

DISCUSSION DOCUMENT

STRATEGIC FRAMEWORK FOR THE MODERNISATION OF TERTIARY HOSPITAL SERVICES

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National Department of Health
May 2003



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Introduction

The Modernisation of Tertiary Services (MTS) Process seeks to develop a consensus on the appropriate future direction of tertiary and highly specialised care in the South African public health system. Its aim is to ensure that Government can plan for and provide affordable and efficient tertiary health care of the highest quality, which can be accessed by all South Africans, wherever they may live in our country and whoever they may be. By working with specialists across all disciplines, with health sciences faculties, other Government departments and many other stakeholders, the Department of Health aims to identify how best to modernise and upgrade our tertiary services, while taking into account the economic, social and epidemiological realities which face South Africa today and in the years to come. Through this work, we wish to develop a common vision for tertiary care, which can be shared within the health community and with the wider public to ensure their support in preparing our major hospitals to face the future.

Between August and October 2002, the Modernisation of Tertiary Services team of the National Department of Health convened a series of workshops, which brought together public sector clinical experts from fifty specialties and sub-specialties from across the country. The purpose of the first round of workshops was to brief participants on the MTS process as a whole, and to provide each specialty and sub-specialty group with an opportunity to debate in detail the current status and likely future of their field. Groups were asked to provide a detailed written report on the outcomes of their discussions, using a structured reporting format. Fifty separate reports were completed and submitted to the MTS Project Team (a full list is provided at Appendix 1).

All the reports received have been the subject of detailed analysis by the MTS Project Team. They contained a wealth of detail, insight and innovative and exciting proposals to stabilise and strengthen the public hospital sector. Throughout all the reports, and underlying all the technical and clinical minutiae they necessarily contained, the profound commitment of the participants in this process to strengthening the accessibility and the quality of specialised health services for ordinary South Africans shone through clearly. The MTS Project Team used these specialty reports as the basis for a first draft of this document – the Draft Strategic Framework. The Draft Strategic Framework was disseminated to all specialty group members, and a second round of workshops was held during February and March 2003. The second round workshops aimed to provide specialty groups with an opportunity to provide feedback on the Draft Strategic Framework itself, and to revise and improve their earlier reports in the light of the contents of the DSF. The second round also afforded the opportunity to involve a larger number of participants, as a number of

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specialists had not been able to attend the first round of workshops. Groups were set a deadline of the end of March to submit their comments on the DSF, and to provide revised versions of their earlier reports. By the end of April, all groups had succeeded in providing these inputs, allowing the MTS Project Team to finalise the Strategic Framework, which is presented here.

Objectives of the Strategic Framework Document

This document, the “Strategic Framework”, is the product of our analysis of the written outputs of the specialty workshops. Its purpose is to extract the critical messages and information from each of the report, and to synthesise them into a set of specific options and scenarios, and thus to generate a small number of alternative visions of the development of the public tertiary hospital system over the next decade. Considerable further quantitative modelling will be performed on these basic scenarios (especially with regard to their investment requirements and cost implications); from that basis, it will then be possible to conduct a detailed option appraisal, and to allow an informed public and political debate, with the ultimate aim of agreeing a long-term national plan for this sector. The Strategic Framework does not itself constitute either a “plan” or a policy in its own right. Rather, it is a distillation of the key challenges and choices, which a plan for the development of the public hospital system will have to face, and resolve, and is an intermediate step towards developing such a plan. Having been subjected to detailed discussion and revision during the second round specialty workshops, and by a parallel workshop of hospital managers and planners, it is now appropriate that the Strategic Framework receive broader discussion by a wider set of stakeholders and service users.

Future Trends and Likely Developments

Specialty groups each spent some time considering the key trends and developments they felt would be likely to influence their discipline over the next decade. At the level of specific diseases and technologies, their reports are obviously detailed and specific to their own discipline. However, it is useful to attempt to extract the more important generic themes which emerged from the “futures scanning” exercise; indeed, it is striking that a few very clear common themes run across almost all specialties.

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Demand Factors

Specialties examined the likely future need and demand for their services, with many providing supporting documents to illustrate and expand the summary presented in their reports. It is hard to do justice to the wealth of information presented in the individual reports, but at the grossest level a few crucial themes emerge. Most importantly, at the epidemiological level, the reports together present a clear picture of a society facing a triple epidemiological burden:

- **Communicable diseases and diseases of poverty** are still a major burden in South Africa, most crucially the HIV/AIDS and TB epidemics (although these are by no means the only culprits); these diseases have a significant impact on tertiary services, despite efforts to manage them at primary and secondary level.
- **Non-communicable diseases** reflecting the demographic and epidemiological transition (sometimes referred to as “diseases of affluence”, in reality a strikingly inappropriate misnomer) are predictably increasing as the population grows older and more urbanised; key diseases in this category include coronary heart disease, stroke, diabetes, lung cancer, breast cancer, and rheumatoid arthritis (to name but a few of the more prominent examples). The very fact of an ageing population itself requires the availability of geriatric services properly aligned with the needs of older people.
- South Africa also suffers especially severely from a third source of disease burden which is directly linked to the process of social, political and economic transition itself – in the broadest sense, **the epidemic of trauma and injury** which has accompanied rapid social change. Clearly, the key drivers of this epidemic are injuries from road traffic accidents and injuries from intentional violence (domestic and sexual violence, alcohol-related violence, and other forms of violent crime); smaller in scale, but of great significance to specialised hospital services is the epidemic of serious burns, driven primarily by the continued use of dangerous fuels for cooking and lighting in crowded informal settlements. The secondary impacts of this epidemic on mental health are only dimly understood, but are felt by many to be of grave significance. The trauma epidemic can reasonably be expected to decline in future as specific preventative measures (e.g. road safety, crime prevention, electrification) and the benefits of general economic growth (e.g. better housing, declining crime rates) have an increasing impact. However, there are strong grounds to believe that the final peak of the injury epidemic may lie as far as ten or fifteen years in the future – and that the situation will therefore get worse before it gets better.

These three parallel groups of diseases and ill-health combine to suggest that objective measures of “need” for health services in the South African population will continue to rise for several years. Communicable diseases and the epidemic of injury can be mitigated and controlled by robust

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preventative interventions (as, indeed, can many non-communicable diseases), but even under the very best scenarios of commitment to controlling these problems, it would be some years before a definitive turning point can be reached. Even then, reductions in expenditure and health care infrastructure would only conceivably become possible some years after a downward trend in either group of epidemics had been clearly established – and would most likely be offset by the growing pressures of ageing and non-communicable diseases.

In common with developed country health systems, many specialties note that patients are becoming more assertive in demanding health care. In the case of South Africa, this represents a highly desirable break with the past, and reflects an improved understanding by the majority of the population of their rights and entitlements. However, such “consumerism” does place an additional workload on the public health system; raised expectations of service require both improved practices and improved resources if they are to be achievable or sustainable.

A final demand factor, which may be important in years to come, is the continuing evolution of the medical schemes and private health care industry. Deliberate attempts to encourage utilisation of public hospitals by medical scheme members are beginning to bear fruit; while this initiative obviously provides revenue to cover the costs of such care, it will also increase the workload of public hospitals (especially in the tertiary centres, which are most acceptable to private patients). Less predictably, it is conceivable that medical scheme cover will start to become too expensive for many current members, leading them to drop out of private cover and into the state system. Alternatively, moves towards social health insurance or national health insurance might expand medical scheme cover, or radically change the basis of health funding nationally.

Supply Factors

The futures scanning exercise looked in detail at the likely technological developments to be expected in each specialty over the next decade. This clearly generated a mass of detail, which cannot easily be presented in summary form, although key factors will be incorporated into the scenarios for each individual specialty. In brief, the most important likely developments reported were as follows:

- **Improved capabilities in diagnostic imaging** were regarded as being of great importance by a majority of specialties. They referred mainly to technologies which are already available internationally, but which are either limited in their deployment or not yet available in South Africa, especially multi-slice CT scan, MRI scan and PET scan.
- **New drugs** predictably attracted attention from certain specialties – although it is striking that attention focused overwhelmingly on introducing or expanding access to drugs that are

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already in widespread use overseas (e.g. statins, ACE inhibitors, antiretrovirals etc.), but which have to date been regarded as beyond the means of the South African public health system; there was apparently little expectation that truly new drugs would make much of an impact in the next decade. A number of specialties also sounded a cautionary note on the worldwide trend of increasing antibiotic resistance among both community-acquired and nosocomial infections; the magnitude of this problem appears set to continue to grow, with little prospect of a breakthrough in new anti-microbials.

- Several specialties regarded improvements in our understanding of the **genetic basis of disease** as likely to be important in the coming decade – although all agreed that this field is rather unpredictable. It seems clear that screening technology will advance rapidly, but opinions differ as to the likely utility of much genetic screening for disease susceptibility; and many feel that the use of genetics for therapeutic purposes remains some way off, while others contend that important breakthroughs are imminent.
- Increased use of **minimally invasive procedures** seems to be a safe bet in many surgical disciplines; similarly, new imaging technologies offer the prospect of reducing invasive diagnostic procedures (such as angiography) in certain disciplines.
- Developments in **information technology and telecommunications** were generally seen as likely to be an important force in the coming decade. Likely developments range from the transition to digital (film-free) imaging and data transmission, through electronic patient records, to wide-scale use of telemedicine, remote consultation, and even robotics in some areas of surgery. Indeed, other than developments in diagnostic imaging technologies, most specialties' discussion of likely developments in clinical equipment seem to be dominated by IT and computerisation of existing functions, rather than the introduction of wholly new processes.

An Enabling Framework for the Modernisation of Tertiary Services

In order to improve the quality and sustainability of tertiary hospital services, different specialties and disciplines will clearly require different emphases and tailored planning solutions. Nonetheless, a number of very important common themes are clearly visible in the specialty reports, and these themes will require common solutions. These broad themes are:

- Human resources
- Equipment and infrastructure
- Management and organisation

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- Transport and communications

This section identifies the most frequent and/or important improvements proposed by specialty groups to some of the problems that currently inhibit the revitalisation of tertiary services; it also identifies a few issues on which the views of specialty groups were contradictory or ambiguous.

Perhaps two messages stand out most clearly from the reports submitted. The first can be paraphrased as “humans before hardware” – namely, while important problems exist in relation to equipment and infrastructure, their solution would achieve little or nothing if the crucial human resources questions cannot be answered successfully. The second is that the functionality and future development of both regional hospital and tertiary level services are inextricably interdependent. Failure in one level will compromise the other, and therefore development plans must proceed in tandem for both regional and tertiary hospital services. It is clearly essential that the development and planning process take both these messages to heart.

Human Resources – Recruitment & Retention

The grave problems in retaining skilled professionals within the public service were perhaps the problem most frequently cited by groups, followed by the related problem of recruiting appropriately skilled staff to serve in regional hospitals and non-metropolitan areas. Complementary proposals to alleviate these problems included the following:

- General upgrading of salaries of skilled health professionals (not only medical), at all levels of the health service, making these professions more attractive to enter and to stick with
- Reinstatement of small benefits which make the working environment more pleasant and which improve motivation (e.g. tea and sandwiches for staff in theatre, funding to attend conferences etc.)
- Targeted incentives to attract candidates to under-staffed areas – e.g. rural allowances / “scarce skills” allowances / “hard to fill” post allowances; and that such incentives need to combine both salary and other benefits (e.g. housing subsidies, bursaries for children’s education etc)
- Significant upgrading of the status of general specialists in regional hospitals and the creation of generalists posts in the tertiary level who will take responsibility for the whole patient rather than an organ system, including career pathing, increased opportunities for university joint appointments at regional hospital level, accelerated promotion etc.
- Creation of new posts where there are currently shortages in key departments, especially in regional hospitals

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- Creation of mid-career posts for doctors and improved career pathways for newly qualified specialists
- Compulsory community service for newly qualified specialists (a highly contentious proposal – attractive to some groups, vigorously opposed by others)
- Continuous review of RWOPS policy to ensure that it can be used as an incentive to retain talent in the public sector without undermining public services
- A significant change in attitude by the HPCSA and member bodies to make it far easier for well-qualified foreign health professionals to work in South Africa (including proposals to limit registration to allow practice in the public service only)
- Active advertisement of SA posts in key “brain drain” destination countries (e.g. UK, Australia, New Zealand, Canada, USA), perhaps with assistance / funding from these governments, to i) recruit back SA staff and ii) attract well-trained foreign professionals. Offering incentives or assistance with relocation costs for returning SA staff could further strengthen this.

Readers should note that concrete action is already being taken on a number of these proposals (e.g. rural allowances, foreign health professionals), but the need for a multi-level response is clearly accepted.

Human Resources – Training & Skills

Clearly, training and skills development go hand in hand with recruitment and retention strategies. A number of significant improvements to training were regarded by many groups as being important foundations for the future improvement of both regional and tertiary services. Nowhere does this appear to be more urgent than in the area of improving the availability of nurses with post-basic specialised training. The shortage of nurses with specialised training appears to be a problem in virtually every specialised discipline; in some specialties this shortage is extreme (e.g. adult ICU); in others it verges on the absurd (e.g. the Paediatric ICU group reported that there are only two registered paediatric ICU nurses currently working in South Africa). Proposals to strengthen the availability of specialised nursing expertise include:

- The urgent need to expand the availability of and funding for specialised nursing training (both locally, via distance learning, and through bursaries and arrangements for overseas training)
- Incentivising the acquisition and updating of skills, by offering better career pathways and remuneration for nurses who acquire specialised qualifications and who continue to practice in their specialised field
- End immediately the obsolete practice of regularly rotating nurses through different wards and departments; this practice (still disturbingly widespread) is seen as a near-guaranteed method of destroying team-working and preventing the acquisition of specialised expertise

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In the area of training medical specialists, some practical improvements to the current system were proposed:

- Develop a mechanism by which to link training (registrar) posts to permanent posts after qualification
- Similarly, to ensure that the number of training posts offered in each discipline should be organically linked to long-term service plans for these specialties
- Develop mechanisms for the sharing of a single highly specialised service unit by two or more medical schools (i.e. where it is not cost-effective for each medical school to have its “own” unit)
- To train larger numbers of “general specialists” (general medicine, general surgery, obstetrics and gynaecology, paediatrics, radiology, anaesthetics), and to make these disciplines more attractive to junior doctors choosing their direction for advanced training
- To establish training posts in regional hospitals, whose holders could spend some of their time under supervision in the nearest tertiary centre
- Make available “quasi-specialist” training and diplomas for general specialists working in regional hospitals (e.g. cardiology or oncology diplomas for general physicians)

Finally, there is a clear need to continue to improve the availability of well-trained managers and administrative personnel, especially to improve their practical training and skills.

Equipment & Infrastructure

Specific proposals on particular equipment requirements were made by most specialties, and will be dealt with in the presentation of organisational models below. However, several generic issues will need to be dealt with in any overall framework:

- There is an urgent need for a large-scale replacement of clinical equipment in most specialties, as one of the first steps in the modernisation process – under-investment in equipment replacement has resulted in an ageing, obsolescent equipment stock, a large proportion of which is not functional at any given moment
- Such an equipment replacement programme must then be sustained on a rolling basis, to ensure that this backlog does not build up again in future – and must encompass both regional hospitals and tertiary hospitals

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- All equipment must be properly maintained, and maintenance must be adequately funded; several specialties regarded annual maintenance costs in the region of 20% of original purchase price as an appropriate rule of thumb
- Innovative approaches to equipment management (e.g. leasing, contracts for re-usables etc.) should be adopted, to reduce the risk of future under-funding of maintenance and replacement
- Equipment utilisation rates can be greatly improved, through a combination of appropriate staffing, extended hours of operation, intelligent scheduling of patients over extended hours, and adequate funding of consumables and materials
- Finally, while relating primarily to a single specialty (radiology), it is important to note that over half of all specialty reports explicitly argued for improved investment in and availability of various diagnostic imaging technologies (primarily CT Scan and MRI); this level of demand for improved imaging can legitimately be described as a generic issue

Rationing Services and Technologies

Many specialty reports dealt with the problem of “under-servicing” of the SA population relative to likely needs. Prevalence rates and/or international intervention rates were frequently cited, often indicating that the public sector may currently meet only a fraction of the likely burden of disease in various specialties. Concerns about lack of explicit guidance on difficult clinical rationing decisions were also raised in several reports. While the MTS process itself is unlikely to resolve these underlying problems (especially in the short term), it seems likely that a policy mechanism by which to address rationing dilemmas will need to be established as an adjunct to the planning and implementation process. This mechanism would need to address three recurrent themes:

- Even with significant investment and expansion of services, it is highly unlikely that all “need” in all specialties will be met any time soon; therefore, the generic question of prioritising access to treatment (both at the individual and the population level) will remain highly pertinent
- Certain manifestations and complications of HIV/AIDS ideally require treatment from tertiary services (e.g. Kaposi’s Sarcoma, lymphomas etc), which are well beyond the routine treatment of opportunistic infections or even antiretroviral therapy in terms of cost or complexity; specialties reporting significant direct increases in complex HIV-related workload included oncology, haematology, dermatology, neurology, paediatric gastroenterology and ophthalmology. The growing HIV load raises questions about the relative priority to be accorded to these cases versus HIV negative patients of these specialties; more widely, the HIV epidemic raises difficult questions about the extent to which – when resources are limited – HIV negative patients should or should not receive precedence over HIV positive patients for

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expensive interventions for other conditions. There also appears to be an assumption that any future introduction of antiretroviral therapy might further change these equations (in different directions for different conditions).

- Finally, several specialties noted the *de facto* restriction of access to expensive services for persons with congenital disorders and/or learning disabilities; the handling of this issue clearly also requires attention at a wider level.

The futures scanning exercise undertaken by the specialties gives a very clear foretaste of some of the policy decisions, which will soon be required on many different technological developments. Just some of the more expensive and imminent pressures include whether or not to expand access to statins and ACE inhibitors in adult cardiac patients; closure devices for paediatric cardiac patients; Xigris for ICU patients; and PET scanner technology. Most of these issues are well beyond the scope of the Essential Drugs List mechanisms at present. There is therefore a need to further develop the national health technology assessment capability to provide an institutional process for evaluating and developing guidelines on the introduction (or non-introduction) of expensive new technologies in the tertiary sector, in a way that is proactive and legitimate in the eyes of stakeholders. The Gastroenterology group made detailed proposals for a specialty-level committee to advise on technology uptake, but such an approach would obviously need to be system-wide.

Management and Organisation

A number of generic organisational themes also stand out from the specialty reports. These can be summarised as follows:

- The need to create stronger linkages between each tertiary hospital (and individual service) and its linked network of regional hospitals, especially in the area of follow-up management and effective mechanisms to supply and fund repeat prescriptions of “tertiary” drugs at local level
- The need to define these regional-tertiary networks in terms of “natural” regions based on patient flows and transport links, and not on arbitrary provincial borders
- Repeated calls for funding and planning of tertiary services to be separated from provincial control and to be managed as a national function. This proposal is motivated partly by a desire to avoid arbitrary restrictions upon treating patients due to provincial boundaries (see previous point), but also due to a sense that national funding and management would be more

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effective than that of provincial health departments. It should be noted that, while elements of this argument have very strong grounds to commend them, groups often gave a sense that they believed that national funding would somehow remove tertiary services from any form of cost control or management influence – which is clearly an unrealistic expectation!

- A strong consensus that appropriate forms of outreach from tertiary to regional levels should be seen as a “normal” element of service, and not as a “special” activity
- The need to end verticalised, “silo” management of medical, nursing, paramedical and administrative functions, and to move towards integrated departments or clinical directorates
- The need to improve flexibility and decentralisation of decision-making on key areas which currently cause much frustration e.g. filling of posts, cost-centre management, working hours etc.
- Expanding this theme, specific requests from many groups to have fully-fledged cost-centre budgeting by department / specialty, with heads of units having significant control over the management of these budgets (i.e. to allow them to prioritise within budgets, rather than having arbitrary cost control measures imposed on them externally)
- Different groups appeared to have conflicting attitudes to management questions. Some wish to reduce the administrative load on clinicians, allowing them to concentrate on patient care. Others, by contrast, call for clinicians to be given much greater management responsibility over all aspects of their services, from personnel and financial issues through to direct procurement of supplies. These visions are clearly contradictory – but they do highlight a common theme of dissatisfaction with the current reality of management and administration systems
- Repeated calls to establish much better systems and registries for recording disease and intervention data, to provide a basis for evaluation and planning of services in future
- Most groups raised the issue of separate children’s hospitals at supra provincial tertiary level and the lack of adolescent care facilities at all levels of care; however there seemed to be no consensus on how to deal with this matter. Many paediatric groups viewed separate children’s hospitals as an ideal goal. Others pointed to important areas of overlap between adult and paediatric services, which mean that children’s hospitals may sometimes impede efficiency and quality. Shared equipment and administration with separate facilities and accommodation for adults, adolescents and children on the same site were viewed as the most sensible solution given the existing resource constraints within the health sector.

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Transport and Communication

Transport and communication systems were another universal problem area, which will clearly require a unified approach to improve:

- Patient transfers to and from hospital are currently very poor, and a key cause of delayed discharge and excessive length of stay
- Lack of basic subsidised transport and overnight accommodation are a key deterrent to patients referred on an ambulatory basis; a simple, well-organised and well-scheduled system of free or subsidised transport between different levels of hospital, combined with “patient hotels”, could dramatically improve patient access from outlying areas to the main referral centres
- It was noted that a functioning transport system could also overcome the long-standing problem of drug availability at lower level facilities – a good basic transport system could also be used to routinely deliver follow-up prescriptions from tertiary centres, for patients to collect at their local facility
- Emergency transfers of critically ill patients need to be greatly improved and speeded up, with appropriate use of aircraft expanded; several groups argued strongly that current transfer times between levels of care are leading to adverse (and entirely preventable) outcomes in many patients
- Most groups also saw telemedicine as a significant vehicle for improving communication and patient management (but enthusiasm was not universal, with certain groups arguing that current technologies do not yet deliver all they claim to offer); beyond telemedicine per se, there is clearly a need to strengthen the availability of telephone, fax and email facilities for clinical staff at lower level hospitals, and hence allow better access to advice and coordination with tertiary centres.