11 CHAPTER

Hospital Restructuring

Public hospitals account for 62% of public health sector expenditure and thus require consideration within any health sector review. There is a shortage of available information to construct an accurate national picture of public hospital services. This chapter reports on the findings of a recent national quantitative and qualitative study of hospital services and reviews a number of recent additional data sources.

There have been significant shifts in the shape of the national public hospital portfolio, but further shifts are necessary. These reductions have not been accompanied by significant increases in bed occupancy rates. Expenditure on hospitals since 1992/93 has increased at a rate slower than that of the public health sector as a whole, but in the last three years increases in funding to tertiary hospitals have outstripped those for other hospitals.

Key findings include:

- *Despite some convergence between provinces there continue to be large inequities in hospital spending (R173-R958 per capita), bed availability (1.82-3.54 beds/1 000) and staffing (doctors 0.8-6.5/10 000).*
- *There have been reductions in the number of beds in use in most provinces, and in particular in the Western Cape and Gauteng. However relatively low bed occupancies and inability to maintain the existing hospital estate suggest that further bed reductions are required.*
- *Access to hospital services in terms of admission rates is on aggregate satisfactory.*
- *Capital infrastructure and equipment are deteriorating at levels significantly exceeding existing spending on rehabilitation, maintenance and replacement.*
- *Real increases in funding for hospital services have on aggregate not translated into increased staffing or outputs but are likely to have been spent largely on increased salaries and benefits.*

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- *No systematic quality improvement plan has been implemented and this is an important priority.*
- *The absence of sufficient reliable standardised data on hospital services at a national level is cause for concern and requires improvements in national health information systems.*

Introduction

Hospital services account for the major portion of public health sector expenditure and developments within hospital services warrant further attention in this and future health reviews. This chapter begins the process by:

- Presenting data on quantitative restructuring since 1994, based on a survey conducted by the national Department of Health
- Tracing some of the current issues in hospital restructuring based on interviews conducted with national, provincial and facility-based hospital managers, and
- Reviewing a limited selection of additional recent data, including from the recent National Health Accounts process.

Substantial restructuring of hospital services has been a goal of health departments since 1994. Informing this need for restructuring have been:

- In the past, hospital services were disproportionately expensive if broader health service delivery goals were to be met
- Substantial inefficiencies existed which could partially be addressed through rationalisation, and
- Hospital services were severely maldistributed with large variations in quality, access to, expenditure on, and tiering of services, providing an opportunity to improve quality and equity of services.

The framework for this review follows inputs to outcomes, and additionally looks at management and efficiency. The trend data we have used derive from provincial returns to the national Department of Health, are of varying quality and are incomplete, especially in the earlier years of the review period. The most recent bed numbers reflect useable beds and derive from returns from individual hospitals directly to the provincial Departments of Health. The paucity of good quality, nationally aggregated data on public hospitals became strikingly apparent in the course of the review.

Key to the efficient utilisation of hospital services is the strengthening of the integrity of the various levels of care and the referral systems between them, based on a clear understanding of the differential costs of treating patients at the various levels in the health care system. The current tiered definitions covering the majority of hospital services are provided below:

Hospital Definitions

Hospital Level	Services	Referrals accepted from
District	Generalists only. Level I care	Clinics and GP's
Regional	General specialist services, mostly level II care	District hospitals additionally
Provincial Tertiary	Super-specialist services, mostly level III care	Regional hospitals additionally
National Central	Super-specialist services, mostly level III, high cost, multi-disciplinary care	Regional hospitals and inter-provincial referrals
Specialised Chronic Care	Specialised groups such as chronic psychiatry and tuberculosis	All levels

Source: Based on National Data Dictionary[1]

A chapter in a previous South African Health Review[2] dealt with the findings of the Hospital Strategy Project (HSP),[3] a year-long exercise that provided suggested norms, strategic recommendations, and guidelines for the development and improvement of hospital services. The recommendations were never formally adopted nationally, yet many of the thrusts emerging from that exercise continue to inform planning and implementation. We refer to bed-provision norms in some of our analyses. The most recent published norms were in the HSP. These were revised in a draft National Planning Framework (NPF) in 1998, which was never made public. The new NPF is expected to be released in the near future. Bed-provision norms have progressively been adjusted downwards based on what is thought to be affordable and sustainable for the country. It is likely that when revised recommendations are made, they will be significantly lower than the HSP norms we refer to in this chapter.

Inputs

Beds

There has been an overall pattern of reducing bed numbers in virtually every province (Table 1). There has been significant closure of beds in the Western Cape and Gauteng, with over 5 000 hospital beds closed during the period under review. Both of these provinces remain with aggregate bed/population ratios well above Health Strategy Project norms. The overall pattern of reducing beds may reflect trends towards shortening length of stay of acute admissions and de-institutionalisation in mental health care. With the reduction of beds in Gauteng, the Western Cape and KwaZulu-Natal there has been some convergence in the bed/population ratios between provinces. However the available beds/1 000 public population is still inequitable, varying substantially between Mpumalanga (1.82/1 000) and the Western Cape (3.54/1 000).

Table 1: Total hospital beds in use by province

Total number of beds in use - trend[i]								
Province	1994	1995	1996	1997	1998	Change	Change %	2000[ii]
EC	-	-	-	-	-	-	-	19 953
FS	-	-	6 141	5 794	5 119	-1 022	-16.6%	5 810
G	20 738	20 430	19 967	20 012	17 694	-3 044	-14.7%	16 715
KZN	-	28 355	28 483	28 483	27 674	-681	-2.4%	27 305
MP	-	-	4 464	4 464	4 612	148	3.3%	4 813
NC	-	-	1 965	1 965	1 965	0	0.0%	1 589
NP	-	-	-	-	12 059	-	-	10 109
NW	-	-	-	-	7 457	-	-	6 525
WC	14 761	14 584	14 356	12 823	11 964	-2 797	-18.9%	10 682
SA								102 411

Key:
EC = Eastern Cape
FS = Free State
G = Gauteng
KZN = KwaZulu-Natal
M = Mpumalanga
NC = Northern Cape
NP = Northern Province
NW = North West
WC = Western Cape
SA = South Africa

Source: i National DoH, returns from provincial DoH's, on beds in use 1999.[4] Blank cells reflect instances where data was not submitted.

ii National DoH, returns from 420 hospitals nationally on useable beds, 2000 (except for EC which was supplied by R Kraus, and KZN supplied by K Naidoo, reflecting beds in use 2000)

Table 2: Beds per population in 2000, by level of hospital[iii]

		Public Sector[iv]										Private Sector[v]		
		District		Regional		Tertiary		Sub-total	Specialised		Total	Total		
Province	Public Pop 2000	%	Beds/1000 Public Pop	%	Beds/1000 Public Pop	%	Beds/1000 Public Pop	Acute Beds	%	Beds/1000 Public Pop	Beds/1000 Public Pop	Private Pop	Beds	Beds/1000 Private Pop
EC	6 112 093	50%	1.55	19%	0.59	7%	0.21	2.34	24%	0.75	3.09	679 121	1 185	1.74
FS	2 270 771	44%	1.12	34%	0.88	9%	0.22	2.22	13%	0.34	2.56	498 109	1 602	3.22
G	4 786 748	11%	0.39	34%	1.20	39%	1.36	2.95	15%	0.54	3.49	3 191 445	10 836	3.40
KZN	7 928 553	40%	1.37	28%	0.95	7%	0.25	2.57	25%	0.88	3.44	1 185 383	3 377	2.85
MP	2 647 988	45%	0.81	41%	0.75	8%	0.14	1.70	7%	0.12	1.82	431 403	703	1.63
NC	701 356	46%	1.03	34%	0.77	0%	0.00	1.81	20%	0.46	2.27	186 662	386	2.07
NP	5 052 045	62%	1.25	15%	0.29	15%	0.30	1.84	8%	0.16	2.00	439 583	267	0.61
NW	3 129 812	48%	1.00	24%	0.49	5%	0.10	1.59	24%	0.49	2.08	509 790	1 316	2.58
WC	3 017 762	14%	0.51	19%	0.66	28%	0.99	2.16	39%	1.38	3.54	1 232 578	4865	3.95
SA	35 647 128	38%	1.08	26%	0.74	15%	0.43	2.25	22%	0.62	2.87	8 354 074	24537	2.94
Adjusted[vi] HSP affordable norm			1.39		0.69		0.21	2.29		0.5	2.79			

Sources: iii National DoH, returns from 420 hospitals nationally on useable beds (currently authorised beds as opposed to bed capacity) 2000.

Data are presented by hospital type rather than level of care since detailed level of care assessments are not available.

iv Percentages refer to the proportion of total public sector beds comprised by the corresponding level of hospital in that province.

Public population figures are from Statistics South Africa mid-term estimates for 1999 adjusted to 2000 by Statistics South Africa growth rates; population adjusted for medical aid coverage.

v Hospital Association of South Africa – affiliated private hospitals only, except WC supplied by M Blecher

vi The HSP optimal staffing norms adjusted to reflect recommendations for a public population of 80% of the total population.

The overall bed/population ratio (Table 2) of 2.87/1 000 in 1998 may still be high compared to the recommendations that are expected in the NPF. This together with low bed occupancy rates and an inability to maintain the existing bed infrastructure suggests that greater efficiencies can be achieved through further bed closures and hospital consolidation. A more efficient bed infrastructure could lead to better resourcing of a smaller, more moderate infrastructure.

When analysing data on levels of care (Table 2), it is important to note that most beds are classified according to the level of care that the hospitals in which they are located are capable of providing. This does not necessarily reflect the level of care that is required by patients occupying these beds.

District hospital beds range from 0.39/1000 in Gauteng to 1.55/1000 in the Eastern Cape. Even though it is expected that the demand for district beds will be less in urban areas, a deficient district bed infrastructure leads to higher cost structures in Gauteng and the Western Cape because hospital staff tend to care for patients at the highest level at which the facility is capable of providing services. Gauteng intends to address this as documented in a recent bed plan.[a] Regional beds vary between a low of 0.29 in Northern Province to 1.2 in Gauteng.

The combined levels of bed provision in central and tertiary hospitals in Gauteng and the Western Cape significantly exceed HSP affordable norms. These beds need to be reduced in order to shift funds to the resourcing of lower level beds, or resourced appropriately for multiple levels of care. The lack of clarity as to the levels of care provided within the affected hospitals impedes national planning.

Specialised hospital beds principally reflect chronic beds, of which the major categories are allocated to mental health care and tuberculosis. The data suggest an inappropriately high level of chronic beds in many parts of the country. In the Western Cape in particular, specialised beds are 1.38/1 000 public population, exceeding the HSP norms.

The analysis of private sector hospitals by province (only Mpumalanga, the Northern Province and the Eastern Cape have aggregate bed/medical aid covered patient ratios below 2/1 000) reflects the concentration of these hospital beds in major urban areas.

A current initiative which could drive the further rationalisation of bed provision is the National Planning Framework (NPF). The intention of the Framework is to provide targets for the country's hospital portfolio and to provide a framework for the hospital rehabilitation programme (see below). The target set by the national Department of Health (Table 11) was to have the NPF finalised by March 2000 and detailed plans developed by June 2000, although this has not been achieved.

One method of managing the development of hospital services is the Certificate of Need (CoN). This provision in the draft National Health Bill could regulate the licensing of facilities (and therefore beds) in both private and public sectors if implemented.

Human Resources

Information on trends in hospital staffing is limited. It was only possible to access trend data for four provinces (Table 3), with the most recent data being for 1998. The inability to shift staff (because of inflexible Public Service provisions) was cited by a number of provincial managers as a key hindrance to the rationalisation of hospital services. From the available data (Western Cape, Gauteng, KwaZulu-Natal, Northern Province), it would appear that filled medical posts have remained relatively constant compared to nursing posts where significant reductions have occurred in Gauteng and the Western Cape (over 1 000 posts between the two provinces). It has not been possible to adjust for instances where posts are reflected on hospital establishments but where the staff are working in primary care facilities. This analysis examines only filled posts.

a Personal Communication: Gauteng Department of Health

Table 3: Filled medical and nursing posts: trend, by population and by bed ratios

Filled medical officer and specialist posts combined								
Province	**1995**	**1996**	**1997**	**1998**	**change**	**% change**	**Doctors/ 10 000 public pop 1998**	**Beds/ doctor 1998**
G	-	2 835	3 280	3 098	263	9.3%	6.5	5.7
KZN	1 762	1 762	1 762	1 761	-1	-0.1%	2.2	15.7
NC	-	-	-	121	-	-	1.7	16.2
NP	412	426	508	451	39	9.2%	0.9	26.7
NW	-	-	-	266	-	-	0.8	28.0
WC	-	956	972	955	-1	-0.1%	3.2	12.5
Filled Professional Nurse (PN) and Senior PN posts								
Province	**1995**	**1996**	**1997**	**1998**	**change**	**% change**	**Nurses/ 10 000 public pop 1998**	**Beds/ nurse 1998**
G	-	8 776	8 590	8 377	-399	-4.5%	17.9	2.1
KZN	9 395	9 395	9 395	9 360	-35	-0.4%	12.1	3.0
NC	-	-	-	625	-	-	9.0	3.1
NP	4 394	4 428	4 486	4 768	374	8.4%	9.7	2.5
NW	-	-	-	3 291	-	-	10.7	2.3
WC	-	4 344	4 030	3 570	-774	-17.8%	12.1	3.4

Source: Returns from provinces to the national DoH.[4] No data were available for FS, EC, and MP, for medical interns, or to delineate part-time from full-time posts.

Substantial inequity exists in the number of doctors ranging from 0.9 and 0.8/10 000 public population in the Northern Province and North West respectively compared with 6.8 in Gauteng. This translates into a ratio of beds/doctor of 26.7:1 in Northern Province and 28:1 in North West compared to 5.7:1 in Gauteng.

Attempts to reduce staff have also had further negative consequences. Health managers cite the retention of skilled staff as a major challenge. The voluntary severance packages combined with active recruitment of nurses by overseas countries have depleted hospitals of many of their longest serving and most skilled nurses. An examination of the number of staff by province shows that the professional nursing staff categories have the most noticeable drop. The private sector hospitals cite their emerging difficulty in attracting these categories of staff as a barometer of a larger problem. There are concerns that the country is not

training adequate numbers of nurses – between 1996 and 1998 the number of registered nurses in South Africa increased by 1 197, barely more than the increase in the number of doctors for the same period.[5] Filling vacant posts remains one of the key frustrations of hospital managers. Although it had been anticipated that the Public Service Amendment Act No. 5 of 1999 would increase the flexibility for hospital managers and allow them to appoint staff up to higher levels than was previously authorised, this has not been the experience and gaining approval for filling posts continues to be frustrating. As the staff cost is the biggest expenditure item for hospitals it is an area that the provincial management use to exert financial control.

In the past doctors were granted a special dispensation (Limited Private Practice) to earn additional income. This has been stopped and the common provision of the Public Service Regulations is now the route for doctors to earn additional income (Remunerative Work Outside of the Public Service – RWOPS). It is still too early to gauge the impact of this change.

A further concern frequently raised is the impact of restructuring and rationalising on specialist training. An audit of central and regional hospitals[6] found that the number of operations performed had decreased significantly, pointing to a decrease in elective surgery essential to the training of registrars in many specialties. Shortages of allied health personnel were perceived to impact negatively on quality of care. There was widespread resentment on the part of nurses at having to perform tasks that they saw as the role of support staff such as porters and general assistants, with friction existing around roles and responsibilities.

Whilst difficulties in attracting staff to rural areas was topical with informants, there was general appreciation of the positive impact of community service and foreign doctors in providing services in many of these areas. Counter posed to the above discussions on reducing and rationalising bed numbers and striving for optimal staff establishments are positive experiences of the appropriate strengthening of regional and tertiary services in a number of areas, including the hospital complexes in Pietersburg, Kimberley, Witbank and Potchefstroom, and the strengthening of regional hospitals in the Western Cape.

Financing

Data on hospital financing are from the National Health Accounts.[7] When looking at overall expenditure on hospital services (Table 4), there a number of important points to be made:

- Hospitals accounted for 62% of public health expenditure in 1998/99. A reworked analysis comparable to the 1992/93 Health Expenditure Review (HER) showed hospital expenditure comprising 85% of total public health expenditure in 1992/93 compared with 79% in 1996/97.[b]
- In the last three years expenditure on public hospital services has increased at a rate of 4.3% p.a. with expenditure on tertiary hospitals outstripping the rest with an 8.0% p.a. increase. In the last year expenditure on district hospitals fell.

b In order for a comparison to be made with the HER, the reworked analysis excluded spending by non-health national departments and institutions, provincial expenditure on health administration, and research and training. Including these demonstrates a slight relative increase in hospital expenditure over the last three years, whilst still demonstrating a decline in relative expenditure on hospital services since 1992/93.

Table 4: Total national public expenditure (R millions, real 1999/00 prices) on hospitals and on health

	1996/97	% of total	1997/98	% of total	1998/99	% of total	Annual Change
Tertiary Hospitals	4 311	26.6%	4 674	26.9%	5 005	28.4%	8.0%
Regional Hospitals	5 032	31.0%	5 358	30.8%	5 384	30.5%	3.5%
District Hospitals	5 212	32.2%	5 592	32.2%	5 368	30.5%	1.5%
Other Hospitals	1 651	10.2%	1 761	10.1%	1 871	10.6%	6.7%
Total	16 206	100.0%	17 385	100.0%	17 628	100.0%	
Total expenditure on hospitals	16 206		17 385		17 628		4.4%
Total expenditure on health	27 462		29 096		28 743		2.3%
% expenditure on hospitals	59.0%		59.8%		61.3%		

Source: National Health Accounts

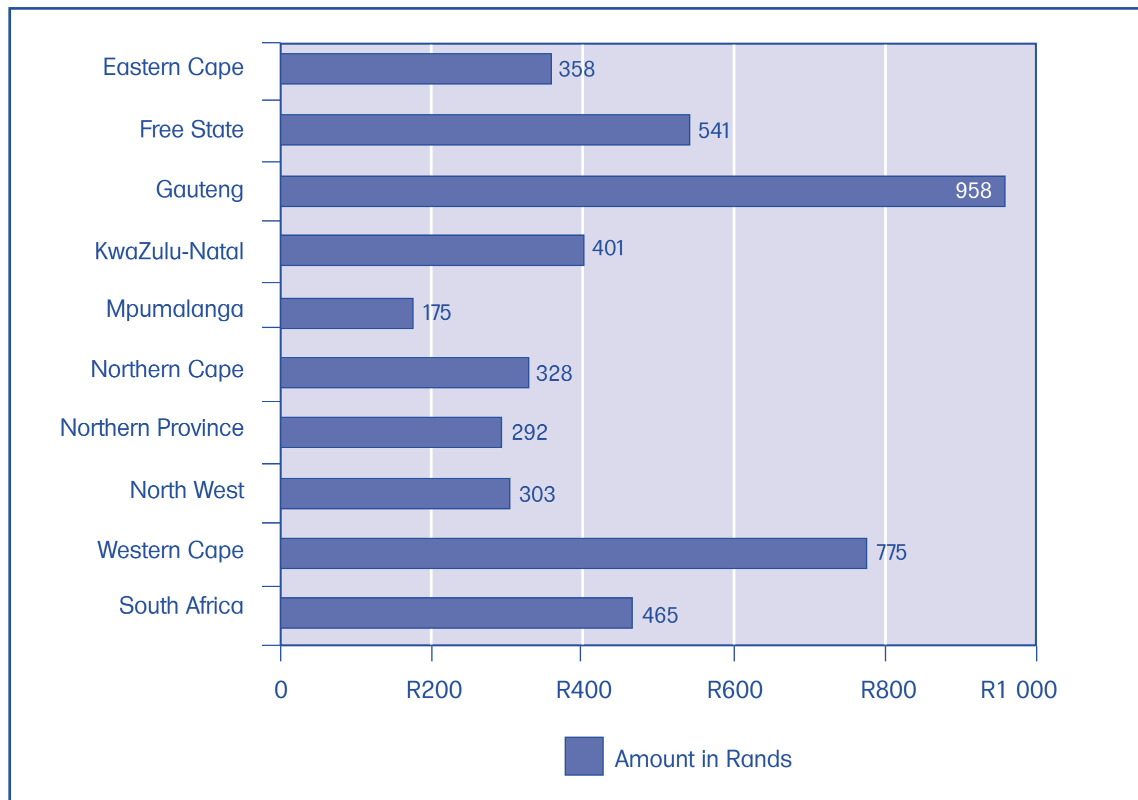
When looking at expenditure by only the provincial Departments of Health over the last three years (Table 5) i.e. excluding additional expenditure by the national department, there has been a greater prioritisation of regional and district hospitals by the provinces, where the growth rates in the expenditure on these hospitals over the last three years were higher than those of tertiary hospitals. Substantial inequity still exists in the per capita expenditure on hospital services by provincial departments of health (Table 5 and Figure 1) which varies between provinces from a low of R175 p.a. in Mpumalanga to R958 p.a. in Gauteng.

Table 5: Total expenditure (R million, real 1999/00 prices) on public hospitals by individual provincial DoH's only

	1996/97	1997/98	1998/99	Annual Change	Public Pop 1999	Exp per capita
Eastern Cape	2 135	2 244	2 386	4%	6 659 000	R 358
Free State	1 210	1 295	1 204	0%	2 226 300	R 541
Gauteng	4 258	4 631	4 487	2%	4 684 200	R 958
KwaZulu-Natal	2 688	2 785	3 115	5%	7 763 880	R 401
Mpumalanga	449	564	451	0%	2 582 580	R 175
Northern Cape	233	271	227	-1%	691 250	R 328
Northern Province	1 211	1 070	1 436	6%	4 910 040	R 292
North West	712	1 008	930	10%	3 063 320	R 303
Western Cape	2 345	2 376	2 294	-1%	2 961 410	R 775
South Africa	15 242	16 244	16 530	3%	35 541 980	R 465

Source: National Health Accounts and Statistics South Africa mid-year estimates

Figure 1: Annual expenditure per capita in 1998/99



Whereas hospital expenditure has grown in real terms, the declining number of personnel affordable largely reflects progressive increases in real wage packages for health workers. The restructuring momentum was partially interrupted by this "wage drift" which was created by centrally bargained processes in the Public Sector Central Bargaining Chamber (PSCBC) and therefore beyond the control of the health department. This forced the adoption of crisis measures to contain spending, which were not necessarily in line with optimal strategic plans or the decentralisation of authority being striven for. In particular the rank and leg promotions and flatter structure implemented in 1997 impacted significantly on the salary bill.

The conditional grants for the ten designated central hospitals that are located in four provinces were designed to protect the funding of key services that are of national importance. The functioning of these grants is currently being reviewed, whilst as part of the NPF, a review of highly specialised services is being undertaken.

When the original projections of the Hospital Strategy Project were made, it was anticipated that significant income would be derived from public private partnerships. The norms that were developed as a result anticipated additional revenue sources. A number of processes are underway which can potentially increase the funding of public sector hospitals, although to date it is too early to establish whether this will happen to any significant degree.

- Certificate of Need (CoN): As mentioned above, the draft National Health Bill[8] includes a section on Certificate of Need to control the licensing of facilities, both public and private. At this stage it appears that the CoN process will apply to facilities and beds, but not to practitioners. The existing relative oversupply of private sector hospital facilities may limit the impact of CoN on public-private partnerships and their income generation (and savings) potential for public sector facilities.
- Social Health Insurance (SHI): It was anticipated at the time of the HSP that SHI would be instituted a lot sooner than will be the case. The revised interest in SHI as part of broader social security plans could impact positively on the funding of public sector hospitals (see chapter on Social Health Insurance).
- Uniform Patient Fee Schedule (UPFS): This initiative seeks to provide a simplified and efficient mechanism to recoup fees from full-paying patients. The focus is on patients treated for Road Traffic Accidents, for injuries for which claims could be made to the Worker's Compensation Fund, and those on medical schemes. It is currently being piloted in the Northern Cape where is has been a significant success. The target set in the Health Sector Strategic Framework is for all hospitals to have a billing system implemented by April 2001 (see Table 11).
- Retention of Revenue: Revenue retention has been supported in the interdepartmental meetings ("4 by 4's") between the Departments of Health and Finance. It has long been suggested that the incentive to hospital management of retaining a portion of generated income would improve the collection of fees, and provide incentives for other revenue generating activities. Gauteng and the Western Cape have concluded successful agreements with Provincial Treasuries for 100% and 50% revenue retention above revenue budget respectively.

Physical infrastructure

In 1996 a national health facilities audit was carried out which included 434 hospitals. The replacement value of the hospital estate was approximately R27.2 billion (2000 prices). The audit showed that a third of our facilities by value need complete replacement or major repair.[9] Recent detailed estimates and models by the Department of Health suggested this has risen to 40% and that backlogs and transformation of health facilities would require R12 billion over 8-10 years. The estate is deteriorating annually at approximately 4.5%, equivalent to R1.2 billion per year.[10] However annual maintenance expenditure, at only 1%-1.5% of capital value annually is far below need (3-4.5%). Despite existing maintenance and the Hospital Rehabilitation Program, hospital infrastructure is deteriorating at around 3% or R900 million per year.[c] The cost of upgrading and rehabilitation far exceeds the available funds. The Department of Health is expected to propose, in the National Planning Framework, transformation to a smaller hospital estate, which is properly maintained. Facilities that are in very poor condition (grade 1-2) would in most cases be written off.

Data on the national pool of medical equipment are poor. Models by the national Department of Health suggest serious problems with deterioration of medical equipment. Medical equipment requires substantial ongoing maintenance (approximately 10% of value per year) and has a short life-span (averaging approximately 10 years) requiring substantial replacement costs. In much of the country, backlogs of medical equipment exist. Models of replacement and maintenance suggest an annual requirement of R1.02 billion for each.[d] This is far below existing expenditure levels and unless addressed, the state of medical equipment will continue to deteriorate.

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c R Bennett, Department of Health, personal communication

d R Bennett, Department of Health, personal communication

Processes and efficiency

Table 6: Bed occupancy rate (%)

Province	1994	1995	1996	1997	1998	Abs. change	% change
Free State	-	62.7	70.8	68.9	65.9	3.3	5%
Gauteng	72.0	73.0	69.0	66.0	77.0	5.0	7%
KwaZulu-Natal	-	74.0	79.0	72.0	67.0	-7.0	-9%
Mpumalanga	-	-	72.2	69.1	66.5	-5.7	-8%
Northern Cape	-	-	70.4	74.6	73.7	3.3	5%
Northern Province	-	-	-	67.9	70.9	3.0	4%
North West	-	-	66.9	66.9	54.5	-12.4	-19%
Western Cape	70.0	73.0	70.0	73.0	77.0	7.0	10%

Table 7: Average length of stay (days)

Province	1994	1995	1996	1997	1998	Abs. change	% change
Free State	-	5.0	4.9	4.6	4.7	-0.2	5%
Gauteng	6.8	6.7	6.4	7.2	7.1	0.3	4%
KwaZulu-Natal	-	9.9	10.8	9.5	8.8	-1.1	-11%
Mpumalanga	-	-	4.7	4.0	4.0	-0.7	-15%
Northern Cape	-	-	5.6	5.4	5.8	0.2	4%
Northern Province	-	-	-	5.9	5.8	-0.1	-2%
North West	-	-	8.4	8.4	7.7	-0.7	-8%
Western Cape	9.1	8.7	8.5	9.4	8.6	-0.5	-6%

Source: Returns from provinces to the national DoH[4]: EC omitted, as no comparable data were available

Bed occupancy (Table 6) is not high (only 2 provinces exceed 75%) and suggests inefficiency and potential for bed reductions. If bed occupancy were assumed to be 75%-80% across all hospitals, substantially fewer acute beds would be necessary than are currently available. The pattern towards shortening of length of stay in hospitals (Table Seven) is encouraging, but the data is difficult to interpret since it incorporates various hospital types.

The NHA data demonstrate that the cost per Patient Day Equivalent (PDE) has increased significantly for all hospital types over the last three years.[7] A recent study in three provinces[11] has indicated the potential for efficiency gains in South African hospitals. Reductions of

over 25% in recurrent hospital expenditure could be achieved if all hospitals were to function as efficiently as the most efficient hospitals of their kind. Careful consideration needs to be given to issues of access to services when striving for optimal efficiency. This is especially so when there are increasing returns to scale in smaller rural hospitals suggesting potential efficiency gains from consolidating these services into fewer facilities.

The extent of the year-to-year variation in these indicators as presented in Tables 6 and 7 is indicative of the poor quality of the available hospital data.

Outputs

Patient Day Equivalents (PDE's)[e] per capita have declined in all provinces. Both the inpatient and outpatient components have declined.

Table 8: Patient Day Equivalents

	1994	1995	1996	1997	1998	PDE/pop 1998
Free State		1 694 033	1 859 613	1 719 496	1 344 154	0.60
Gauteng	7 506 315	7 604 505	7 273 221	7 647 984	6 467 402	1.41
KwaZulu-Natal		9 502 667	10 024 775	9 397 346	8 290 831	1.09
Mpumalanga			1 067 804	785 012	1 019 809	0.41
Northern Cape			580 806	606 980	592 702	0.87
North West			2 333 774	2 269 307	2 223 714	0.74
Western Cape	4 769 323	4 651 727	4 479 387	4 403 862	3 952 841	1.36

e In this analysis PDE's are equal to all inpatient days added to one third of outpatient visits.

Table 9: Admissions

	1994	1995	1996	1997	1998	Adm/ 1 000 pop 1998
Eastern Cape					497 130	76
Free State			283 174	306 049	210 999	94
Gauteng	799 357	802 599	781 675	759 352	709 481	155
KwaZulu-Natal		784 989	760 891	783 489	765 896	101
Mpumalanga			196 441	161 657	212 841	85
Northern Cape			90 638	98 753	90 598	133
Northern Province			323 536	483 268	385 700	81
North West		229 834	229 668	288 794	96	
Western Cape	450 592	462 853	454 386	395 172	389 727	134
South Africa					3 551 166	102

Table 10: Outpatient Visits (OPD/Pop)

	1994	1995	1996	1997	1998	OPD/ pop 1997/98
Free State			1 458 657	907 468	1 044 716	0.47
Gauteng	6 212 063	6 681 274	6 811 503	6 541 949	4 290 261	0.94
KwaZulu-Natal		5 193 829	5 421 457	5 862 600	4 882 608	0.64
Mpumalanga			433 595	415 153	505 336	0.20
Northern Cape			219 700	221 141	201 701	0.30
North West			1 209 506	1 020 286		0.35
Western Cape	2 033 843	1 916 373	1 919 477	2 127 011	1 826 950	0.63

Source: Returns from provinces to the National DoH

Inpatient days per capita declined in all but one province (the Northern Cape). This is caused by a small decrease in admissions (Table 8) and a shortening of length of stay. Admission rates averaged 102/1 000 in 1998. This is comparable to the HSP recommended rate of 75/1 000. The Eastern Cape, which had the lowest admission rate of all provinces, had an admission rate of 76/1 000. The data do not yet show the overall increases expected due to the HIV epidemic. Despite this there is evidence of HIV/AIDS contributing to an increasing proportion of hospital inpatient load. Contrary to this general trend Hlabisa

Hospital reported an 81% increase in admissions from 1991 to 1998.[12] A Department of Health publication reported that around 40% of adult inpatients at King Edward VIII hospital in Durban were estimated to be HIV positive and in Gauteng this proportion ranged from 26% to 70%.[13] In some hospitals in South Africa the HIV prevalence among TB patients had been recorded as over 70%.[14]

There has been a convergence of admission rates (Table 9) with the Free State, Gauteng, and Western Cape declining and Mpumalanga, the Northern Province and North West increasing – these are a favourable indication of progress towards equity. Admission rates exceed 130/1 000 in three provinces, but there is no data that demonstrates the influence of inter-provincial flows.

Outpatient activity (Table 10) has declined in all provinces except KwaZulu-Natal and Mpumalanga.

Outcomes

Quality initiatives and hospitals

Data on quality of care is very patchy and this reflects a lack of any uniformly applied system of quality assurance for hospitals. The Health Sector Strategic Framework[9] stated that there is consensus that service quality is of major concern and that improving quality is the single biggest challenge facing the health sector. Concerns around quality were expressed repeatedly during our qualitative interviews with managers.

Recent studies[6, 15-17] reported highly variable quality in regional and district hospitals. Problems described included:

- Unreliable water and electricity supplies in a third of institutions
- Lack of clinical protocols in many regional hospitals
- Tests for haemoglobin and syphilis often not performed in antenatal care at regional hospitals
- Blood transfusions not available on a 24 hour basis in about half of district hospitals
- Maintenance of facilities and equipment poor in many district hospitals
- Variable pharmaceutical supplies.

One study[17] reported that standards in central hospitals generally remained high despite the many changes that have taken place. Medical records were well kept, there were up to date clinical protocols in most departments and most had quality assurance mechanisms in place (e.g. meetings to review hospital infections, mortality rates and some forms of clinical audit). However there was widespread sentiment that standards cannot be maintained for much longer and that cracks are beginning to appear. For example, they report an increase in serious errors in radiotherapy in one hospital, increases in multiple drug resistance in nurseries in two hospitals and more widespread drops in quality in another with rising rates of surgical wound infection, a number of preventable anaesthetic deaths and inattention to detail in medical records.

Given these problems, quality is starting to be placed on the national health agenda. Elements in the Department of Health's 5-year Health Sector Strategic Framework 1999-2004[9] include:

- Strengthening the Batho Pele Program;

- Development and operationalisation of a National Policy on Quality in Health Care. A discussion document has been released[18] and a national policy is expected in the near future;
- The Patients Charter spelling out rights and obligations for patients was launched in November 1999 and a national initiative to enhance users awareness of rights and obligations is underway;
- Establishment of complaints mechanisms in all facilities. A process to finalise a nationally standardised complaints mechanism has been initiated.[f] A tool to measure patient satisfaction in district hospitals has been developed and piloted in two hospitals;
- Development and implementation of clinical management guidelines;
- Introduction of peer review and clinical audit in all facilities;
- Establishment of either a Hospital Board or Hospital Committee at all facilities;
- Training of personnel in strategies to improve quality of care.

A wide range of professional associations and councils has the potential to contribute to improving quality. The Department of Health is in the process of developing norms and standards for district hospitals.[19] Various provincial departments have started quality initiatives. For example, KwaZulu-Natal has created a unit for Quality Assurance and Institutional Accreditation; the Northern Province established a *Tiger Team Organisation* - a team of managers who conduct facility and systems audits; Mpumalanga established a clinical audit team who assess eleven categories of management and specialised areas in hospitals; Gauteng established an Accreditation Committee that will certify hospitals' compliance with identified standards; and the Free State developed a Quality Service Improvement Programme of which the main thrust is continuous quality improvement in all facilities.[g]

The Council for Health Service Accreditation of Southern Africa (COHSASA) conducts quality-based accreditation programs for hospitals. There are currently 210 facilities in the program, the majority being hospitals. Public sector hospitals involved are mainly in KwaZulu-Natal and the Eastern Cape. A system of graded recognition has been introduced to progressively encourage hospitals to improve standards. Hospitals on the program have progressively improved quality on a wide range of areas.[h] COHSASA has published the 6th edition of Standards for Hospitals.[20]

Virtually no standardised data is available on hospital health outcomes e.g. peri-natal mortality rates and post-operative infection rates, reflecting information system limitations.

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f L Claasen, Department of Health, personal communication

g L Claasen, Department of Health, personal communication

h S Wittaker, COHASA, personal communication

Management of hospital services

Processes directing hospital restructuring

The Hospital Strategy Project published its final report in mid-1996. The same year, a National Hospital Co-ordinating Committee was established to drive the process of hospital restructuring. This committee has representation from all of the provinces in addition to the national Department of Health. The committee has also dealt with issues such as intern allocation and community service for doctors. A draft National Planning Framework was developed in mid-1998, to guide the development of hospital services. The Health Sector Strategic Framework (HSSF)[9] published in 1999 and applicable till 2004 identifies the finalisation of this National Planning Framework as a key intervention for hospitals, together with the rehabilitation of hospital stock and the decentralisation of hospital management. The HSSF contains three major strategies with targets (Table 11).

Table 11: Revitalising Public Hospitals – Health Sector Strategic Framework 1999-2004

Strategy	Indicator	Target
1) National Planning Framework (NPF)	NPF used to determine hospital rehabilitation programme	NPF finalised by March 2000, and strategic plans developed by June 2000
2) Hospital Billing System Implemented	Number of hospitals with billing system in place	Full implementation in all hospitals by April 2001
3) Decentralising hospital management	Number of hospitals with authority for key functions devolved	Management decentralised to all hospitals and Performance Management Agreements signed by April 2003

A ministerial task team on hospital decentralisation was set up in April 1999 and made recommendations in August that year which included;

- Launching a communication strategy
- Determining the costs of restructuring
- Cost-centre management in all hospitals
- Instituting performance management agreements across all hospitals, and
- The appointment of General Managers and Chief Executive Officers based on assessed competencies.

The PHRC and the Health MINMEC adopted these recommendations.[21]

Interventions directed at institutions

Within institutions there have been a number of interventions to improve functioning and efficiency.

- Appointment of Chief Executive Officers (CEOs): Most provinces have amended regulations to allow for non-medical CEOs to be appointed instead of Medical Superintendents, with the aim of strengthening the management capacity of hospitals. To date it has been mostly in provincial/tertiary and central hospitals that such appointments have been made. Changes to the Public Service Act have allowed for performance agreements to be entered into with individual managers.

- Decentralising management: A great deal of attention has been given to this. The Public Finance Management Act, No. 1 of 1999, has created conditions for CEO's and accounting officers to be individually accountable for expenditure. Performance agreements between the DoH and individual institutions have run into legal hurdles. It has been problematic for such agreements to exist between two bodies that are the same legal entity. Where such agreements exist these are currently providing performance targets. With the exception of a few pilot projects where individual hospitals have become trading entities of there own, progress has otherwise been slow in realising the aims of this strategy. Many informants felt that it will still be many years before the conditions for decentralised management are realised and enable hospitals to function effectively.
- Systems: Technical interventions have sought to both create conditions for decentralised management, and to improve performance and efficiency in key expenditure areas. Cost-centre accounting was introduced in ten hospitals nationally (subsequently expanded to fifteen) as a forerunner to wider implementation, and pharmacy and stores systems have been targeted for improvement. Central to most of these activities are properly functioning hospital information systems, and most provinces are in the process of installing or completing tender arrangements for such with varying coverage.

Conclusions

The last few years have seen significant downsizing of hospital services, especially in the richest provinces, and in some instances there has been appropriate strengthening of services to create a more rational hospital portfolio. This has not been achieved to the extent that was initially hoped for, with important constraining features being the unanticipated budget shortfalls and the difficulties associated with rationalising the staff establishment. There is significant scope for further reshaping, with a need for fewer central/tertiary and chronic beds, and possibly other categories as well, depending on the norms that are used. Where there has been strengthening of regional hospitals and the development of academic complexes where previously they did not exist, it is generally felt that the initiatives have impacted positively.

Many interventions have been introduced to improve the functioning and efficiency of hospitals. These have so far been concentrated on the biggest hospitals and real decentralisation of management is still some way off. Budgeting has continued to be largely determined by prior expenditure. In most provinces rational planning models and service driven budgets have not been apparent, undermining one of the key prerequisites for many of the other initiatives being introduced.

The absence of or failure to adopt nationally a fully enumerated transparent framework directing restructuring has contributed to the uncertainty in hospital services. Inter-provincial inequities in service provision continue, with the division in roles between national, provincial and local governments in respect of resourcing and directing hospital services not yet fully worked through in order to address these issues.

There is discordance between what is documented on paper and perceptions of what is happening within hospitals. Decreases in the number of beds have not been accompanied by dramatic increases in bed occupancy, whilst the perceptions of staff and patients are of a sector in crisis. Many of the frustrations relate to the perceived lack of strategic plans and uncertainty around development of hospital services.

Quality of care issues are lost in an analysis such as this, and it is crucial that this review in the future objectively monitors quality within hospitals, together with developing indicators that adequately reflect the progress being made on the stated objectives for further hospital sector development.

Recommendations

Understanding hospital services

- A common reporting format currently being implemented for all hospitals needs support and nurturing to ensure that accurate and comparable information is accessible in the future;
- An objective and repeatable review using indicators reflecting restructuring goals, service levels and quality of care would further improve the understanding of hospital services.

Managing further restructuring and rehabilitation of public hospitals

- Tighter co-ordination is necessary between provincial and national Departments of Health if remaining inter-provincial inequities are to be addressed, including refining the role of the central grants;
- The National Planning Framework needs to be completed (with adequate detail), endorsed and communicated to the hospital community;
- The provincial strategic plans developed out of the National Planning Framework process should be transparent and include achievable and committed targets for their implementation;
- Staff establishments need to mirror the bed plans if potential gains are to be realised.