessed by comparing SSGRS ratings of 1 and 2 v 0; then the frequency of a trait's severity v non-severity was assessed by comparing SSGRS ratings of 2 v 1 and 0 (See Appendix B for scoring system of SSGRS).

c) Each referred resident was also matched with two residents from the same home for sex and age, and it was coincidentally discovered for duration in the home too (Table XXXIV). An item by item Chi² analysis was then carried out using the method as described in (b).

2. 1980 Subjects

By 1980 the organisation of the geriatric psychiatry services at Gartnavel Royal Hospital had altered. The role of the at-risk register had been modified to include many functionally ill old people for whom admission to long term care was not being sought, so that a replication of the 1978 study would not have been reliable.

The tolerance of disability was investigated directly in this survey by asking the staff members to give their opinion of the subject's suitability for care, and if considered unsuitable, what alternative type of care

would be more appropriate (Appendix A).

The study consisted of comparing the demographic characteristics and behavioural traits of 39 maximally dependent (Grade E) residents who were considered appropriately placed by the staff with the 63 maximally dependent residents whom the staff reckoned should be in long term hospital care.

An item by item Chi² analysis was then carried out using the same method as in 1978.

3. Combined

The three item by item analyses of behaviour disabilities involved data from two surveys, two approaches of defining intolerable behaviour and three different control groups with whom the comparisons had been made; so the reliability of the findings would be enhanced considerably if a high measure of consistency among the results could be demonstrated.

The same procedure was employed for discriminations involving presence v absence of a disability and severity v non-severity of a disability.

For each analysis the behaviour items were ranked according to the size of Chi² from one (the greatest difference favouring intolerance) to eighteen (the

smallest difference favouring intolerance or the greatest difference favouring tolerance).

The ranking correlation coefficient, Spearman's rho^[173] was calculated for all three pairs of studies. From these the average ranking correlation coefficient was calculated, and, using Kendall's formula^[174], the level of concordance, Kendall's W, among the three analyses was obtained.

Finally the eighteen behavioural items were tabulated in order of their average ranking over the three analyses.

RESULTS

1. 1978 Subjects

a) As might be predicted, referred residents had highly significant greater levels of all four behaviour disability factors and total disability score when compared with residents not on a waiting list (Table XXXV). Women were significantly over-represented in the referred group, and while average ages were similar, referral was significantly associated with a shorter average length of stay in the home.

b) When compared with residents matched for total level of disability, only one significant difference was apparent between the groups, and this was the rating

TABLE XXXV

Comparison of 22 referred residents with residents not on any waiting-list.

<u>CHARACTERISTIC</u>	<u>REFERRED RESIDENTS</u>	<u>RESIDENTS NOT ON ANY WAITING LIST</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
Number	22	363		
Average age (years)	79.3 SD 5.6	79.5 SD 9.3	t = 0.14	NS
Sex distribution	2M 20F	114M 249F	Chi ² = 4.10	p < 0.05
Average duration in the home (years)	2.1 SD 1.4	3.4 SD 3.9	t = 3.69	p < 0.001
Behaviour disability SSGRS Total Score	23.3 SD 6.3	12.3 SD 7.3	t = 6.98	p < 0.001
Physical Disability	8.1 SD 2.6	4.2 SD 2.8	t = 6.66	p < 0.001
Apathy/Inactivity	8.5 SD 1.4	5.3 SD 2.7	t = 9.65	p < 0.001
Communication difficulty	1.7 SD 1.7	0.5 SD 0.9	t = 3.47	p < 0.001
Social disturbance	5.1 SD 2.7	2.4 SD 2.5	t = 4.40	p < 0.001

Degrees of freedom, Chi² = 1 t = 383
 One tailed t-tests.

of severe incontinence among the referred residents (Table XXXVI).

c) When compared with residents matched for age, sex and duration in the home many more significant differences were apparent between the groups (Table XXXVII). Nine of the eighteen items were significantly more often rated present among the referred residents, and twelve items were significantly more often rated as severe.

For fourteen of the items the value of Chi^2 was greater for severe v not severe than for present v absent.

2. 1980 Subjects

There were no significant demographical differences between maximally dependent residents considered misplaced and those considered appropriately placed (Table XXXVIII).

Four items were significantly more often rated present, and nine items significantly more often rated severe among maximally dependent residents considered misplaced by the staff (Table XXXIX). Again, the value of Chi^2 was greater for severe v not severe than for present v absent in fourteen of the eighteen items.

3. Combined

The levels of agreement in the ranking of items followed similar patterns for presence v absence and

TABLE XXXVI

Comparison of the behaviour disabilities of the referred residents with controls.
Matched for SSGRS Total Score.

<u>ITEM</u>	<u>PRESENT v ABSENT</u> <u>Chi²</u>	<u>Significance</u>	<u>SEVERE v NOT SEVERE</u> <u>Chi²</u>	<u>Significance</u>
Falsely accuses others	0.28 ⁺	NS	0	NS
Incontinence	0.04	NS	6.82	p < 0.01
Help required to bath/dress	2.03 ⁺	NS	0.39	NS
Objectionable behaviour by day	0.49	NS	0.34	NS
Objectionable behaviour by night	1.52	NS	2.37	NS
Hoarding trivia	0.28	NS	0.14 ⁺	NS
Help required to walk	0	NS	1.81 ⁺	NS
Cannot communicate	0.76	NS	3.07	NS
In bed during the day	0	NS	0.29 ⁺	NS
Gets lost outside	1.73 ⁺	NS	0	NS
Confusion	3.49	NS	0.76	NS
Untidy appearance	1.36	NS	3.22	NS
Cannot understand	0.76	NS	1.83	NS
Does not help in the home	0	NS	0.51	NS
Cannot keep self occupied	0.51	NS	0.94	NS
Poor relationship with others	0	NS	0.27	NS
Sleep disturbance	1.38	NS	2.65	NS
Not amenable to suggestion	1.57	NS	0.13	NS

Degrees of freedom, Chi² = 1 + = more frequent among the controls.

TABLE XXXVII

Comparison of the behaviour disabilities of the referred residents with controls
Matched for age, sex and duration in the home.

<u>ITEM</u>	<u>PRESENT</u> <u>Chi²</u>	<u>ABSENT</u> <u>Significance</u>	<u>SEVERE</u> <u>Chi²</u>	<u>NOT SEVERE</u> <u>Significance</u>
Falsely accuses others	1.13	NS	1.20	NS
Incontinence	4.40	p < 0.05	17.03	p < 0.001
Help required to bath/dress	0.43	NS	7.94	p < 0.01
Objectionable behaviour by day	0	NS	0.04	NS
Objectionable behaviour by night	7.87	p < 0.01	4.99	p < 0.05
Hoarding trivia	1.94	NS	2.67	NS
Help required to walk	0.99	NS	0.39 ⁺	NS
Cannot communicate	6.31	p < 0.05	4.13	p < 0.05
In bed during the day	0.85	NS	0	NS
Gets lost outside	3.70	NS	5.14	p < 0.05
Confusion	6.21	p < 0.05	6.31	p < 0.05
Untidy appearance	10.61	p < 0.01	13.48	p < 0.001
Cannot understand	4.71	p < 0.05	5.21	p < 0.05
Does not help in the home	0.51	NS	4.55	p < 0.05
Cannot keep self occupied	3.92	p < 0.05	5.50	p < 0.05
Poor relationship with others	0.99	NS	3.17	NS
Sleep disturbance	4.04	p < 0.05	6.06	p < 0.05
Not amenable to suggestion	4.55	p < 0.05	7.05	p < 0.01

Degrees of freedom, Chi² = 1 + = more frequent among the controls.

TABLE XXXVIII

A demographical comparison of maximally dependent residents, based upon whether the staff consider them appropriately placed or not.

<u>CHARACTERISTIC</u>	<u>APPROPRIATELY PLACED RESIDENTS</u>	<u>MISPLACED RESIDENTS</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
Number	39	63		
Average age (years)	84.0 SD 7.6	81.9 SD 7.9	t = 1.30	NS
Sex distribution	9M 30F	10M 53F	Chi ² = 0.83	NS
Average duration in the home (years)	2.6 SD 2.3	3.1 SD 3.6	t = 0.70	NS

Degrees of freedom, Chi² = 1 t = 100
Two tailed t-tests.

TABLE XXXIX

Comparison of the behaviour disabilities of maximally dependent residents, based upon whether the staff consider them appropriately placed or not.

ITEM	PRESENT v ABSENT		SEVERE v NOT SEVERE	
	Chi ²	Significance	Chi ²	Significance
Falsely accuses others	0.29 ⁺	NS	0.35 ⁺	NS
Incontinence	1.16	NS	8.40	p < 0.01
Help required to bath/dress	0.63 ⁺	NS	0.40	NS
Objectionable behaviour by day	2.91 ⁺	NS	0	NS
Objectionable behaviour by night	1.26	NS	1.39	NS
Hoarding trivia	1.39 ⁺	NS	4.66	p < 0.05
Help required to walk	0.27 ⁺	NS	4.13	p < 0.05
Cannot communicate	0.41	NS	0.64	NS
In bed during the day	0.25 ⁺	NS	1.41	NS
Gets lost outside	2.38	NS	2.78	NS
Confusion	0.53	NS	4.78	p < 0.05
Untidy appearance	7.17	p < 0.01	7.07	p < 0.01
Cannot understand	0.05	NS	0.35	NS
Does not help in the home	0.12	NS	0.37	NS
Cannot keep self occupied	4.99	p < 0.05	4.21	p < 0.05
Poor relationship with others	4.99	p < 0.05	4.54	p < 0.05
Sleep disturbance	2.16	NS	4.76	p < 0.05
Not amenable to suggestion	3.88	p < 0.05	5.47	p < 0.05

Degrees of freedom, Chi² = 1 + = more frequent among the controls.

severe v not severe with the concordance among the three studies significant at the 1% level for both comparisons (Table XL).

Table XLI summarises the ranking of items of behaviour disability from best to poorest discriminator. With the exceptions of incontinence and help required to bath/dress, the order of items was similar for both comparisons, the overall level of agreement being highly significant, $\rho = 0.77$ $p < 0.001$.

An important point demonstrated in Table XLII was that in all three analyses, severe incontinence ranked as the best discriminator and total inability to maintain a tidy appearance ranked as either second or third best discriminator, both severe disabilities being highly significantly more often found among residents whose behaviour was unacceptable to the staff.

DISCUSSION

These results support the hypothesis that residents who are considered unsuitable for the home by the staff have behaviour disabilities of a different nature or severity from those of other residents.

More specifically, the results indicate that intolerance is not generated by the development of any

TABLE XL

The concordance between the three analyses in the ranking of items of behaviour disability.

<u>COMPARISON</u>	<u>DISCRIMINATING PRESENCE v ABSENCE</u>	<u>DISCRIMINATING SEVERE v NOT SEVERE</u>
	<u>STATISTIC</u>	<u>STATISTIC</u>
	<u>SIGNIFICANCE</u>	<u>SIGNIFICANCE</u>
A v B	rho = 0.74 p < 0.001	rho = 0.67 p < 0.01
A v C	rho = 0.39 NS	rho = 0.25 NS
B v C	rho = 0.57 p < 0.01	rho = 0.55 p < 0.01
	average rho = 0.57	average rho = 0.49
Concordance	W = 0.71 p < 0.01	W = 0.66 p < 0.01

Study A is Residents on At-Risk Register v Controls matched for SSGRS Total Score.

Study B is Residents on At-Risk Register v Controls matched for age, sex and duration in the home.

Study C is Maximally dependent (Grade E) residents considered misplaced by the staff
v maximally dependent residents considered appropriately placed by the staff.

TABLE XLI

Overall ranking of items of behaviour disability based upon their average rank in the 1978 and 1980 studies.

BEST DISCRIMINATOR	<u>PRESENT v ABSENT</u>	<u>SEVERE v NOT SEVERE.</u>
1	UNTIDY APPEARANCE	INCONTINENCE
2	Not amenable to suggestion	UNTIDY APPEARANCE
3	OBJECTIONABLE BEHAVIOUR AT NIGHT	Sleep disturbance
4	Cannot keep self occupied	Confusion
5	Confusion	NOT AMENABLE TO SUGGESTION
6	Sleep disturbance	Cannot keep self occupied
7	Cannot communicate	Objectionable behaviour at night
8	Poor relationship with others	Poor relationship with others
9	Incontinence	Cannot communicate
10	Cannot understand	HELP REQUIRED TO BATH/DRESS
11	Gets lost outside	Hoarding trivia
12	Does not help in the home	Gets lost outside
13	In bed during the day	Cannot understand
14	Hoarding trivia	Does not help in the home
15	Help required to walk	Help required to walk
16	Falsely accuses others	In bed during the day
17	Objectionable behaviour by day	Objectionable behaviour by day
18	Help required to bath/dress	Falsely accuses others

POOREST DISCRIMINATOR

CAPITALS ⇒ <1% level of significance in (at least) one study.

TABLE XLII

The six best discriminators of unsuitability in each of the three analyses, with the significance of difference.

	<u>STUDY A</u>	<u>STUDY B</u>	<u>STUDY C</u>
1.	Severe incontinence (p < 0.01)	Severe incontinence (p < 0.001)	Severe incontinence (p < 0.01)
2.	Confusion (NS)	Total inability to maintain a tidy appearance (p < 0.001)	Inability to maintain a tidy appearance (p < 0.01)
3.	Total inability to maintain a tidy appearance (NS)	Inability to maintain a tidy appearance (p < 0.01)	Total inability to maintain a tidy appearance. (p < 0.01)
4.	Total inability to communicate (NS)	Much help required to bath/dress (p < 0.01)	Rarely/never amenable to suggestion. (p < 0.05)
5.	Sleep frequently disturbed (NS)	Sometimes objectionable behaviour at night (p < 0.01)	Sometimes cannot keep occupied (p < 0.05)
6.	Frequent objectionable behaviour at night (NS)	Rarely/never amenable to suggestion (p < 0.01)	Poor relationship with others (p < 0.05)

Studies A, B and C as described for Table XL.

of the behaviour disabilities examined, except perhaps for the inability to maintain a tidy appearance. The problems of intolerance appear to arise particularly when certain key disabilities are present in severe degrees, the most important being severe incontinence, a total inability to maintain a tidy appearance and a great deal of help required to bath and dress. These are intrinsically physical disorders characterised by being intimate, and unpleasant and time consuming to manage.

As Sanford discovered in his investigations of the supporting relative's tolerance^[70], frequent disturbances at night were poorly tolerated. This may seem surprising in an institutional setting, but Local Authority Homes are covered at night by the senior staff working in rotation, so that the rater's contact with the subject is more like that of a relative's, than a hospital environment where another group of people work through the night.

Also reflecting earlier studies of relatives^[68,69,70] and the Leicestershire study of residential homes^[36], there was considerable evidence that the staff were able to cope with a high degree of disability.

In 1978 it proved possible to match each of the

extremely disabled residents on the geriatric psychiatry at-risk register with two residents from the same home whose total level of disability was the same. In 1980, 39 of the 102 maximally dependent (Grade E) subjects were considered appropriately placed in a Local Authority home, a figure similar to Clarke et al's finding with a different scale, that 140 of the 300 maximally dependent residents in their homes were accepted as correctly placed by the staff^[36].

An interesting point arises from studying only psychogeriatric referrals in 1978. The disabilities that differentiated them from their fellow residents were found to be broadly the same as those that differentiated all unsuitable, severely disabled residents from other severely disabled residents in 1980, and these were primarily the physical disorders mentioned earlier.

Demonstrating the same spectrum of severe disabilities consistently leading to staff intolerance has several management implications. Firstly it rejects Pattie and Gilleard's recommendation that cut-off levels on the SSGRS could be used to determine suitability for care^[87] as this misses the point that it is the presence of key disabilities rather than the overall level of disability that is crucial.

Secondly, these disabilities are readily identifiable. It would seem reasonable and desirable that old people with these disorders should not be admitted to residential homes, so specific account should be made of these disabilities in any scale developed to aid selection processes.

Thirdly, and most importantly, residents who develop these disabilities should be properly investigated and managed. It should not be taken for granted that these symptoms are inevitable, incurable or irreversible accompaniments of aging or dementia, for a great deal can be done to alleviate many of these disabilities to the benefit of the sufferer, the staff and co-residents.

Consider as an example severe incontinence, the trait that is most frequently associated with intolerance among the staff. Incontinence is often accepted as a normal and physiological concomitant of aging^[175], despite being degrading and uncomfortable for the sufferer, and disgusting and annoying for the supporting relative or staff. In two thirds of cases no investigation takes place^[176] despite many of the potential causes being easily identified and treated^[177]. Even in those cases where curative remedies are not feasible, long term catheter draining at least allows the sufferer to

retain his or her dignity, and considerably reduces the burden upon the relative or staff^[178].

This type of active intervention, which is equally pertinent for other disabilities, is however not a feature of social service policy - and indeed, is often not found in hospital settings either where the emphasis may be placed on employing nursing assistants to provide basic care.

As a direct consequence of the findings presented in this chapter the author arranged with a consultant urologist to investigate jointly all the severely incontinent residents within the homes of one of the districts included in this project. This proposal was not taken up by the management team.

POST-SCRIPT

One year later our offer has been taken up by two social work districts, with the development of a pilot project combining the urological investigation and treatment of severely incontinent residents with a psychological assessment of the effect of treatment upon other behaviour disabilities.

CHAPTER NINE

RESULTS V. MISPLACEMENT OF LOCAL
AUTHORITY HOME RESIDENTS.

MISPLACEMENT OF LOCAL AUTHORITY HOME RESIDENTS

INTRODUCTION

The fourth hypothesis to be tested in this project is that a standardised behaviour rating scale accurately reflects the staff's opinion of suitability for the home, and may therefore make a useful instrument for avoiding misplacement.

Misplacement implies improper utilisation of resources and may have subtle effects on behaviour^[80], although it is no longer believed to have a major influence upon outcome^[79]. The definition and assessment of misplacement has varied widely among studies, and no attempts have been made (so far) to compare methods.

METHOD

The SSGRS Dependency Grades^[82] have accompanying vignettes linking the grade to a description of the needs of the individual. Grade A represents no behavioural disability and characterises the independent elderly - old people who would be appropriately placed in a less dependent setting than that provided by a residential home. At the other extreme Grade E represents maximal or total dependence and is typical of long-stay psychogeriatric and geriatric in-patients: residents scoring in this grade should be appropriately placed in a hospital environment. Grades B, C and D

represent a spectrum of intermediate levels of dependency which could broadly be considered as appropriate for residential homes. This classification forms the behavioural assessment of suitability for care in Local Authority homes used in this study.

Direct inquiry into the staff's opinion of the appropriate setting for each resident was included in the 1980 demographical questionnaire (Appendix A).

Rates of misplacement were calculated using each method of assessment separately and then in combination. Misplacements were considered in two categories - subjects who should be in a less dependent setting and subjects who should be in a more dependent setting.

The overall level of agreement between the staff's opinion and their rating of the resident on the SSGRS was examined in two ways. Firstly the frequency distribution was plotted as a 3 x 3 contingency table and the significance of difference among groups analysed by Chi^2 . This was subsequently converted into an approximate Pearson correlation using available tables^[179]. Secondly the Random Error (RE) Coefficient of Agreement^[146] was calculated.

The level of agreement between the staff's opinion

and the SSGRS rating was then calculated separately for each category (i.e. correctly placed, misplaced-independent and misplaced-overdependent) using the Kappa Coefficient^[180]. Kappa is another coefficient of agreement in which no assumption is made about the correctness of either classification and agreement between the two classifications is measured relative to the agreement that would be obtained by chance. Although Kappa involves more assumptions about the data than the RE coefficient, it has the advantage of allowing the significance level of the result to be obtained, by converting the data to a phi coefficient^[146] and thence to Chi²^[181]. It was selected here because the data was best presented as a fourfold table.

Finally, if, as suggested^[87,93] the SSGRS may be used as a standard means of assessing suitability for care, then it should accurately reflect the staff's opinion. This level of agreement can be expressed in terms of sensitivity and specificity. In this context sensitivity is defined as the ability of the SSGRS to allocate a resident to residential home care when the individual has been classified as appropriately placed in a residential home by the staff, and specificity is defined as the ability of the staff to categorise a

resident as suitable for residential home care when the individual has been classified as appropriately placed in a residential home by the SSGRS.

RESULTS

a) Rates of Misplacement

The proportion of subjects misplaced was 26.5% in the staff's opinion, 36.5% according to the behaviour rating scale, and 43.6% were defined as misplaced by one or both methods (Table XLIII). The staff reported lower levels of misplacement than the behaviour rating scale for both individuals who, in their opinion, should be in a less dependent setting and for those who should be in hospital. Both methods found the prevalence of overdependency to be two to three times that of independency.

b) Agreement between methods of assessing misplacement.

The overall level of agreement between methods was 75.0% (Table XLIV) yielding an RE coefficient of agreement of 0.50 and converting to a highly significant Pearson correlation, $r > 0.7$.

The levels of agreement varied considerably however, according to the placement considered appropriate (Table XLV). Here the highest level of agreement between methods

TABLE XLIII

Proportion of population (1980) appropriately placed and misplaced according to staff opinion, the SSGRS rating and a combination of these methods.

	NUMBER AND % OF SUBJECTS		
	<u>SHOULD BE IN A LESS DEPENDENT SETTING</u>	<u>APPROPRIATELY PLACED</u>	<u>SHOULD BE IN A MORE DEPENDENT SETTING</u>
Staff opinion	31 (8.1%)	280 (73.5%)	70 (18.4%)
SSGRS rating	37 (9.7%)	242 (63.5%)	102 (26.8%)
Staff opinion and SSGRS rating	11 (2.9%)	215 (56.4%)	60 (15.8%)

TABLE XLIV

The overall agreement between staff opinion and their rating of the subject on the SSGRS.

STAFF OPINION OF THE SUBJECT	A	B,C,D	E
Should be in a less dependent setting	11	17	3
Appropriately placed	26	215	39
Should be in a more dependent setting	0	10	60

a) R.E. coefficient of agreement = 0.50

b) $\chi^2 = 178.1$, degrees of freedom = 4, Pearson $r > 0.7$, $p < 0.001$.

TABLE XLV

The agreement between staff opinion and their rating of the subject on the SSGRS, according to the placement considered appropriate.

a) LESS DEPENDENT SETTING

		SSGRS		
		Yes	No	
Staff opinion	Yes	11	20	kappa = 0.25, p < 0.001
	No	26	324	

b) CORRECTLY PLACED

		SSGRS		
		Yes	No	
Staff opinion	Yes	215	65	kappa = 0.45, p < 0.001
	No	27	74	

c) MORE DEPENDENT SETTING

		SSGRS		
		Yes	No	
Staff opinion	Yes	60	10	kappa = 0.63, p < 0.001
	No	42	226	

was reached when deciding that a resident required a more dependent (hospital) setting, and the lowest level when deciding that a resident required a less dependent setting.

As a reflection of the staff's opinion of the subject's appropriateness for Local Authority home care, the SSGRS, used as described, had a sensitivity of 76.0% and a specificity of 88.8% (Table XLVI).

DISCUSSION

These results support the hypothesis that a standardised behaviour rating scale (the SSGRS) accurately reflects the staff's opinion of suitability for the home, and may therefore make a useful instrument for avoiding misplacements. However its use in this capacity could only be realistically contemplated in circumstances in which there was much greater collaboration between services, so that categorising an old person as unsuitable for residential home care would consequently allow them access to the more appropriate type of care. This topic will be expanded in the recommendations of the thesis.

The levels of agreement between methods of assessment also reflect the clarity of the policies that currently determine institutional care for the elderly. The role

TABLE XLVI

The sensitivity and specificity of the SSGRS as a measure of staff opinion of the appropriateness for residential home care.

Staff opinion	SSGRS Rating	
	Correctly placed	Misplaced
Correctly placed	215	65
Misplaced	27	74
Sensitivity	$\frac{215}{280}$	= 76.0%
Specificity	$\frac{215}{242}$	= 88.8%

of the hospital's long-stay in-patient facilities is well defined, with provisions that enable highly dependent old people to have their nursing and medical needs met, and no upper limit of dependency needs that are unacceptable. Hence the agreement between staff opinion and behavioural rating is greatest when subjects who would be most appropriately cared for in hospital are considered.

Local Authority homes contain a much more heterogeneous population, ranging from the independent to the bed-ridden, with both upper and lower borders of suitability blurred so that even for people working in senior positions in this type of institution and personally witnessing the interaction of the resident and his/her environment, levels of agreement with the behaviour scale about placement are lower.

The level of agreement between staff opinion and the behaviour scale is lowest when considering residents who could be in a less dependent setting. Here the blurred definitions of suitability for care in less dependent settings is compounded by many members of staff lacking first-hand knowledge about facilities like sheltered housing.

Finally, the proportion of this Local Authority

home population that was considered misplaced ranged from roughly one quarter to one half, depending upon the method(s) used to define misplacement. Irrespective of the method, these figures are much higher than Clarke et al's 6%^[36] - the only previous investigation to quantify misplacement.

Although a broad range of dependency levels was categorised as acceptable for Local Authority home care on the SSGRS, the staff's view was even broader - particularly at the highly dependent end of the spectrum, and this, taken with the evidence on tolerance of disability presented in the preceding chapter, suggests that the high misplacement rates are not a consequence of staff intolerance.

CHAPTER TEN

RESULTS VI. EFFECTS OF ADMISSION TO
A LOCAL AUTHORITY HOME ON OUTCOME.

EFFECTS OF ADMISSION TO A LOCAL AUTHORITY HOME ON OUTCOME.

INTRODUCTION

The fifth hypothesis to be tested in this project is that the admission of old people to Local Authority homes may shorten their life and/or increase their dependency needs.

The only British study to investigate this effect in residential homes^[86] concluded that this "negative relocation effect" accounted for the death or rapid deterioration of 10 of the 44 subjects, but this study was heavily criticised on methodological, interpretative and conceptual grounds (p. 85).

A balanced review of the issue^[84] concluded that the effects of admission to an institution remained unresolved despite considerable research.

METHOD

Previous studies^[10,34] had indicated that the social services were having to cope with increasing numbers of disabled and dependent residents, with consequent modifications in their admission and selection policies. To minimise this potential variable in the present investigation, only the 98 subjects who had been present in the home for less than one year at the time of the

1978 survey were investigated in detail, there having been no apparent changes in policy during that year.

The problem concerning the onset, duration and nature of any effect provoked by admission to an institution has not been resolved^[84]. Pattie and Gilleard's concept was of remorseless deterioration that continued until death or transfer to hospital intervened within the first year^[87]; but the theoretical possibility that the effect of admission is self-limiting, and the sufferer continues to function at a greater level of disability, but non-progressively, is at least as viable, and will be tested in this investigation.

A division was made at three months post-admission to approximately halve the sample into what will be designated as "the at-risk group" (n=40) and "the control group" (n=58), the idea being that if admission effects did exist, then they would be maximal in the days and weeks immediately following entry to the home. Thus while the control group might contain subjects who had experienced or were experiencing these effects, the phenomenon would be less common (severe sufferers already having died or been transferred) and less severe if it was non-progressive.

Outcome was assessed in several different ways:-

a) Deaths

i) The cumulative number of deaths in each group at 3 and 6 months, and 1 and 2 years post-assessment was tabulated, and the significance of the difference in frequency was tested by Chi^2 .

ii) The cumulative mortality rate in both groups was calculated, and compared with that of the remainder of the population.

b) Transfers

The significance of the difference in the frequency of transfers to other types of care was tested by Chi^2 . Comparison was also made in the distribution of transfers that took place to more dependent and less dependent settings using Fisher's Exact Probability Test for small samples [182].

c) Level of Dependency

The SSGRS Dependency Grade of all subjects was determined at assessment in 1978, and the significance of the difference in frequency between groups tested by Chi^2 . This between-group procedure was repeated for all survivors in residential homes reassessed in 1980.

The changes in distribution within each group over the two year period was also tested by Chi^2 .

The change in level of dependency of the survivors was further examined by plotting frequency distributions and testing statistically by a Mann Whitney U Test in which the survivors were ranked according to the change in their dependency grade, and a Chi² test upon the data condensed into three grades - improved, the same and deteriorated.

d) Overall outcome

Outcome was categorised as improved, static, deteriorated and dead, and the significance of differences in the frequency distribution of the two groups was tested by Chi². The improved category included residents who had been transferred to a less dependent setting and were still alive, while the deteriorated category included those former residents who were surviving in hospitals.

RESULTS

a) Deaths

i) There were no significant differences between the groups in the frequency of deaths at any of the four specified intervals after initial assessment (Table XLVII).

ii) The mortality rates of the two groups were almost identical, and 5% higher than that of the remainder of the population (Figure 9).

TABLE XLVII

The effect of admission to a Local Authority home on outcome.

<u>DURATION FOLLOWING ASSESSMENT</u>	<u>Cumulative Number of Deaths</u>		<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
	<u>AT RISK GROUP (n=40)</u>	<u>CONTROL GROUP (n=58)</u>		
Three months	0	2	Fisher's Exact Probability Test p = 0.37	NS
Six months	4	3	Chi ² = 0.83	NS
One year	7	9	Chi ² = 0.07	NS
Two years	13	18	Chi ² = 0.02	NS

Degrees of freedom, Chi² = 1.

Figure 9

MORTALITY RATES

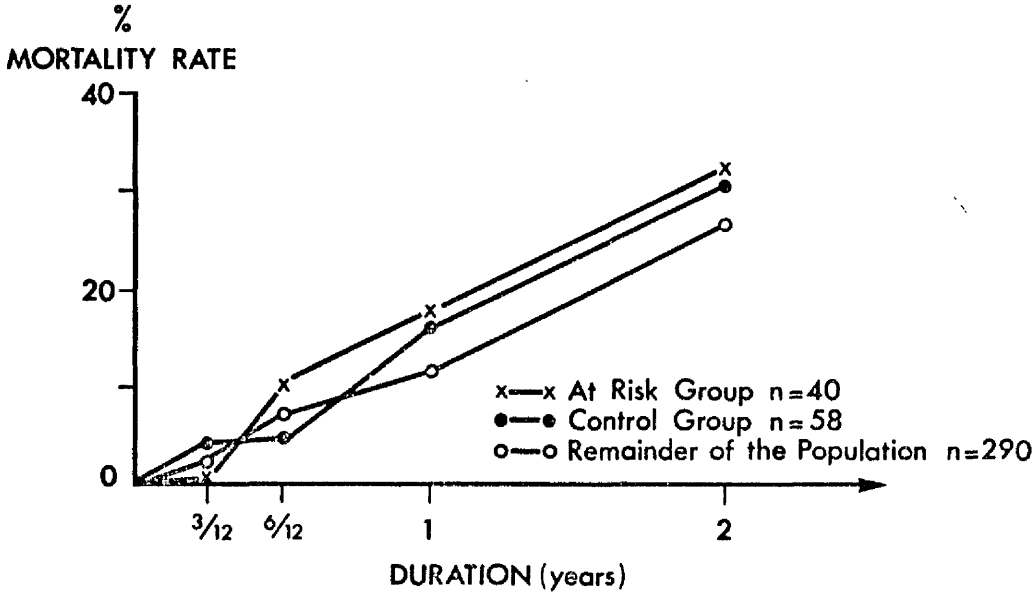
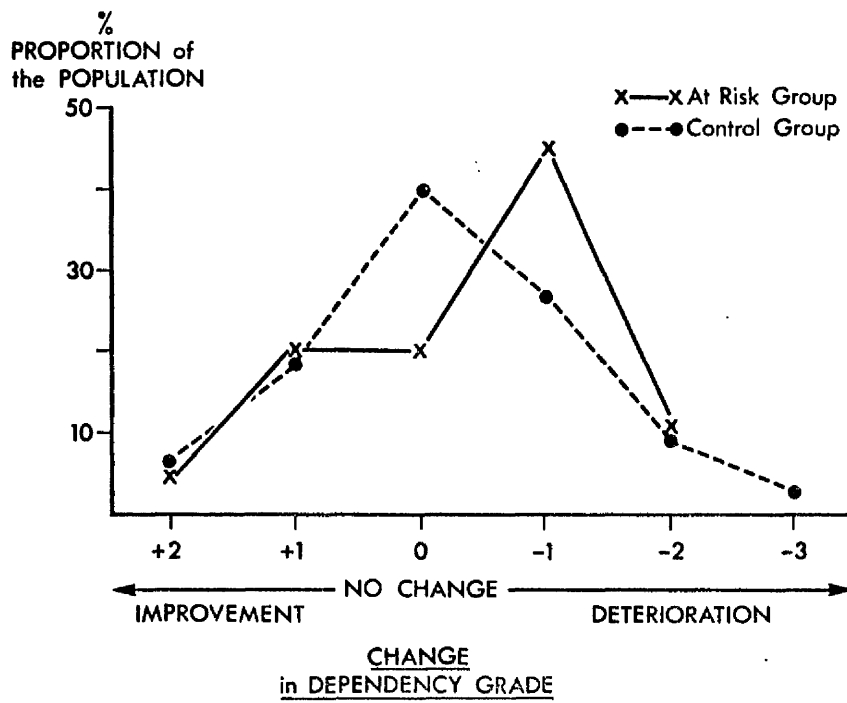


Fig.10: CHANGE DEPENDENCY GRADE, by PERCENTAGE of EACH GROUP



b) Transfers

Transfers occurred more frequently in the at-risk group, in a ratio of 3:2, but this difference was not significant (Table XLVIII). Interestingly, the difference arose because the at-risk group were more likely to be transferred to a less dependent setting, and indeed it was the controls who had a slightly higher transfer rate to hospital (9% v $7\frac{1}{2}\%$).

c) Level of dependency

There were no significant differences between the groups in either the original 1978 distribution of dependency grades (Table XLIX) or the 1980 distribution of dependency grades among the survivors (Table L).

There were no significant differences either in the distribution of dependency grades within the at-risk or control groups when the 1980 data was compared with that of 1978 (Table LI).

Figure 10 and Table LII demonstrate that the at-risk group's survivors were only half as likely as the controls to be in the same dependency grade two years later, the difference being accounted for by more at-risk subjects having deteriorated by one dependency grade (Table LII). However this difference did not reach statistical significance.

TABLE XLVIII

The effect of admission to a Local Authority Home on outcome.

Transfers/discharges from the homes.

	<u>AT RISK GROUP (n=40)</u>	<u>CONTROL GROUP (n=58)</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
No. of transfers	7	7	Chi ² = 0.57	NS
Proportion of subjects transferred	18%	12%		
Transfers to				
a) More dependent setting	3	5	Fisher's Exact Probability Test	NS
b) Less dependent setting	4	2	p = 0.24	

TABLE XLIX

The distribution of SSGRS Dependency Grades within each group in 1978.

<u>SSGRS DEPENDENCY GRADE</u>	<u>AT RISK GROUP (n=40)</u>	<u>CONTROL GROUP (n=58)</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
A	1	4	$\text{Chi}^2 = 0.95$	NS
B	10	7	$\text{Chi}^2 = 2.76$	NS
C	10	14	$\text{Chi}^2 = 0.01$	NS
D	9	12	$\text{Chi}^2 = 0.05$	NS
E	10	21	$\text{Chi}^2 = 1.37$	NS

Degrees of freedom, $\text{Chi}^2 = 1$.

TABLE L

The distribution of SSGRS Dependency Grades in the survivors of the groups in 1980.

<u>SSGRS DEPENDENCY GRADE</u>	<u>AT RISK GROUP (n=20)</u>	<u>CONTROL GROUP (n=33)</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
A	1	2	Chi ² = 0.03	NS
B	2	4	Chi ² = 0.06	NS
C	6	8	Chi ² = 0.21	NS
D	7	6	Chi ² = 1.90	NS
E	4	13	Chi ² = 2.15	NS

Degrees of freedom, Chi² = 1.

TABLE LI

A comparison of the distribution of dependency grades from 1978 to 1980 in the two groups.

<u>SSGRS DEPENDENCY GRADE</u>	<u>AT RISK GROUP</u>			<u>CONTROL GROUP</u>				
	<u>1978</u>	<u>1980</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>	<u>1978</u>	<u>1980</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
A	1	1	Chi ² = 0.26	NS	4	2	Chi ² = 0.02	NS
B	10	2	Chi ² = 1.88	NS	7	4	Chi ² = 0	NS
C	10	6	Chi ² = 0.17	NS	14	8	Chi ² = 0	NS
D	9	7	Chi ² = 1.07	NS	12	6	Chi ² = 0.08	NS
E	10	4	Chi ² = 0.19	NS	21	13	Chi ² = 0.09	NS

TABLE LII

Changes in SSGRS Dependency Grade of the survivors from 1978 to 1980.

<u>CHANGE IN DEPENDENCY GRADE</u>	<u>AT RISK GROUP</u>	<u>CONTROL GROUP</u>
Improved		
+2	1	2
+1	4	6
Same		
	4	13
Deteriorated		
-1	9	9
-2	2	3
-3		1

Statistics

a) Mann Whitney U Test, $p = 0.45$, NS

b) Condensing improved and deteriorated grades:

$\text{Chi}^2 = 2.46$, NS (Degrees of freedom = 2).

d) Overall outcome

The at-risk group's status was both more frequently improved and more frequently deteriorated than the controls (Table LIII), and much less likely to have remained static (10% v 22%). However owing to the sample size the effect did not reach the 5% level of significance.

DISCUSSION

While a higher mortality rate was found here during the first year after admission, as in many earlier studies [31,52,53,86], the results of this investigation did not support the hypothesis that the admission per se increases mortality in the early months after entry to a Local Authority home, for the mortality rates of the at-risk group and the controls were similar.

Some readily perceived factors that might be operating in the first year after admission have already been mentioned (p.87) - the exposure to new environmental hazards, and especially the selection for admission of seriously ill or moribund old people who can no longer be adequately managed in any other way - and these could justifiably be responsible for higher mortality rates during the first year in care.

Alternatively, potentially beneficial effects of

TABLE LIII

The effect of admission to a Local Authority home on outcome.
Overall Outcome of the Subjects.

<u>OUTCOME</u>	<u>AT RISK GROUP</u>	<u>CONTROL GROUP</u>	<u>STATISTIC</u>	<u>SIGNIFICANCE</u>
Improved	9	10	$\text{Chi}^2 = 0.42$	NS
Static	4	13	$\text{Chi}^2 = 2.54$	NS
Deteriorated	14	17	$\text{Chi}^2 = 0.35$	NS
Dead	13	18	$\text{Chi}^2 = 0.02$	NS

Degrees of freedom, $\text{Chi}^2 = 1$.

admission can also be perceived - the nutrition, warmth and shelter, safety from accidents and treatment of intercurrent disorders that institutions provide - and the effects of these may be partly instrumental for the observation that demented people are living longer now than they did twenty years ago^[54,86].

There was also no support for the hypothesis from the transfer rate, as more frequent transfers to hospital were not found in the at-risk group. Indeed residents most recently admitted to the home were more often transferred to a less dependent environment than the controls.

In terms of morbidity, which was measured by the level of dependency, there was some evidence supporting the hypothesis that admission may have a detrimental effect on some individuals although the trend did not reach conventional levels of significance. If newly admitted residents are more likely to increase their level of dependency than others, then this investigation suggests the effect is not common or large and is unlikely to be a major determinant of the affected resident's functional capacities.

There is a tendency to think of the later years of

life passed in an institution as a time of deterioration, so the frequency of apparent improvement encountered in both groups of residents two years after their original assessment is surprising. In terms of overall outcome 19 of the 98 subjects were categorised as improved while, concentrating on those residents who remained in residential home care, 13 out of 53 had entered a less dependent grade. Bearing in mind the high test-retest reliability of the SSGRS^[82] and the lengthy interval between assessments, this result appears a valid finding, and again suggests a beneficial effect from admission to an institution.

The overall picture of the changes that occur to an old person when he/she enters a Local Authority home is therefore complex as well as ill-understood! The view that some susceptible residents deteriorate rapidly and die^[84,87] is not supported by this investigation. Equally the belief that residents will either deteriorate or, at best, remain at a constant level of dependency is contradicted by the finding that 20-25% have actually improved in terms of their dependency grade or transfer to a less dependent setting.

While Pattie and Gilleard's concept^[87] of a substantial minority of residents deteriorating rapidly

and dying as a consequence of admission is not borne out by this study, the possibility has not been excluded that, for a few susceptible residents, the direct effect of admission is to increase their level of dependency.

Local Authority homes are caring primarily for old people who are unable to look after themselves safely or satisfactorily. They should meet these legitimate dependency needs, but in so doing, must inevitably foster dependency to some degree. It is easier for the resident, and for the institution's routine, if staff take over responsibility for procedures that the old person may be capable of doing - but is slow or inefficient - good examples encountered in this investigation were old people who were bathed or dressed because they were so slow they would miss their meal, or their visitor would have a long wait.

Adjusting people's routines to conform to the efficient running of an establishment is, of course, institutionalisation. Some old people have temperaments which will permit them to adjust to this better than others^[183], while there is also evidence that old people who are transfers from another type of institutional care settled in well in residential homes^[84], having

already become accustomed to enforced routines.

In *The Last Refuge*, Townsend directed his bitterest attacks at the institutionalisation of healthy and capable old people in Local Authority homes^[24], but it must be appreciated that this book was written amidst the indignation and controversy created by the investigations of Goffman^[27] and Barton^[184]. Nowadays it would be hoped and expected that the offensive, dehumanising and degrading effects of institutionalisation in the extreme forms that they described have been eradicated.

Twenty years on from *The Last Refuge*, a less impassioned, and more realistic attitude would accept that modern institutions continue to institutionalise their occupants to some degree, by fostering dependency needs in individuals who usually already require care and attention. However this can be seen as an integral part of their role - and it could be argued that if they were failing to do this then they might not be catering for the genuine dependency needs. In the circumstances, a minor increase in morbidity in a few, susceptible residents seems a small price to pay for the benefits of a high standard of care provided to the entire population - and as such does not constitute grounds for avoiding admission of these people, even if their characteristics were identifiable.

CHAPTER ELEVEN

SUMMARY OF RESULTS.

It is relevant now to review the findings obtained in Chapters 5-10, and interpret the role that Local Authority homes play in the care of the dependent elderly, in the light of these results.

Chapter 5 examined the characteristics of the population, arguing that generalisation from the results obtained in the subsequent chapters would be made with more confidence if it was demonstrated that the subjects were representative of Local Authority home residents. This point was adequately made by means of four comparisons: a) that the subjects surveyed in 1978 and 1980 were demographically identical; b) that the small numbers of residents who could not be included in 1978 and 1980 had similar demographic and behavioural characteristics to each other and their parent populations; c) that the demographic characteristics of the subjects surveyed in 1978 resembled those obtained elsewhere^[32]; d) finally, the behavioural disabilities of Local Authority home residents compared with those of long-stay psychogeriatric in-patients followed the same pattern as it had in three earlier investigations^[32, 34,91].

Chapter 6 tested and rejected the first hypothesis.

There was no overall increase in the mean levels of behaviour disabilities nor in the numbers of severely dependent nor demented residents during the two year's study. There was also little or no change nor trend on any parameter when individual homes were examined, so that the impression was of a population which had been maintained with a constant prevalence of disability despite the number of highly dependent old people in the community continuing to increase, and large increases in the burden carried by the local geriatric psychiatry service.

Chapter 7 tested and rejected the second hypothesis. Predicting mortality was argued to be of doubtful validity, and in practice the best prediction obtained could account for only 8.75% of the variance in outcome.

Chapter 8 tested and supported the third hypothesis. Residents who were considered by the staff to be unsuitable for the home were found to have behaviour disabilities of a different nature and severity from those of other residents. Problems of intolerance arose particularly when certain key physical disabilities, which were characterised by being intimate, unpleasant and time-consuming to manage were present in severe degrees.

Frequent disturbances at night also provoked intolerance. On the other hand there was strong evidence that the staff accepted, and could cope with, extremely disabled residents.

Chapter 9 tested and supported the fourth hypothesis. The Shortened Stockton Geriatric Rating Scale reflected the staff's opinion of the subject's appropriateness for Local Authority home care with a sensitivity of 76.0% and a specificity of 88.8%. Agreement between scale and opinion was particularly high when assessing severely dependent residents who would be more appropriately placed in hospital. Causing concern however was the discovery that the most conservative estimate of misplaced residents was over one quarter of the population, a figure far in excess of that obtained elsewhere^[36], and not apparently related to undue staff intolerance.

Chapter 10 tested and rejected the fifth hypothesis. The admission of old people to Local Authority homes was not associated with a significant increase in the mortality rate nor rate of transfer to alternative accommodation. There was some evidence that newly admitted individuals were more likely to increase their level of dependency but that this effect was neither common

nor severe. It was suggested that this could be an acceptable side-effect of institutionalisation. Perhaps surprisingly, 20-30% of the subjects and controls had entered a less dependent setting or had a lower grade of dependency on the SSGRS, two years after initial assessment.

Interpreting these results the homes contain large numbers of highly dependent residents within a population characterised by its broad range of nature and degree of disabilities. The staff accept their role involves the care of the dependent elderly, and they can cope with most problems, apart from certain severe physical disabilities (notably severe incontinence).

The identification of old people who are unsuitable for Local Authority homes is relatively straightforward. Either the key disabilities leading to staff intolerance can be aggregated into exclusion criteria, or the Shortened Stockton Geriatric Rating Scale can be utilised directly in the management decision.

However Local Authority homes have neither the capacity nor resources to absorb severely dependent old people indefinitely, and once their limits are set and reached, then repercussions are felt in the hospital

services and in the community which have to meet the additional needs.

CHAPTER TWELVE

RECOMMENDATIONS.

During the past decade the organisation of health services for the elderly has been the subject of many official reports, for example [2,3,163,165,187,188] and articles and editorials [12,26,39,186,189]. The recommendations relevant to Local Authority homes can be tempered in the light of the results of this investigation and drawn together to produce a comprehensive account of how the health care aspects of the service provided by Local Authority homes may be improved for the benefit of all residents.

These proposals - some of which may have already been introduced into practice while others are original - can be considered under two broad headings. Firstly, short term proposals aimed at enhancing the collaboration between the Social Services and the NHS by practical means, with the general aim of improving the medical standards in Local Authority homes. These would not challenge the Social Services' fundamental responsibility or principles of care, or involve excessive financial burdens, and would concentrate upon expanding the roles of health service and social service workers alike, with the acknowledgement that the NHS does not and should not possess a monopoly of the skills of physical care.

Secondly, long term proposals aimed particularly at providing an appropriate institutional form of care for the large group of severely physically and/or mentally disabled, highly dependent old people who are found misplaced in Local Authority homes. This will involve a change or sharing of responsibility, a considerable financial outlay, and indeed, a radical reform of the current system.

1. SHORT TERM PROPOSALS

- a) Improving knowledge, training and experience of residential home staff in health care matters.

While some homes do employ members of staff who have nursing qualifications or experience, this is not an essential requirement. It is suggested that all staff should receive in-service health care training, perhaps accompanied by short periods of secondment to hospitals. Basic care attendants carry out many of the tasks performed by nursing assistants, and they should be trained in procedures such as lifting, dressing, feeding and bathing an elderly person. Senior staff in the home already have many responsibilities, but a grounding in health care principles and knowledge of dispensing procedures are necessary. Possibly regular in-service training courses could be organised through the local

school of nursing. It would also broaden the experience of student nurses to visit or be seconded to Local Authority homes as part of their training in geriatric medicine or psychiatry - and this may aid the recruitment of health care trained personnel to the social services.

Finally, it would be beneficial if the health care aspects of Local Authority homes were to be monitored by the Scottish Hospital Advisory Service.

b) Changing the system of providing primary medical care.

The concept of having the primary medical care provided by a single health care team has already been proposed^[165], some grounds for opposition discussed (p.152) and the effects of not implementing this system demonstrated (p.150).

Ideally this principle could be taken further and should be taken further if it is generally agreed that this role holds the key to a high standard of health care. One interested team might cover several or all the homes in a social work division (involving about 100-200 residents). If possible the residents should be patients of a single practitioner who has special interest in the care of the elderly, and has experience

in the diagnosis and management of the common problems that arise in this age group. He should also become involved in the selection screening procedures for admissions.

Finally, it would enhance the collaboration between the homes and the hospitals if the practitioner was also employed, perhaps at Hospital Practitioner grade status, in the local geriatric or psychogeriatric service.

c) Adequate selection procedures

The final decision about who should be admitted to Local Authority homes is, and should continue to be, taken by the Social Services management team. However before making this decision they should routinely have detailed information on the medical and psychological status of the subject, particularly in relation to how any condition might affect the individual's suitability for care and acceptability to other residents and staff of the home. It may be useful to recruit geriatric and psychogeriatric consultants to the admission panel in an advisory capacity - analogous to the role of child and adolescent psychiatrists on committees involved in the placement of young people. It should also go without saying that staff of the proposed home should be routinely

involved in this process.

This project has also demonstrated the importance of behaviour disabilities in the determination of suitability for care, and advocates the introduction of a standardised behavioural assessment.

In the Health Service, the Joint Geriatric/Psychogeriatric Assessment Units that have been strongly advocated^[165,186,189], and are being established by many services^[190], are at last beginning to break down the spurious boundary that has been erected between severe dementia with and without other significant physical disease^[3].

Assessment units however are not accepted policy within the Social Services nor are resources distributed among homes so that some are better designed, equipped and staffed to cope with specific disabilities. Such divisions have been strongly criticised^[191], the fallacious argument being that placement in a home catering for illness would entail loss of dignity, and consignment to a poorer class of service.

If the Social Services accept old people with a wide range of disabilities then it is sensible that they

should prepare environments that can cope satisfactorily with differing dependency needs and specific disabilities. This specialisation need not wholly consist of segregation by degree of disability - for example, a purpose built home on a single level with no internal stairs and an external ramp is much more appropriate for residents with mobility problems than three storey Victorian conversion properties.

The arguments about deploying one home as an assessment unit are complex; in fact Stoneleigh in this study had formerly been used on this basis but policies had altered before this project began so that all homes in Glasgow West Division were admitting directly. Part of the problem was that the emergency admissions, which regularly occurred at antisocial hours and often in unpleasant circumstances, were absorbed into this home, placing greater burden on the staff and on the other residents, many of whom were coming to terms with the adjustment to institutional life. On the other hand the bulk of the established population (in the other homes) were spared most of these disruptions.

One advantage of a properly managed, staffed and equipped assessment unit is that, in addition to obtaining

a more detailed picture of the old person's needs and potential, it offers an opportunity to assess his/her ability to adjust to an institution, including social interactions with other residents without commitments being made by either the old person or the Social Services.

In the author's opinion, the assessment unit principle is preferable to the current "trial period in the home", varying from 3 days to 2 weeks, which in practice does not serve as a trial at all - and merely antagonises the staff who are faced with continuing care for residents whose trial period indicated they were quite unsuitable for this form of care.

d) Increasing liaison with specialist medical services.

Residential homes concentrate old people with a spectrum of illnesses, both physical and mental, which may sometimes be responsible for the admission and sometimes incidental. The need for sound selection procedures, the advantages of screening by the primary health care team and specialists in geriatric medicine and psychiatry, and the development of formal assessment units have all been recommended to deal with the initial phase.

It could be argued however that these recommendations still fall short of meeting the requirements of the residents once established in the home and that a more intensive and continuing specialist input is necessary, perhaps like the system of close collaboration between psychogeriatricians and Social Service controlled Hostels for the Elderly Mentally Infirm described by Blessed^[192], with specialists covering homes like hospital wards.

This seems both inadvisable and impractical. Inadvisable, because the philosophical and political rivalries mentioned by, for example, the Merrison Committee^[166] would be acutely manifest. It would be in nobody's interests, least of all the residents, for Health Service experts to clash with Social Service managers over how these institutions should be run, and it is worth reiterating that the Health Service should not challenge the authority of the Social Services to manage their homes according to their own principles.

However it is also impractical given the number of residents (over 150,000)^[193] and the paucity of specialists - for example only 39 full-time psychogeriatricians in the United Kingdom^[190].

The liaison with specialist medical services could conceivably be enhanced by the changes in the system of providing primary medical care that have been proposed.

- e) Increasing involvement of other NHS disciplines.

As well as pointing out the deficiencies in medical care provided to residents of Local Authority homes, Townsend singled out the lack of specific paramedical services, notably physiotherapy and chiropody, which he believed were essential for the individual's comfort and maintenance of physical potential^[24] - these deficits remain to be corrected. The sensory disorders that occur more frequently with aging, mean that any institution involved in caring for the elderly should have close links with audiometricians and opticians.

It may also be fruitful to employ nurses with special skills to supply a service to a division, good examples being the nurse who specialises in the management of incontinence^[178] or in stroke rehabilitation.

Little attention has been paid to the potential input that might be made by clinical psychologists and

occupational therapists. In residential homes the enforced inactivity of residents (so eloquently portrayed in Townsend's photographs) may lead to depression^[194] or possibly physical deterioration^[195]. Strategies that have aimed to improve the psychological quality of life and enable greater social interaction among residents have included regular bingo sessions, the development of an indoor garden^[196] and the provision of recreational materials^[197,198].

Of course these activities and many others, take place in Local Authority homes where the intuition and devotion of the staff encourage these aspects of the service which are closest to the original intentions of the 1948 legislation, namely social welfare. However the point has been made that the need to meet basic physical nursing requirements often does not allow sufficient opportunities for the staff to develop these social activities^[199]. Clinical psychologists and occupational therapists might contribute either directly to the home, or indirectly through the instruction of staff, the latter option surely being preferable to the staff, but only feasible if their nursing burden is alleviated.

2. LONG TERM PROPOSALS

a) The independent resident

The main thrust of The Last Refuge had been to denounce the enforced institutionalisation of capable old people in residential homes to their detriment. Twenty years on however, this problem is virtually resolved, partly as an effect of the population trends, but mainly because of the Social Service's wholehearted attempts to implement a community orientated service to the full^[186].

Sheltered housing provides an acceptable tier of accommodation for people with low dependency needs which will not promote institutionalisation. There are, in addition, interesting experiments in "small group" living taking place^[200,201], in which the emphasis is placed on self care and responsibility for a group of perhaps three or four selected, mildly dependent residents, living in an adapted ordinary house in their community.

b) The highly dependent resident.

The initiatives described in the short term proposals are intended to alleviate the difficulties that highly dependent old people in residential care present to the social services, but in the long term,

proposals of a more radical nature will be necessary if a comprehensive system of care is to be provided.

This project has identified the dilemma that currently faces the Social Services as the number of highly dependent old people continues to increase and the NHS residential facilities fail to expand accordingly.

Old people with greatest dependency needs may continue to be admitted on the basis that Local Authority homes are dutybound to tend those most in need of care. This results in the level of disabilities and the number of severely dependent residents increasing^[10,34,38] so that the home becomes more like a nursing home, and eventually a long-stay geriatric or psychogeriatric ward^[34,38]. However the Social Services do not possess the appropriate facilities, or resources in quantity or training of manpower, so that inevitably the standard of care for all residents must be lowered.

Alternatively the Social Services may opt to admit only those old people who require a level of care which maintains a manageable prevalence of disabilities in the home. In these circumstances the highly dependent old people they reject might well find their way into an inappropriate system of care - either occupying the

"acute" beds in many specialties^[202,203] or being maintained in the community by a system of shared care between Health Service day and domiciliary provisions, and relatives or friends until a bed in a long-stay ward becomes available^[185]. The principal role of the day hospital becomes subverted in the process from being primarily a therapeutic one, to palliating the needs of highly dependent, severely demented individuals to defer admission and protract the supporting relative's or friend's commitment.

Both policies result in highly dependent old people, requiring intensive medical and nursing supervision, being inappropriately managed because there is not enough of the right kind of accommodation to meet their needs.

This could be provided by massive expansion of the hospital long-stay facilities - but there are potent arguments against this policy, amply reviewed as far as mental hospitals are concerned in the Timbury Report^[165]. Problems are identified in the size of existing hospitals, already too large in most instances, and their location, often sited at a considerable distance from the dense areas of population that they serve. The accommodation itself is often low grade and seldom originally built

for the frail elderly, although overcrowding is generally not as severe as a decade ago. There are major shortages and recruiting difficulties with trained and untrained nursing staff in particular, although the number of psychiatrists with a special interest in the care of the elderly is expanding rapidly - admittedly from only about a dozen in 1970^[190]. Many of these difficulties could be overcome by the provision of specialised long-stay accommodation for highly dependent old people in a format that is comparable to the modern Local Authority homes for the elderly - namely purpose built homes for perhaps 25-30 residents, sited in the community that is to be served.

This concept was proposed for Scotland^[163] but only developed in England^[192,204] in the form of Hostels for the Elderly Mentally Infirm. These are controlled by the Social Services, although their primary role is a nursing one, and considerable psychiatric liaison is required and supplied.

However it seems illogical for old people with high dependency levels and overriding needs for medical and nursing attention which render them unsuitable for Local Authority homes for the elderly and clearly places them

as the responsibility of the geriatric or psychogeriatric services, to remain within the ambit of the Social Services whose skills and training lie in quite a different direction.

One cogent solution therefore has been seen to be the development and expansion of geriatric and psychogeriatric continuing care units based in the community, and controlled by the Health Service^[165]; but this too presents difficulties arising from the division between the two specialties, especially when the severely demented individual with physical illness is considered. This type of patient has been consistently reported to make up 20-40% of admissions to both geriatric and psychogeriatric facilities^[79], and is also commonly found in acute wards^[205] leading to the frustration and administrative difficulties of "bed blocking".

This knowledge has led to the recommendation and establishment of joint geriatric/psychogeriatric assessment units^[186], but has not been taken further to encompass the long term care of patients. The guidelines recently set down by the Royal College of Psychiatrists and British Geriatric Society state that "the criteria for division of responsibility are broadly

satisfactory though the references [made in (3)] to the presence or absence of significant physical disease or illness may cause difficulties if commonsense is not applied"^[189]. However commonsense is an intangible and some might argue, scarce commodity!

To develop a more pragmatic, and potentially less disputatious, service in this area of identified need, this author sides with McKeown's view, expressed a generation ago, that elderly patients have needs that do not recognise the boundaries of specialist hospitals and often require the pooled skills of various disciplines^[206].

There is furthermore a hollow ring to the repeated pleas for greater collaboration in the institutional care of the elderly between the Social Services and Health Services, when the collaboration between the geriatric medicine and geriatric psychiatry specialties often proves to be inadequate.

Finally it should be acknowledged that this section of proposals is much more dependent upon substantial funding than the others, and as such, its feasibility will ultimately be a political decision.

Here the present indications that this type of development will be sanctioned are not good^[207]. The remarkable tolerance of relatives and the willingness of staff in residential homes to look after highly dependent old people allows the politicians, always the experts of expediency, to evade the issue and instead concentrate upon reinforcing the idea that these supporters often have, that it is their duty to nurse severely disabled old people.

In the face of the overwhelming evidence that the needs of many highly dependent old people are not being met, this attitude conveys a return to a pre-1948 stance - that it is not the State's duty to provide suitable accommodation for old people who are ill, or in need of care and attention, and already analogies between the workhouses and Local Authority homes of the 1980's are being drawn^[207].

CHAPTER THIRTEEN

FURTHER RESEARCH.

In spite of the limited response that successive Governments have made to the needs of the elderly, research must continue to identify, investigate and report the changing problems that the health and welfare systems face.

The present project has been one of a small number of studies that have attempted to bridge the divisions between the services that exist - yet much remains to be done. In particular a prospective multidisciplinary large-scale investigation of the illnesses and disabilities of the elderly in the community, how these are identified and managed, how successfully the provisions of the social services and health services meet their requirements and what determines the form of care that the individual receives, is urgently required.

The second topic for future research, which arises directly from this project, stems from the heterogeneity of the Local Authority home population. An intensive study of the psychological and physical effects upon healthy residents from living in such close proximity to severely demented and/or behaviourally disturbed/disabled residents should be undertaken. The author was perturbed by remarks made by healthy residents about

the effects some of the behaviour of their co-residents was having upon them, and many of the senior staff in the homes also felt these detrimental influences were important but ignored.

Thirdly it should be noted that residential home populations would make an excellent basis for investigating promising treatments such as pharmacotherapy in dementia^[208] and reality orientation^[209] where there is some evidence that benefit may be greater among the less impaired. Most hospital-based studies, by dint of the population, are usually conducted on individuals with advanced manifestations of the disorders.

However, the prospects of Social Service management teams ratifying this type of project is very slim if the climate of suspicion and rivalry that has been repeatedly reported between the services continues to exist. For the physician, trained and immersed in the concepts of disease and treatment, it is difficult to appreciate the philosophies of the social services which are not based upon, and indeed often oppose, the illness model.

It is this author's conviction that each service has much to offer the other, and that understanding

the differing viewpoints that prevail may ultimately
enrich the standards of care provided by both services.

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APPENDICES

APPENDIX A

LOCAL AUTHORITY HOME STUDY

DEMOGRAPHY

1. NAME
2. SEX
3. AGE
4. DURATION IN THE HOME
5. ADDRESS PRIOR TO ADMISSION
6. RELATIONSHIP OF NEXT OF KIN
- *7. PHYSICAL ILLNESSES
- *8. CURRENT DRUG MEDICATION
9. IS THE RESIDENT ON A WAITING LIST - GERIATRIC/PSYCHOGERIATRIC
- **10. DO YOU CONSIDER THIS RESIDENT IS
CORRECTLY PLACED IN THIS TYPE OF CARE? YES / NO
- **11. IF NO, SHOULD HE/SHE BE
 - a) back in their own home if possible
 - b) transferred to sheltered housing
 - c) transferred to long-stay hospital care
 - d) Other - please state.

* 1978 only.

** 1980 only.

APPENDIX B

THE STOCKTON GERIATRIC RATING SCALE SHORTENED VERSION

NAME _____

DATE _____

1. The resident accuses other residents, staff or people outside the Home of doing him bodily harm or stealing his personal possessions (if you are sure the accusations are true, rate 'never' otherwise rate 'sometimes' or 'frequently').
 - a) never
 - b) sometimes
 - c) frequently.

2. The resident is incontinent of urine and/or faeces (day or night):
 - a) never
 - b) sometimes (once or twice per week)
 - c) frequently (three times per week or more often).

3. When bathing or dressing, the resident requires:
 - a) no assistance
 - b) some assistance
 - c) maximum assistance.

4. The resident is objectionable to other residents during the daytime (loud or constant talking, pilfering, soiling furniture, interfering in affairs of others):
 - a) rarely or never
 - b) sometimes
 - c) frequently.

5. The resident is objectionable to other residents during the night (loud or constant talking, pilfering, soiling furniture, interfering in affairs of others, wandering about, getting into some other resident's bed, etc.):
 - a) rarely or never
 - b) sometimes
 - c) frequently.

6. The resident hoards apparently meaningless items (wads of paper, string, scraps of food, etc.):
 - a) never
 - b) sometimes
 - c) frequently.

7. With regards to walking, the resident:
 - a) shows no sign of weakness
 - b) walks slowly without aid, or uses cane
 - c) is unable to walk, or if able to walk, needs walker, crutches or someone by his side.

8. The resident communicates in any manner (by speaking, writing or gesturing):
 - a) well enough to make himself easily understood at all times
 - b) can be understood sometimes or with difficulty
 - c) can rarely or never be understood for whatever reason.

9. The resident is in bed during the day (bed does not include couch, settees, etc.):
 - a) never
 - b) sometimes
 - c) frequently.

10. If the resident were allowed the freedom of the grounds alone, his ability to protect himself from the weather (come in out of the rain or sun) or from getting lost is such that he would:
 - a) never need supervision outdoors
 - b) sometimes need supervision outdoors
 - c) always need supervision outdoors

11. The resident is confused (unable to find his way around the Home, loses his possessions etc.)
 - a) almost never
 - b) sometimes
 - c) almost always.

12. When left to his own devices, the patient's appearance (clothes and/or hair, including beard for males) is:
 - a) almost never disorderly
 - b) sometimes disorderly
 - c) almost always disorderly.

13. The resident understands what you communicate to him (you may use speaking, writing or gesturing):
 - a) almost everything
 - b) some
 - c) almost nothing.

14. The resident helps out in the Home (other than a regular work assignment)
- a) often
 - b) sometimes
 - c) never
15. The resident keeps self occupied in constructive or useful activity (works, reads, plays games, has hobbies, etc.):
- a) almost always
 - b) sometimes
 - c) almost never
16. The resident establishes a good relationship with one or more residents:
- a) easily
 - b) with some difficulty
 - c) with a great deal of difficulty.
17. The resident's sleep pattern at night is:
- a) almost never awake
 - b) sometimes awake
 - c) often awake.
18. The resident is willing to do things suggested to or asked of him:
- a) often
 - b) sometimes
 - c) almost never.

FACTOR	ITEMS	SCORE
1	2,3,7,9,11,12	=
2	10,14,15,16,18	=
3	8,13	=
4	1,4,5,6,17	=
Total Score		=
Score a	=	0
b	=	1
c	=	2

STOCKTON DEPENDENCY GRADE

SCORE

A	0 - 3
B	4 - 7
C	8 - 12
D	13 - 17
E	18 - 36

APPENDIX C

CRICHTON ORIENTATION TEST

NAME _____

DATE _____

1. WHAT DAY IS IT?
2. WHAT MONTH IS IT?
3. WHAT YEAR IS IT?
4. HOW OLD ARE YOU?
5. WHAT TIME IS IT?
6. WHAT IS THE NAME OF THE PLACE YOU ARE IN?
7. WHAT TYPE OF PLACE IS THIS?
8. WHAT IS MY NAME?
9. WHAT WERE YOU DOING BEFORE COMING TO THIS ROOM?
10. WHAT DID YOU HAVE FOR BREAKFAST/LUNCH?
11. WHEN DID YOU LAST HAVE A VISITOR? NAME THE PERSON.

Score 1 for a correct answer

$\frac{1}{2}$ for items 1-5 if almost correct (+/- 1 unit).

CRITERION

NORMAL Score = $10\frac{1}{2}$ - 12.

DEMENTED Score = 0 - 10.

APPENDIX D

MODIFIED KEW TEST

NAME _____

DATE _____

A) MEMORY

What year are we in?

What month is it?

Can you tell me two countries we fought
in the second world war?

What year were you born?

What is the capital city of England?

B) APHASIA

What do you call this (a watch)?

What do you call this (a wrist strap or band)?

What do you call this (a buckle or clasp)?

What is a refrigerator for?

What is a thermometer for?

What is a barometer for?

C) PARIETAL SIGNS

Show me your left hand.

Touch your left ear with your right hand

Name the coin in hand named (as 10p or two shillings)

No tactile inattention present

Draw a square.

Score: 1 for a wrong answer.

ORIGINAL CRITERIA

NORMAL Score = <2 errors in each subtest

DEMENTED Score = Errors in all three subtests.

APPENDIX E

PREDICTORS OF MORTALITY - Variables and Coding.

Dependent Variable

- Outcome
- 1) Alive v Dead at 6 months post assessment
 - 2) Alive v Dead at 1 year post assessment
 - 3) Alive v Dead at 2 years post assessment

Independent Variables

a) General

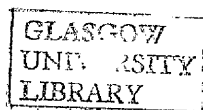
- 1) Age (years)
- 2) Sex 0=Female 1=Male
- 3) Duration in the home (years)
- d) Next of kin 0=Child 1=Sibling 2=2nd Degree relative 3=None

b) Cognitive

- 1) Diagnosis 0=Unimpaired 1=Borderline dementia 2=Dementia
- 2) Crichton Orientation Test 0-12
- 3) Modified Kew Test Memory scale 0-5
- 4) Modified Kew Test Aphasia scale 0-6
- 5) Modified Kew Test Parietal scale 0-5
- 6) Modified Kew Test Total score 0-16
- 7) Modified Kew Test Areas involved 0-3

c) Functional

- 1) SSGRS Total Score 0-36
- 2) SSGRS Physical Disability factor 0-10
- 3) SSGRS Apathy/Inactivity factor 0-12
- 4) SSGRS Communication Difficulty factor 0-4
- 5) SSGRS Social Disturbance factor 0-10
- 6) SSGRS Dependency Grade 0(Grade A) - 4(Grade E).



SUMMARY

THE ROLE OF LOCAL AUTHORITY HOMES IN THE
CARE OF THE DEPENDENT ELDERLY.

The radical 1948 legislation, which established a comprehensive health and welfare system for the elderly, asserted that it was the duty of the State to provide appropriate facilities for not only the sick, but for all old people "in need of care and attention". The intention was that the welfare services (retermed social services in 1968) would develop small group homes to accommodate the fit elderly who were in need of care primarily as a result of social disadvantage. However, Townsend's penetrating study, *The Last Refuge* (1962), destroyed any illusion that these were State analogues of guest houses, and since 1970 occasional publications arising from surveys of Local Authority homes have consistently reported high levels of physical, mental and behavioural disabilities among the residents.

Assessing this literature, and following discussions with social services staff, two fundamental, unanswered questions about the role of Local Authority homes in the care of the dependent elderly could be delineated-

1. Was the level of behaviour disabilities increasing in the homes?

2. What made an old person suitable for
this type of care?

Following a detailed review of the literature five hypotheses to be tested in the project were generated from these questions.

Hypothesis One: If Local Authority homes are modifying their role because of increases in the number of elderly, then there will be an increase in the mean levels of disabilities managed in the homes and/or an increase in the number of dependent or demented residents.

Hypothesis Two: The prediction of mortality may be a useful method of determining suitability for care.

Hypothesis Three: Residents who are considered unsuitable for the home by the staff will have behaviour disabilities of a different nature or severity from those of other residents.

Hypothesis Four: A standardised behaviour rating scale with designated cut-off values, accurately reflects the staff's opinion of suitability for the home.

Hypothesis Five: The admission of old people to Local Authority homes may shorten their life and/or increase their dependency.

The project was carried out prospectively between 1978 and 1980 upon the population (about 400 residents) living in the eleven Local Authority homes for the elderly within Gartnavel Royal Hospital's catchment area. Investigations consisted of a behavioural assessment of each resident by the senior members of staff in the home, using the Shortened Stockton Geriatric Rating Scale (SSGRS) and a psychometric assessment of each resident by a psychiatrist using the Crichton Orientation Test and the Modified Kew Test. The psychometric instrument was a novel combination of tests and therefore had to be validated as a method of identifying cases of dementia.

The results of the study, summarised in Chapter 11, rejected hypotheses one, two and five, and supported hypotheses three and four.

The interpretation of these findings was that Local Authority homes for the elderly contain large numbers of highly dependent residents within a population characterised by its wide range and nature of disabilities. However they do not have the capacity or resources to admit severely dependent old people indefinitely, and having determined to employ a more defensive selection

posture, repercussions occur in the hospital services and in the community.

Local Authority homes can cope with most types of disability and do accept that their role involves the care of the dependent elderly. However old people with severe physical disabilities which are intimate, and unpleasant and time-consuming to nurse are not suitable for this form of care. The identification of these traits is one method of developing exclusion criteria, although the agreement between a standardised behaviour rating scale (SSGRS) and staff opinion of suitability for care is high enough to warrant its application in this task.

Recommendations were divided into two categories. Firstly short term, relatively inexpensive measures that increase liaison between the health and social services, improve the health care input into the homes and develop better assessment procedures.

More important however is the need to provide a long-term solution to the growing problem of highly dependent old people whose disabilities are beyond the scope of the Local Authority homes, and the shared care

arrangements that have evolved between hospital day and domiciliary services and relatives or friends in the community. The justification for health service continuing care units sited in the community to be served has been established. The failure to develop this type of accommodation can only aggravate the plight of all those involved with this section of the population, and through the abrogation of State responsibility, may ultimately recreate a pre-1948 climate for the dependent elderly in our society.