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**Evaluating the quality of nursing care in the  
context of a comparison of contracted-out South  
African hospitals**

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## **ABSTRACT**

This paper evaluates quality of nursing care in the context of an evaluation of the practice of contracting out district hospital services in South Africa. Three contractor hospitals, run by a private company and paid by public purchasers to provide district hospital care to a rural catchment population, were matched with three adjacent public hospitals and three private hospitals serving largely insured patients. Quality of nursing care was evaluated using a survey instrument to evaluate nursing care against a set of pre-defined criteria and standards, and by a subjective evaluation. The evaluation highlighted some important and consistent differences in the quality of nursing care between public, contractor and private hospital groups, with the contractor hospitals generally superior to the public hospitals, and the private hospitals not surprisingly demonstrating highest levels of nursing quality.

## **INTRODUCTION**

Recent international reform trends have brought into prominence the question of the relative merits of organising the provision of hospital care through the public or private sectors (Bennett, McPake and Mills 1997). Some argue that the private sector is inherently more efficient and hence that the state should reduce its role in direct provision; others that private provision is inevitably inefficient. A particular issue concerns whether, given public financing of hospital care, services should be provided by the public sector, or through contracts with private providers.

This debate is particularly pertinent in South Africa, given the large private hospital sector, and widely-acknowledged inefficiencies in public sector management and deteriorating standards in public hospitals. Moreover contractual relationships have existed for some time between government and the private sector, for the provision of both long stay and acute hospital care. A study was designed to evaluate the question of whether or not it was better - in terms of cost to the government and quality of services - for the government to provide acute hospital services directly itself or to contract these out to the private sector (Broomberg, Masobe and Mills 1997). Studies comparing the efficiency of different hospitals are often open to challenge on the adequacy of measures of quality. Hence substantial effort was put into studying a range of dimensions of quality, encompassing structural, process and outcome dimensions. Quality of nursing care is a crucial dimension of process quality, and hence was the subject of specific studies, which are presented in this paper.

## **METHODS**

Three contracts for the provision of acute hospital services existed, each for one district hospital, all with a single company, and all in areas which were under the control of homeland governments at the time of the fieldwork. The contractor hospitals were medium-sized, located in rural areas and provided a basic range of medical, surgical and obstetric services. In two of the hospitals (referred to below as M and H) nurses were employed by the contractor but in the third (Hospital S), by the public sector<sup>1</sup>. All three were studied and each hospital was matched with a public sector hospital using size, service mix and geographical proximity as matching criteria. In addition three other private hospitals were selected, in towns nearby to the pairs of public and contractor hospitals. While these 'pure' private hospitals served a very different market (middle and higher income households with insurance cover), it was nonetheless thought that they would give an insight into the costs and quality of private sector hospitals when not under contract to the government.

The quality of nursing care was evaluated using two main approaches. The first relied on a survey instrument to evaluate various aspects of nursing care against a set of pre-defined criteria and standards, drawing on the methodological literature on explicit process of care assessment (Ashton, Kuykendall, Johnson et al 1994). This was complemented by a subjective evaluation of a number of aspects of the nursing process. Both studies were designed and carried out with the advice and assistance of the same two experts in nursing care, education and management.

The survey instrument sought to identify a set of criteria that would capture critical aspects of both clinical nursing care at the ward level and nursing management at the hospital level, to define standards for each criterion, and to apply a scoring and weighting system that would permit quantitative analysis. The standards were based on a combination of existing public sector norms or standards and, where these did not exist, the opinions of the two experts. A draft of the instrument was piloted at three of the study hospitals, after which modifications were made.

The final instrument, together with scores for individual criteria, categories and clusters, is shown in Appendix 1 and consisted of 29 separate criteria, grouped into 2 broad clusters - nursing care and

nursing management. Several elements of the nursing care cluster were based on a particular model of appropriate nursing care, in which the nurse makes an assessment and diagnosis of each patient on admission, followed by the development and implementation of a nursing care plan (NCP) and adjustments to the nursing care plan (here termed ‘upgrading’) in the light of any changes in patient circumstances.<sup>2</sup>

In the evaluation of ward equipment, the focus of the instrument was on those aspects assumed to be under the control of nurses, including completeness, level of organisation, and regular checks. The evaluation also covered some aspects not specifically related to the quality of nursing care, including the availability of supplies and equipment, ward linen, and the quality of patient diets, since they are important determinants of the overall quality of patient care.

In the case of the nursing management cluster, the instrument included a range of criteria related to the general management of the nursing staff which were considered to be critical to the ultimate quality of nursing care. Some criteria evaluated the performance of the nursing management team itself, such as recruitment and placement mechanisms for nursing staff, the nature of in-service training, the use of procedural and policy manuals, and the nature of the relationships between the senior nursing management and the general nursing staff. Others were not directly under the control of the nursing management team such as service conditions, occupational health services, and staff-patient ratios.

In the collection of data, direct observation was supplemented by interviews with nursing service managers and medical superintendents. Each expert assessed either the maternity or the medical and surgical wards<sup>3</sup>, and these roles were maintained at all study hospitals so as to ensure uniformity in judgements between hospitals. The rating of hospital performance on the various criteria in the survey instrument for individual wards was carried out by the expert who had collected data for that ward, and for all other criteria by both experts on a consensus basis. Scores were calculated for

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<sup>1</sup> This arrangement had come about because staff had successfully opposed employment by the contractor

<sup>2</sup> In the view of the experts involved in this review, this model of nursing care was appropriate for, and ought to have been expected in, all of the study hospitals

<sup>3</sup> Where medical and surgical wards were combined into adult male and adult female wards, one or more of these combined wards were assessed and the nursing care of medical and surgical patients separately evaluated

each category, cluster and for the hospital as a whole using Microsoft Excel Version 5. In calculating total scores for each category, the geometric mean of the scores of all criteria in the category was used in preference to a simple sum of the scores, in order to capture the interactive effect on the quality of care of the individual criteria within each category. Cluster and overall totals were obtained by summing category scores weighted as shown in table A1 in the Appendix. The geometric mean was not used since the implication of interaction between categories and clusters was less clear than within categories. The small sample sizes prevented the use of statistical analyses for the significance of observed differences between the hospital groups.

The subjective evaluations were carried out immediately following the data collection in each hospital, and were recorded in note form, loosely based on the structure of the survey instrument. As with the survey instrument, evaluations were conducted by one of the experts in the case of individual wards, and on the basis of consensus for all other aspects. Evaluations of each of the hospital groups were also made, once again on the basis of consensus, and in loosely structured note form. The notes were subsequently structured in tabular form by the senior researcher and reviewed by the two experts, following which some modifications were made.

Some specific problems were encountered in data collection. The experts noted a tendency for nurses, particularly in the contractor and public hospitals, to bias the information supplied so that it reflected well on their own performance. While efforts were made to verify information by using multiple sources, this possible source of bias should be noted in the interpretation of the findings. The influence of bias was generally subtle, but in two particular cases it took the form of the evaluators being denied access to wards designated for evaluation.<sup>4</sup> Although other reasons were given for this, it was the view of the evaluators that they were deliberately being prevented from seeing these wards, which had to be omitted from the evaluation. Bias in the information supplied may also have been aggravated by industrial action affecting the public hospitals and one of the contractor hospitals. Where such industrial action was in progress, or had taken place recently, the evaluators attempted

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<sup>4</sup> This occurred in one public and in one private hospital. In each case, access to only one ward was denied



to compensate for this in the ratings. The potential bias emerging from this problem should nevertheless be recognised.<sup>5</sup>

## RESULTS

### *Evaluation of the quality of nursing care using the survey instrument*

Table 1 shows the mean category, cluster and overall total scores for the individual hospitals while Table 2 presents the same data averaged across the three hospital groups<sup>6</sup>. All data represent the percentage of the maximum possible score obtainable. It is clear from Table 1 that in most cases the individual hospital pattern is consistent with private hospitals showing the highest scores, then contractor hospitals, then public hospitals. The picture is slightly complicated by contractor hospital H which in all categories except one had the lowest scores of the contractor group, and by public hospital T which again with only one exception had the highest scores of the public hospitals and which in most cases scored higher than the worst contractor hospital.

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<sup>5</sup> It could be argued that industrial action may have been associated with poor management in the public hospitals, in which case it should not necessarily be compensated for completely. However, the political circumstances at the time of the study clearly played an important role in this particular round of industrial action, and it was difficult to separate these causes from the longer term problems in human resources management within public hospitals

<sup>6</sup> The un-aggregated scores are available in Table A22.2, pp 519-20 in Broomberg (1997)

**Table 1: Evaluation of quality of nursing care: category and cluster scores for individual hospitals (% of maximum possible score)**

	Contractor			Public			Private		
	M	H	S	T	L	B <sup>a</sup>	D	P	N
<b>Nursing care: Maternity ward</b>									
Nursing Assessment/Diagnosis	79	50	79	22	17	N/a	100	79	79
Nursing care planning/monitoring/control	59	40	53	48	32	n/a	100	79	69
Equipment	46	24	46	29	19	n/a	100	65	100
Diet	100	17	100	100	42	n/a	100	100	100
<i>Total</i>	66	39	63	41	26	n/a	100	79	79
<b>Nursing care: Medical/Surgical wards</b>									
Nursing Assessment/Diagnosis	37	50	23	43	29	23	100	63	79
Nursing care planning/monitoring/control	72	33	32	47	37	30	75	48	85
Equipment	29	24	73	24	27	24	100	74	100
Diet	100	17	100	100	21	17	100	100	100
<i>Total</i>	57	36	41	47	32	26	88	61	87
<b>Nursing Care: All wards</b>									
Nursing Assessment/Diagnosis	58	50	51	32	23	23	100	71	79
Nursing care planning/monitoring/control	66	36	42	48	34	30	87	64	77
Equipment	37	24	60	27	23	24	100	70	100
Diet	100	17	100	100	32	17	100	100	100
<i>Total</i>	62	37	52	44	29	26	94	70	83
<b>Nursing management</b>	57	35	53	52	53	49	87	90	73
<b>Overall Total</b>	60	36	53	47	37	34	92	77	79

<sup>a</sup> No data for the maternity ward, since access to that ward was denied

**Table 2: Evaluation of the quality of nursing care: mean category and cluster scores, by group (% of maximum possible score)**

	<b>Contractor</b>	<b>Public</b>	<b>Private</b>
<b>Nursing care: Maternity ward</b>			
Nursing Assessment/Diagnosis	70	19	86
Nursing care planning/monitoring/control	50	40	83
Equipment	39	24	88
Diet	72	71	100
<i>Total</i>	56	34	86
<b>Nursing care: Medical/Surgical wards</b>			
Nursing Assessment/Diagnosis	37	32	81
Nursing care planning/monitoring/control	46	38	70
Equipment	42	25	91
Diet	72	46	100
<i>Total</i>	44	35	79
<b>Nursing Care: All wards</b>			
Nursing Assessment/Diagnosis	53	26	84
Nursing care planning/monitoring/control	48	37	76
Equipment	40	25	90
Diet	72	50	100
<i>Total</i>	50	33	82
<b>Nursing management</b>	48	51	83
<b>Overall Total</b>	50	39	83

The mean scores for the hospital groups are shown in Table 2. As would be expected from the individual hospital data, the mean overall total score for the contractors exceeded that of the public hospitals, as did the scores for the maternity, medical/surgical and all ward components of the nursing care cluster. This pattern was reversed in the case of the nursing management cluster, where the mean contractor score was slightly lower than that of the public hospital group. Table 2 also shows that the overall total and all cluster totals of the private hospital group exceeded those of both the other groups by substantial margins.

Analysis of the categories within the nursing care cluster shows that the mean contractor scores exceeded mean public scores for all categories and in all the wards assessed. In the case of the nursing care planning and equipment categories, the observed margins were fairly similar in the maternity and medical/surgical wards. There was however greater variation in the other two categories - nursing assessment/diagnosis and diet. In the former case, the substantial margin observed in the maternity wards was reduced in the medical/surgical wards, while the converse was true for the diet category.

To explore the effect of a different approach to aggregating scores, category totals were calculated using weighted sums rather than geometric means (Broomberg 1997, p522). This approach had minimal effect on the general conclusions. It increased the observed scores for contractor and public groups in all categories and clusters, although the public hospital scores increased to a greater extent in all cases other than that of the nursing management cluster. The directions of the margins between contractor and public hospital scores, however, remain unchanged in all categories of both wards in the nursing care cluster. As would be expected, though, the observed margins were reduced, by 2 percentage points in the cluster totals and by varying amounts in all of the category totals aside from the equipment category in the medical/surgical ward (which showed a 1 percentage point increase).

### ***Subjective evaluation of nursing care***

Tables 3 and 4 present the findings on nursing at the ward level, while Table 5 summarises the findings on nursing management at the hospital level.

**Table 3: Subjective evaluation of ward management issues**

	Physical appearance of wards	Availability and control of ward supplies	Ward Linen	Medical equipment
<b>Contractor hospital M</b>	Wards create good impression; clean and tidy. Staff appearance professional.	No apparent shortages; adequate control systems.	Staff complain of weekend shortages; no shortages apparent. Linen clean and neat. Supplies not strictly controlled, though superior to public hospitals.	Equipment supply, organisation and monitoring satisfactory. Oxygen equipment satisfactory in maternity ward, but poor elsewhere.
<b>Contractor hospital H</b>	Wards clean, tidy, well organised	No shortages; extremely tight control of drugs and supplies.	Staff complain of week-end shortage; adequate supplies in most wards. Linen clean and neat, though not of good quality.	Equipment requirements complete in most wards except shortage of baumanometers. Checking satisfactory. Equipment untidy and disorganised; oxygen equipment poor.
<b>Contractor hospital S</b>	All wards clean, well organised, create good impression.	Some shortages of stocks and supplies. Control adequate,.	Staff complain of shortages but none apparent. Linen clean.	Equipment in most wards complete and well organised. Monitoring adequate. Oxygen equipment satisfactory.
<b>Public hospital T</b>	Several wards dirty, disorganised. General air of neglect.	No shortages. Very poor control systems - all storerooms unlocked, disorganised.	Severe shortages of linen in several wards; sheets shabby and dirty. Linen stock rooms empty in several wards. Shortage of water an important cause.	Equipment in most wards complete but untidy and poorly organised. Monitoring satisfactory. Oxygen equipment present but poorly maintained in several wards.
<b>Public hospital L</b>	Wards have unkempt air. Maternity ward cluttered and dirty. Medical and surgical wards untidy but clean.	as public hospital T	Significant shortages in several wards.	Equipment complete in most wards but poorly organised. Monitoring variable between wards. Oxygen equipment incomplete and poorly maintained.
<b>Public hospital B</b>	Wards and corridors untidy, dirty. Toilets and sluice rooms dirty.	No shortages. Control generally poor.	Staff complain of shortages; most wards well stocked with good quality linen.	Equipment complete, clean but disorganised; monitoring unsatisfactory. Oxygen equipment generally unsatisfactory.
<b>Private hospital D</b>	Wards well organised, tidy and clean.	No shortages. Control strict and efficient; full-time staff allocated.	No shortages; linen clean, of high quality.	All equipment present and monitored. Oxygen equipment complete.
<b>Private hospital P</b>	Maternity ward clean and neat. Female medical/surgical ward clean, but disorganised.	Full-time staff; storerooms locked, well controlled.	Wards well stocked, dedicated linen supervisor.	Equipment variable between wards and poorly monitored. Oxygen equipment complete.
<b>Private hospital N</b>	Wards clean and well organised except maternity ward which is disorganised. Pleasant atmosphere in all wards.	As private hospital P	Supplies adequate. Staff complain of occasionally shortages.	Equipment complete, well organised and appropriately monitored in all wards. Oxygen equipment complete.

**Table 4: Subjective evaluation of the nursing process**

	<b>Nursing assessment and nursing diagnosis (ND)</b>	<b>Nursing care planning (NCP), implementation and control</b>	<b>Record keeping</b>
<b>Contractor hospital M</b>	<p><b>Maternity:</b> Good assessments with full examination. Satisfactory and safe level of information collected. ND good, though not specifically related to nursing care problems.</p> <p><b>Medical and surgical wards:</b> Assessments of good standard, satisfactory information collected. ND limited and unsatisfactory.</p>	<p><b>Maternity:</b> NCP satisfactory - limited NCP used for problem patients. Implementation, monitoring and control satisfactory - nurses dependent on doctors' instructions. NCP upgrading satisfactory.</p> <p><b>Medical and surgical wards:</b> NCP satisfactory - limited to doctors' instructions. Implementation, monitoring and control and NCP upgrading satisfactory.</p>	<p>Good: records available and properly completed.</p>
<b>Contractor hospital H</b>	<p><b>Maternity:</b> Assessments satisfactory, but only some patients seen by nurses. Information collected satisfactory. ND satisfactory, but emphasis placed on doctors' orders and diagnosis.</p> <p><b>Medical ward:</b> Assessment satisfactory; ND satisfactory with focus mainly on doctors' orders and physical needs.</p> <p><b>Surgical ward:</b> Low level of information collected. ND satisfactory - nurses allowed some latitude by doctors.</p>	<p><b>Maternity:</b> NCP poor. Implementation limited to doctors' orders. Monitoring and control poor.</p> <p><b>Medical ward:</b> NCP often incomplete. Nursing records partial and elementary. Implementation satisfactory but uneven. Monitoring, control and upgrading of NCP poor.</p> <p><b>Surgical ward:</b> NCP at basic level. Implementation satisfactory. Monitoring and control poor. Upgrading satisfactory.</p>	<p><b>Maternity:</b> Good: records available and completed.</p> <p><b>Medical and surgical wards:</b> Not of adequate standard.</p>
<b>Contractor hospital S</b>	<p><b>Maternity:</b> Assessments very good; information collected of high standard. ND good. Nurses make own diagnoses of routine cases.</p> <p><b>Medical ward:</b> Assessments and information collected satisfactory, though based on medical notes. No ND.</p> <p><b>Surgical ward:</b> Satisfactory nursing assessment. Information collected unsatisfactory. Poor or no ND.</p>	<p><b>Maternity:</b> NCP good for routine cases. Rely on doctors in complex cases. Implementation satisfactory. Control and monitoring poor due to lack of records. Upgrading of NCP satisfactory.</p> <p><b>Medical ward:</b> No formal NCP. Implementation satisfactory. Monitoring and control poor. Upgrading of NCP poor.</p> <p><b>Surgical ward:</b> No NCP done. Implementation poor. Monitoring and control poor. NCP upgrading satisfactory.</p>	<p>Records available, neat and complete in maternity and medical wards. Some records not accurate in surgical wards.</p>

**Table 4: Subjective evaluation of the nursing process (contd.)**

	<b>Nursing assessment and diagnosis</b>	<b>Nursing care planning, implementation and control</b>	<b>Record keeping</b>
<b>Public hospital T</b>	<p><b>Maternity:</b> Good assessments and information collected. ND poor.</p> <p><b>Medical ward:</b> Satisfactory assessment, information collection and ND, though based entirely on doctors' orders.</p> <p><b>Surgical ward:</b> Assessments good, information collected satisfactory, ND poor.</p>	<p><b>Maternity:</b> NCP, implementation, monitoring and control satisfactory. Evidence of poor care in one case.</p> <p><b>Medical ward:</b> NCP satisfactory. Implementation, monitoring and control satisfactory.</p> <p><b>Surgical ward:</b> No NCP - carry out doctors' orders. Monitoring and control are as good as possible under circumstances, since forms lacking.</p>	<p><b>All wards:</b> Records often not available. Record keeping generally inadequate; dangers of medico-legal problems.</p>
<b>Public hospital L</b>	<p><b>Maternity:</b> Nursing assessments rely on doctors' notes, though these not adequately interpreted or used. Information collected unsatisfactory for patient care. No ND.</p> <p><b>Medical/surgical wards:</b> Poor assessments, information collection and ND.</p>	<p><b>Maternity:</b> No NCP – use doctors' orders only. Implementation satisfactory, but poor monitoring and control.</p> <p><b>Medical wards:</b> Poor implementation of NCP. Several instances of doctors' orders not being carried out, or inappropriate or inadequate nursing care being applied. Only medical treatments implemented in several wards. Monitoring good; upgrading satisfactory.</p> <p><b>Surgical ward:</b> No NCP formulated (staff claim due to lack of forms) or implemented. Poor control and monitoring.</p>	<p>Records available and satisfactorily completed in most wards.</p>
<b>Public hospital B</b>	<p>No ND. All rely on doctors' orders and some interviews. Information collected inadequate.</p>	<p><b>All wards:</b> No NCP used. Use NCP method inappropriately and on rote basis. All care related to medical treatment. Poor monitoring and control of implemented care. Some evidence of patients not receiving prescriptions ordered.</p>	<p>Records often not available; poorly completed in some wards. Some discrepancies between orders and execution of dependence producing drug prescriptions.</p>

**Table 4: Subjective evaluation of the nursing process (contd.)**

	<b>Nursing assessment and diagnosis</b>	<b>Nursing care planning, implementation and control</b>	<b>Record keeping</b>
<b>Private hospital D</b>	<b>All wards:</b> Nursing assessments, information collection and diagnoses very good.	<b>Maternity:</b> NCP good. Implementation good. Monitoring and control very good, although a little complex. NCP upgrading good. <b>Medical/surgical ward:</b> NCP good. Comprehensive, precise sticker system used, as well as short and long term records. Implementation of NCP good. Monitoring and control unsatisfactory since forms not always up to date or complete. NCP upgrading very good.	Complex record system. Forms well understood, and well completed.
<b>Private hospital P</b>	<b>Maternity:</b> Good assessments and information collection. Well developed protocols and forms. ND satisfactory - based only on doctors' orders and standing orders. <b>Medical/surgical wards:</b> Assessments good; information collected and ND satisfactory. Strong emphasis on medical diagnosis.	<b>Maternity:</b> NCP satisfactory. Implementation satisfactory. Monitoring and control unsatisfactory - only document drugs and special treatments. NCP upgrading satisfactory. <b>Medical/surgical wards:</b> NCP satisfactory. Implementation satisfactory. Monitoring and control poor. One case identified where monitoring clearly inadequate. NCP upgrading satisfactory.	Forms well completed in maternity ward; not always in medical and surgical wards.
<b>Private hospital N</b>	<b>Maternity:</b> Nursing assessments and information collection good. ND satisfactory, based only on medical treatment. <b>Medical wards:</b> Assessments satisfactory, mainly from doctors' notes. ND good, but rely mainly on doctors' prescriptions. <b>Surgical wards:</b> Assessments satisfactory; good information collected. ND good.	<b>Maternity:</b> NCP satisfactory. Implementation good. Monitoring and control poor: reports focused on medical treatments and doctors' orders. NCP upgrading good. <b>Medical wards:</b> NCP and implementation satisfactory. Monitoring and control good. NCP upgrading satisfactory. <b>Surgical wards:</b> NCP good. Implementation, monitoring and control systems good. NCP upgrading good.	Forms available and well completed.



With some exceptions, the contractor and private hospitals performed relatively well in the evaluations of the physical appearance of the wards, as well as in the availability and control of supplies and linen, and the private hospitals generally demonstrated the best performance (Table 3). In the public hospitals the evaluations of these aspects were far less favourable, and were highly critical in several instances. The evaluations of the availability, organisation and monitoring of medical equipment presented a less homogenous picture, with variation both within and between groups. Essential equipment was present in most hospitals, although the private hospitals were clearly the best equipped, and the public hospitals were somewhat better equipped than the contractor hospitals. With respect to the organisation, monitoring and control of equipment, the private hospitals were again superior to the other two groups, which presented a more mixed picture.

Table 4 indicates that the conduct of nursing assessment and diagnosis was judged to be either good or satisfactory in most wards at the contractor and private hospitals, although nursing diagnosis was poorly conducted in one of the wards at contractor hospital M and in two of the wards at contractor hospital S. The public hospitals again performed relatively poorly, although public hospital T appeared superior to the other two public hospitals in some of the aspects evaluated, and the process of nursing diagnosis was noted to be poorly conducted in most wards at all of the public hospitals. A general problem was the emphasis of the nursing assessment and diagnosis on medical as opposed to nursing problems and issues, as well as a general reliance on the doctors' diagnosis rather than an independent nursing diagnosis.

Table 4 also shows the findings concerning the processes of nursing care planning, implementation and control, as well as record keeping. The variation within individual hospitals, as well as within and between groups, made it more difficult to identify consistent patterns. Nevertheless, it was again possible to discern generally superior performance among the private hospital group relative to the other two, both of which showed a similarly poor overall performance. However, it is important to note several problems in private hospitals, as illustrated by the poor ratings obtained in some of the wards at private hospitals P and N.

As with nursing assessment and diagnosis, one of the key problems identified concerned the reliance of nursing care planning and implementation on doctors' orders, with very little initiative taken by

nurses themselves. For example in many cases, no nursing care plan was formulated, and often only medical treatments and procedures were recorded and upgraded. The evaluation also detected several instances of potentially serious errors in elements of the nursing care process<sup>7</sup>, mainly but not exclusively in the public hospitals. In all of the public hospitals, the evaluators noted that poor monitoring and control of nursing care could possibly be attributed to shortages of the appropriate forms. The standards of record keeping at ward level were acceptable at the contractor and private hospitals and somewhat problematic at the public hospitals.

In the case of staff numbers and skill levels, all hospitals were judged to meet adequate standards (Table 5), with the exception of contractor hospital H where there appeared to be insufficient registered nurses and some wards were run by staff nurses. Concerning the contractor group generally, the evaluators noted that although staffing levels were adequate for current patient numbers and severity levels, any increases in severity levels would place severe strains on the nursing staff and might lead to compromising the quality of nursing care. Only the private hospitals appeared able to adjust staffing levels to cope with fluctuations in demand, through either agency or part-time staff.

Recruitment, placement and nurse allocation mechanisms were judged to be good at all hospitals with the exception of public hospital B, where the allocation of nurses to wards was haphazard. The evaluation of nurse training and career development policies and programmes, also summarised in Table 5, showed some variation in the quality of in-service training programmes at the contractor and public hospitals. It is important to note, however, that where these were judged to be poor, the hospitals in fact had good formal training programmes in place, but problems of staff morale and recent industrial action had undermined interest and attendance. All of the private hospitals were noted to have adequate in-service training programmes in place. Attendance at outside courses and seminars, and other aspects of career development, were encouraged for public sector employees but not for private employees.

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<sup>7</sup> Examples of these included inaccurate transcription of doctors' orders into the nursing records, inappropriate nursing care delivered, doctors' orders not carried out, patients not receiving medicines as ordered, and inadequate monitoring

**Table 5: Subjective evaluation of nursing management**

	<b>Adequacy of staff numbers and skills</b>	<b>Recruitment, placement and allocation of staff</b>	<b>Reimbursement and promotion</b>	<b>Training and career development</b>	<b>Staff morale, turnover and absenteeism</b>
<b>Contractor hospital M</b>	Adequate. Limited flexibility in staffing numbers.	Good recruitment and placement mechanisms.	Staff dissatisfied with reimbursement - perceived as inferior to public sector package. Some suspicion on methods of merit assessment and promotion: process not transparent.	In-service training programme poor, perhaps because of recent strikes. Attendance at seminars/courses allowed if requested.	Staff morale generally low; turnover high due to accommodation problems. Absenteeism low.
<b>Contractor hospital H</b>	Adequate, though some wards not run by registered nurses.	Good recruitment and placement mechanisms; difficulties recruiting skilled staff, perhaps due to location and lack of accommodation.	Staff dissatisfied with reimbursement - perceived as inferior to public sector package.	Good in-service training programme; career development not actively encouraged.	Staff morale reasonable; turnover and absenteeism high.
<b>Contractor hospital S</b>	as contractor hospital M	Good recruitment and placement mechanisms.	Staff satisfied with most aspects of salary package. Some dissatisfaction with cash bonuses, promotion system, and merit rating system.	In-service training attendance poor: may relate to recent strikes. Good career development policies - staff allowed to attend seminars, courses.	Staff morale low, with general dissatisfaction since recent strikes. Turnover and absenteeism low.
<b>Public hospital T</b>	as contractor hospital M	Recruited and placed according to required qualifications wherever possible.	Some staff dissatisfaction since pay package not comparable with staff employed by South African authorities. Dissatisfied with promotions system.	Good in-service training programme. Some problems of attendance since strikes. Satisfactory policies on career development.	Morale poor, affecting quality of work since recent strikes. Turnover and absenteeism low.
<b>Public hospital L</b>	as contractor hospital M	Formalised, effective recruitment and allocation process. Frozen posts interfering with efficiency of staffing system.	as public hospital T.	Poor in-service training programme due to low staff interest. Good policies on career development. Generous study leave allowances.	Since strikes, morale low. Some tension between hospital and community aggravating problems of morale. Turnover at satisfactory level; absenteeism a significant problem.
<b>Public hospital B</b>	as contractor hospital M	Allocation to wards haphazard.	General dissatisfaction among staff over pay package	Good in-service training programme and career development policies.	Staff generally dissatisfied: several strikes recently; absenteeism high.
<b>Private hospital D</b>	Adequate. Use agency staff to provide flexibility.	Good recruitment and placement system. Flexible shift system in maternity ward meant nursing staff remained with patient throughout delivery.	Staff appear satisfied with pay packages and promotions system.	Good in-service training programmes; career development policies satisfactory. Long study allowances not permitted.	Staff satisfied and well motivated; staff turnover very low; absenteeism at satisfactory level.
<b>Private hospital P</b>	Adequate. No use of agency staff, but employ part-time staff to provide flexibility	Good recruitment and placement system.	as private hospital D	Good in-service training. Poor career development policies.	Staff well motivated; turnover and absenteeism low.
<b>Private hospital N</b>	as Private hospital P	Excellent recruitment and placement system.	as private hospital D	Satisfactory in-service training programme. Limited encouragement of career development.	Staff morale very good; turnover low; absenteeism satisfactory.

Staff satisfaction with reimbursement and promotion procedures showed interesting differences between the groups. In two of the contractor hospitals (M and H), staff were dissatisfied with the reimbursement package which was perceived to be worse than public sector packages, as well as with the promotion process which was felt to lack transparency. Staff of hospital S were generally satisfied with the reimbursement package but less happy about the promotion process.<sup>8</sup> In the public hospitals, staff were dissatisfied with both reimbursement packages and promotion systems because of discrepancies with South African government pay and conditions.

Table 5 also indicates that staff morale was satisfactory at one of the contractor hospitals (H), but low at the remaining contractor and at all of the public hospitals. In all cases, this may have been attributable to recent industrial action, as well as to uncertainty resulting from the process of political transition underway during the study. In the private hospitals, however, staff morale was uniformly found to be good and this matched the findings on low levels of staff turnover and absenteeism. In the contractor and public hospitals, however, there appeared to be no correlation between these factors and staff morale, or between these factors themselves which were found to vary within individual hospitals, as well as within and between hospital groups.

Management styles at all of the public hospitals and at contractor hospital S were found to be highly bureaucratic and rule-bound, with relatively little attention focused on the needs of staff, or on maximising staff productivity. In the two other contractor hospitals and the private hospitals, in contrast, the management style was noticeably more open and flexible, with much greater emphasis on increasing both staff satisfaction and productivity.

A final set of comments concerns the overall impression of standards of patient care from a nursing perspective. Patient care was judged to be of an acceptable standard at all of the contractor and private hospitals, with the possible exception of the maternity ward at private hospital N where problems in ward management and record keeping were regarded as having the potential to compromise patient care. In the public hospitals, standards of patient care were generally

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<sup>8</sup> As noted earlier, nursing staff at hospital S were employed by the government, which would explain their different attitude to reimbursement issues

considered to be inferior to those of the other two groups, and in some wards, to be of an unacceptable standard in absolute terms.

## **DISCUSSION AND CONCLUSIONS**

This evaluation used a structured instrument to provide a quantitative measure of nursing care quality, as well as a subjective evaluation, in order to address the question of the relative nursing quality of public, contractor and private hospitals. The critical methodological problem encountered in this process was the appropriateness and consistency of judgements. Efforts were made to address this through applying widely accepted nursing standards and using only two reviewers to collect and interpret the data, but it is unlikely that the problems were completely eliminated. Their impact was perhaps strongest, and this component of the study consequently weakest, in the implicit judgements on the importance of the various elements of nursing care quality relative to each other, as well as on the causal relationships between these elements and the ultimate quality of patient care. These problems are somewhat aggravated by the use of a quantitative scale, which may imply the existence of ordinal relationships both between the various elements measured, and in their impact on quality of care, when such relationships may not exist. Despite these potential interpretation problems, it was nevertheless felt that quantitative measures would more easily allow for concise interpretation of the data, as well as for comparability between individual hospitals and hospital groups. It is however crucial that the quantitative data be interpreted cautiously.

Nonetheless, the evaluation highlighted some important and consistent differences in the quality of nursing care between public, contractor and private hospital groups, which were sufficiently robust to outweigh methodological concerns with the instrument itself. The superiority of the contractors relative to the public hospitals in the nursing care cluster was evidenced in all four of the categories which comprised this cluster. The assessment was based on a model of nursing care which requires nurses to play an active role in assessment, diagnosis, monitoring and control of the patient. The performance of the nurses in the contractor hospitals according to these criteria was uniformly and consistently superior to those in the public hospitals, indicating that this model of care was followed relatively well in the contractor hospitals while nurses in the public hospitals tended to be much less

active, following medical orders more passively and keeping patient records in a generally poor condition.

In the case of the nursing management cluster, the evaluation showed a more mixed picture, with the contractors demonstrating superior performance in such areas as benefits and service conditions, but with the public hospitals showing superiority in the case of staff-patient ratios, in-service training and career development.

The findings of the subjective evaluation of nursing care were generally consistent with those of the instrument-based evaluation. In the evaluation of nursing care at the ward level, for example, the evaluators judged the public hospitals to be inferior to the contractors in most of the parameters assessed. A less consistent picture emerged in the evaluation of nursing care process, where the evaluators did not identify any systematic differences between the two groups.

While staffing numbers and skill levels were generally judged to be adequate in both groups, the evaluators felt that contractor staffing levels were only just adequate to cope with current patient demand and severity levels. These findings echo those of other parts of the quality assessment where it was observed that contractors tended to supply inputs at or even below minimum acceptable levels (Broomberg, Masobe and Mills 1997).

In summary, both the instrument-based and the subjective evaluations produced a fairly consistent set of conclusions concerning the quality of nursing care in two of the hospital groups. These are, firstly, that, with some exceptions, the quality of nursing care at ward level was generally superior in the contractor hospitals, despite the fact that numbers and skill-mix of nursing staff in these hospitals were judged as just adequate; secondly, the two groups presented a more even picture in the case of nursing management at hospital level, with each group having particular strengths and weaknesses, noticeable differences in nursing management style, and generally low staff morale at all hospitals with the exception of one contractor hospital.

The third group, the private hospitals, not surprisingly demonstrated superior performance. While this can be attributed at least in part to higher levels of expenditure, it should be noted that the same

explanation did not apply to the differences between public and contractor hospitals. Contractor hospitals in fact had consistently lower unit costs than public hospitals (Broomberg, Masobe and Mills 1997), pointing to the importance of management structures and skills, and not merely levels of expenditure, in contributing to good performance.

While the contractor hospitals represented a 100% sample, this was not the case with public and private hospitals. There is no reason to believe that the public hospitals studied were atypical, but there were quite substantial differences between them in their scores. Without extending the study to a wider sample of public hospitals, it is impossible to say how representative were these three hospitals. A similar caution applies to the three private hospitals, though the structure of the private hospital industry, plus the dominant pattern of insurance funding for patients, may encourage greater uniformity in quality of care than in the case of public hospitals dependent on local provincial management which varies greatly in its capacities.

Explanations for the generally superior performance of contractor hospitals as compared to public hospitals can be sought both in the nature of the contracts and in hospital management structures and systems. Contractor hospitals were paid on a per diem basis, with outpatients paid as a proportion of an inpatient day. Hence the lower were capital and running costs, the greater would be the margin between income and expenditure as long as demand for hospital care was not reduced. Managers in contractor hospitals therefore had an incentive to attract patients, which might be achieved through clean, tidy and well maintained wards and good nursing care, as well as to keep costs down through restricting inputs to levels considered strictly necessary. In addition, the general management and personnel management capacities and systems of contractor hospitals were generally superior to those of the public hospitals. In contrast, public hospital income was independent of performance, and hierarchical and centralised management structures made it very difficult to manage services effectively at the hospital level.

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## APPENDIX

### SURVEY INSTRUMENT FOR EVALUATION OF THE QUALITY OF NURSING CARE

#### A. Nursing care cluster<sup>9</sup>

##### 1. Nursing assessment and diagnosis

	<b>Criteria Scores</b>
1.1 Patient assessment	
Good: Patients interviewed, examined and information taken during admission	1.0
Satisfactory: Record assessment only, using doctor's notes or other sources	0.5
Unsatisfactory: No evidence of patient assessment	0.1
1.2 Information collected	
Good: Relevant, complete, signed and dated	
Satisfactory: Incomplete, but information recorded of satisfactory standard	0.5
Unsatisfactory: Information not adequate for safe patient care	0.1
1.3 Nursing diagnosis	
Good: All patient problems need nursing intervention are identified on a continuous basis	1.0
Satisfactory: Emphasis on medical diagnosis; no full nursing diagnosis made	0.5
Unsatisfactory: Patient problems needing nursing intervention not correctly diagnosed	0.1
<b>2. Nursing care planning, monitoring and control</b>	
2.1 Nursing care planning	
Good: Nursing Care Plan (NCP) well formulated according to nursing diagnosis	1.0
Satisfactory: NCP formulated, but not always appropriate	0.5
Unsatisfactory: NCP poorly formulated, and/or use of the NCP not understood	0.1
2.2 Implementation of the NCP	
Good: Implemented fully according to diagnosis and plan	1.0
Satisfactory: Only partially implemented	0.6
Unsatisfactory: Not implemented at all	0.1
2.3 Use of patient records	
Good: Records complete, correct and up to date	1.0
Unsatisfactory: Records incomplete and/or incorrectly completed and/or not up to date	0.1
2.4 Use of temperature charts	
Good: Complete, correct and up to date	1.0
Unsatisfactory: Incomplete, and/or incorrect and/or not up to date	0.2
2.5 Use of input/output charts	
Good: Complete, correct and up to date	1.0
Unsatisfactory: Incomplete, and/or incorrect and/or not up to date	0.2

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<sup>9</sup> This cluster was repeated for several wards in each hospital

2.6 Use of medicines charts		
Good:	Complete, correct and up to date	1.0
Unsatisfactory:	Incomplete, and/or incorrect and/or not up to date	0.2
2.7 Recording of dependence producing drugs		
Good:	Legal requirements satisfied; correct dosage given. Dosage given at correct time	1.0
Unsatisfactory:	One or more of above criteria not met	0.2
2.8 NCP upgrading		
Good:	NCP upgraded as often as required	1.0
Satisfactory:	NCP upgraded at least daily	0.5
Unsatisfactory:	NCP not upgraded on regular basis, therefore nursing care unsafe	0.1

### 3. Equipment

3.1 Linen		
Good:	Available in sufficient quantities; clean	1.0
Unsatisfactory:	One or more of above criteria not fulfilled	0.2
3.2 Trays and trolleys		
Good:	Complete, clean and well organised	1.0
Satisfactory:	Clean and complete, but not well organised	0.6
Unsatisfactory:	Incomplete and/or not clean	0.1
3.3 Oxygen supply		
Good:	Complete, clean and well organised	1.0
Satisfactory:	Clean and complete, but not well organised	0.6
Unsatisfactory:	Incomplete and/or not clean	0.1
3.4 Checking of trays and emergency trolleys		
Good:	Checked twice daily against check-list	1.0
Satisfactory:	Checked daily against check-list	0.6
Unsatisfactory:	Checked less frequently than daily	0.3

### 4. Patient Diets

4.1 Normal diets		
Good:	Nutritionally balanced diets available	1.0
Unsatisfactory:	Normal patient diets not nutritionally balanced	0.3
4.2 Special Diets		
Good:	Diets formulated according to patient's diagnosed need	1.0
Unsatisfactory:	Required special diets either not available, or not meeting specific needs	0.1

## B. Nursing management cluster

### 1. Human resource management

1.1 Staff awareness of and access to service conditions		
Good:	All staff have own copy of service conditions, updated as appropriate	1.0
Satisfactory:	Service conditions document available through hospital matron upon request	0.5
Unsatisfactory:	Service conditions document not available, or not readily accessible by staff	0.3

1.2 Staff satisfaction with salary and benefits		
Good:	Staff generally satisfied with all aspects of salary and benefits	1.0
Unsatisfactory:	Staff dissatisfied with elements of salary and benefits; disruptive to productive work environment	0.3
1.3 Recruitment and placement of staff		
Good:	Staff selected and placed according to hospital's current requirements	1.0
Unsatisfactory:	Staff selection and/or placement does not meet hospital's current requirements	0.3
1.4 Provision of occupational health services		
Good:	Full service provided, catering for injuries on duty and for all other health care requirements	1.0
Satisfactory:	Service for injuries on duty only	0.5
Unsatisfactory:	No occupational health service for nursing staff	0.1
1.5 Staff turnover		
Good:	Less than 10% per annum	1.0
Satisfactory:	10-15% per annum	0.6
Unsatisfactory:	More than 15% per annum	0.1
1.6 Absenteeism		
Good:	Low (in opinion of nursing service managers and hospital superintendent/manager)	1.0
Satisfactory:	Average levels	0.6
Unsatisfactory:	High	0.1
1.7 Provision of in-service training		
Good:	Minimum of monthly activities for all nurses. Training meets needs of both the institution and of staff members	1.0
Satisfactory:	Minimum of monthly activities for all nurses. Training focussed on needs of the institution only	0.5
Unsatisfactory:	Training occurs less than monthly and/or does not meet needs of institution or of staff	0.2
1.8 Availability of policy and procedure manuals		
Good:	Comprehensive policy and procedure manuals exist, and are available to staff as appropriate	1.0
Satisfactory:	Adequate policy and procedure manuals exist, and are available to staff as appropriate	0.5
Unsatisfactory:	Policy and procedure manuals are incomplete or do not exist; or not available to staff as appropriate	0.3
1.9 Matron's role in general hospital management		
Good:	Matron participates actively in policy decisions and daily management of the hospital	1.0
Satisfactory:	Matron attends management meetings, but not fully included in all aspects of policy making and daily management	0.6
Unsatisfactory:	Matron not consulted on most aspects of hospital management	0.1
1.10 Matron's interaction with nursing staff		
Good:	Meeting with all nursing staff at least monthly, and more often as required	1.0
Satisfactory:	Meeting with all nursing staff monthly, but poor response to more urgent situations	0.5
Unsatisfactory:	Meetings occur less than monthly, or no organised meetings	0.2

1.11 Nursing staff career development		
Good:	Study leave granted as appropriate. Short term leave for seminars/conferences also granted.	1.0
Satisfactory:	No long term study leave allowances. Some short term leave arrangements	0.6
Unsatisfactory:	None of the above criteria met	0.2
1.12 Staff to patient ratios		
Good:	Ratios adequate for observed acuity level of patients	1.0
Satisfactory:	Ratios adequate for most shifts, but evidence of some shifts where ratios inadequate	0.6
Unsatisfactory:	Ratios inadequate; presents danger to patient care	0.1

**Table A1: Cluster and category weights for evaluation of the quality of nursing care**

<b>Nursing care: Maternity ward</b>	
Nursing Assess/Diagnosis	0.31
Nursing care planning/monitoring/control	0.46
Equipment	0.15
Diet	0.08
<b>Nursing care: Medical/Surgical wards</b>	
Nursing Assess/Diagnosis	0.31
Nursing care planning/monitoring/control	0.46
Equipment	0.15
Diet	0.08
<b>Nursing management</b>	<b>0.35</b>