COMPREHENSIVE SERVICE PLAN

FOR THE IMPLEMENTATION OF

HEALTHCARE 2010

MAY 2007

INDEX

INDEX OF TABLES

PART A: DISTRICT HEALTH SERVICES

PART B: PLAN FOR THE RESHAPING OF PROVINCIAL HOSPITAL SERVICES

INDEX OF FIGURES

INDEX OF ANNEXURES

FOREWORD

Healthcare 2010 and the Comprehensive Service Plan for health services in the Western Cape signal a change in the way health services in the province will be delivered in future.

This plan will lead to the strengthening of district health services and in particular the development of community-based services. This in turn will result in better quality and more accessible care for many people in the communities where they live. Further steps will allow the realistic development of more specialised health services in the regional and central hospitals in support of the district-based services.

What the Comprehensive Service Plan further allows is the determination of what government health policy requires in terms of resources be they human, infrastructure or financial. Whilst it may not be able to provide for all the identified needs, the plan provides for a new framework within which services will be delivered and a rational basis for making choices in this regard.

I have subjected the draft Comprehensive Service Plan to a rigorous process of public comment and arising from that process, various amendments were made to the final plan. Having evaluated the many inputs received and the final document I am of the opinion that the final document provides a firm basis from which to take forward health service delivery in the Western Cape. It is thus a pleasure to approve this plan for implementation and to release it as a public document.

PIERRE UYS
PROVINCIAL MINISTER OF HEALTH: WESTERN CAPE
DATE:

ACKNOWLEDGEMENTS

I should like to pay tribute to all those involved in the development of the Comprehensive Service Plan especially the management of the Department of Health. In particular, I should like to acknowledge the contributions of Vera Dettling, Director Policy and Planning and Piet Koornhof, Niël Mouton, Chris van der Merwe and in particular Willem van Rooyen who comprised the Restructuring Team or RT Team as they were known. Willem van Rooyen with his unique skills has played a very significant role in developing the models that have enabled this plan to have the sound basis that it does.

Others who made significant contributions were Dr Terence Carter and Dr Richard Muller who respectively co-ordinated the work and provided the technical support for the Tertiary Services Workgroup that made significant inputs into the tertiary services planning. It would also be correct to acknowledge the inputs of Dr Nils Bergman and Dr Belinda Jacobs to aspects of the plan. I would also acknowledge the inputs by Dr Keith Cloete, Dr Tracey Naledi, Dr Linda Hering, Ms Jenny Hendry, Dr Cleeve Robertson, Mrs Vontia Thompson and Dr Unati Mahlati to specific programme related aspects of the plan.

On a personal level I would like to thank my close colleagues during this process Dr Beth Engelbrecht, Dr Fareed Abdullah and latterly Dr Joey Cupido for their support and leadership in developing together with me both the original Healthcare 2010 document and this Comprehensive Service Plan.

PROFESSOR CRAIG HOUSEHAM
HEAD HEALTH: WESTERN CAPE
DATE:

SERVICE PLAN TO FACILITATE THE IMPLEMENTATION OF HEALTHCARE 2010

INTRODUCTION

The purpose of the Service Plan is to provide a guideline for the implementation of Healthcare 2010 at all levels of care. Healthcare 2010 was developed to improve the quality of the healthcare service and to provide a financially sustainable health service in the Western Cape.

In order to achieve this the budget must be prudently and optimally utilized by treating patients at the level of care that is most appropriate to their needs and the resources allocated to health care facilities should be aligned with the level and type of care that they are required to provide.

The Service Plan provides a framework that will facilitate the reshaping of the service that is necessary to achieve the goals of Healthcare 2010. The proposed shape of the health services requires a solid base of Primary Health Care (PHC) services that is integrated with level 2 and 3 services to provide a seamless service for patients. It is important that the reshaping of the services be viewed holistically as the restructuring will have to be carefully synchronized to prevent disruption of services.

It is intended that the existing service platform be restructured towards the Healthcare 2010 shape by 2007/08, initially in the existing infrastructure. E.g. the level 1 beds that will subsequently be situated in the envisaged Khayelitsha Hospital, to be constructed in the next few years, will be provided within the existing infrastructure in the interim.

The development of the service plan has included research and consultation with a large number of stakeholders in the Department.

The first draft of this document was released to a limited internal audience in May 2005. Useful feedback on the first draft was subsequently incorporated into this second draft of the document together with additional work that was completed subsequent to May 2005. A two-day workshop was held subsequently with top management and various other managers representing the services in September 2005 during which the principles were discussed with the respective divisions, useful feedback obtained and further areas of work were identified. There was further consultation with the representatives of both divisions to address the issues raised and to incorporate their feedback, as far as possible in the second draft.

The guiding principles followed in developing the plan were to base the recommendations on factual data and consultation and to develop a logical and objective plan.

The second draft of the document was work-shopped intensively with the members of top management in Caledon from 7-9 February 2006 in order to further refine and coordinate the plan before finalising the discussion document for external consultation. The changes to the sub-district boundaries in the Cape Town Metro district in December 2005 that were approved by the provincial Minister of Health required a revision of the proposals for the Cape Town Metro district.

The draft document was submitted to the Provincial Cabinet which noted and approved the Comprehensive Service Plan on 19 July 2006. Following this there was a process of consultation with external stakeholders from whom extensive written feedback was obtained. As a result of this process amendments were made to the plan where deemed necessary. An example is the revised distribution of level 2 beds in the Metro. An issue that has been frequently raised is that of the relief factor particularly for nursing staff and therefore it is confirmed that in the calculation of the staff numbers provision has been made for the normal absenteeism that results from vacation and sick leave. However, the issue of further relief staff will be addressed in the process of refining the staffing models.

Note that the Oral Health Plan that is in the process of being developed has not been included in this process to date.

The document consists of the following parts and a number of annexures:

- Part A: District Health Services
- Part B: Acute hospital services
- Part C: Specialist services;
- Part D: Emergency Medical Service;
- Part E: Forensic Pathology Services; and
- Part F: Conclusion

PART A: DISTRICT HEALTH SERVICES

1. INTRODUCTION

Part A is divided into two main sections. The first section addresses the facility-based services, i.e. clinics, community health centres and district hospitals and the second section addresses community-based services. Within each of these components the modelling processes for the Cape Town Metro district and the rural districts are addressed.

1.1 The role and importance of District Health Services (DHS)

Primary Health Care (PHC) is the foundation of an effective and efficient public health service as:

- It is most frequently the first point of contact between the patient and the health service, i.e. it is the gateway to the service;
- It should provide a comprehensive and integrated package of essential PHC services.
- Efficiencies and inefficiencies at this level impact significantly on the entire health system.

1.2 The following criteria were considered in the planning process:

1) Geographic accessibility and equitable distribution of resources between sub-districts for everyone living and working in the Cape Town Metro district.
2) The provision of a comprehensive and integrated package of essential PHC services as determined by the National Department of Health (NDoH).
3) Development of effective and efficient service units.
4) Well-balanced health teams in terms of skill mix to render the envisaged package of services.
5) The provision of operational support between the facilities: i.e. clinic, community health centre (CHC) and district hospital.
6) District management structures that ensure proper co-ordination between the various levels of PHC services.
7) Effective referral systems to ensure that referred patients gain easy access to the next level of care, e.g. clinic to CHC or district hospital. This would also assist in preventing patients from inappropriately bypassing the lower levels of care.
8) Clear links between the current reality and the planned services to facilitate implementation:
   - Current facilities in drainage areas per sub-district;
   - Current utilization trends in facilities and sub-districts.

1.3 Challenges:

Some of the challenges that had to be addressed during the planning process are highlighted below. These will subsequently be addressed in more detail.

1) *Should the comprehensive package of care be made available to the entire population or only the uninsured population?*
   In the document: 'A comprehensive Primary Health Care Service Package for South Africa' (2001: 7) the National Department of Health (NDoH) explicitly states that the intention is to make the package of care available to the entire population. Specific health service needs of the sub-districts were also taken into consideration and accommodated, e.g. HIV and AIDS and TB. This is in line with the stated intention of the NDoH: "This comprehensive package of PHC services is expected to be universally accessible and be guaranteed for every citizen of our country." This would provide a solid base for a single unified health system and this concept was applied to the planning process.

2) *How should equity between the sub-districts be addressed?*
If the uninsured population is used as the basis on which to calculate the allocation of health care resources between the sub-districts of the Cape Town Metro district, the outcome indicates that there should be significantly fewer resources allocated to the Western, Northern and Southern sub-districts. This implies that based on this method several existing facilities should be closed in these sub-districts. However, current utilisation figures of health facilities in these sub-districts are higher than they 'should' be if they were only catering for the uninsured population in these areas.

The uninsured population refers to the number of uninsured people living in a particular area. However, workers migrate between sub-districts on a daily basis and may choose to use the services close to their places of employment.

The outcome of the application of an equity measure which is based on uninsured population only is contradictory to the intention of the National Department of Health policy and Healthcare 2010.

In order to ensure equitable access for all, the allocation of resources for Primary health care services are based on total population per sub district (Adjusted Census 2001). Geographical maps showing the distribution and size of human settlements were used to allocate clinics and CHCs. A clinic has been allocated for every 30,000 people. In densely populated areas this resulted in very accessible facilities in terms of distance to be travelled. For services to be accessible, the maximum travelling distance to the clinic should not be more than 3 km. In *all* the high density settlements in *all the sub districts* of the Cape Town Metro district access is well within the above access norm. The majority of uninsured people in the Cape Town Metro district are concentrated in high-density settlements.

Applying the clinic per 30,000 principle to less densely populated settlements, the distances to clinics increase in direct relation to the decrease in population density. Most of the insured population are concentrated in less densely populated areas. It should be kept in mind that the facilities in those areas of the Cape Town Metro district (mostly in the Western, Northern and Southern sub-districts) are also accessible to large numbers of migrating (uninsured) workers.

The full Package of PHC Services are to be rendered in all the planned PHC facilities. However, the quantity of resources allocated for particular health services, e.g. ARVs, HIV and Aids, TB, etc. will depend on the health needs in specific settlements.

3) *The apparent undercount of certain sub-districts and suburbs of the Cape Town Metro in Census 2001 had to be accommodated*.
However, to maintain consistency the Census 2001 population figures were used as the baseline for all calculations. Provision has been made in the PHC planning tools e.g. the PHC utilization and workload calculator to deal with population adjustments.

4) *Data:* Lack of relevant information, e.g. the full package of comprehensive PHC is not yet implemented and therefore a complete set of related data is not available. The current data reflects the fragmentation of a number of small clinics with limited services in the Metro.

2. FACILITY-BASED SERVICES: THE URBAN MODEL

2.1 **The planning process and approach**:

Due to the population density in urban areas it was possible to achieve efficiency gains by increasing the population served per clinic. Calculations indicate that one clinic, with a staff establishment of 18 staff members per 30,000 people would increase efficiency without compromising access to facilities. The allocated staff would be sufficient to render the full package of PHC services.

Table A1: Summary of full package of PHC services in clinics

CLINICS: COMPONENTS OF SERVICE
1. **All Curative, Promotive and Preventative services including well woman services, (screening for cancer, etc)**
Protocol: Preventive health care for children under the age of 5 years
Protocol: Curative health services
Protocol: Acute curative and minor emergencies
Protocol: Screening for cervical cancer
Protocol: Sexually transmitted illnesses (STI's)
Protocol: People with Tuberculosis
Protocol: Violence, sexual abuse and other abuse
2. **Antenatal, postnatal care, family planning and other specialized services**
Protocol: Antenatal care
Protocol: Postnatal care
Protocol: Fertility regulation / family planning
Protocol: Rehabilitation services
3. **Mental Health**
Protocol: Mental Health
4. **HIV AND AIDS**
Protocol: People with HIV AND AIDS
5. **Walk through services**
Dispensing of Fertility control and family planning Methods
Daily DOT pre-prepared dosages, observed patient swallowing, record on patient's card.
Chronic patients medicine collection
Immunisation for children
Dispensing of sun-screen for people with albinism

Note: Termination of pregnancy and deliveries are not performed at clinic level in the Western Cape and are therefore excluded from the above list.

Table A2: Summary of full package of PHC services in CHC's

CHC: COMPONENTS OF SERVICE
1. Protocol: Antenatal care
2. Protocol: Termination of pregnancy
3. Protocol: Reproductive health: other
4. Protocol: Chronic disease care
5. Protocol: Tuberculosis
6. Protocol: People with HIV and AIDS
7. Protocol: Other curative
8. Mental Health
9. Oral Health
10 Protocol: Rehabilitation and disability services
11 Occupational Health
12. Protocol: Casualty
13. Protocol: Maternity

Note: Service delivery regarding Environmental Health is a local government function.

Tables A1 and A2 reflect a summary of protocols as published by the National Department of Health in the Primary Health Care Services Package for South Africa (September 2001).

2.2 **Modelling**:

2.2.1 **Clinic**:

The optimal size of an urban clinic was determined in terms of the number and skill mix of the staff. The model advocates a component of 18 staff members. The aim is to create a balance between the various categories of staff (skill mix) and their optimal utilization in an integrated unit (Primary health care team). Sufficient management, administrative and pharmacy staff have been provided to ensure that the clinical nurse practitioners with their clinical support staff can utilize their available time for clinical work. This component of staff should be able to render the full package of PHC services on clinic level. The detailed model establishment for an optimal sized urban clinic is listed in Table A3 below.

It is planned that there should be at least one CHC-based clinic per sub-district that provides extended hours of clinic services. This will be a nurse-driven service providing the comprehensive package of PHC services until 21:30 for seven days per week. It is anticipated that this will improve access to clinic services and also relieve the burden of non-emergency after hour visits to trauma and emergency units at hospitals.

Table A3: Staff establishment of a model clinic

	SALARY LEVEL	POSTS
OFFICE: HEAD OF INSTITUTION		
Facility manager	8	1
ADMINISTRATION		
Chief Admin Clerk (40 % management)	7	1
Admin Clerk (Admissions)	6	3
GENERAL SUPPORT		
Cleaners	1	2
CLINICAL SERVICES		
Clinical Nurse Practitioner	8	4
MEDICAL ANCILLARY SERVICES		
Principal pharmacist	9	1
Pharmacy assistant	4	1
Auxiliary services officer (Health counsellor)	4	2
CLINICAL NURSING SUPPORT		
Professional nurse: production	6	1
Enrolled nurse	5	1
Enrolled nursing assistant	3	1
TOTAL		**18**

2.2.2 **Community Health Centres**

The following criteria were used in the modelling of Community Health Centres (CHCs):

1) Every clinic is linked to a CHC for patient referral and clinical and administrative support purposes.
2) Access to CHC services determined the allocation of CHCs to communities.
3) Every CHC has a gateway clinic to provide clinic level services to the population in its vicinity.
4) The staffing of CHCs depends on the number of clinics that are attached to it. Normative ratios were used to determine the allocation of specific posts. For example for every 4 clinical nurse practitioners on clinic level a medical officer was allocated at CHC level.

The size of CHCs varies from small units serving ±30,000 people to large serving up to 120,000 people.

Midwife Obstetric Units are allocated to at least one CHC per sub-district. MOUs provide a 24-hour service. The clinical governance of the MOU's will be the responsibility of the district hospitals to ensure quality of obstetric care. The staff for MOUs and clinics providing anti-retroviral (ARV) therapy are allocated separately so as to be easily identifiable, in view of the specific conditional grant funding for HIV and AIDS.

Some CHC-based clinics will provide an extended-hours clinic service, including minor trauma and emergency services.

It is intended that the trauma and emergency units currently located at the 24-hour CHCs be centralized in the district and regional hospitals, as trauma and emergency services are regarded as hospital based services.

Table A4: The staff establishment of a small CHC with only one clinic attached and serving 30 000 people

Staff category	Salary level	Posts: CHC component
OFFICE: HEAD OF INSTITUTION		
Facility Manager	9	1
ADMINISTRATION		
Chief Admin Clerk	7	1
Admin Clerk	4	
Admin Clerk (Admissions)	6	1
GENERAL SUPPORT		
Cleaners	1	1
CLINICAL SERVICES		
Clinical Operations Officer / Family physician	12	1
Medical Officer	10	1
Clinical Nurse Practitioner	8	
Professional Nurse: specialized (Midwife)	7	1
Dentist	10	1
MEDICAL ANCILLARY SERVICES		
Principal Pharmacist	9	
Pharmacy Assistant	4	1
Chief Radiographer	8	1
Auxiliary Services Officer (Counselors)	4	2
Auxiliary Services Officer (Dental assistant)	4	1
NURSING SERVICES		
CLINICAL NURSING SUPPORT		
Professional Nurse: Unit Manager L8	8	1
Professional Nurse: Specialised (Mental H)	7	1
Professional Nurse: Production	6	1
Staff Nurse	5	1
Nursing assistant	3	1
Professional Nurse: Specialised (School H)	7	1
TOTAL		**19**

Note: Clinical Operations Officers can be exchanged with Family Physicians; and Medical Officers can be exchanged with Registrar posts according to the specific requirements.
The table above does not show the additional staff of the gateway clinic attached to the CHC.

Table A4 shows the staff establishment of a small CHC. The size of a CHC is determined by the number of model clinics linked to it. Each CHC has a clinic component to serve the population in the vicinity of the CHC, to serve as a gateway to prevent direct access to referral services. The clinic component that is attached to each CHC is not indicated in Table A4.

Table A5: Staff establishment of a large CHC with its own clinic component and 2 other clinics attached and serving 90 000 people

	Salary level	CHC Component
OFFICE: HEAD OF INSTITUTION		
Facility Manager	10	1
ADMINISTRATION		-
Senior Admin Officer	8	1
Chief Admin Clerk	7	1
Admin Clerk (Inform)	5	1
Admin Clerk	4	2
Admin Clerk (Admissions)	6	6
GENERAL SUPPORT		-
Housekeeping Supervisor	4	1
Cleaners	1	6
Light vehicle driver	2	1
Porter	2	2
Groundsman	1	1
CLINICAL SERVICES		-
Clinical Operations Officer / Family Physician	12	1
Medical Officer	10	3
Clinical Nurse Practitioner	8	-
Prof Nurse: specialised (midwife)	7	2
Dentist	10	2
MEDICAL ANCILLARY SERVICES		-
Principal Pharmacist	9	-
Pharmacist	8	1
Pharmacy Assistant	4	2
Chief Radiographer	8	1
Radiographer	7	1
Darkroom operator	4	1
Auxiliary Services Officer	4	2
Oral hygienist	5	1
NURSING SERVICES		-
CLINICAL NURSING SUPPORT		-
Professional Nurse: Unit Manager L8	8	1
Professional Nurse: Orthopaedics	7	1
Professional Nurse: Specialised (Mental H)	7	1
Professional Nurse: Production	6	2
Staff Nurse	5	2
Nursing Assistant	3	1
Professional Nurse: Specialised (School H)	7	1
EXTENDED HOURS PHC		-
Clinical Nurse Practitioner	8	2
Staff Nurse	5	2
MOU (24-hour service)		-
Professional Nurse: Specialised	7	5
Staff Nurse	5	5
Nursing assistant	3	5
Anti-retroviral therapy*		-
Principal Medical Officer	11	1
Medical Officer	10	1
Professional Nurse: Unit Manager L8	8	1
Professional Nurse: Specialised	7	1
Pharmacy Assistant	4	2
Auxiliary Services Officer	4	1
TOTAL		**75**

Note*: Anti-retroviral therapy staffing will be based on the HIV and AIDS prevalence rate in the relevant area.
The table above does not show the additional staff of the gateway clinics attached to the CHC.

Explanatory notes: CHC establishment

1) Only the CHC component of the CHC establishment is shown in Table A5.
2) Only one facility manager is required to manage the CHC with its gateway clinic.
3) In the larger CHCs a senior administration officer is responsible for administrative management whereas in the smaller CHCs a chief clerk is responsible for administrative management.
4) A dedicated information clerk is responsible for the co-ordination of information management in the CHC and attached clinics.
5) Medical officers:
   - A medical officer is allocated for every 4 clinical nurse practitioners.
   - A clinical operations officer (Family Medicine Practitioner) is responsible for the clinical management of the CHC and the attached clinics.

The following categories of professional workers will provide outreach services to the CHCs from the sub-structure offices:

- Physiotherapists
- Occupational therapists
- Speech therapists/audiologists
- Dieticians
- Social workers
- Psychologists

For the purpose of the Service Plan these posts were allocated to the four sub-structure offices in the Cape Town Metro district. Each sub-structure office will manage 2 sub-districts. Because of the restricted number of professionals required per sub-district the posts could not be allocated to each CHC. These can, based on the specific needs of a specific sub-district be detached to the large CHCs (operational issue to be addressed in operational plans)

2.2.3 **The development of a PHC workload and utilization calculator:**

An electronic PHC workload and utilization calculator was developed to integrate the following key PHC planning variables:

1) Utilisation variables:
   Refers to the number of times the average person visits a PHC facility per year and is derived from the following formulae:

   $$\text{Utilisation per capita} = \frac{\text{Total headcount (=number of patients)}}{\text{Total population}}$$

   $$\text{Utilisation per uninsured} = \frac{\text{Total headcounts (=number of patients)}}{\text{Uninsured population}}$$

2) Workload variables:
   - Direct patient care factor per category of staff, i.e. the percentage of time spent in direct contact with patients.
   - Minutes per consultation per category of staff.
   - Number of contacts of a patient with health workers at different service points during one visit to a facility.

     A patient contact refers to a consultation or treatment event between the patient and a health care worker. During a visit to a health facility a patient may consult with or be treated by more than one health care worker and may therefore have more than one 'contact' per visit to the facility.

     For example: a patient visits a clinic and is treated by a clinical nurse practitioner who refers the patient to the dressing room for treatment where treatment is administered by a different nurse, e.g. an Enrolled Nurse (EN) or Enrolled Nursing Assistant (ENA). The patient may then go to the pharmacy for medication. From a utilization perspective this

is one visit to the clinic but from a workload perspective this represents 3 contacts with 3 different categories of health workers.

- To calculate the utilization rate it is necessary to estimate the average number of contacts that a patient has with health workers during one visit to a facility.

3) Efficiency indicators:
   - Unit costs per contact
   - Unit costs per patient
   - Unit costs per capita

2.2.4 **Explanation of the application of the PHC utilization and workload calculator**

In the following example the calculator was used to analyse the staff establishment of a model clinic serving 30 000 people. The purpose of this is only to illustrate the application of the tool.

Table A6: Example of the PHC utilization and workload calculator

Module 1 of Calculator: Workload and population variables

Census 2001 projected to 2010:	30,000	
Correction Factor applied:	1.000	(To correct undercount)
Corrected population estimate 2010:	30,000	

Clinic: Model

Post description	Working days per annum	Minutes / day	Direct patient care factor	Minutes / Patient Contact	Contacts / day	Contacts per Post per annum	Posts (FTE's)	Total Patient Contacts	Contact Utilisation Rate per capita	Population served	% of total Clinic Contacts
Health Counsellor	221	450	0.85	20	19	4,227	2	8,453	0.28		6.2%
Clinical nurse practitioner	221	450	0.75	12	28	6,216	4	24,863	0.83		18.4%
Professional nurse consultations	221	450	0.75	7	48	10,655	0.5	5,328	0.18		3.9%
Professional nurse support	221	450	0.75	3.5	96	21,311	0.5	10,655	0.36		7.9%
Support: Enrolled nurse & nursing assistant	221	450	0.80	3	120	26,520	2	53,040	1.77		39.1%
Pharmacist assited by Pharmacy assistant (2 posts=Dispensing team)	221	450		6	150	33,150	1	33,150	1.11		24.5%
								135,489	4.516	30,000	

Administrative and support workload

Post description	Posts	Patients per post per annum	Minutes per patient
Clerk*	3.6	20,863	4.8
Cleaner	2	37,554	2.65

% Uninsured population	0.71
Uninsured population	21,300

Management

Facility Manager (including clinical management)	1
Admin management: Chief clerk*	0.4

Note:

These cell values can be changed by means of spin buttons

*Chief admin clerk time allocation: 40% management tasks and 60% production

Total number of posts	18

Table A7: Module 2 of the calculator

Estimation of the number of patients (headcounts) that visit the facility, based on the number of contacts calculated in Module 1

Assumption: Consults by clinical nurse practitioners, professional nurses and doctors will be supported by visits to clinical support personnel: professional nurses staff nurses, enrolled nurses and pharmacist.		**Contacts**
Clinical nurse practitioner		24,863
	Support factor*	
Clinical support: Staff nurse & nursing assistant	100%	24,863
Pharmacy	100%	24,863
Professional nurse (50% consultation; 50% support)		5,328
	Support factor	
Clinical support: Staff nurse & nursing assistant	100%	5,328
Pharmacy	100%	5,328
Total number of contacts		90,571
Number of *patients (=headcount)* treated during the above contacts (=24,863+5,328)		30,190
Total number of contacts per annum (calculated in module 1- Table A6)		135,489
One contact per person per visit (e.g. chronic medication) (=135,489 - 90,571)		44,918
Average contacts per person during a visit to a clinic (=135,489 / 75,108)		1.80
Patients (headcount) per annum		75,108
*Support factor: the support required by clinical workers can be adjusted in this column		

Table A8: Model outcomes: utilization and unit costs

Clinic utilisation per uninsured person	3.53
Clinic utilisation per capita	2.50
Contacts per patient per visit	1.80
Clinic headcount per annum	75,108

Explanatory notes on the above workload calculator:

Module 1:

1) The workload of different categories of health workers is expressed in terms of the number of patient contacts. To calculate the time available to treat patients it is assumed that a worker will work 221 days per year and each worker works 450 minutes per day (8 x 60 – 30 minutes for lunch = 450 minutes).

	Days
Total number of days per year	365
Minus	
Weekends	104
Leave	30
Public holidays	10
Working days per year	**221**

2) The next step is to estimate how much time a specific health worker, for example a clinical nurse practitioner has available for the direct treatment of patients. This proportion of working time is referred to as the **direct patient care factor**. A factor of 0.75 means that a health worker can spend 75% of their time treating patients. The remaining 25% of working time is allocated to other tasks, e.g. administration, meetings, etc.

3) The final step in the calculation of workload is to allocate a reasonable amount of time per patient contact.

4) The values of the above variables are determined by applying available guidelines/ norms and the outcome of workstudy investigations.

5) Calculation of the workload of Clinical Nurse Practitioner (CNP):

Number of working days per post:	221
Minutes available per day:	450
Direct patient care factor:	0.75
Minutes required per patient contact:	12
Patients treated per day:	28
Total patient contacts per year:	6 216

6) The above methodology was applied in the calculation of the workload of clinical health workers and counsellors. A sensitivity analysis shows that the direct patient care factor impacts significantly on the efficient utilization of health workers. The National Department of Health (NDoH) guideline suggests a direct patient care factor of 0.62 for clinical health workers. The main reason for the variance is the difference in the skill mix of the NDoH model and the model proposed in this document. The NDoH model does not provide for pharmacists or pharmacist's assistants on clinic level and the administrative support is significantly less than provided for in the proposed model. The fact that professional nurses are relieved from dispensing responsibilities and will receive adequate administrative support facilitates a direct patient care factor of 0.75.

7) The pharmacist and pharmacist assistant are regarded as a dispensing team to which 150 prescriptions are allocated for processing per day. This team will also provide a service to the home-based community services as well as NGOs in the drainage area of the clinic.

8) The workload of clerks is determined by the number of patients visiting the clinic per day. A chief clerk is allocated to assist the facility manager with administrative management tasks. Forty percent of the chief clerk post is management related and sixty percent is production related. Workstudy investigations indicate that an allocation of ±5 minutes per patient results in a reasonable workload for a clerk in a clinic.

9) It is recommended that the clinic manager should have a nursing background as the management issues are mainly service related at clinic level and the four clinical nurse practitioners require a clinical manager. The chief clerk provides administrative management support.

2.2.5 **Measuring utilization**:

Module 2:
The number of contacts per clinical post (doctor, clinical nurse practitioner, professional nurse and support personnel) is essential to calculate the workload per post. However, the number of contacts cannot be used to calculate the utilization rate per person per annum as a person could be treated by more than one health worker during a visit to a PHC facility. It is therefore necessary to estimate the average number of contacts that a patient has with health workers during one visit to a clinic.

The approach described above enabled the planning team to apply a consistent method in estimating the number of contacts per patient by deriving a factor to translate contacts into patient headcounts which contributes to more accurate utilization calculations.

In Table A6 the total number of patient contacts with clinical nurse practitioners and professional nurses, of 30,190 were regarded as consultations which required clinical support. This support is usually rendered by enrolled nurses or enrolled nursing assistants and less frequently by professional nurses. Clinical support includes: blood pressure testing, collection of specimens, dressings, injections, etc. This support is rendered before and/or after the

patient consults with the clinical nurse practitioner. The support factor can be adjusted in the calculator. In the above example 100% support was assumed for all consultations.

As the professional nurse can also treat patients it was assumed that she would spend 50% of her time treating patients and the remaining 50% providing clinical support and also supervising the activities in the clinical support area. This resulted in 5 328 consultations being allocated to the professional nurse.

Total consultations (CNP & PN): 24,862 + 5,328 = 30,190
Clinical support rendered (EN & ENA): 24,862 + 5,328 = 30,190
Pharmacy prescriptions issued (Pharmacy): 24,862 + 5,328 = 30,190
Total number of clinical contacts: **90,570**
The treatment of 30,190 patients resulted in 90,570 contacts.

The number of single contacts per patient is therefore:
Total contacts per year (Refer to Module 1 of Calculator): = 135,489
Less = 90,570
Single patient contacts = **44,919**
Single contacts per patient are referred to as 'walk through' or fast queue patients.

Total number of patients per annum = Total consultations + Single patient contacts
= 30,190 + 44,918
= 75,108

Calculate the average number of contacts per patient as follows: $\frac{\text{Total number of contacts}}{\text{Total number of patients (i.e. Headcount)}}$

$= \frac{135,489}{75,108}$
= 1,8

Utilisation per capita = $\frac{\text{Total patients treated}}{\text{Total population}} = \frac{30,190 + 44,918}{30,000} =$ 2.5

2.2.6 **Application of modelling tools:**

The modelling was based on the following population projections.

Table A9: Projection of population from 2001 to 2010 per new Health Sub-district in the Cape Town Metro district – Revised sub-district boundaries

Cape Town Metro	Census 2001	Census 2001 projected to 2010									
New Health Sub-Districts	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Uninsured
Northern	262,265	265,870	270,482	274,687	278,958	283,295	287,700	292,173	296,717	301,331	41.40%
Western	327,967	332,475	338,243	343,501	348,842	354,265	359,774	365,368	371,049	376,819	47.50%
Southern	428,623	434,514	442,052	448,925	455,904	462,992	470,191	477,502	484,927	492,468	49.50%
Klipfontein	344,649	349,386	355,448	360,973	366,586	372,285	378,073	383,952	389,923	395,986	83.50%
Mitchell's Plain	401,282	406,798	413,855	420,289	426,823	433,459	440,198	447,043	453,995	461,055	88.00%
Tygerberg	461,762	468,108	476,229	483,633	491,152	498,788	506,543	514,420	522,419	530,543	73.00%
Khayelitsha	329,156	333,680	339,469	344,746	350,106	355,549	361,077	366,692	372,394	378,185	99.00%
Eastern	337,543	342,182	348,119	353,530	359,027	364,609	370,278	376,035	381,883	387,821	73.00%
Total	**2,893,248**	**2,933,014**	**2,983,897**	**3,030,285**	**3,077,397**	**3,125,243**	**3,173,835**	**3,223,186**	**3,273,307**	**3,324,209**	**69.88%**

2.3 The mapping of the eight sub-districts in the Cape Town Metro district

In order to ensure equitable access for all to health care facilities the allocation of resources for PHC services is based on the total population per sub-district (Census 2001). Geographical maps illustrating the distribution and size of human settlements were used to allocate clinics and CHCs to the various sub-districts.

A clinic has been allocated for every 30,000 people. In densely populated areas this resulted in very accessible facilities in terms of distance to be travelled between the patients' homes and the facility. For services to be defined as 'accessible' the maximum distance that the patient should have to travel to the health facility is 3 kms. In all the high-density settlements in the sub-districts of the Cape Town Metro district, where most of the uninsured population live, access is well within this norm. Please refer to the maps in Annexures A and B.

When the principle of 30,000 people per clinic is applied to less densely populated settlements, the distances to clinics increase in direct relation to the decrease in population density. Most of the insured population are concentrated in the less densely populated areas, which are mainly the Western, Northern and Southern sub-districts. However, the facilities in those areas are accessible to large numbers of migrating (uninsured) workers.

The full package of PHC services is to be rendered in all the planned PHC facilities. However, the allocation of resources for special health services, i.e. ARVs, HIV and AIDS, TB, etc. are dependent on the health needs of specific settlements.

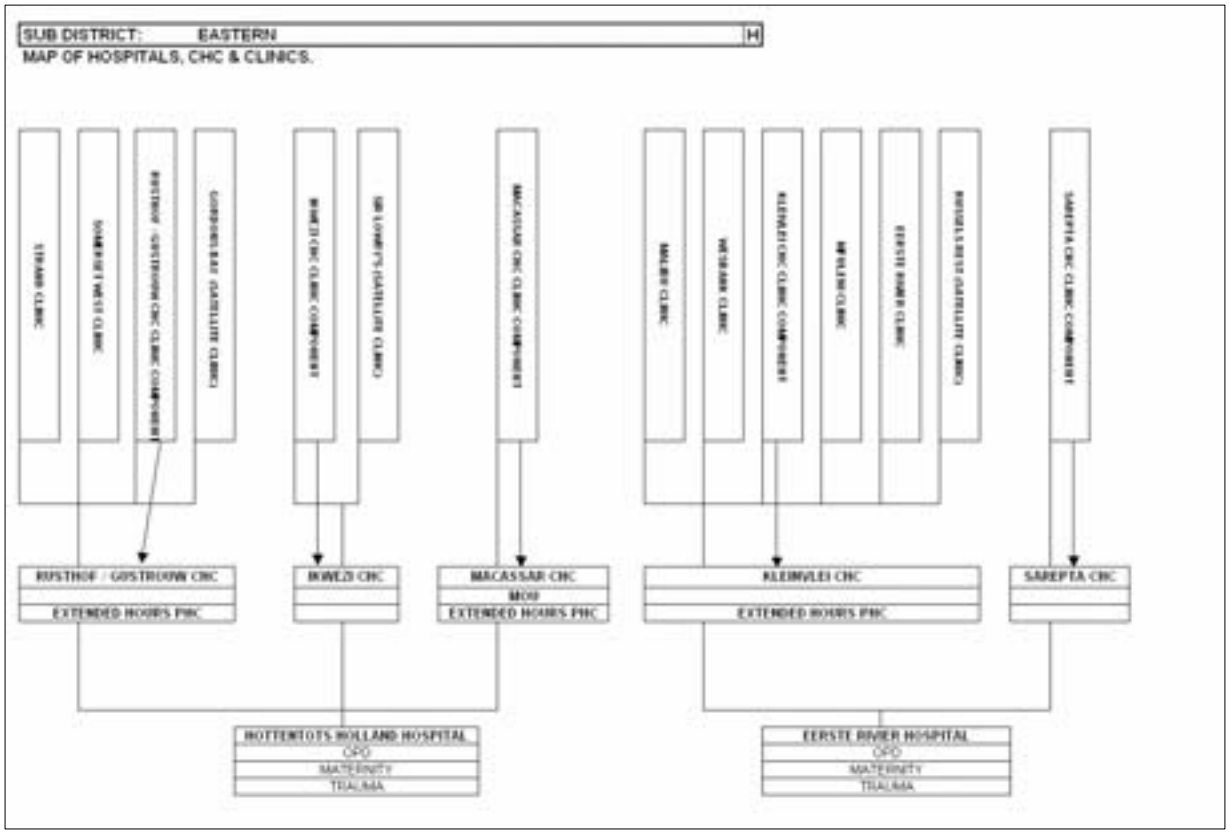
Every clinic has a referral path to a Community Health Centre which in turn has a referral path to a district hospital. The size of the CHC is determined by the number of clinics to which it is linked. Every CHC also has a gateway clinic directly attached to it to serve the people in the immediate vicinity of the CHC. The population that each CHC serves ranges from ± 30,000 to 120,000 in the Cape Town Metro district.

Another important factor that was considered is that the drainage areas of facilities should all fall within the same sub-district i.e. clinics drain to CHCs within the same sub-district so as to facilitate the various management processes.

The mapping process also informed the development of referral routes that will ensure easy access to the next level of care for all patients. The following table indicates how clinics are linked to CHCs and the referral routes to district hospitals. These referral routes will also determine the lines of clinical and non-clinical outreach and support from district hospitals to CHCs to clinics.

District hospitals play an important role in the District Health System. From a clinical point of view there is a clear link between the PHC package of services and the district hospital package of services. Non-clinical outreach from the district hospital will include support to ensure the effective maintenance of financial, procurement and information systems (including BAS, LOGIS and DHIS).

Figure 1: Illustration of the allocation of clinics and CHC's per drainage area in the Eastern Sub-district



2.3.1 **Existing service delivery points and drainage areas versus planned service delivery units and drainage areas**

The table below shows the allocation of model clinics and CHCs for specific drainage areas. This table should be read with the geographic maps of the sub-districts in the annexure. The purpose of this table is not to indicate the geographic location of facilities but rather to determine whether the clinics and CHCs are easily accessible and whether sufficient human resources have been allocated in all the drainage areas. The exact location and size of facilities will be addressed in the Infrastructure Plan.

The key issue to consider in this table is that most of the current service points are specialised clinics that provide only a limited package of services. In contrast the proposed service points will all offer a comprehensive package of services, thereby significantly improving access to a comprehensive package of primary health care.

Table A10: Existing service delivery units and drainage areas versus the planned service delivery units and drainage areas

EXISTING SERVICE DELIVERY POINTS	NEW SUB-DISTRICT	PLANNED DRAINAGE		
Northern, sub-district A				
Bothasig Clinic	A	Bothasig	Clinic	
		Joe Slovo/Sanddrift/Marconi Beam	Clinic	
		Joe Slovo/Sanddrift/Marconi Beam	CHC	Extended Hours
Bloekombos Clinic	A	Brigthton/Harmonie/Bloekombos	Clinic	Satellite
Brackenfell Clinic	A	Wallacedene	Clinic	Brackenfell
Brighton Clinic	A	Wallacedene	CHC	Northpine
Harmonie Clinic	A			
Northpine Clinic	A			
Wallacedene Clinic	A			
Kraaifontein CHC & Kraaifontein MOU	A	Scottsdene	Clinic	
Scottsdene CHC	A	Kraaifontein	Clinic	
Scottsdene Clinic & Oostenberg Mobile	A	Kraaifontein	Clinic	
		Kraaifontein	CHC	Extended Hours & MOU
Durbanville CHC	A	Durbanville	Clinic	
Durbanville Clinic	A	Durbanville	CHC	
Summary: Northern Sub-district A		**Level 1 district beds:**	**Beds**	**OPD**
		Somerset hospital	30	9,308
		Karl Bremer	35	**10,859**
		Total	**65**	**20,166**
		Total number of model clinic components	8	
		Total number of CHC's	4	

Western, sub-district B				
Factreton Clinic	B	Factreton	Clinic	Satellite
Kensington CHC	B	Maitland	Clinic	Kensington
Maitland CHC	B	Maitland	CHC	
Maitland Clinic	B			
Pinelands Satellite Clinic	B			
Vanguard CHC and MOU	B	Langa	Clinic	
Vanguard Clinic	B	Vanguard	Clinic	
Langa Clinic	B	Vanguard	Clinic	
		Vanguard	CHC	Extended Hours & MOU
Cape Town Station RHC	B	Woodstock/Chapel Street	Clinic	Satellite
Chapel Street Clinic	B	Greenpoint	Clinic	Civic Centre/
Queen Victoria Street	B	District Six (ex Robbie Nurock)	Clinic	CT Station
Robbie Nurock CHC	B	District Six	CHC	Extended Hours
Green Point CHC	B			
Schotscheskloof Satellite Clinic	B			
Spencer Road Clinic	B			
Woodstock CHC	B			
Table View Clinic	B	Table View / Du Noon	Clinic	
Good Hope CHC	B	Good Hope	Clinic	
Du Noon	B	Good Hope	CHC	
Albow Gardens Clinic	B			
Mamre CHC	B	Pella/Protea Park/Saxon Sea/Mamre	Clinic	Satellite
Melkbosstrand SatelliteClinic	B	Wesfleur	Clinic	Melkbos
Melkbosstrand Mobile	B	Wesfleur	CHC	
Pella Satellite Clinic	B			
Protea Park Clinic	B			
Saxon Sea Clinic	B			
Hope Street Dental	B			
Summary: Western Sub-district B		**Level 1 district beds:**	**Beds**	**OPD**
		Wesfleur	31	9,618
		Somerset hospital	65	20,166
		Total	**96**	**29,784**
		Total number of model clinics	12	
		Total number of CHC's	5	

EXISTING SERVICE DELIVERY POINTS	NEW SUB-DISTRICT	PLANNED DRAINAGE		
Southern, sub-district C				
Hout Bay Harbour CHC	C	Houtbay	Clinic	
Hout Bay Main Road Clinic	C	Houtbay	CHC	Extended Hours
Strandfontein Clinic	C	Strandfontein	Clinic	Satellite
Retreat CHC	C	Seawind/Lavender Hill	Clinic	Tokai
Retreat Clinic	C	Retreat	Clinic	Westlake
Seawind Clinic	C	Retreat	Clinic	
Lavender Hill Clinic	C	Retreat	CHC	Extended Hours & MOU
Westlake Clinic	C			
Claremont Clinic	C	Claremont/Wynberg	Clinic	Satellite
Alphen Clinic	C	Lady Michaelis	Clinic	Dieprivier
Lady Michaelis CHC	C	Lady Michaelis	CHC	Alphen
Diep River Clinic	C			
Wynberg Clinic	C			
Grassy Park CHC	C	Parkwood	Clinic	
Grassy Park Civic Centre Clinic	C	Grassy Park	Clinic	
Klip Road Clinic	C	Lotus River	Clinic	
Lotus River CHC	C	Lotus River	CHC	Extended Hours
Lotus River Clinic	C			
Parkwood Clinic	C			
Pelican Park Satellite Clinic	C			
Fish Hoek Clinic	C	Nomzamu (Masiphumelele)	Clinic	Satellite
Redhill Mobile	C	Fish Hoek	Clinic	Muizenberg/
Simonstown Satellite Clinic	C	Ocean View	Clinic	Simonstown
Muizenberg Clinic	C	Ocean View	CHC	Extended Hours
Masiphumelele Clinic	C			
Ocean View CHC	C			
Ocean View Clinic	C			
		Level 1 district beds:	**Beds**	**OPD**
Summary: Southern Sub-district C		Victoria hospital	90	27,923
		False Bay hospital	40	12,410
		Total	**130**	**40,333**
		Total number of model clinics	13	
		Total number of CHC's	5	

Klipfontein, sub-district D				
Dr. Abdurahman CHC	D	Silvertown	Clinic	
Hazendal SatelliteClinic	D	Dr Aburahman	Clinic	
Honeyside Satellite Clinic	D	Dr Aburahman	CHC	
Silvertown Clinic	D			
Lansdowne Clinic	D	Lansdowne	Clinic	
Hanover Park CHC	D	Hanover Park	Clinic	
Hanover Park Clinic	D	Hanover Park	Clinic	
Hanover Park MOU	D	Hanover Park	CHC	Extended Hours & MOU
Newfields Satellite Clinic	D			
Philippi Clinic	D			
Philippi Mobile	D			
Vuyani Clinic	D	Vuyani	Clinic	
Heideveld CHC	D	Heideveld	Clinic	
Heideveld Clinic	D	Heideveld	Clinic	
Heideveld MOU	D	Heideveld	CHC	Extended Hours
Manenberg Clinic	D	Mannenberg	Clinic	
Guguletu CHC	D	Guguletu	Clinic	
Guguletu Clinic	D	Guguletu	Clinic	
Guguletu MOU	D	Guguletu	Clinic	
		Guguletu	CHC	Extended Hours & MOU
Masincedane Clinic	D	Masincedane	Clinic	
Nyanga CHC	D	Nyanga	Clinic	
Nyanga Junction RHC	D	Nyanga	CHC	
Nyanga Clinic	D			
Uluntu RHC	D			
		Level 1 district beds:	**Beds**	**OPD**
Summary: Klipfontein Sub-district D		GF Jooste	180	55,845
		Total number of model clinics	14	
		Total number of CHC's	5	

EXISTING SERVICE DELIVERY POINTS	NEW SUB-DISTRICT	PLANNED DRAINAGE		
Mitchell's Plain, sub-district E				
Brown's Farm CHC	E	Crossroads	Clinic	
Crossroads 1 Clinic	E	Crossroads	Clinic	
Crossroads 2 Clinic	E	Phumlani	Clinic	
Crossroads CHC	E	Mzamomhle	Clinic	
Mzamomhle Clinic	E	Browns Farm	Clinic	
Phumlani Clinic	E	Crossroads	Clinic	
		Crossroads	CHC	Extended Hours & MOU
Lentegeur Clinic	E	Mandalay	Clinic	
Mandalay Satellite Clinic	E	Lentegeur	Clinic	
		Lentegeur	CHC	
Mitchells Plain CHC (Day Hospital)	E	Eastridge	Clinic	
Mitchells Plain MOU	E	Tafelsig	Clinic	
Mitchells Plain Youth Health Centre	E	Mitchell's Plain	Clinic	
Tafelsig CHC	E	Mitchell's Plain	Clinic	
Eastridge Clinic	E	Mitchell's Plain	Clinic	
		Mitchell's Plain	CHC	Extended Hours & MOU
Rocklands Clinic	E	Weltevreden	Clinic	
Weltevreden Valley Clinic	E	Rocklands/Westridge	Clinic	
Westridge Clinic	E	Rocklands	CHC	
Summary: Mitchell's Plain Sub-district E		**Level 1 district beds:**	**Beds**	**OPD**
		New Mitchell's Plain hospital	210	65,153
		Total number of model clinics	15	
		Total number of CHC's	4	

Tygerberg, sub-district F				
St Vincent CHC	F	Belhar	Clinic	
St Vincent Clinic	F	Belhar	CHC	
Chestnut Satelite Clinic	F			
Bellville South CHC	F	Reed Street	Clinic	Satellite
Bellville South Clinic	F	Bellville-Suid	Clinic	Volk centre
Bellville Youth Centre RHC	F	Bellville-Suid	Clinic	
Groenvallei Satellite Clinic	F	Bellville-Suid	CHC	Extended Hours
Reed Street CHC	F			
Bishop Lavis CHC/MOU	F	Netreg	Clinic	
Bishop Lavis Clinic	F	Valhalla Park	Clinic	
Netreg Clinic	F	Bishop Lavis	Clinic	
Valhalla Park Clinic	F	Bishop Lavis	CHC	Extended Hours & MOU
Adriaanse Clinic	F	Elsiesrivier	Clinic	
Elsies River CHC/MOU	F	Elsiesrivier	Clinic	
Elsies River Clinic	F	Elsiesrivier	CHC	Extended Hours & MOU
Leonsdale Satellite Clinic	F			
Matroosfontein Satellite Clinic	F			
Dirkie Uys CHC	F	Parow	Clinic	
Dirkie Uys Clinic	F	Ruyterwacht (Halt road)	Clinic	
Parow CHC	F	Dirkie Uys	Clinic	
Parow Clinic	F	Dirkie Uys	CHC	Extended Hours
Ruyterwacht CHC	F			
Uitsig Clinic	F	Ravensmead	Clinic	
Ravensmead CHC	F	Ravensmead	CHC	
Ravensmead Clinic	F			
Delft CHC	F	Delft South	Clinic	
Delft Clinic	F	Delft	Clinic	
		Delft	CHC	Extended Hours
Summary: Tygerberg Sub-district F		**Level 1 district beds:**	**Beds**	**OPD**
		Karl Bremer hospital	175	54,294
		Eerste River Hospital	30	9,308
		Total	205	63,601
		Total number of model clinics	15	
		Total number of CHC's	7	

EXISTING SERVICE DELIVERY POINTS	NEW SUB-DISTRICT	PLANNED DRAINAGE		
Khayelitsha, sub-district G				
Khayelisha Site B Youth Centre	G	Khayalitsha	Clinic	
Khayelitsha (Site B) CHC	G	Khayalitsha	Clinic	
Khayelitsha (Site B) Clinic	G	Khayalitsha	Clinic	
Khayelitsha (Site B) MOU	G	Khayalitsha	CHC	Extended Hours & MOU
Zibomlene Town 2 Clinic	G			
Luvuyo Clinic	G	Luvuyo	Clinic	
Matthew Goniwe CHC	G	Barney M	Clinic	
Mayenzeke Clinic	G	Mathew Goniwe	Clinic	
		Mathew Goniwe	CHC	Extended Hours
Nolungile CHC	G	Nolungile	Clinic	
Nolungile Youth centre	G	Nolungile	Clinic	
Nolungile Clinic	G	Nolungile	Clinic	
		Nolungile	Clinic	
		Nolungile	CHC	Extended Hours
Michael Mapongwana CHC	G	Zakhele	Clinic	
Michael Mapongwana MOU	G	New Kuyasa	Clinic	
Zakhele Clinic	G	Michael Mapongwana	Clinic	
Kuyasa Clinic	G	Michael Mapongwana	CHC	Extended Hours & MOU
Summary: Khayelitsha Sub-district G		**Level 1 district beds:**	**Beds**	**OPD**
		New Khayelitsha hospital	210	65,153
		Total number of model clinics	13	
		Total number of CHCs	4	
Eastern, sub-district H				
Fagan Street Clinic	H	Strand	Clinic	Satellite
Gordon's Bay Clinic	H	Somerset West	Clinic	
Gustrouw CHC	H	Rusthof/Gustrouw	Clinic	Gordons Bay
Gustrouw Clinic	H	Rusthof/Gustrouw	CHC	Extended Hours
Somerset West Clinic	H			
Strand/ Boland Bank CHC	H			
Ikwezi CHC	H	Ikwezi	Clinic	Satellite
Ikwezi Clinic	H	Ikwezi	CHC	Sir Lowrey's
Sir Lowry's Pass Clinic	H			
Hillcrest Clinic	H	Malibu	Clinic	Satellite
Kleinvlei CHC	H	Wesbank	Clinic	
Kleinvlei Clinic	H	Mfuleni	Clinic	
Blue Downs Clinic	H	Eerste Rivier	Clinic	Russels Rest
Russel's Rest Clinic	H	Kleinvlei	Clinic	
Wesbank Clinic	H	Kleinvlei	CHC	Extended Hours
Mfuleni CHC	H			
Mfuleni Clinic & Driftsands Satelite Clinic	H			
Driftsands Satelite Clinic	H			
Carinus Clinic	H	Sarepta	Clinic	
Sarepta Clinic	H	Sarepta	CHC	
Macassar CHC	H	Macassar	Clinic	
Macassar Clinic	H	Macassar	CHC	Extended Hours & MOU
Macassar Mobile	H			
Macassar MOU	H			
Summary: Eastern Sub-district H		**Level 1 district beds:**	**Beds**	**OPD**
		Hottentots Holland hospital	90	27,923
		Eerste Rivier hospital	60	18,615
		Total	150	46,538
		Total number of model clinics	11	
		Total number of CHC's	5	
SUMMARY: CAPE TOWN METRO DISTRICT		Total number of model clinic components*	101	
		Total number of CHC's	39	
		Total number of MOUs	12	
		Total number of PHC service units	152	
		*Total number of extended hour service points		25
		Level 1 district beds:	1,246	
		Level 1 hospital out patient services	386,572	

The above table gives an indication of the current service delivery points and drainage areas versus the planned allocation of service delivery units to specific drainage areas. In this context a clinic unit refers to a health team of 18 members allocated to a specific drainage area of ±30 000 population. This means that each clinic listed in the 'planned drainage' area will consist of 18 staff members. The size of the CHCs is determined by the number of clinics linked to it. Satellite clinics do not have dedicated staff but are staffed by the CHC responsible for rendering the service in the relevant drainage area.

When comparing the existing service delivery points with the planned service units (model clinics and CHCs) the following should be considered:

1) PHC services are currently provided by two different spheres of government, i.e. local government, the City of Cape Town, and provincial government, Western Cape Health Department.
2) Each location where the above authorities currently render a service is listed as a separate service point, even where services are rendered in the same building.
3) Most of the current service points are specialized clinics offering a limited package of services. The most comprehensive package of service currently provided is in the nine 24-hour CHCs.
4) A significant difference is that it is planned that the full package of services be offered in all clinics and CHCs, which will significantly improve the access to services in most drainage areas.
5) The planned drainage shows the allocation of CHCs for each drainage area with the clinics attached.

It is useful to evaluate the table above within the context of current staffing the Cape Town Metro facility based PHC services versus the planned staff allocation. Table A11 includes the staff currently on the establishment of the City of Cape Town.

Table A11: The proposed total staff versus the current staff in the Cape Town Metro district

Category of staff	Number of filled posts		Category as % of total staff		Additional
	Current	Planned	Current profile	Planned profile	(Surplus)
Medical officer	117	140	4.33%	4.19%	24
Clinical Nurse Practitioner	71	466	2.64%	13.94%	395
Psychiatric nurse	30	50	1.11%	1.50%	20
Professional nurse	698	340	25.90%	10.17%	-358
Sub-Total: Clinical staff	915	996	33.99%	29.79%	81
Dentist and oral hygienist	32	65	1.19%	1.94%	33
School health: Professional nurse	20	42	0.74%	1.26%	22
Enrolled nurse	242	271	8.99%	8.11%	29
Enrolled nursing assistant	329	202	12.22%	6.04%	-127
Pharmacist	46	126	1.71%	3.77%	80
Professions allied to medicine & technical staff*	87	160	3.23%	4.79%	73
Radiographer		61	0.00%	1.82%	61
Facility manager	102	88	3.79%	2.63%	-14
Clerical staff	340	592	12.63%	17.71%	252
Dental assistant	7	51	0.26%	1.53%	44
Pharmacy assistant	59	151	2.19%	4.52%	92
Porters, drivers and groundsman	7	36	0.26%	1.08%	29
Cleaner	407	300	15.10%	8.97%	-107
Health Counsellor	100	202	3.71%	6.04%	102
Total^	**2,693**	**3,343**	100.00%	**100.00%**	**650**

Notes:

1) *Includes professions allied to medicine allocated to sub-structures:
   - Physiotherapist 33
   - Occupational Therapist 33
   - Audio/Speech Therapist 19
   - Dietician (District Hospital) 23
   - Social Worker 33
   - Psychologists 19
   - **TOTAL** **160**

2) ^Exclude ARV posts **154**

3) Reconciliation of Tables A11 and A19:
   - Total planned staff for Metro district: 3,343
   - Minus PAMS allocated to sub-structure offices: ..... -160
   - Plus ARV posts allocated per sub-district: ..... +154
   - Total staff allocated to Metro district, excluding sub-district management: 3,337

Explanatory notes: on the proposed versus current staff

1) Because of the broader scope of practice, clinical nurse practitioners will play a major role in clinics and replace a considerable number of professional nurses. Professional nurses will predominantly render and supervise clinical support services. This explains the relatively large increase in clinical nurse practitioner posts and the decrease in professional nurse posts.
2) The increase in administrative posts reflects the intention to provide sufficient administrative support to enable professional health workers to spend their time providing health care.
3) The current fragmentation of PHC services is reflected in the larger number of current facility managers and cleaner posts required. The future configuration will address current inefficiencies in this regard.

2.4 Burden of disease and population profiles

The composition of the population in terms of age and gender as well as the prevailing burden of disease specific to a drainage area are important factors to consider when planning PHC services.

It is therefore important to note that the future delivery of PHC services focuses on a **full package of services** for **every** drainage area. For this reason clinical nurse practitioners with a wide scope of practice, are allocated to clinics. As qualified generalists they can manage all the protocols at clinic level. At CHC level medical professionals and specialized professional nurses attend to patients referred from clinics for further treatment. This means that the utilization patterns regarding specific protocols can differ from area to area without impacting on the staff allocation. It is therefore argued that specific attention should be given to the population profile and burden of disease in specific drainage areas during the operational planning phase.

Table A12: Population profile of the sub-districts in the Cape Town Metro District indicating the denominator groups as a percentage of total population (Base year: 2004)

New Health Districts	Births	Children 5 and less	Youth 6-14	Women		Population 15+	Population 30+
				15-49	30-49		
Northern	1.93%	10.42%	17.49%	57.21%	15.38%	73.86%	46.80%
Western	1.91%	10.17%	16.08%	56.10%	15.05%	75.36%	48.77%
Southern	1.89%	10.29%	17.51%	56.18%	15.07%	74.00%	47.38%
Klipfontein	2.38%	12.54%	17.67%	59.14%	14.68%	71.55%	41.18%
Mitchells Plain	2.28%	12.34%	18.55%	59.23%	14.84%	70.97%	40.83%
Tygerberg	1.89%	10.23%	17.50%	56.27%	15.15%	74.06%	47.50%
Khayelitsha	2.70%	13.91%	16.44%	62.33%	14.92%	71.21%	38.13%
Eastern	1.96%	10.53%	17.33%	56.98%	15.20%	73.91%	46.73%
Average: Cape Town \Metro	**2.11%**	**11.28%**	**17.32%**	**57.90%**	**15.04%**	**73.14%**	**44.73%**

Table A13: Population profile and utilization of PHC services in the Cape Town Metro district

Denominator Group	Services	Based on projected 2010 population				
		Utilisation Rate per denominator group (a)	Denominator group as % of total population (See Table 17) (b)	Size of denominator group (uninsured) (c)	Headcount (a)x(c)	Utilisation Rate per capita
Children: 5 years and younger	Preventive & curative	2.89	11.28%	375,027	1,082,910	0.33
Youth: 6 to 14	Preventive, curative and chronic	1.65	17.32%	575,775	950,029	0.29
Women: 15 to 49	Family planning	1.45	57.90%	1,924,871	2,791,062	0.84
	Termination of pregnancy	0.02			38,497	0.01
Estimated number of pregnant women	Antenatal care	3.50	2.11%	70,203	245,712	0.07
	Deliveries	0.75			52,653	0.02
	Postnatal care	0.75			52,653	0.02
Women: 30 to 50	Other well women services (ca cervix)	0.02	15.04%	500,010	10,000	0.003
Population 15 and older	Preventive & curative	1.10	73.14%	2,431,365	2,674,501	0.80
	STD's	0.17			413,332	0.12
	Chronic diseases	0.90			2,188,228	0.66
Total uninsured population			100.00%	3,324,209		-
	TB	0.12	100.00%		398,905	0.12
	Mental Health	0.26	100.00%		864,294	0.26
	Chronic psychiatric care	0.20	100.00%		664,842	0.20
	Casualty	0.13	100.00%		432,147	0.13
Total Headcount					**12,859,767**	
Total utilisation rate					**3.87**	

The target PHC utilization target is set at 3.85 to be reached in 2007/08 (National Department of Health)

The above utilisation includes people with AIDS pre-ARV (Anti Retroviral treatment) not covered in the conditional grant for HIV and AIDS.

Confirmed HIV and AIDS positive patients are covered by the conditional grant and are therefore not included in the above table.

The average population profile in the table above can be regarded as a typical urban profile in terms of denominator groups. The target PHC utilization ration is set at 3.87 to be reached in 2007/08 (National Department of Health). In the table above utilization rates were allocated to protocols described in the full package of service. Future utilization rates were derived from protocols described in the full package of PHC services and other published norms, e.g. the National Department of Health.

2.5 The PHC workload and utilization calculator applied to all the clinic and CHCs in the Cape Town Metro district:

In the following section the PHC utilization and workload calculator was linked to the projected 2010 population and to total number of staff allocated to the Cape Town Metro district as in Table A14. The outcomes for clinics and CHCs were calculated separately, however, a collective calculation for administrative and other support services was made due to the transversal nature of these services.

Table A14: Module 1 of the PHC workload and utilisation calculator: applied to all the clinic components in the Cape Town Metro district

PHC WORKLOAD AND UTILIZATION CALCULATOR

Module 1 of Calculator: Workload and population variables

Census 2001 projected to 2010	3,324,209
Correction Factor applied:	1.000 (To correct undercount)
Population corrected	3,324,209

Clinic Components:	Metro										
Post description	Working days per annum	Minutes / day	Direct patient care factor	Minutes / Patient Contact	Contacts / day	Contacts per Post per annum	Posts (FTE's)	Total Patient Contacts	Contact Utilisation Rate per capita	Population served	% of total Clinic Contacts
Health Counsellor	221	450	0.85	20	19	4,227	202	853,778	0.26		5.2%
Clinical nurse practitioner	221	450	0.75	12.5	27	5,967	466	2,780,622	0.84		16.9%
Professional nurse consultations	221	450	0.70	7	45	9,945	50.5	502,223	0.15		3.1%
Professional nurse support	221	450	0.70	3.5	90	19,890	50.5	1,004,445	0.30		6.1%
Support: Enrolled nurse & nursing assistant	221	450	0.75	3.5	96	21,311	365	7,778,411	2.34		47.4%
Pharmacist assisted by Pharmacy assistant (2 posts=Dispensing team)	221	450		5.73248408	157	34,697	101	3,504,397	1.05		21.3%
					Utilisation based on total contacts			16,423,875	4.94	3,324,209	

% Uninsured population	0.698	(0)
Uninsured population	2,320,298	
Clinic utilisation per uninsured person	4.25	
Clinic utilisation per capita	2.97	
Contacts per patient per visit	1.67	

Collective calculation: clinics and CHCs:

Administrative and support workload

Post description	Posts	Patients per annum	Minutes per patient	Patients / Post
Clerks and Admin Officers	592	12,489,120	4.7	21,096
Cleaners	300	12,489,120	2.39	41,630
Facility Managers	88	Average span of control		35 PHC workers

Table A15 Module 2: Average number of contacts with health workers during one visit to a clinic:
Applied to clinics in the Cape Town Metro district

Assumption: Consults by clinical nurse practitioners, professional nurses and doctors will be supported by visits to clinical support personnel: professional nurses staff nurses, enrolled nurses and pharmacist.		Contacts
Clinical nurse practitioner		2,780,622
	Support factor	
Clinical support: Staff nurse & nursing assistant	1	2,780,622
Pharmacy	1.00	2,780,622
Professional nurse (50% consultation; 50% support)		502,223
	Support factor	
Clinical support: Staff nurse & nursing assistant	1.00	502,223
Pharmacy	1.00	502,223
Total number of contacts		9,848,534
Number of *patients* treated during above contacts (=headcount)		3,282,845
Total number of contacts per annum		16,423,875
One contact per person per visit (e.g. chronic medication)		6,575,342
Average contacts per person during a visit to a clinic		1.67
Headcount per annum		9,858,186

Table A16: Module 1 of the PHC workload and utilisation calculator: applied to all the CHCs in the Cape Town Metro district

CHC Component:	Metro										
Post description	Working days per annum	Minutes/day	Direct care Factor	Minutes / Patient Contact	Contacts / day	Contacts per Post per annum	Posts (FTE's)	Total Patient Contacts	Contact Utilisation Rate per capita	Population served	% of total CHC Contacts
Medical Officer	221	450	0.80	12	30	6,630	140	928,200	0.28		13.8%
Prof Nurse: unit manager (40%)	221	450	0.50	8	28	6,216	39	242,409	0.07		3.6%
Dentist & Oral hygienist	221	450	0.75	20	17	3,729	65	242,409	0.07		3.6%
Professional nurse:Specialised	221	450	0.80	17.5	21	4,546	128	581,925	0.18		8.7%
Professional nurse: support and minor trauma	221	450	0.80	7.00	51	11,366	62	704,674	0.21		10.5%
Professional nurse (Trauma):	221	450	0.01	0.10	45	9,945	0	-	-		0.0%
Professional nurse (MOU)	221	450	0.80	150.00	2	530	60	31,824	0.01		0.5%
General support: Enrolled nurse & nursing assistant	221	450	0.80	5	72	15,912	89	1,416,168	0.43		21.1%
Support MOU: Enrolled nurse & nursing assistant	222	450	0.80	15	24	5,328	120	639,360	0.19		9.5%
Dispensing units: Pharmacy	221	450			175	38,675	50	1,933,750	0.58		28.8%
								6,720,720	2.02	3,324,209	100.0%

CHC Utilisation per uninsured person	1.13
CHC Utilisation per capita	0.79
Contacts per patient per visit	2.55
Total PHC utilization rate per capita	3.76

Table A17: Module 2 of the PHC workload and utilisation calculator: Average number of contacts with health workers per person during one visit to a CHC in the Cape Town Metro district

Estimation of the number of patients (headcount) that visit the facility based on the number of contacts calculated in Module 1.

Assumption: Consults by clinical nurse practitioners, professional nurses and doctors will be supported by visits to clinical support personnel: professional nurses, staff nurses, enrolled nurses and pharmacist.		**Contacts**
Dentist		242,409
	Support Factor	
Clinical support: Staff nurse & nursing assistant		
Pharmacy	0.80	193,928
Professional nurse: specialised		581,925
	Support Factor	
Clinical support: Staff nurse & nursing assistant	0.75	436,443
Pharmacy	1.00	581,925
Medical Officer		928,200
	Support Factor	
Clinical support: Staff nurse & nursing assistant	0.75	696,150
Pharmacy	1.00	928,200
Professional nurse		594,747
	Support Factor	
Clinical support	1.00	594,747
Pharmacy	1.00	594,747
MOU		31,824
	Support Factor	
Clinical support	1.00	31,824
Pharmacy	1.00	31,824
Total number of contacts		6,468,891
Number of *patients* treated during above contacts (=headcount)		2,379,104
Total number of contacts per annum		6,720,720
One contact per person per visit (e.g. chronic medication)		251,829
Average contacts per person during a visit to a CHC		2.55
Headcount per annum		2,630,933

Table A18: Model outcomes

	Clinic	**CHC**	**PHC**
Total contacts per annum	16,423,875	6,720,719	23,144,594
Total headcount per annum	9,858,186	2,630,933	12,489,119
Utilization per capita	2.97	0.79	3.76

The final result of applying the PHC planning models or tools in order to determine the staff allocation per clinic and CHC to the eight sub-districts in the Cape Town Metro district is illustrated in the table below.

Table A19: Staff allocation per sub-district

		Salary level	Northern	Western	Southern	Klipfontein	Mitchell's Plain	Tygerberg	Khayelitsha	Eastern	Grand Total
OFFICE: HEAD OF INSTITUTION											
C6010309	Facility Manager	10	1	1	1	1	2	2	1	0	9
C6010310	Facility Manager	9	3	4	4	4	2	5	3	5	30
C6010311	Facility Manager	8	3	6	8	6	9	6	5	6	49
ADMINISTRATION											
B2040000	Senior Admin Officer	8	1	1	1	1	2	2	1	0	9
B1010300	Chief Admin Clerk	7	7	11	13	11	13	13	9	11	88
B1010301	Admin Clerk (Information management)	5	1	1	1	1	2	2	1	1	10
B1010302	Admin Clerk	4	2	3	4	4	4	4	5	3	29
B1010600	Admin Clerk (Admissions)	6	38	53	56	63	68	72	60	46	456
GENERAL SUPPORT											
E1010000	Housekeeping Supervisor	4	1	1	1	1	2	2	1	0	9
A1020000	Cleaners	1	24	34	35	40	46	48	37	27	291
H3010100	Light vehicle driver	3	1	1	1	1	2	2	1	0	9
A2010000	Porter	2	2	2	2	2	4	4	2	0	18
A1030000	Groundsman	1	1	1	1	1	2	2	1	0	9
CLINICAL SERVICES											
C3010200	Clinical Operations Officer/Family Physician	12	4	5	5	5	4	7	4	5	39
C3010100	Medical Officer/Registrar	10	8	12	13	14	15	15	13	11	101
C6010307	Clinical Nurse Practitioner	8	32	48	52	56	60	60	52	44	404
C6010307	Professional Nurse: specialised (Midwife)	7	5	6	6	7	7	10	6	6	53
C6010308	Dentist	10	5	6	6	7	6	11	5	5	51
MEDICAL ANCILLARY SERVICES											
C3030100	Principal Pharmacist	9	8	12	13	14	15	15	13	11	101
C3030100	Pharmacist	8	1	2	3	3	4	5	4	3	25
F1010000	Pharmacy Assistant	4	14	19	19	20	22	22	18	17	151
C3050400	Chief Radiographer	8	4	5	5	5	4	7	4	5	39
C3050400	Radiographer	7	1	2	3	3	4	3	4	2	22
F1010000	Auxiliary Services Officer	4	21	30	32	35	36	41	31	27	253
F1010000	Oral hygienist	7	1	1	1	2	2	4	2	1	14
NURSING SERVICES CLINICAL NURSING SUPPORT											
C4010000	Professional Nurse: Orthopaedics	7	2	2	4	3	2	5	4	3	25
C4010000	Professional Nurse: Unit Manager L8	8	4	5	5	5	4	7	4	5	39
C4010000	Professional Nurse: Specialised (Mental Health)	7	5	6	6	6	8	9	5	5	50
C4010000	Professional Nurse: Production	6	13	19	20	22	23	27	21	18	163
F2020000	Staff Nurse	5	13	17	19	21	22	22	18	17	149
F2010000	Nursing assistant	3	12	17	18	19	21	22	17	16	142
C4010000	Professional Nurse: Specialised (School Health)	7	4	5	5	5	7	7	4	5	42
EXTENDED HOURS PHC											
C4010000	Clinical Nurse Practitioner	8	4	4	10	8	8	10	10	8	62
F2020000	Staff Nurse	5	4	4	10	8	8	10	10	8	62
MOU											
C4010000	Professional Nurse: Specialised	7	5	5	5	10	10	10	10	5	60
F2020000	Staff Nurse	5	5	5	5	10	10	10	10	5	60
F2010000	Nursing assistant	3	5	5	5	10	10	10	10	5	60
ARV											
C3010100	Principal Medical Officer	11	1	4	2	3	2	3	6	1	22
C3010100	Medical Officer	10	1	4	2	3	2	3	6	1	22
C4010000	Professional Nurse: Unit Manager L8	8	1	4	2	3	2	3	6	1	22
C4010000	Professional Nurse: Specialised	7	1	4	2	3	2	3	6	1	22
F1010000	Auxiliary Services Officer	4	1	4	2	3	2	3	6	1	22
F1010000		4	2	8	4	6	4	6	12	2	44
	Total		**272**	**389**	**412**	**455**	**484**	**534**	**448**	**343**	**3,337**

Note: The total of 3337 excludes the 160 health professional posts as indicated in Table A11, but includes 154 Anti-retroviral therapy posts.

Table A20: Total staff: Facility based PHC services

		Salary Level	Clinic Components	CHC Staff	Total Staff
OFFICE: HEAD OF INSTITUTION					
C6010308	Facility Manager	12	0	0	0
C6010308	Facility Manager	11	0	0	0
C6010309	Facility Manager	10	0	9	9
C6010310	Facility Manager	9	0	30	30
C6010311	Facility Manager	8	49	0	49
ADMINISTRATION			0	0	
C6010308	Assistant Director	9	0	0	0
B2040000	Senior Admin Officer/Senior State accountant	8	0	9	9
B2040000	Admin Officer/State Accountant	7	0	0	0
B1010300	Chief Admin Clerk	7	49	39	88
B1010300	Admin Clerk	6	0	0	0
B1010301	Admin Clerk (Inform)	5	0	10	10
B1010302	Admin Clerk	4	0	29	29
B1010600	Admin Clerk (Admissions)	6	355	101	456
B1010200	Cashier	6	0	0	0
GENERAL SUPPORT			0	0	0
E1010000	Housekeeping Supervisor	4	0	9	9
A2010000	Stores Assistant	3	0	0	0
A1020000	Cleaners	1	202	89	291
H3010100	Light vehicle driver	3	0	9	9
A2010000	Principal Porter		0	0	0
A2010000	Porter	2	0	18	18
A2010000	Messenger	2	0	0	0
A1030000	Groundsman	1	0	9	9
CLINICAL SERVICES			0	0	
C3010200	Clinical Operations Officer/ Family Physician	12	0	39	39
C3010100	Medical Officer/Registrar	10	0	101	101
C3010100	Community Service Medical Officer	9	0	0	0
C3010100	Medical Interns		0	0	0
C6010307	Clinical Nurse Practitioner	8	404	0	404
C6010307	Professional Nurse: specialised - (Midwife)	7	0	53	53
C6010308	Dentist	10	0	51	51
MEDICAL ANCILLARY SERVICES			0	0	
C3030100	Chief Pharmacist	10	0	0	0
C3030100	Principal Pharmacist	9	101	0	101
C3030100	Pharmacist	8	0	25	25
F1010000	Pharmacy Assistant	4	101	50	151
F1010001	Pharmacy Assistant		0	0	0
F1010002	Pharmacy Assistant		0	0	0
C3050400	Chief Radiographer	8	0	39	39
C3050400	Radiographer	7	0	22	22
F1010000	Darkroom operator	4	0	0	0
C3050200	Physiotherapist	8	0	0	0
C3050200	Physiotherapist	7	0	0	0
C3050100	Occupational Therapist	7	0	0	0
C3050500	Audio Therapist	7	0	0	0
C3050500	Speech Therapist	7	0	0	0
C3060100	Dietician (District Hospital)	7	0	0	0
F1010000	Auxiliary Services Officer	4	202	51	253
F1010000	Oral hygienist	7	0	14	14
C5040400	Social Worker	9	0	0	0

		Salary Level	Clinic Components	CHC Staff	Total Staff
C5040400	Social Worker	8	0	0	0
F1010000	Health Educator	4	0	0	0
NURSING SERVICES			0	0	
CLINICAL NURSING SUPPORT			0	0	
C4010000	Professional Nurse: Orthopaedic	9	0	25	25
C4010000	Professional Nurse: Unit Manager L8	8	0	39	39
C4010000	Professional Nurse: Specialised (Mental Health)	7	0	50	50
C4010000	Professional Nurse: Production	6	101	62	163
F2020000	Staff Nurse	5	101	48	149
F2010000	Nursing assistant	3	101	41	142
C4010000	Professional Nurse: Specialised (School Health)	7	0	42	42
EXTENDED HOURS PHC			0	0	
C4010000	Professional Nurse: Unit Manager L9	9	0	0	0
C4010000	Clinical Nurse Practitioner	8	62		62
C4010000	Professional Nurse: Specialised	7	0	0	0
C4010000	Professional Nurse: Production	6	0	0	0
F2020000	Staff Nurse	5	62		62
F2010000	Nursing assistant	3	0	0	0
MOU			0	0	
C4009999	Professional Nurse: Unit Manager L9	9	0	0	0
C4010000	Professional Nurse: Unit Manager L8	8	0	0	0
C4010000	Professional Nurse: Specialised	7	0	60	60
C4010000	Professional Nurse: Production	6	0	0	0
F2020000	Staff Nurse	5	0	60	60
F2010000	Nursing assistant	3	0	60	60
ARV			0	0	
C3010200	Medical Specialist	12	0	0	0
C3010100	Principal Medical Officer	11	0	22	22
C3010100	Medical Officer	10	0	22	22
C4010000	Professional Nurse: Unit Manager L8	8	0	22	22
C4010000	Professional Nurse: Specialised	7	0	22	22
F2020000	Staff Nurse	5	0	0	0
F2010000	Nursing assistant	3	0	0	0
F1010000	Auxiliary Services Officer	4	0	22	22
C3030100	Pharmacist	8	0	0	0
F1010000	Pharmacy Assistant	4	0	44	44
	Total		**1890**	**1447**	**3337**

2.6 **District Health Service Management structures in the Cape Town Metro district**:

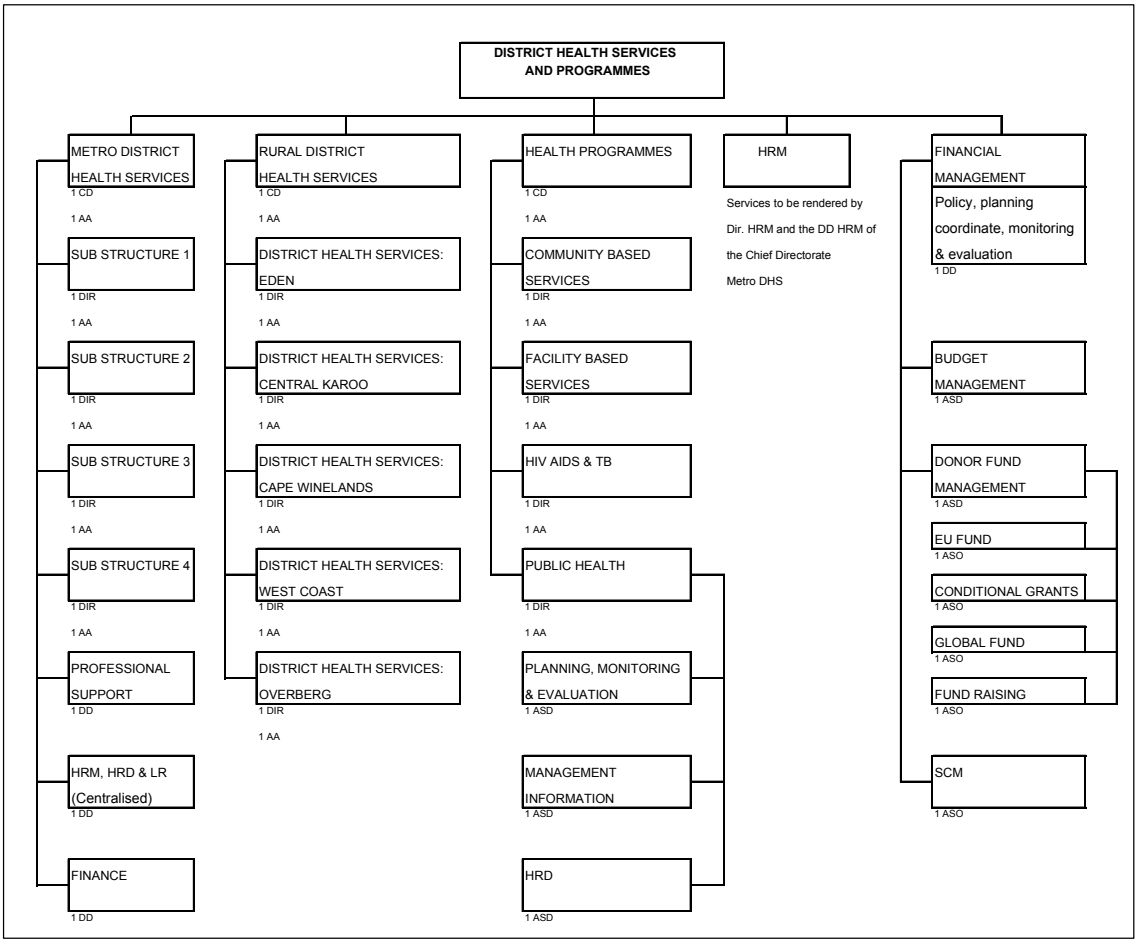
2.6.1 Currently the responsibility for management of the Metro DHS services is vested in the Directorate Metro District Health Services, the Chief Directorate Regional hospitals, APH and EMS as well as the local authority of the City of Cape Town. However, these structures are outdated because of the envisaged transfer of PHC services to the Provincial Department of Health as well as the intended transformation of health services in terms of Healthcare 2010.

2.6.2 It terms of the National Health Act, Act 61 of 2003 the DHS must be managed per health district. The Cape Town Metro District is one of the six districts demarcated in the Western Cape and replaces the former metropolitan health region. This densely populated district was sub-divided into eight sub-districts to facilitate the provision of an effective and efficient health service. It is envisaged that four Sub-structure Offices / Directorates be created (one per two sub-districts) to provide the necessary management capacity. The particular combination of the two sub-districts per Sub-structure Office is based on the size of the population,

geographical area, drainage areas (as far as possible) and the extent of the management responsibility. These four Sub-structure offices / Directorates report to a Chief Director: Metro DHS. This Chief Directorate links to a possible new divisional structure is reflected in Figure 2.

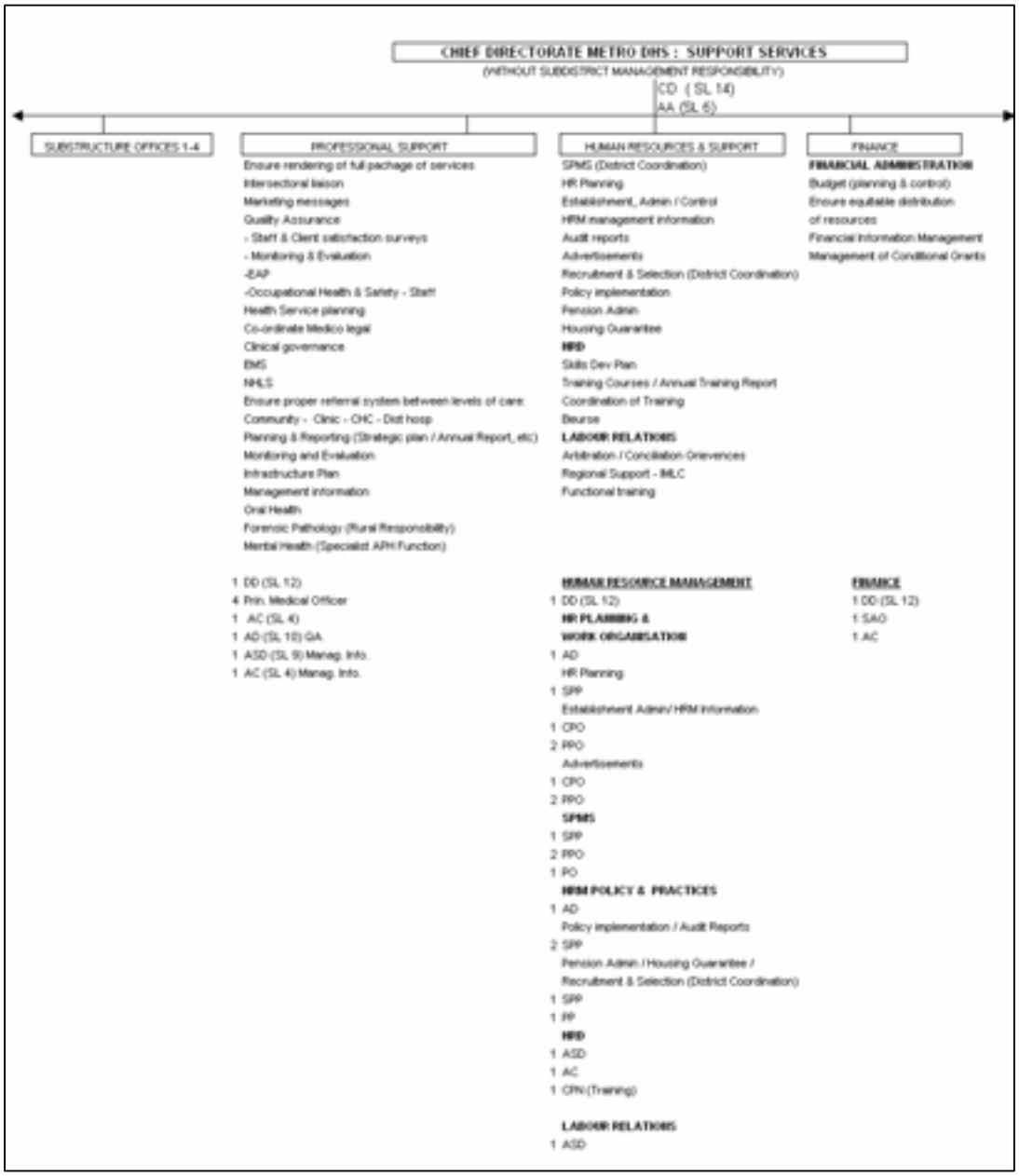
2.6.3 In addition to the four Sub-structure Directorates, the overarching Chief Directorate provides for a centralised Professional Support as well as a HR and Support Services Components. (See figure 3). In principle the Finance function was decentralised to the Sub-structure Offices with only coordination capacity provided at Chief Directorate level. In contrast the HR function was centralised at Chief Directorate level with coordination capacity at Sub-structure Office level.

Figure 2: Possible Divisional District Health Services and Programmes structure



Note: Refer to Annexure C for the Department of Health Head Office management structure.

Figure 3: Chief directorate Metro DHS



2.6.4 A **Sub-structure Office** provides for the following main components (See Figure 4):

- Facilities organised per Sub-district. (The Hospital/s in each Sub-district reports directly to the Substructure Office Manager/ Director while the CHC's report through a Primary Health Care Manager to the Substructure Office Manager / Director.)
- Comprehensive Health Services that provides health programme support.
- Pharmaceutical Services
- Human Resources.
- Finance and general administrative support.
- Technical Support.

These components are managed by a Director and staffed by skilled personnel. The creation of four substructure offices in the Cape Town Metro district ensures the availability of proficient support staff without the unnecessary duplication of these services in each sub-district.

2.6.5 In the envisaged model district hospitals play an important role in the DHS in terms of support and outreach within a specific sub-district/s.

- Additional medical ancillary and administrative staff has been added to the establishments of the Substructure Offices to ensure the efficient and effective maintenance of systems, e.g. Persal, Logis, BAS and DHIS down to clinic level.
- Administrative staff on the establishment of the Sub-structure Office provided above will be detached to an identified district hospital that will provide the above support to two sub-districts.
- However, medical ancillary staff was provided for each Sub-district.
- The PHC manager in each Sub-district is responsible for the management of PHC services within the sub-district and is supported by other personnel, e.g.:
  - Programme coordinators
  - Professional nurse
  - Administration clerk.
- Existing management capacity within district hospitals is therefore utilised to create economies of scale and to enhance cost efficiency.

2.6.6 In the Sub-structure Office the purpose of the **Comprehensive Health Services** component is to facilitate, implement, coordinate and evaluate Health Programmes in the sub-districts of the Directorate. The component, headed by a manager on level 12, is subdivided into:

- Community based services;
- Facility based services; and
- HIV and AIDS and TB.
- Production units were also provided to assist these managers with the execution of their responsibilities.

2.6.7 A **Pharmaceutical Services component**, consisting of a Deputy Director: Pharmaceutical Services and a Pharmacy Assistant, has been provided to ensure effective and efficient pharmaceutical services in the sub-districts of the Directorates.

2.6.8 Provision is made for a **Human Resources component**, consisting of two Personnel Practitioner posts to facilitate the effective and efficient application of the human resource management policies and practices within the Directorate. However, at this level the component only plays a coordinating/advisory function between the HR capacity provided at institutional level and the Chief Directorate where main HR function is located.

2.6.9 A sub-directorate: **Finance and Support Services** has been provided to ensure the effective and efficient financial management of the Directorate and to render support services to the Sub-structure / Directorate's office. A Deputy Director: Finance has been allocated to this component with additional posts to assist with the execution of these functions.

2.6.10 The purpose of the **Technical Services** component is to facilitate and monitor technical services in the Directorate. A post of Senior Artisan Superintendent was provided for this purpose.

- In terms of the envisaged model the Regional/Mobile Workshops of the Directorate: Engineering and Technical Support will provide the routine maintenance services to PHC facilities.
- Sufficient technical capacity was provided for the district hospitals.
- In the longer term it will be necessary to determine whether the Regional/Mobile Workshops have sufficient capacity to service the clinics transferred from the City of Cape Town and to address any shortcomings.

2.6.11 A **Director's** post is provided to manage the Sub-structure Office. The focus of this post will be to strategically assist the facility and primary health care managers in the execution of their functions and responsibilities as well at to manage the centralized support services. A post of Administrative Assistant (level 6) is provided to assist the Director with the daily administrative tasks.

Figure 4: Example of a sub-structure management structure in the DHS in the Cape Town Metro district

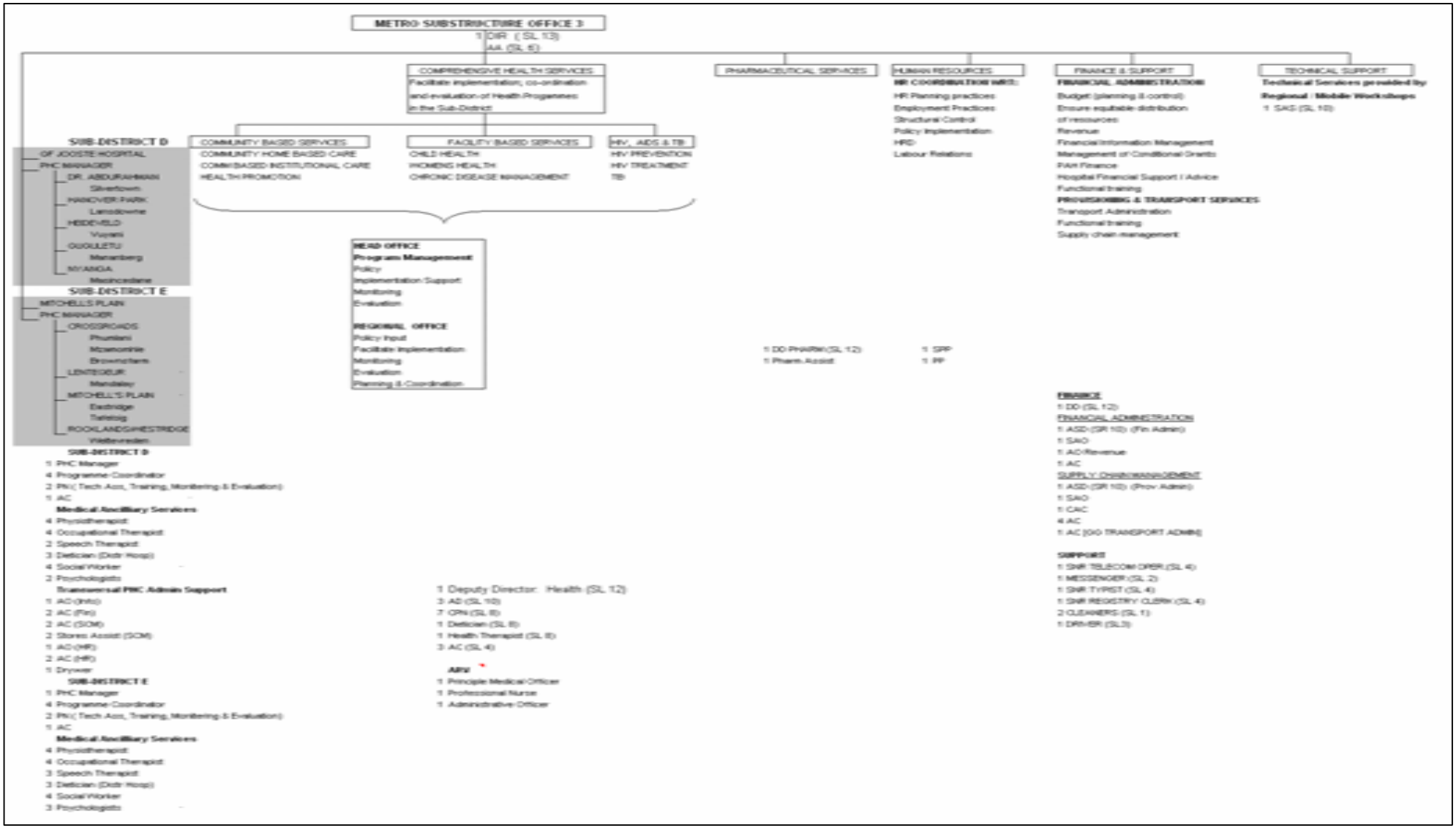


Table A21: Staffing of Sub-structure offices in the Cape Town Metro district

	POST DESCRIPTION	SUB-STRUCTURE 1 OF 4			SUB-STRUCTURE 2 OF 4		
		NORTHERN	TYGERBERG	TOTAL	WESTERN	SOUTHERN	TOTAL
Sal Level	SERVICE COMPONENT:						
11	PHC Manager	1	1	2	1	1	2
10	Programme Coordinator	4	4	8	4	4	8
7	Professional Nurse (Tech Assistant, Training, Monitoring & Evaluation)	2	2	4	2	2	4
4	Admin Assistant	1	1	2	1	1	2
	Medical Ancillary Services	-	0	-	-	-	-
7	Physiotherapist	3	5	8	4	5	9
7	Occupational Therapist	3	5	8	4	5	9
7	Speech Therapist	2	3	5	2	3	5
7	Dietician (District Hospital)	2	4	6	2	3	5
7	Social Worker	3	5	8	4	5	9
7	Psychologists	2	3	5	2	3	5
	Admin Support	-	0	-	-	-	-
7	Admin Officer (Information)	-	1	1	1	-	1
5	Admin Clerk (Finance)	1	1	2	1	1	2
5	Admin Clerk (Supply CM)	1	1	2	1	1	2
2	Stores Assist (Supply CM)	1	1	2	1	1	2
7	Admin Officer (HR)	-	1	1	1	-	1
5	Admin Clerk (HR)	1	1	2	1	1	2
3	Driver	-	1	1	1	-	1
	SUB TOTAL	**27**	**40**	**67**	**33**	**36**	**69**
	MANAGEMENT COMPONENT						
13	Director			1			1
6	Admin Assistant			1			1
12	Deputy Director: Health			1			1
12	Deputy Director: Pharmacy.			1			1
12	Deputy Director: Finance			1			1
10	Medical Officer (ARV)			1			1
10	Assistant Director Finance			1			1
10	Assistant Director			3			3
10	Assistant Director Supply Chain Management			1			1
10	Sen Artisan Superintendent			1			1
8	Chief Professional Nurse			7			7
8	Dietician			1			1
8	Health Therapist			1			1
6	Professional Nurse (ARV)			1			1
8	Senior Administrative Officer			2			2
7	Administrative Officer (ARV)			1			1
7	Administrative Officer : Revenue			1			1
7	Chief Admin Clerk			1			1
5	Admin Clerk			5			5
4	Admin Clerk			4			4
4	Pharmacy Assistant			1			1
8	Senior Personnel Practitioner			1			1
7	Personnel Practitioner			1			1
4	Registry Clerk			1			1
4	Typist			1			1
4	Senior Telecom			1			1
3	Driver			1			1
2	Messenger			1			1
1	Cleaners			2			2
	SUB TOTAL			**46**			**46**
	TOTAL			**113**			**115**

	POST DESCRIPTION	SUB-STRUCTURE 3 OF 4			SUB-STRUCTURE 4 OF 4			GRAND TOTAL
		KLIPFONTEIN	MITCHELLS PLAIN	TOTAL	KHAYELITSHA	EASTERN	TOTAL	Cape Town Metro District
Sal Level	**SERVICE COMPONENT:**							
11	PHC Manager	1	1	2	1	1	2	**8**
10	Programme Coordinator	4	4	8	4	4	8	**32**
7	Professional Nurse (Tech Assistant, Training, Monitoring & Evaluation)	2	2	4	2	2	4	**16**
4	Admin Assistant	1	1	2	1	1	2	**8**
	Medical Ancillary Services	-	-	-	-	-	-	**-**
7	Physiotherapist	4	4	8	4	4	8	**33**
7	Occupational Therapist	4	4	8	4	4	8	**33**
7	Speech Therapist	2	3	5	2	2	4	**19**
7	Dietician (District Hospital)	3	3	6	3	3	6	**23**
7	Social Worker	4	4	8	4	4	8	**33**
7	Psychologists	2	3	5	2	2	4	**19**
	Admin Support	-	-	-	-	-	-	**-**
7	Admin Officer (Information)	1	-	1	1	-	1	**4**
5	Admin Clerk (Finance)	1	1	2	1	1	2	**8**
5	Admin Clerk (Supply CM)	1	1	2	1	1	2	**8**
2	Stores Assist (Supply CM)	1	1	2	1	1	2	**8**
7	Admin Officer (HR)	1	-	1	1	-	1	**4**
5	Admin Clerk (HR)	1	1	2	1	1	2	**8**
3	Driver	1	-	1	1	-	1	**4**
	SUB TOTAL	**34**	**33**	**67**	**34**	**31**	**65**	**268**
	MANAGEMENT COMPONENT:							
13	Director			1			1	**4**
6	Admin Assistant			1			1	**4**
12	Deputy Director: Health			1			1	**4**
12	Deputy Director: Pharmacy.			1			1	**4**
12	Deputy Director: Finance			1			1	**4**
10	Medical Officer (ARV)			1			1	**4**
10	Assistant Director Finance			1			1	**4**
10	Assistant Director			3			3	**12**
10	Assistant Director Supply Chain Management			1			1	**4**
10	Sen Artisan Superintendent			1			1	**4**
8	Chief Professional Nurse			7			7	**28**
8	Dietician			1			1	**4**
8	Health Therapist			1			1	**4**
6	Professional Nurse (ARV)			1			1	**4**
8	Senior Administrative Officer			2			2	**8**
7	Administrative Officer (ARV)			1			1	**4**
7	Administrative Officer: Revenue			1			1	**4**
7	Chief Admin Clerk			1			1	**4**
5	Admin Clerk			5			5	**20**
4	Admin Clerk			4			4	**16**
4	Pharmacy Assistant			1			1	**4**
8	Senior Personnel Practitioner			1			1	**4**
7	Personnel Practitioner			1			1	**4**
4	Registry Clerk			1			1	**4**
4	Typist			1			1	**4**
4	Senior Telecom			1			1	**4**
3	Driver			1			1	**4**
2	Messenger			1			1	**4**
1	Cleaners			2			2	**8**
	SUB TOTAL			**46**			**46**	**184**
	TOTAL			**113**			**111**	**452**

3. FACILITY-BASED SERVICES: THE RURAL MODEL

3.1 INTRODUCTION

The rural local authority clinics and the related management structures transferred to the Western Cape Department of Health, with effect from 1 July 2005. An interim structure based on the current local authority operations (structures and posts) was created on PERSAL by the Department of Health in the so-called 'shell exercise' to facilitate the transfer of staff.

The Department of Health's own Primary Health Care (PHC) services in rural areas do not conform to the prescribed national guidelines for the District Health System (DHS). There is an inequitable allocation of PHC resources between the various Health districts and the district hospitals are not staffed according to the Healthcare 2010 bed plan.

The current rural regional management structures are the:

- West Coast/ Winelands;
- Boland/ Overberg; and
- Southern Cape/ Karoo regional offices.

However, these structures are outdated because of the demarcation of the Health districts in terms of new legislation, which has resulted in an inequitable management workload. There is also currently insufficient management capacity in the departmental regional offices to manage the PHC responsibility acquired from the local authorities.

3.2 APPROACH

The recommended rural DHS is based on the same broad principles described in the plan for the Metro and which are highlighted again as follows:

- Census 2001 population statistics;
- Full/core package of PHC services as prescribed by the National Department of Health;
- Current head counts of institutions, i.e. reflecting current reality;
- Future headcounts based on an average utilization rate of 3.85 for the total population;
- Current best practice and infrastructure plans;
- The division of the five rural districts into 24 sub-districts;
- Equitable allocation of human resources per district, taking into account population density and access;
- Optimally sized mobile clinics, satellite clinics, clinics and Community Health Centres (CHC's);
- PHC management linked to District Hospitals at sub-district level; and
- District hospitals providing support to PHC services in sub-districts.

3.3 MAPPING PROCESS IN THE RURAL DISTRICTS

3.3.1 The rural DHS must be provided in the following five districts:

- Central Karoo;
- Eden;
- Cape Winelands;
- Overberg; and
- West Coast.

These districts may be divided into 24 sub-districts. Sub-districts are viewed as the service rendering entity within which an integrated health service is rendered. The envisaged DHS is built up/organized from mobile clinics, satellite clinics, clinics and CHCs within each sub-district and which are referred to as "the map" of service rendering institutions. The optimal size of a rural clinic was determined in terms of the number and skills mix of the staff in relation to the population/ norms applied. The aim is to create a balance between the number of the various categories of staff (skills mix) and their optimal utilization in an integrated

primary health care team/unit. It is intended that the team should be able to render the full package of PHC services at clinic level.

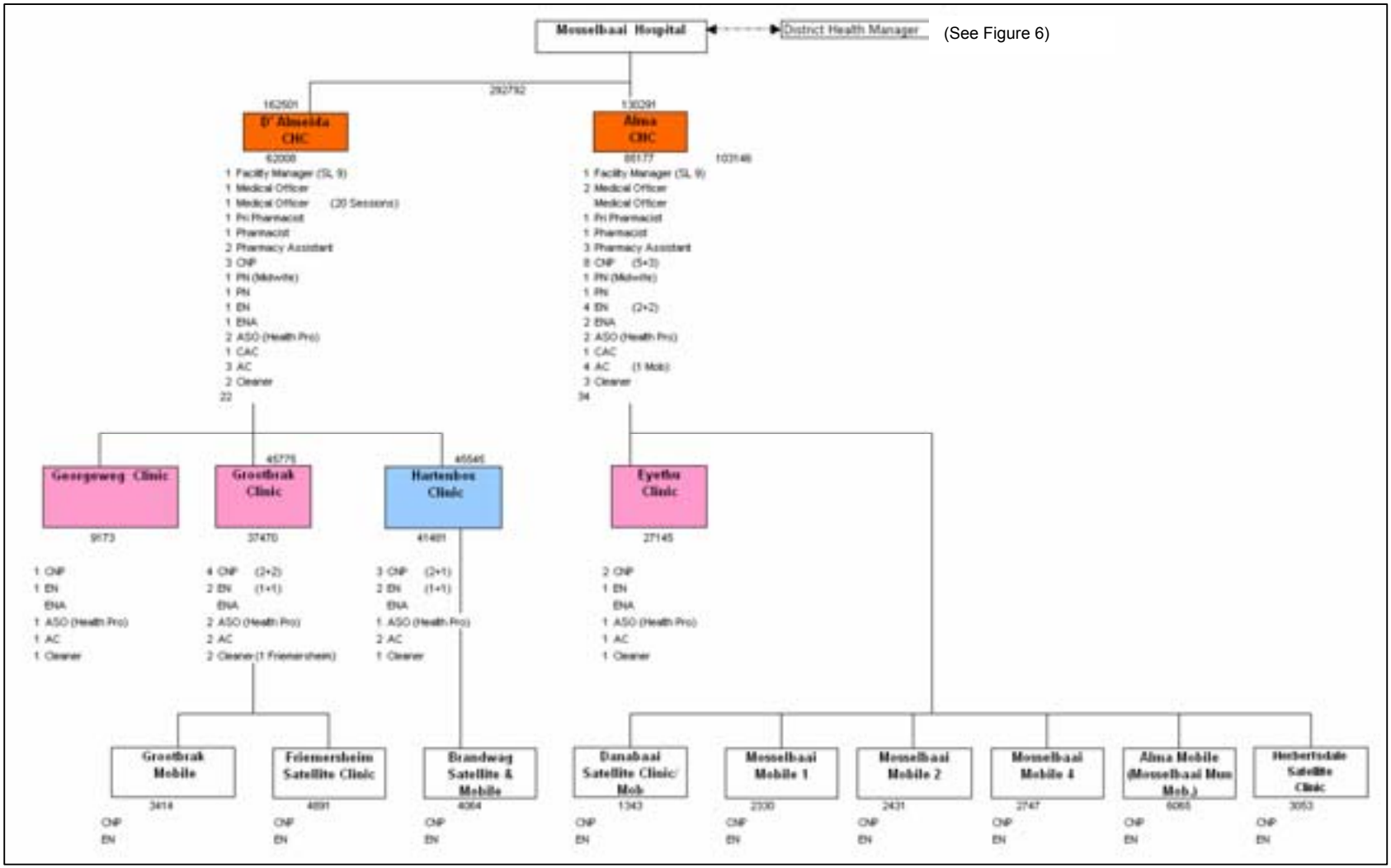
3.3.2 During the mapping process mobile and satellite clinics, clinics and CHCs were allocated to the envisaged infrastructure in each sub-district. The criteria used to determine the number of service delivery units to allocate to sub-district were:

1) The size of the population in the drainage area; and
2) The current utilization statistics.

Existing clinic infrastructure was used as a guide to locate the staff but in areas where there is currently insufficient access to health services additional service delivery units were added. In some areas facilities were 'remapped' to eliminate fragmentation and inefficiency. This was done without compromising access.

3.3.3 As in the Metro, each clinic is linked to a CHC where the services are provided on a referral basis. The staffing of the CHC is determined by the number of clinics to which it is linked and the population within its drainage area. Each CHC also has a clinic component to service as a gateway to the population in the immediate vicinity of the CHC to prevent direct access to referral services. The CHC not only treats referrals from the clinics but is also responsible to provide operational support to the clinics and are in turn linked to district hospitals. As an example the mapping of the Mossel Bay sub-district drainage area is depicted in the diagram below. (See Annexure D for a complete set of drainage maps of rural PHC facility-based services)

FIGURE 5: DIRECTORATE: DHS: EDEN DISTRICT; MOSSEL BAY SUB-DISTRICT: EXAMPLE OF A RURAL DHS FACILITY-BASED SERVICE MAP



3.4 **The PHC utilization and workload calculator applied to all the clinics and CHCs in the rural districts of the Western Cape**:

In the following section the PHC workload and utilization calculator was linked to the projected 2010 population for the rural districts and with the total number of staff allocated to clinics and CHCs. The outcomes for clinics and CHCs were calculated collectively. The following PHC outreach and support staff not attached to a specific clinic or CHC were also taken into account as specialized professional nurses:

- Professional nurse: Psychiatry
- Professional nurse: Orthopaedics

The direct patient care factor is adjusted to suit rural conditions where mobile and outreach staff need to travel longer distances than in the urban areas.

Table A22: Total population per district projected to 2010

Districts: Western Cape	Census 2001	Census 2001 projected to 2010									% Uninsured
		2002	2003	2004	2005	2006	2007	2008	2009	2010	
Cape Town	2,893,248	2,938,222	2,983,897	3,030,285	3,077,397	3,125,243	3,173,835	3,223,186	3,273,307	3,324,209	69.80%
West Coast	282,672	287,057	291,510	296,032	300,625	305,289	310,026	314,836	319,722	324,683	81.00%
Cape Winelands	629,490	639,265	649,192	659,273	669,512	679,911	690,471	701,196	712,088	723,150	80.00%
Overberg	203,517	206,672	209,875	213,129	216,433	219,789	223,196	226,657	230,172	233,741	83.00%
Eden	454,924	461,989	469,164	476,451	483,851	491,366	498,999	506,751	514,623	522,619	81.00%
Central Karoo	60,485	61,425	62,379	63,349	64,333	65,333	66,348	67,379	68,427	69,490	89.00%
Total: Western Cape	**4,524,336**	**4,594,629**	**4,666,017**	**4,738,519**	**4,812,150**	**4,886,930**	**4,962,876**	**5,040,005**	**5,118,338**	**5,197,892**	74.00%

Table A23: Module 1: PHC workload and utilisation calculator: workload and population variables applied to clinics and CHCs in the rural districts

Census 2001 projected to 2010	1,873,682
Correction Factor applied:	1.000 (To correct undercount
Population corrected:	1,873,682

PHC Component: Clinics and CHCs in Rural Districts

Post description	Working days per annum	Minutes/day	Direct care Factor	Minutes / Patient Contact	Contacts / day	Contacts per Post per annum	Posts (FTE's)	Total Patient Contacts	Contact Utilisation Rate per capita	Population served	% of total CHC Contacts
Medical Officer	221	450	0.65	12	24	5,387	84	449,804	0.24		3.1%
Prof Nurse: (Facility manager: 40% production)	221	450	0.40	7.5	24	5,304	35	185,640	0.10		1.3%
Dentist & Oral hygienist	221	450	0.65	25	12	2,586	61	157,729	0.08		1.1%
Professional nurse Specialised	221	450	0.65	15	20	4,310	38	163,761	0.09		1.1%
Professional nurse	221	450	0.65	7.50	39	8,619	41	353,379	0.19		2.4%
Clinical Nurse Practitioner	221	450	0.65	12.00	24	5,387	490	2,679,970	1.43		18.5%
Professional nurse (Midwife)	221	450	0.65	15.00	20	4,310	36	155,142	0.08		1.1%
General support & trauma: Enrolled nurse & nursing assistant	221	450	0.65	3.6	81	17,956	368	6,598,922	3.52		45.5%
Support MOU: Enrolled nurse & nursing assistant	222	450	-	0.1	-	-		-	-		0.0%
Dispensing units: Pharmacy	221	450			150	33,150	113	3,745,950	2.00		25.9%
								14,490,296	7.73	1,873,682	100.0%

% Uninsured population	0.81
Uninsured population	1,517,683
PHC Utilisation per uninsured person	4.44
PHC Utilisation per capita	3.60
Contacts per patient per visit	2.15

Administrative and support workload: Clinics and CHC's

Post description	Posts	Patients per annum	Minutes per patient	Patients / Post
Clerks and Admin Officers	332	6,735,702	4.9	20,289
Cleaners	227	6,735,702	3.34	29,738

Table A24: Module 2: PHC workload and utilisation calculator: average number of contacts with health workers during one visit to a rural PHC facility

Assumption: Consults by clinical nurse practitioners, professional nurses and doctors will be supported by visits to clinical support personnel: professional nurses, staff nurses, enrolled nurses and pharmacist.		**Contacts**
Dentist		157,728
	Support Factor	
Clinical support: Staff nurse & nursing assistant		
Pharmacy	0.80	126,182
Clinical Nurse Practitioner		2,679,970
	Support Factor	
Clinical support: Staff nurse & nursing assistant	1.00	2,679,970
Pharmacy	1.00	2,679,970
Medical Officer		449,804
	Support Factor	
Clinical support: Staff nurse & nursing assistant	1.00	449,804
Pharmacy	1.00	449,804
Professional nurse		539,019
	Support Factor	
Clinical support	0.87	468,947
Pharmacy	0.93	501,288
Professional nurse: Specialised		318,903
	Support Factor	
Clinical support	0.60	191,342
Pharmacy	0.65	207,287
Total number of contacts		11,900,018
Number of *patients* treated during above contacts (=headcount)		4,145,424
Total number of contacts per annum		14,490,296
One contact per person per visit (e.g. chronic medication)		2,590,278
Average contacts per person during a visit to a CHC		2.15
Headcount per annum		6,735,702

Table A25: Model outcomes: Rural districts

Model outcomes: Rural utilization and unit costs	**PHC**
Total contacts per annum	14,490,296
Total headcount per annum	6,735,702
Utilization per capita	3.59

*Excluding Anti-retroviral centres

3.5 **Establishments**

3.5.1 **Mobile clinic**

The staffing of a mobile clinic is nurse driven and consists of a post of Enrolled nurse and a post of a Clinical Nurse Practitioner. Dedicated staff for a mobile clinic was provided in areas where the projected headcount would exceed 7,000 visits per year. This guideline was adjusted in some instances where excessive travelling time would be required.

In areas where the projected headcount is below 7,000 visits per year this workload (number of headcounts) was allocated to the next level of service.

3.5.2 **Satellite clinic**:

The staffing of the satellite clinic is nurse driven and consists of posts of Enrolled nurse and Clinical Nurse Practitioner. The number of visits per annum determined the number of posts per category. Travelling time was also factored into the establishment calculations.

3.5.3 **Clinic**:

The staffing of a clinic is mainly nurse driven and consists of posts of Enrolled Nurse and Clinical Nurse Practitioner. In addition, clinics were provided with posts of Auxiliary Services Officer (Health Promoter), Administration Clerk and Cleaner. The number of visits per annum determined the number of posts per staff category, except in the case of the Cleaner. The number of Cleaner posts was based on the size of the facility and negotiations with staff at the various service delivery units. In addition CHC's provide medical and pharmaceutical outreach services to clinics.

3.5.4 **Community Health Centre (CHC)**:

The staffing of the clinic component of the CHC is mainly nurse driven and consists of Enrolled nurse, Clinical Nurse Practitioner, Auxiliary Services Officer (Health Promoter), Administration Clerk and Cleaner.

In addition CHCs were provided with Medical Officer posts, Pharmacists/ Pharmacists assistant posts and Professional nurses (Midwifery). Additional nursing support posts were also provided based on the number of clinicians and professional nurses. The number of visits per annum determined the number of posts per staff category except in the case of the Cleaner. The number of Cleaner posts was based on the size of the facility as well as negotiations with staff at the various service delivery units.

The number of Medical Officer posts is based on a 10% referral rate of patients by Clinical Nurse Practitioners. The total number of visits at the CHC and its map of clinics are used in this calculation.

Table A26: Staff allocation to clinics and CHCs per rural district

POSTS: CLINICS & CHCs	OVERBERG		CAPE WINELANDS		WEST COAST		CENTRAL KAROO		EDEN		GRAND TOTAL	
	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.
Facility Manager (SL 9)	5.00	2.14	11.00	1.52	7.00	2.16	1.00	1.44	11.00	2.10	35	1.87
Medical Officer	11.50	4.92	30.00	4.15	14.00	4.31	7.00	10.07	21.00	4.02	84	4.46
Principal Pharmacist	5.00	2.14	11.00	1.52	7.00	2.16	1.00	1.44	11.00	2.10	35	1.87
Pharmacist	1.00	0.43	11.00	1.52	1.00	0.31	1.00	1.44	13.00	2.49	27	1.44
Pharmacy Assistant	15.00	6.42	38.00	5.25	24.00	7.39	2.00	2.88	34.00	6.51	113	6.03
Clinical Nurse Practitioner	67.50	28.88	176.50	24.41	91.50	28.18	20.00	28.78	142.00	27.17	498	26.55
Professional Nurse	5.00	2.14	15.00	2.07	7.00	2.16	1.00	1.44	13.00	2.49	41	2.19
Professional Nurse (Midwife)	5.00	2.14	12.00	1.66	7.00	2.16	1.00	1.44	11.00	2.10	36	1.92
Enrolled Nurse	44.50	19.04	113.50	15.70	63.50	19.56	14.00	20.15	83.00	15.88	319	17.00
Enrolled Nursing Assistant	6.00	2.57	17.00	2.35	9.00	2.77	2.00	2.88	15.00	2.87	49	2.62
Auxiliary Services Officer	23.00	9.84	79.00	10.92	33.00	10.16	7.00	10.07	58.00	11.10	200	10.67
Auxiliary Services Officer sessions	3.00	1.28	2.00	0.28	1.50	0.46	1.50	2.16	0.00	0.00	8	0.43
Chief Admin Clerk	5.00	2.14	11.00	1.52	7.00	2.16	1.00	1.44	11.00	2.10	35	1.87
Admin Clerk	33.00	14.12	117.00	16.18	42.00	12.94	13.00	18.71	86.00	16.46	291	15.53
Admin Clerk sessions	2.50	1.07	2.50	0.35	0.50	0.15	0.50	0.72	0.00	0.00	6	0.32
Cleaner	25.00	10.70	82.00	11.34	38.00	11.70	8.00	11.51	65.00	12.44	218	11.63
Cleaner Sessions	3.00	1.28	2.00	0.28	2.00	0.62	1.50	2.16	0.00	0.00	9	0.45
Total	**260**	**111**	**731**	**101**	**355**	**109**	**83**	**119**	**574**	**110**	**2,004**	**107**

The inter-district variation of posts (FTEs) per 100,000 population is a direct result of population density which varies significantly between the respective districts.

3.5.5 **PHC support and outreach at District Hospitals:**

District hospitals play an important role in the DHS in terms of support and outreach within a specific sub-district(s). Additional clinical, medical ancillary and administrative staff have been added to the establishment of hospitals (see Table A27). The number of these additional staff is based on the population norms. An equity gauge (FTE's per 100,000 population) was developed to ensure an equitable allocation of posts per District.

In some areas a post of Radiographer was added to the component to ensure equal access to this service. The administrative/ technical staff provided is based on the additional production work generated by the new clinics and CHCs. Although these posts are organizationally linked to the envisaged PHC Manager, its incumbents will work under the functional supervision of the existing hospital components.

Table A27: PHC outreach and support staff not attached to a specific clinic or CHC

PHC OUTREACH & SUPPORT STAFF	OVERBERG		CAPE WINELANDS		WEST COAST		CENTRAL KAROO		EDEN		GRAND TOTAL	
	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.	Total posts	FTE/ 100,000 pop.
HOSPITAL POSTS												
Admin Officer Information	3.00	1.28	5.00	0.69	3.00	0.92	1.00	1.44	4.00	0.77	16	0.85
Admin Clerk	12.00	5.13	23.00	3.18	13.00	4.00	4.00	5.76	20.00	3.83	72	3.84
Driver	4.00	1.71	5.00	0.69	4.00	1.23	1.00	1.44	7.00	1.34	21	1.12
Speech Therapist/ Audiology	3.00	1.28	5.00	0.69	3.00	0.92	1.00	1.44	4.00	0.77	16	0.85
Dietician	3.00	1.28	5.00	0.69	5.00	1.54	2.00	2.88	4.00	0.77	19	1.01
Occupation Therapist	3.00	1.28	5.00	0.69	4.00	1.23	2.00	2.88	5.00	0.96	19	1.01
Dentist	4.00	1.71	11.00	1.52	6.00	1.85	1.00	1.44	8.00	1.53	30	1.60
Dental Assistant	4.00	1.71	11.00	1.52	6.00	1.85	1.00	1.44	8.00	1.53	30	1.60
Professional Nurse (Psychiatry)	3.00	1.28	8.00	1.11	3.00	0.92	2.00	2.88	6.00	1.15	22	1.17
Professional Nurse (Orthopaedics)	3.00	1.28	5.00	0.69	3.00	0.92	1.00	1.44	4.00	0.77	16	0.85
Physiotherapist	3.00	1.28	5.00	0.69	4.00	1.23	1.00	1.44	4.00	0.77	17	0.91
Psychologist	3.00	1.28	5.00	0.69	4.00	1.23	1.00	1.44	4.00	0.77	17	0.91
Social worker	3.00	1.28	5.00	0.69	4.00	1.23	1.00	1.44	4.00	0.77	17	0.91
Oral Hygienist	4.00	1.71	11.00	1.52	6.00	1.85	2.00	2.88	8.00	1.53	31	1.65
Radiographer	1.00	0.43	0.00	0.00	0.00	0.00	1.00	1.44	2.00	0.38	4	0.21
Sub-Total	**56.00**	**23.96**	**109.00**	**15.07**	**68.00**	**20.94**	**22.00**	**31.66**	**92.00**	**17.60**	**347**	**18.52**
TECHNICAL SERVICES												
Artisan	1.00	0.43	3.00	0.41	2.00	0.62	1.00	1.44	2.00	0.38	9	0.48
Handyman	3.00	1.28	7.00	0.97	5.00	1.54	1.00	1.44	7.00	1.34	23	1.23
Tradesman Aid	1.00	0.43	3.00	0.41	2.00	0.62	1.00	1.44	2.00	0.38	9	0.48
General worker	3.00	1.28	7.00	0.97	5.00	1.54	1.00	1.44	7.00	1.34	23	1.23
Sub-Total	**8.00**	**3.42**	**20.00**	**2.77**	**14.00**	**4.31**	**4.00**	**5.76**	**18.00**	**3.44**	**64**	**3.42**
MANAGEMENT												
PHC Manager	3.00	1.28	5.00	0.69	3.00	0.92	1.00	1.44	5.00	0.96	17	0.91
Admin Clerk	3.00	1.28	5.00	0.69	3.00	0.92	1.00	1.44	5.00	0.96	17	0.91
Program Coordinator	8.00	3.42	10.00	1.38	10.00	3.08	2.00	2.88	14.00	2.68	44	2.35
Prof Nurse	4.00	1.71	5.00	0.69	5.00	1.54	1.00	1.44	7.00	1.34	22	1.17
Sub-Total	**18.00**	**7.70**	**25.00**	**3.46**	**21.00**	**6.47**	**5.00**	**7.20**	**31.00**	**5.93**	**100**	**5.34**
GRAND TOTAL	**82**	**35**	**154**	**21**	**103**	**32**	**31**	**45**	**141**	**27**	**511**	**27**

Table A28: Overview of current versus proposed staff in the rural districts

HEALTH PROFESSIONALS	OVERBERG		CAPE WINELANDS		WEST COAST		CENTRAL KAROO		EDEN		GRAND TOTAL		
	Current posts	Recom posts	Current posts	Recom posts	Current posts	Recom posts	Current posts	Recom posts	Current posts	Recom posts	Current posts	Recom posts	Total post diff.
Facility Manager (SL 9)	0	5	0	11	0	7	0	1	1	11	1	35	34
Medical Officer	24	12	23	30	1	14	6	7	19	21	73	84	11
Principal Pharmacist	6	5	8	11	1	7	2	1	3	11	20	35	15
Pharmacist	5	1	10	11	1	1	1	1	10	13	27	27	0
Dentist		4		11		6		1		8		30	30
Clinical Nurse Practitioner	91	68	188	177	50	92	37	20	158	142	524	498	-27
Professional Nurse	17	5	91	15	43	7	3	1	20	13	174	41	-133
Professional Nurse (Midwife)	0	5	0	12	0	7	0	1	0	11	0	36	36
Enrolled Nurse	17	45	53	114	40	64	5	14	46	83	161	319	158
Professional Nurse (Psychiatry)		3		8		3		2		6		22	22
Professional Nurse (Orthopaedics)		3		5		3		1		4		16	16
Subtotal	**160**	**155**	**373**	**404**	**136**	**210**	**54**	**50**	**257**	**323**	**980**	**1142**	**162**
MEDICAL ANCILLARY SERVICES													
Subtotal		**19**		**30**		**24**		**9**		**27**		**109**	**109**
CLINICAL SUPPORT													
Oral Hygienist		4		11		6		2		8		31	31
Dental Assistant		4		11		6		1		8		30	30
Enrolled Nursing Assistant	39	6	96	17	23	9	18	2	54	15	230	49	-181
Pharmacy Assistant	6	15	6	38	0	24	4	2	6	34	22	113	91
Auxiliary Services Officer	9	23	30	79	41	33	7	7	28	58	115	200	85
Auxiliary Services Officer sessions	0	3	0	2	0	2	0	2	0	0	0	8	8
Subtotal	**54**	**55**	**132**	**158**	**64**	**80**	**29**	**16**	**88**	**123**	**367**	**431**	**64**
ADMIN & SUPPORT													
PHC Manager		3		5		3		1		5		17	17
Admin Clerk		3		5		3		1		5		17	17
Program Coordinator		8		10		10		2		14		44	44
Professional Nurse		4		5		5		1		7		22	22
Admin Officer Information		3		5		3		1		4		16	16
Admin Clerk		12		23		13		4		20		72	72
Driver		4		5		4		1		7		21	21
Chief Admin Clerk	0	5	0	11	0	7	0	1	0	11	0	35	35
Admin Clerk	29	33	95	117	27	42	10	13	42	86	203	291	88
Admin Clerk sessions	0	3	0	3	0	1	0	1	0	0	0	6	6
Cleaner	31	25	85	82	45	38	12	8	59	65	232	218	-14
Cleaner Sessions	0	3	0	2	0	2	0	2	0	0	0	9	9
Subtotal	**60**	**106**	**180**	**273**	**72**	**131**	**22**	**35**	**101**	**224**	**435**	**768**	**333**
TECHNICAL SUPPORT SERVICES													
Artisan		1		3		2		1		2		9	9
Handyman		3		7		5		1		7		23	23
Tradesman Aid		1		3		2		1		2		9	9
General worker		3		7		5		1		7		23	23
Subtotal	**0**	**8**	**0**	**20**	**0**	**14**	**0**	**4**	**0**	**18**	**0**	**64**	**64**
GRAND TOTAL	**274**	**342**	**685**	**885**	**272**	**458**	**105**	**114**	**446**	**715**	**1782**	**2513**	**731**

Note:
The rural PHC service was recently taken over from local authorities which has different staffing categories. Problems were experienced with the translation of the different nursing staffing categories to those applicable to the Provincial Department of Health and which has skewed the comparison of the current and recommended staff numbers.

3.5.6 **PHC Management at District Hospital**:

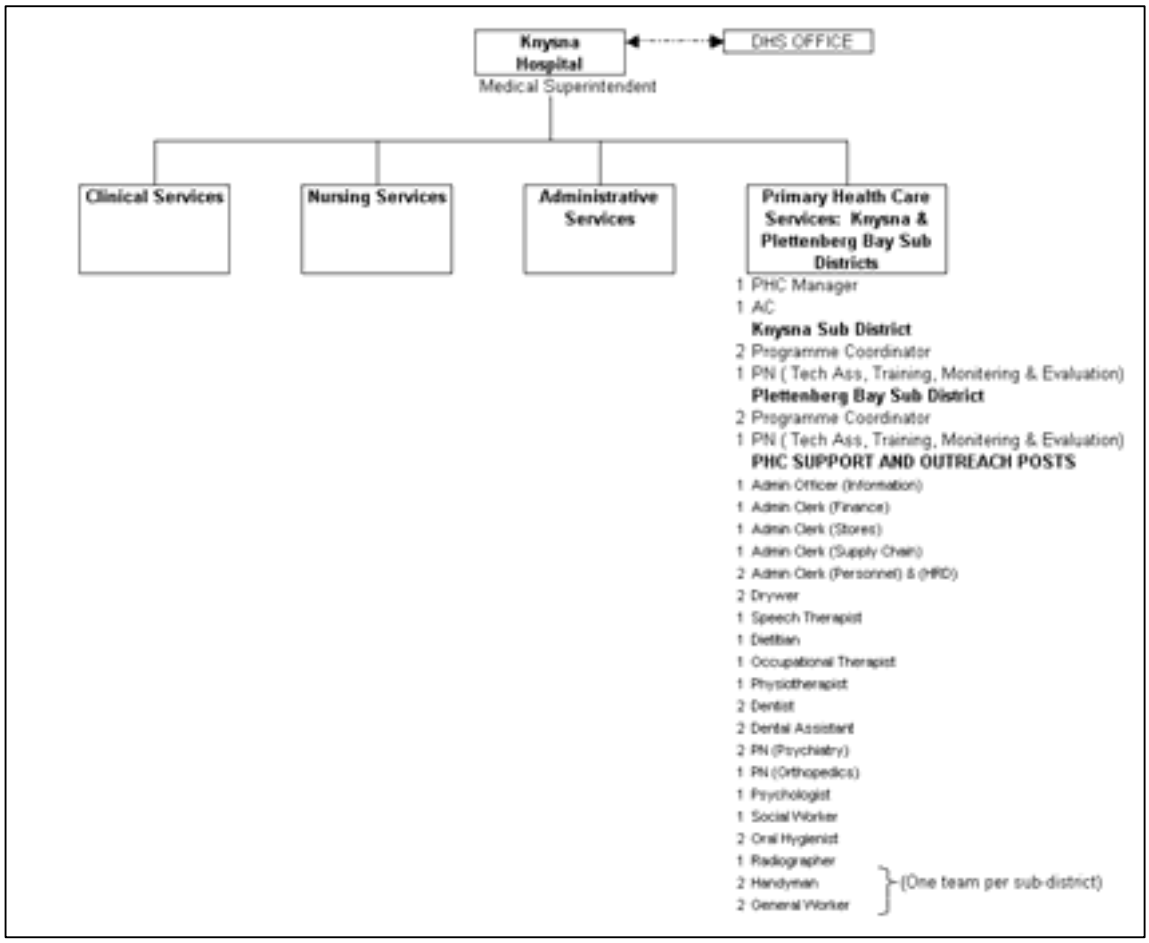
The traditional management structure of the identified district hospitals was strengthened with a PHC manager and other support personnel. A post of PHC Manager, two posts of Programme Coordinator, a post of Professional Nurse as well as a post of Administration Clerk were provided per Sub-district. In areas where two sub-districts were combined two additional posts of Programme Coordinator and one post of Professional nurse were provided to cope with the production workload.

The PHC Manager who reports to the Medical Superintendent will manage the PHC services within the sub-district. See the example below of a typical hospital management structure with the added responsibility of PHC. One Programme Coordinator will be responsible for HIV and AIDS and TB whilst the other will be responsible for all the other Health Programmes. The Professional nurse (Technical Assistant) is responsible for training, monitoring and evaluation regarding the Home Based Carers. An Administrative clerk is provided to assist the PHC management team with general administrative responsibilities.

However, the allocation of posts per category of staff should not be evaluated in isolation but within the context of the proposed skill mix. For example there are currently more professional nurses and clinical nurse practitioners than on the proposed establishments but these professional nurses are currently required to perform administrative, management and dispensing tasks. The result is that they can only spend 45 –55% of their time on direct patient care. Table A28 indicates that there is an increase in management, administrative and other support staff to enable the nursing professionals to spend 65% or more of their time on direct patient care.

In addition specialized professional nurses, e.g. midwives, psychiatric and orthopaedic nurses as well as facility managers were also added. Nursing support services were also substantially enhanced by the addition of staff nurses in place of nursing assistants, thus improving the skills mix and the scope of practice of the nursing support unit.

Figure 6: Example of a typical rural district hospital management structure with the added PHC responsibility
District: Eden – Sub-district: Mossel Bay



3.5.7 **Directorate District Health Services (ex Regional Offices)**:

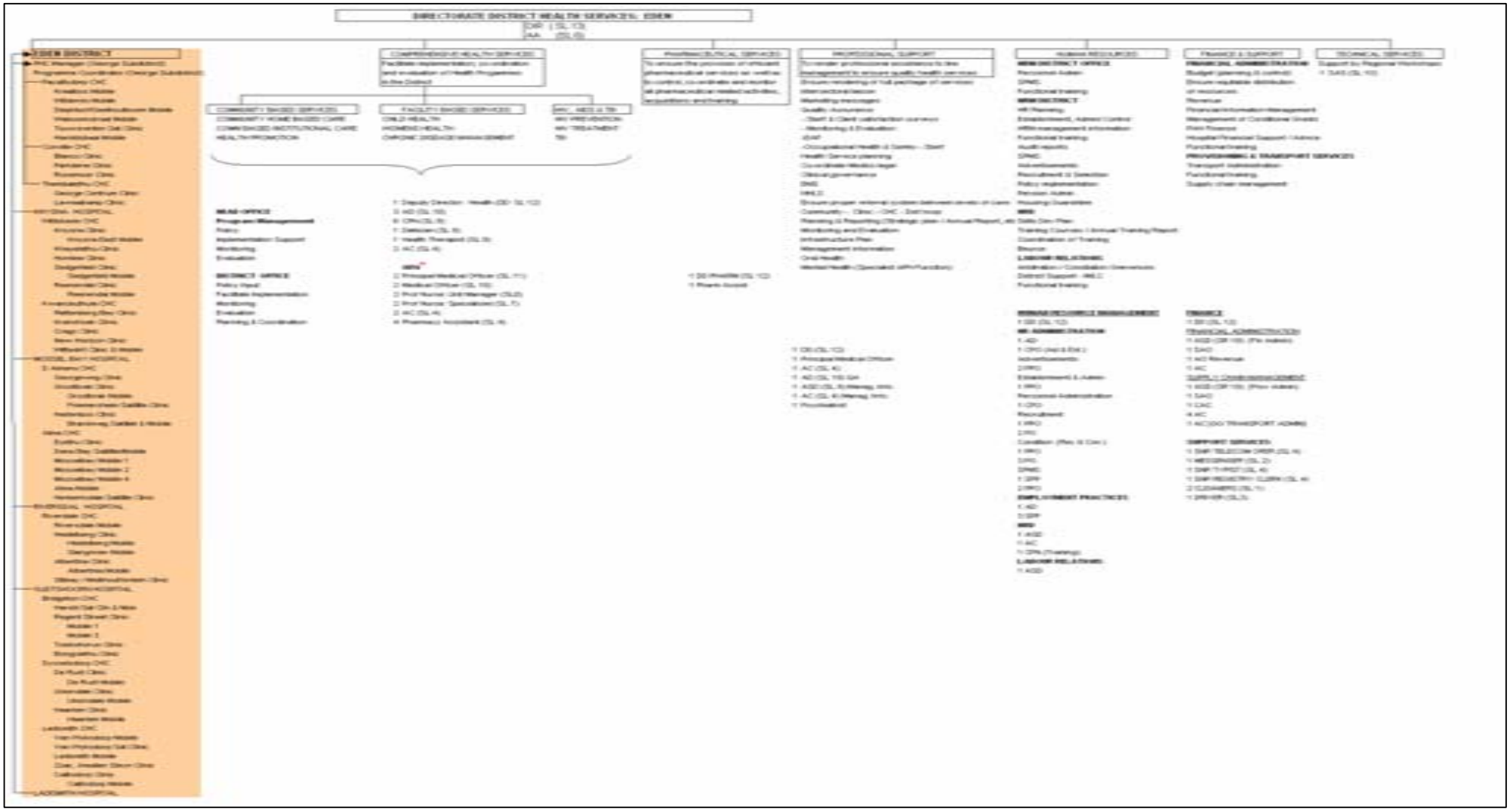
Five rural district management structures are provided for, i.e.:

1) Directorate District Health Service: Eden;
2) Directorate District Health Service: Central Karoo;
3) Directorate District Health Service: Cape Winelands;
4) Directorate District Health Service: Overberg, and
5) Directorate District Health Service: West Coast.

The main components of a Directorate DHS are the following:

- The institutions (organized per district);
- Comprehensive Health Services;
- Pharmaceutical services;
- Professional support;
- Human resources;
- Finance and general administrative support; and
- Technical support.

Figure 7: Directorate: DHS: Eden District: Example of a district management structure for rural DHS



Explanatory notes

1) The purpose of the component Comprehensive Health Services is to facilitate, implement, co-ordinate and evaluate Health Programmes in the District. The component, headed by a manager, is subdivided into Community Based Services, Facility Based Services as well as HIV and AIDS, and TB. Posts of Assistant Director are provided to head each of these sub-components. Production units were also provided to assist these managers with the execution of their responsibilities. (Post levels will differ from District to District depending on the population to be served. This applies to all post levels listed in the explanatory notes. These levels will have to be confirmed through Job evaluation.)

2) The purpose of the component Pharmaceutical Services is to ensure effective and efficient Pharmaceutical services in the health districts within the Directorate. A post of Deputy Director: Pharmaceutical Services and a post of Pharmacy Assistant were provided for this purpose.

3) The purpose of the component Professional Support Services is to render professional assistance to line management to ensure quality health services. A Deputy Director: Health manages this component. Additional posts were provided to assist with the execution of the functions.

4) The purpose of the sub-directorate: Human Resources is to ensure the effective and efficient application of human resources management policies and practices within the Directorate. A Deputy Director: Human Resources post was provided to manage this component. Additional posts were provided to assist with the execution of the functions.

   In sub-districts where only regional hospitals are available (i.e. George, Drakenstein and Breede Valley), the human resource management functions of the PHC institutions will also be rendered by this component. Additional staff were allocated for this purpose.

5) The purpose of the Sub-directorate Finance and Support Services is to ensure effective and efficient financial management in the Directorate as well as to render support services to the office. A Deputy Director: Finance was provided to manage this component. Additional posts were provided to assist with the execution of the functions. In sub-districts where only regional hospitals are available (i.e. George, Drakenstein and Breede Valley), the finance and supply chain management functions of the primary health care institutions will be rendered by this component. Additional staff were allocated for this purpose.

6) The purpose of the component Technical Services is to facilitate and monitor technical services in the Directorate. A post of Senior Artisan Superintendent was provided for this purpose. Sufficient technical staff is provided at hospital level to do most of the routine production work regarding technical services. These posts are allocated on three levels, namely:
   - A routine maintenance team, consisting of a General Worker and Handyman, for Clinics/CHCs per sub-district;
   - A technical team/teams, consisting of an Artisan and a Tradesman Aid per District for higher level repair and maintenance work; and
   - Sufficient capacity at the Technical Services component of the hospital to cover the needs of the hospital.

7) A post of **District Manager** is provided for each health district. The main responsibility of this Manager is to ensure service delivery in line with the District Health Plan. This would include the drafting and implementation of business plans and service level agreements as well as to monitor the execution thereof. A post of Administrative Assistant (level 6) was provided to assist the Director with the daily administrative tasks.

8) A post of Chief Director is provided to manage the five rural district health service Directorates.

Table A29 Establishments of rural district health service offices

		CAPE WINELANDS DISTRICT OFFICE	EDEN DISTRICT OFFICE	WEST COAST DISTRICT OFFICE	OVERBERG DISTRICT OFFICE	CENTRAL KAROO DISTRICT OFFICE
	Salary Level	Posts	Posts	Posts	Posts	Posts
MANAGEMENT						
Director	13	1	1	1	1	1
Administrative Clerk (Admin assistant)	6	1	1	1	1	1
COMPREHENSIVE HEALTH SERVICES						
Deputy director	12	1	1	1	1	-
Assistant Director	10	3	3	3	3	1
Professional Nurse	8	7	6	4	3	3
Dietician	7	1	1	1	1	-
Health therapist	7	1	1	1	1	1
Administrative Clerk	4	3	2	2	1	1
Anti-retroviral therapy (ARV)						
Specialist	12					
Principle Medical Officer	11	3	2	1	1	1
Medical Officer	10	3	2	1	1	
CNP	8	3	2	1	1	
Professional Nurse	7	3	2	1	1	1
Pharmacist	8					
Pharmacist's Assistant	4	6	4	2	2	1
Admin Clerk	4	3	2	1	1	1
PROFESSIONAL SUPPORT						
DD: Pharmacist	12	1	1	1	1	-
AD: Pharmacist	10					1
Pharmacists Assistant	4	1	1	1	1	1
DD: Health	12	1	1	1	1	-
Principle Medical Officer	11	1	1	1	1	1
Admin Clerk	4	2	2	2	2	1
Assistant Director	10	1	1	1	1	1
Assistant Director	9	1	1	1	1	-
Psychiatrist	12	1	1	1	1	-
SAO	8					2
HUMAN RESOURCES						
Deputy Director: HR	12	1	1	1	1	
Assistant Director: HRM	9	2	2	2	2	1
Chief Personnel Officer	8	2	2	1	1	
Senior Personnel Practitioner	8	5	4	3	3	1
Principal Personnel Officer	7	7	7	4	4	
Personnel Officer	4	7	5	2	2	2
Personnel Practitioner	7	-				1
LABOUR RELATIONS & HRD						
Assistant Director	9	2	2	2	2	
Admin Clerk	4	1	1	1	1	
Professional Nurse: Training	8	1	1	1	1	
FINANCE & SUPPLY CHAIN						
Deputy Director	12	1	1	1	1	
Assistant Director: Fin Admin	10	2	2	2	2	1
Senior Admin Officer	8	2	2	2	2	2
Admin Officer	7	1	1	1	1	1
Chief Admin Clerk	7	1	1	1	1	
Financial Admin Clerk	5	6	6	4	4	4
SUPPORT						
Telkom operator	4	1	1	1	1	1
Messenger	2	1	1	1	1	
Typist	4	1	1	1	1	
Registry Clerk	4	1	1	1	1	
Cleaners	1	2	2	2	2	1
Driver	3	1	1	1	1	1
TECHNICAL SERVICES						
Artisan Superintendent	10	1	1	1	1	
Artisan Superintendent	8					1
Artisan Foreman	7					1
Operator	3					1
TOTAL		**97**	**85**	**66**	**64**	**38**

4. DISTRICT HOSPITAL SERVICES (LEVEL ONE)

4.1 Level one hospital services in the Cape Town Metro district

Level 1 hospital services are regarded as an integral part of the District Health Services (DHS) and are usually provided by district hospitals. Ideally there should be a district hospital within the boundaries of each sub-district, especially in the Cape Town Metro District, however, this is not possible within the existing infrastructure and due to other issues such as the economies of scale. The following paragraphs explain the methodology used to determine an equitable distribution of level 1 beds in the Cape Town district.

Table A30: Level 1 acute beds required per sub-district in the Cape Town Metro district

	Northern	Western	Southern	Klipfontein	Mitchell's Plain	Tygerberg	Khayelitsha	Eastern	Cape Town
	A	B	C	D	E	F	G	H	Total
Total population 2003/4	270,921	338,792	442,770	356,024	414,526	477,002	340,020	348,683	2,988,739
% Uninsured	41%	47%	50%	84%	88%	73%	99%	72%	69.8%
Uninsured population	112,161	159,232	219,171	297,280	364,783	348,212	336,619	249,309	2,086,768
Beds required at 0.59 beds/1000 uninsured population	66	94	129	175	215	205	199	147	1,230

Until such time as the required infrastructure can be planned, built and commissioned the bed requirements identified above must be accommodated in the existing infrastructure in the Cape Town Metro district. It is anticipated that the district hospitals planned for the sub-districts of Khayelitsha and Mitchell's Plain will be completed by 2010. The table below illustrates the allocation of level 1 beds per hospital per sub-district in the medium term. Note that the number of beds reflected in Table A30 was adjusted in Table A31 to provide functional hospital service units, e.g. 25 – 30 beds wards. The number of beds allocated in Table A31 is therefore 15 more than the calculated number identified in Table A30.

Table A31: Proposed allocation of level 1 acute beds to the respective sub-districts of the Cape Town Metro district

Calculation of required beds			Interim bed allocation			Ideal bed configuration in 2010		
	Sub district	Number of Level 1 beds	Hospital	Hospital Sub-district	Number of Level 1 beds	Hospital	Hospital Sub-district	Number of Level 1 beds
Northern	A	66	Karl Bremer	F	35	Karl Bremer	F	35
			Somerset	B	30	Somerset	B	30
Western	B	94	Somerset	B	65	Somerset	B	65
			Wesfleur	B	31	Wesfleur	B	31
Southern	C	129	False Bay	C	65	False Bay	C	40
			Victoria	C	65	Victoria	C	90
Klipfontein	D	175	GF Jooste	D	180	GF Jooste	D	180
Mitchell's Plain	E	215	Lentegeur	E	210	Mitchell's Plain	E	210
Tygerberg	F	205	Karl Bremer	F	175	Karl Bremer	F	175
			Eerste River	H	30	Eerste River	H	30
Khayelitsha	G	199	Tygerberg	F	128	Khayelitsha	G	210
			Karl Bremer	F	60			
			Eerste River	H	22			
Eastern	H	147	Eerste River	H	60	Eerste River	H	60
			Hottentots Holland	H	90	Hottentots Holland	H	90
TOTAL		**1,230**			**1,246**			**1,246**

Table A32: Distribution of L1 acute beds in the Cape Town Metro district

Hospital	2004/05	2005/-6 – 2006/07	2007/08	2010
Eerste River Hospital	112	112	112	90
False Bay Hospital	65	70	70	40
GF Jooste Hospital	-	120	120	180
Hottentots Holland Hospital	-	60	90	90
Karl Bremer Hospital	-	150	270	210
Somerset Hospital	-	85	95	95
Victoria Hospital	-	70	70	90
Wesfleur Hospital	31	31	31	31
Khayelitsha Hospital				210
Mitchell' s Plain Hospital				210
Mowbray Maternity Hospital	-			
Groote Schuur Hospital	-	-	-	-
Red Cross Children's Hospital	-	-	-	-
Tygerberg and other hospitals	-	100	388	-
Total: Cape Town Metro district	**208**	**798**	**1,246**	**1,246**
Year on year increase		**590**	**448**	

Notes:

1) The target for L1 beds will be attained by the reclassification of current L2 beds and the building of two new district hospitals in the Cape Flats. Refer to Section B for the detail of the proposed shift of beds between the levels of care.
2) It is generally accepted that a significant proportion (± 40 – 45%) of the services currently rendered by regional hospitals can be classified as level 1 services.
3) It is planned that the target of the ideal number of level 1 beds be reached by the end of 2008 within the constraints of the existing infrastructure.
4) The ideal distribution of beds should be achieved by 2010.
5) The alternative placement of the 'Tygerberg level 1 beds' is amongst others Lentegeur, Somerset, Karl Bremer and Stikland Hospitals.

4.2 Service plan: District Hospital Services

1) The full package of district hospital services will be provided in the level 1 beds.
2) There will be trauma and emergency units at each of the district hospitals.
3) The hospital OPD will focus on referred patients and the extended hours of service to 21:30 at 25 CHC will relieve the hospital Trauma and Emergency Units of routine PHC visits occurring after hours.
4) The maternity units at the hospitals will provide outreach and support to the MOUs within the sub-districts.
5) The appointment of family medicine practitioners and registrars will promote effective service delivery and quality of care
6) The proposed distribution of level 1 beds will significantly improve the access to district hospital services.
7) In order to facilitate easy referral to level 2 services a limited number of level 2 beds are allocated to the larger district hospitals in the Cape Town Metro district and the rural areas. It is intended that non-acute patients be treated in these beds.

Table A33: Healthcare 2010 targets for level 1 service outputs

Hospital	L1 Beds	In patient days	OPD (Including Trauma and Emergencies)	Admissions	Patient Day Equivalents
Eerste River Hospital	90	27,923	27,923	9,729	37,230
False Bay Hospital	40	12,410	12,410	4,324	16,547
GF Jooste Hospital	180	55,845	55,845	19,458	74,460
Hottentots Holland Hospital	90	27,923	27,923	9,729	37,230
Karl Bremer Hospital	210	65,153	65,153	22,701	86,870
Somerset Hospital	95	29,474	29,474	10,270	39,298
Victoria Hospital	90	27,923	27,923	9,729	37,230
Wesfleur Hospital	31	9,618	9,618	3,351	12,824
Khayelitsha Hospital	210	65,153	65,153	22,701	86,870
Mitchell's Plain Hospital	210	65,153	65,153	22,701	86,870
Total: Metro	**1,246**	**386,572**	**386,572**	**134,694**	**515,429**

Note: The above calculations are based on the following assumptions:
1) Out-patient per in-patient day ratio of 1 : 1
2) Average length of stay = 2.87 days
3) Bed occupancy rate of 85%

4.3 Development of a rural bed plan for acute hospitals by level of care

The proposed decrease of 217 level 1 beds in the rural districts is offset by an increase of 370 level 2 beds resulting in a nett increase of 153 acute beds in hospitals in the rural districts. The decrease in the level 1 beds is partly due to the low bed occupancy rate which currently averages 64%. Another factor that impacts on the decrease of level 1 beds is the planned strengthening of the level 2 service platform.

Level 2 beds have been allocated to most of the large district hospitals in the rural areas, effectively replacing some of the beds that were previously designated for level 1 services. This should have a positive impact on the quality of care and the ability of the rural district hospitals to delivery the full package of district hospital services and therefore improving the utilisation and cost effectiveness of rural hospitals.

The level 2 capacity should enable district hospitals to treat non-acute level 2 patients within the context of outreach and support rendered from rural regional hospitals. The referral from district hospitals to regional hospitals is expected to decrease. The weighting of rural level 1 and 2 beds is detailed in Section B.

Table A34: Total acute level 1 beds per rural district

Rural districts	Current 2004/05	Healthcare 2010 Target	Difference
Cape Winelands	266	332	66
Central Karoo	120	102	-18
Eden	420	300	-120
Overberg	193	137	-56
West Coast	339	250	-89
Total	**1,338**	**1,121**	**-217**

Table A35: Distribution of Level 1 beds in the rural districts

Rural Acute Hospitals	New Districts	Old Regions	2004/5	2005/06 - 2006/07	2007/8	2010
Ceres Hospital	Cape Winelands	Boland	76	76	55	55
Montagu Hospital	Cape Winelands	Boland	49	49	30	30
Robertson Hospital	Cape Winelands	Boland	46	46	60	60
Eben Donges Hospital	Cape Winelands	Boland		30	52	52
Stellenbosch Hospital	Cape Winelands	West Coast	95	55	50	50
Paarl Hospital	Cape Winelands	West Coast		60	85	85
Total Cape Winelands			**266**	**316**	**332**	**332**
Beaufort West Hospital	Central Karoo	South Cape	57	47	47	47
Laingsburg Hospital	Central Karoo	South Cape	20	20	20	20
Murraysburg Hospital PAH	Central Karoo	South Cape	14	15	15	15
Prince Albert Hospital	Central Karoo	South Cape	29	29	20	20
Total Central Karoo			**120**	**111**	**102**	**102**
Knysna Hospital	Eden	South Cape	98	60	50	50
Ladismith Hospital	Eden	South Cape	35	35	30	30
Mossel Bay Hospital	Eden	South Cape	90	60	50	50
Oudtshoorn Hospital	Eden	South Cape	127	95	70	70
Riversdale Hospital	Eden	South Cape	50	50	40	40
Uniondale Hospital PAH	Eden	South Cape	20	20	10	10
George Hospital	Eden	South Cape		30	50	50
Total Eden			**420**	**350**	**300**	**300**
Caledon Hospital	Overberg	Boland	65	50	50	50
Hermanus Hospital	Overberg	Boland	37	37	40	40
Otto Du Plessis Hospital	Overberg	Boland	40	40	10	10
Swellendam Hospital	Overberg	Boland	51	47	37	37
Total Overberg			**193**	**174**	**137**	**137**
Citrusdal Hospital	West Coast	West Coast	34	25	25	25
Clanwilliam Hospital PAH	West Coast	West Coast	32	42	30	30
LAPA Munnik Hospital	West Coast	West Coast	15	15	10	10
Radie Kotze Hospital	West Coast	West Coast	33	30	30	30
Swartland Hospital	West Coast	West Coast	85	55	50	50
Vredenburg Hospital	West Coast	West Coast	56	56	55	55
Vredendal Hospital	West Coast	West Coast	84	84	50	50
Total West Coast			**339**	**307**	**250**	**250**
Total: Rural Districts			**1,338**	**1,258**	**1,121**	**1,121**

Table A36: Service delivery 2010 targets

Rural Acute Hospitals	New Districts	L1 Beds	In patient days	OPD (Including Trauma and Emergencies)	Admissions	Patient Day Equivalents
Ceres Hospital	Cape Winelands	55	17,064	17,064	5,688	22,752
Montagu Hospital	Cape Winelands	30	9,308	9,308	3,103	12,410
Robertson Hospital	Cape Winelands	60	18,615	18,615	6,205	24,820
Eben Donges Hospital	Cape Winelands	52	16,133	16,133	5,378	21,511
Stellenbosch Hospital	Cape Winelands	50	15,513	15,513	5,171	20,683
Paarl Hospital	Cape Winelands	85	26,371	26,371	8,790	35,162
Total	**Cape Winelands**	**332**	**103,003**	**103,003**	**34,334**	**137,337**
Beaufort West Hospital	Central Karoo	47	14,582	14,582	4,861	19,442
Laingsburg Hospital	Central Karoo	20	6,205	6,205	2,068	8,273
Murraysburg Hospital PAH	Central Karoo	15	4,654	4,654	1,551	6,205
Prince Albert Hospital	Central Karoo	20	6,205	6,205	2,068	8,273
Total	**Central Karoo**	**102**	**31,646**	**31,646**	**10,549**	**42,194**
Knysna Hospital	Eden	50	15,513	15,513	5,171	20,683
Ladismith Hospital	Eden	30	9,308	9,308	3,103	12,410
Mossel Bay Hospital	Eden	50	15,513	15,513	5,171	20,683
Oudtshoorn Hospital	Eden	70	21,718	21,718	7,239	28,957
Riversdale Hospital	Eden	40	12,410	12,410	4,137	16,547
Uniondale Hospital PAH	Eden	10	3,103	3,103	1,034	4,137
George Hospital	Eden	50	15,513	15,513	5,171	20,683
Total	**Eden**	**300**	**93,075**	**93,075**	**31,025**	**124,100**
Caledon Hospital	Overberg	50	15,513	15,513	5,171	20,683
Hermanus Hospital	Overberg	40	12,410	12,410	4,137	16,547
Otto Du Plessis Hospital	Overberg	10	3,103	3,103	1,034	4,137
Swellendam Hospital	Overberg	37	11,479	11,479	3,826	15,306
Total	**Overberg**	**137**	**42,504**	**42,504**	**14,168**	**56,672**
Citrusdal Hospital	West Coast	25	7,756	7,756	2,585	10,342
Clanwilliam Hospital PAH	West Coast	30	9,308	9,308	3,103	12,410
LAPA Munnik Hospital	West Coast	10	3,103	3,103	1,034	4,137
Radie Kotze Hospital	West Coast	30	9,308	9,308	3,103	12,410
Swartland Hospital	West Coast	50	15,513	15,513	5,171	20,683
Vredenburg Hospital	West Coast	55	17,064	17,064	5,688	22,752
Vredendal Hospital	West Coast	50	15,513	15,513	5,171	20,683
Total	**West Coast**	**250**	**77,563**	**77,563**	**25,854**	**103,417**
Total: Rural		**1,121**	**347,790**	**347,790**	**115,930**	**463,720**

Notes:
1) Out patient per in patient day ratio 1 : 1
2) Average length of stay: 3 days
3) Bed occupancy rate: 85%

4.4 Human resources

The staffing of all acute hospitals is addressed in Part B in detail.

5. SUMMARY: DISTRICT HEALTH SERVICES

5.1 Cape Town Metro district

Table A37: Population density and accessibility based on allocation of clinic service points

DISTRICT	Area in Sq Km	Total Population 2010	Persons per sq km	Km Radius (Walking distance)	Persons within walking distance from a clinic	Clinic Service points
Cape Town	2,500	3,324,209	1,330	2.80	32,734	102

Table A38: Clinic services (including satellites and mobiles): Gateway to comprehensive health care

Sub District	Number clinic components open 40 hours per week	Number of Extended hours clinics: 94.5 hours per week	Total number of model clinic components	Population served per clinic (Total population 2010)	Estimated Headcount per annum 2010	Estimated Contacts per annum 2010
Northern	6	2	8	37,666	893,618	1,488,781
Western	10	2	12	31,402	1,117,486	1,861,747
Southern	9	4	13	37,882	1,460,451	2,433,131
Klipfontein	11	3	14	28,285	1,174,326	1,956,444
Mitchell's Plain	13	2	15	30,737	1,367,292	2,277,927
Tygerberg	10	5	15	35,370	1,573,365	2,621,247
Khayelitsha	9	4	13	29,091	1,121,536	1,868,494
Eastern	8	3	11	35,256	1,150,113	1,916,104
Total: Cape Town Metro District	**76**	**25**	**101**	**32,913**	**9,858,186**	**16,423,875**
Estimated full utilisation of clinic protocols per capita						**2.97**
Average contacts per headcount						**1.67**

Table A39: Community Health Centres

Sub District	CHCs : 40 hours per week	24 hrs MOU	Population served per CHC (Total population)	Estimated Headcount per annum 2010	Estimated Contacts per annum 2010
Northern	4	1	75,333	238,487	609,215
Western	5	1	75,364	298,232	761,835
Southern	5	1	98,494	389,762	995,648
Klipfontein	5	2	79,197	313,402	800,585
Mitchell's Plain	4	2	115,264	364,900	932,137
Tygerberg	7	2	75,792	419,896	1,072,625
Khayelitsha	4	2	94,546	299,313	764,596
Eastern	5	1	77,564	306,940	784,078
Total: Cape Town District	**39**	**12**	**85,236**	**2,630,933**	**6,720,719**
Estimated full utilisation of CHC protocols per capita					0.79
Average contacts per headcount					2.55

Table A40: District hospitals

Service Indicators	
Total L1 beds	1,246
Total admissions	134,694
Total out patient headcount per annum (including trauma and emergencies)	386,572
Total patient day equivalents	515,429
Estimated utilisation of district hospital OPD per capita (2010)	0.12

Table A41: Total: Facility-based PHC services in the Cape Town Metro district, including L1 out patients

Total headcount per annum	12,875,691
Utilisation per capita	3.87

5.2 Rural districts

Table A42: Population density and accessibility based on location of clinic service points

DISTRICT	Area in Sq Km	% of Total	Total Population 2010	Persons per sq km	Km Radius (Walking distance)	Persons within walking distance from a clinic	Clinic Service points
Cape Winelands	22,289	17.2%	723,150	32	9.70	9,642	75
Overberg	11,391	8.8%	233,741	21	9.80	6,151	38
Eden	23,323	18.0%	522,619	22	10.10	7,159	73
Central Karoo	38,853	30.0%	69,490	2	25.90	3,861	18
West Coast	31,101	24.0%	324,683	10	11.90	4,638	70
Cape Town	2,500	1.9%	3,324,209	1330	2.80	32,734	102
Western Cape	**129,457**	**100.0%**	**5,197,892**	**40**	**11.00**	**15,255**	**341**

Table A42: above shows the average walking distance to a clinic service point based on total square kilometres per district. However, population density based on total area in rural areas can obviously be misleading because the population is not evenly distributed over the entire area but concentrated in smaller or larger settlements and towns. Densely populated areas in and around Paarl, Worcester and George amongst others, compare with urban and suburban density resulting in easy access for the rural population

Table A43: Allocation of clinic service units to rural districts

DISTRICT	Mobiles & Satellite Clinics (a)	Clinics (b)	Gateway Clinics (c)	Total number of fixed clinics = (b) + (c)	Total number of clinic service points =(a)+(b)+(c)	Population per fixed clinic	Population per service unit
Cape Winelands	27	37	11	48	75	15,066	9,642
Overberg	15	18	5	23	38	10,163	6,151
Eden	33	29	11	40	73	13,065	7,159
Central Karoo	9	8	1	9	18	7,721	3,861
West Coast	43	20	7	27	70	12,025	4,638
TOTAL: RURAL	**127**	**112**	**35**	**147**	**274**	**12,746**	**6,838**

Table A44: CHC services in rural districts

District	CHCs : 40 hours per week	Total: Service delivery units	Population per service unit	Population per CHC
Cape Winelands	11	75	9,642	15,066
Overberg	5	38	6,151	10,163
Eden	11	73	7,159	13,065
Central Karoo	1	18	3,861	7,721
West Coast	7	70	4,638	12,025
TOTAL: RURAL	**35**	**274**	**6,838**	**12,746**

Table A45: Utilisation of clinic and CHC services in the rural districts

Total headcount per annum	6,735,702
Estimated utilisation of PHC services per capita	3.60
Average contacts per headcount	2.15

Table A46: Level 1 hospital services

District	L1 Beds	Admissions	OPD	Patient day equivalents	OPD Utilisation per capita
Cape Winelands	332	34,334	103,003	137,337	0.14
Overberg	137	14,168	42,504	56,672	0.18
Eden	300	31,025	93,075	124,100	0.18
Central Karoo	102	10,549	31,646	42,194	0.46
West Coast	250	25,854	77,563	103,417	0.24
Total	**1,121**	**115,930**	**347,790**	**463,720**	**0.19**

Table A47: Utilisation of facility-based PHC services in the rural districts including level 1 out patients

Total headcount per annum	7,083,492
Utilisation per capita	3.79

Table A48: Utilisation of facility-based PHC services in the Western Cape including L1 outpatients

Total headcount per annum	19,959,183
Utilisation per capita	3.84

Note: The urban utilisation rate is higher than the rural rate due to the fact that urban services are geographically more accessible due to high population density.

6. COMMUNITY BASED SERVICES

6.1 INTRODUCTION

As previously indicated Healthcare 2010 consists of two major components, i.e. the facility-based service (FBS) and the community-based services (CBS). The facility-based services of the DHS have been addressed in the preceding pages and this section focuses on the community-based services.

Community based services complement and enhance facility based services by providing services in a community setting and also by creating mechanisms through which communities can become aware of their health needs, i.e. the burden of disease, and the related contributory factors. This approach empowers the community which can then participate actively in preventive and adherence health programmes. If community based services function effectively there should be a significant reduction in the number of patients requiring hospitalisation.

In terms of the National Health Act, health facilities are required to establish community participation structures to facilitate community participation in the delivery of health services. It is envisaged that these structures will enhance the delivery of community-based services by creating a framework within which diverse community resources can be harnessed to complement the work of the Department of Health. This process will also contribute to the development and growth of social capital.

6.2 Principles and criteria applied in the development of the CBS service model

The development of the service model is based on the Primary Health Care approach that focuses on:

- Disease prevention and health promotion;
- Community and individual involvement and self-reliance;
- Inter-sectoral action for health; and
- Improvement of disease morbidity and mortality.

The following principles were applied in the development of the CBS plan:

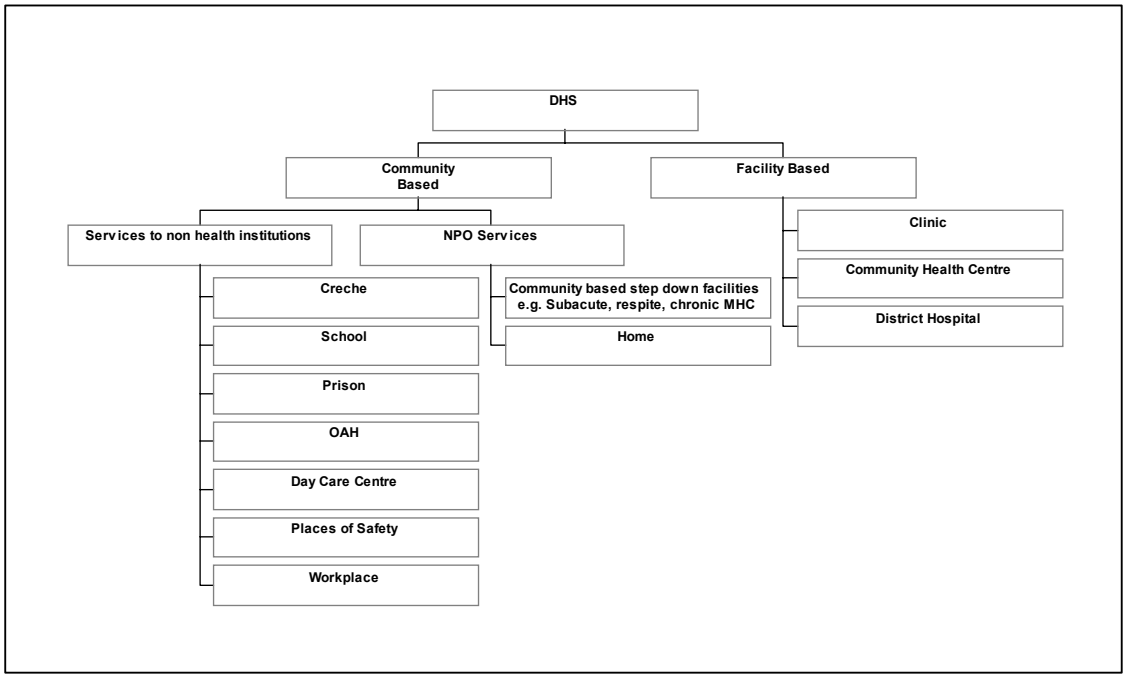
- CBS is an integral part of District Health Services (DHS) and will be managed as such;
- The providers of CBS will mainly be Non Profit Organisations (NPOs) supported by outreach from Facility Based Services (FBS).
- NPOs will be procured and contracted by means of formal agreements in compliance with the PFMA;
- The health workers providing CBS will predominantly be “generic” community-based workers who have been trained by accredited training providers in accordance with accredited curricula as per SAQA approved unit standards.

6.3 Service Model For Community Based Services

As shown in Figure 8 below, CBS will be delivered via two main streams, namely:

- Services that are delivered by health personnel to non-health institutions.
- Services that are delivered by non profit organisations.

Figure 8: The DHS service platform



6.3.1 Services that are delivered by health personnel to non-health institutions

In order to maximise opportunities for promoting health, health personnel will provide appropriate health interventions at various institutions such as:

- Schools
- Crèches
- Prisons
- Old age homes

Environmental Health Services (EHS) which relates to the prevention of disease, are mainly provided by the municipalities. The Department of Health is responsible for a limited EHS function, e.g. Port Health Services, but is responsible for monitoring the Municipal Health Services the EHS rendered by Local Government.

6.3.2 Services that are delivered by Non Profit Organisations

The NPO's will provide three types of services:

1) Services for de-hospitalised clients
2) Adherence Support
3) Disease Prevention and Health Promotion services

6.3.2.1. Services for de-hospitalised clients

These services will be provided to clients in need of personal clinical care, who have been discharged from acute/sub–acute/chronic hospital beds and need a continuum of care other than in provincial hospital beds. These patients will be discharged to the following types of community-based centres:

1) Sub-acute or step-down centres:
   Clients will be referred to these centres according to standardized treatment guidelines. The centres will provide care to fairly ill clients who need an average length of stay (ALOS) of 6 weeks (e.g. Booth Memorial).

2) Respite centres:
   These centres will provide care to terminally or chronically ill clients in the care of families and where a short period "in–patient"/respite palliative care is needed.
   The average length of stay is 2 weeks e.g. Hospice/ St. Luke's beds.

3) Chronic or life-long care:
   Clients who require life long or long-term care such as those who are severely and profoundly intellectually disabled or permanently brain damaged will be admitted in these centres.

4) Home based Care (HBC):
   These services will be provided to clients in their homes who need basic nursing care or basic rehabilitation.

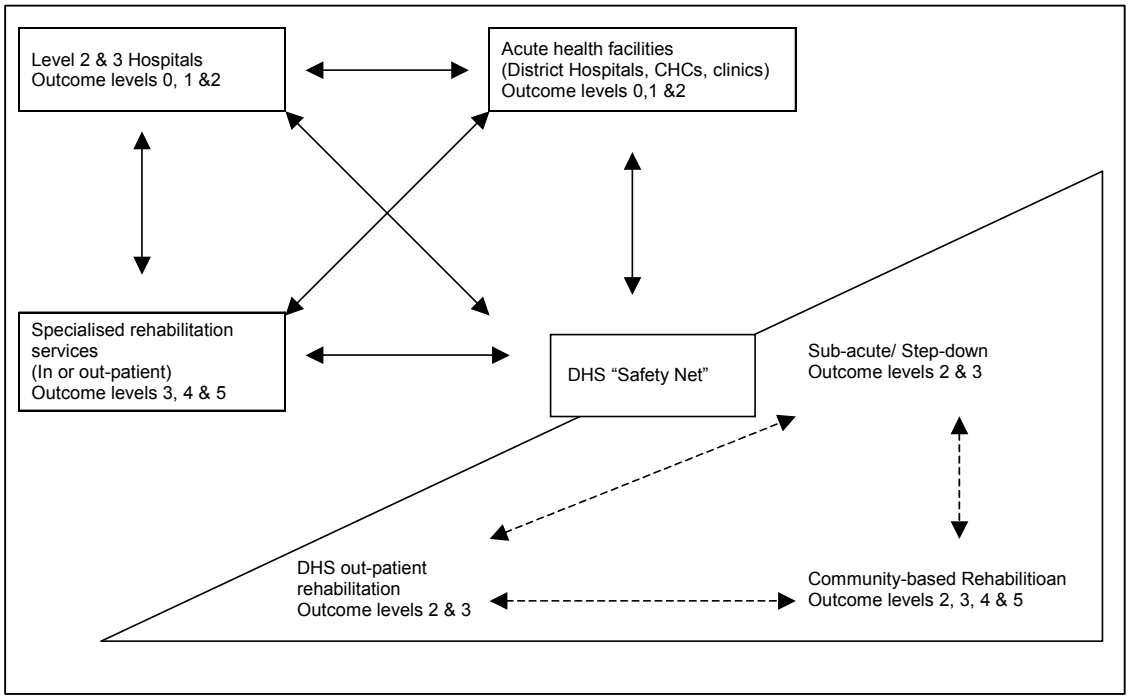
5) Community Mental Health centres: (Group Homes and licensed homes)
   These centres will provide care for de-hospitalised mental health clients in order to assist individuals to live more independently in natural community settings of their choice, and to help prevent hospitalization or placement in a more restrictive environment.

By expanding the base of community based rehabilitation services to provide a "safety net" for patients discharged from hospital but still in need of care, the pick up rates of these patients should increase as many are currently lost in the system following discharge from acute hospitals. Clearly defined entry and exit criteria and referral pathways between the different service levels/ service points will ensure appropriate utilization of all rehabilitation resources and better client outcomes.

To address the needs of patients who have been discharged from hospital, health therapists and related health professionals have been allocated to each sub-structure office in the Cape Town Metro district to co-ordinate, supplement and support the services provided by the NPOs. In the rural districts these health professionals are attached to designated district hospitals as PHC outreach and support staff. It is envisaged that these professionals will function within the context of the multi-disciplinary teams and amongst other responsibilities provide support to the mid-level workers employed by the NGOs.

The following figure depicts the acute and non-acute service settings as well as the interrelatedness of referrals between various rehabilitation points.

Figure 9: Acute and non-acute service settings and the relationship of referrals between the various service points



Note: The outcome levels of rehabilitation are described in detail in Table 37.

Table A49: Number of health therapist posts allocated

Health Districts	Cape Town Metro district	Rural districts	Total posts
Physiotherapist	33	17	50
Occupational Therapist	33	19	52
Speech Therapist	19	16	35
Dietician	23	19	42
Psychologist	19	17	36
Social Worker	33	17	50
PN (Mental Health)	50	22	72
PN (Orthopedics)	25	16	41
TOTAL	**235**	**143**	**378**

6.3.2.2 Adherence Support

Improved adherence to medications, particularly for chronic diseases such as HIV and TB, diabetes, hypertension and mental illnesses decreases mortality and morbidity and can also help reduce the need to use more intensive and expensive treatment interventions or medications. Apart from a better outcome for the patient adherence to treatment regimes this will potentially decrease hospital admissions and therefore is also cost effective for the Department.

There are currently models for daily DOT (directly observed treatment) for TB, and for adherence support for clients on ART (antiretroviral treatment). An integrated adherence model for clients with TB and on daily ART will soon be developed. The policy framework of the department allows for the ultimate development of a generic adherence support model for all chronic diseases.

The adherence support function will be performed by:

- A “comprehensive community based health worker” in sparsely populated areas and areas with low burden of disease for specific chronic diseases; and
- An “adherence support community based health worker” in densely populated areas with high burden of disease of specific chronic diseases.

6.3.2.3 **Disease Prevention and Health Promotion support**

These services will focus on community education and interventions that influence a change in behaviour to reduce the impact of risk factors that cause a significant burden of disease, e.g.:

- Childhood morbidity and mortality;
- Unsafe sex;
- Inter-personal violence;
- Smoking;
- Alcohol;
- Unhealthy diet; and
- Lack of physical activity.

A fundamental aspect of the PHC approach is to engage the members of the community around the key risk factors that cause disease. The challenge is to identify a set of evidence-based and locally relevant interventions that will contribute to reducing the prevalence of the risk factors. The Department has formulated and implemented a Social Capital Formation strategy to ensure that disease prevention and health promotion support is implemented within the context of a multi-sectoral community development strategy.

A model for community Integrated Management of Childhood Illnesses (IMCI), which aims at influencing the 16 key household practices that reduce childhood morbidity and mortality is being implemented within the Social Capital Formation Strategy of the Department. An integrated disease prevention and health promotion model to implement other evidence-based interventions which address key risk factors will be developed.

The disease prevention and health promotion function will be performed by:

- A “comprehensive community based health worker” in sparsely populated areas and areas with low burden of disease for specific chronic diseases; and
- A “disease prevention/ health promotion community based health worker” in densely populated areas with high burden of disease.

6.4 Human Resource plan for CBS

6.4.1. Management support:

The proposed organisational structure for District Health Services has made provision for management capacity for community-based services. The Divisional management structure will provide strategic and policy direction and monitoring and evaluation. The District Manager, assisted by dedicated CBS programme management staff, will be responsible for implementing the service plan for community based services in the district and will also manage the support that will be provided to the mid level workers based at the NPO's by the professional multi disciplinary teams.

6.4.2 Clinical Support:

In addition to the health professionals listed in Table A49 above, clinical personnel allocated to CHCs e.g. medical officers and professional nurses (school health) will render support to CBS.

6.4.3 Health workers employed by NPOs:

As part of the Expanded Public Works Programme (EPWP) (2006/2007 – 2008/2009 financial year), community-based workers who are currently employed will be up-skilled and new recruits will be trained as community based workers. This is a significant contribution towards the building of human and social capital.

The training will be based on the following principles:

1) The Department aims to have an integrated CBS programme and therefore plans to train generic community based health workers and the community based health workers currently employed who tend to be specialists e.g. integrated management of Childhood illnesses workers, TB DOTS workers, home base carers will be re-trained to be generalists.
2) The first part of the training plan is based on qualifications and is designed to allow for community-based workers to progress through the four levels that have been registered on the NQF, for Ancillary Health Workers and for Community Health Workers. However, current EPWP funding will allow for training only at NQF level 1 (GETC in Ancillary Health Care) and NQF level 2 (National Certificate in Fundamental Ancillary Health Care).
3) The NQF-based training allows for multiple exit and entry points and over time and with additional training a trainee can reach a chosen career path e.g. pharmacist assistant to pharmacist; nursing assistant to professional nurses as well therapy assistants to therapists (OT, physiotherapists, speech therapists).
4) The selection of new recruits will be focused on the target areas as defined by the National Expanded Public Works Program of 40% women, 30% youth and 2% people with disabilities and will focus on the recruitment of unemployed learners
5) Stipends will be paid at rates fixed by National Departments of Public Works and Health.

Table A50: Training plan of community based workers funded via the EPWP

Type of Community based worker	Beneficiaries 2006/07	Beneficiaries 2007/08	Beneficiaries 2008/09
Community Based Ancillary Health Worker (generalists)	1,430	2,720	3165
Community Based ARV Worker	100	120	350
Community Based VCT Worker	120	150	350
TOTAL	**1,650**	**2,990**	**3,865**

6.5. REHABILITATION AND DISABILITY MANAGEMENT SERVICES IN COMMUNITY-BASED SERVICES

6.5.1 INTRODUCTION

Healthcare 2010 provides an opportunity for the development of a rehabilitation service plan across all levels of the service platform, encompassing both facility and community-based services .

Rehabilitation is defined as a goal orientated and time limited process aimed at enabling an impaired person reach an optimal level of mental, physical and/or social functioning, thus providing the person with the tools to improve their lives.

The provision and maintenance of assistive devices therefore forms an inherent part of the costing and packaging of any rehabilitation plan.

The team members involved in the process include medical professionals, nurses, physiotherapists, occupational therapists, audiologists, speech and language therapists, social workers, clinical psychologists, dieticians, prosthetists and orthotists, amongst others.

The goal of rehabilitation is to enable individuals to return home to their communities with the highest possible level of functional independence and the best possible quality of life, while at the same time reducing, as far as possible, the burden of care on family members and significant others.

An individual's rehabilitation starts at their first point of entry into the health care system and continues along the continuum of care until the individual is re-integrated back into their community. Rehabilitation is therefore provided on both an in and out patient basis and can be initiated in the acute, sub-acute or chronic phase of a condition and at any level of the service platform. Rehabilitation services are therefore an integral part of all service plans for all levels of care.

However, this section of the rehabilitation service plan focuses on rehabilitation services rendered to persons with physical disabilities within the District Health System service platform rendered on an ambulatory and in-patient basis. However, as physical, social, psychological and emotional well-being are interwoven, physical rehabilitation is compelled to address these aspects of health and well-being. Expanding services at PHC level will improve access for local clients to rehabilitation services and decrease the pressure on beds in acute health care settings. Services on PHC level are classified as low intensity rehabilitation services as opposed to high intensity rehabilitation services. The service delivery plan for high intensity rehabilitation is covered in Part C: Specialist Hospital Services.

6.5.2 HIGH VERSUS LOW INTENSITY REHABILITATION SERVICES

The intensity of rehabilitation interventions is determined by the frequency and duration of the patient-therapist contacts per day.

Both high and low intensity rehabilitation are required for optimal outcomes. Faster discharge from high intensity rehabilitation is dependent on efficient and appropriate inter-referral between rehabilitation services at all levels of care and an appropriate platform of rehabilitation services at PHC level and is a priority in the Healthcare 2010 service plan for rehabilitation.

The Western Cape Rehabilitation Centre is the only high intensity rehabilitation facility in the Western Cape at present. Services are rendered to all districts in the province and also to neighbouring provinces. This service provides comprehensive rehabilitation /disability management services to people who are physically disabled with complex conditions or multiple system involvement, e.g. traumatic brain injury, spinal cord injury, stroke, amputations

or combinations of these conditions. The detail is provided in Part C: Specialist Hospital Services.

Low intensity rehabilitation services are characterised by:

- Rehabilitation services that are rendered by at least one rehabilitation professional / mid-level worker;
- At a low intensity of rehabilitation interventions are 1 –2 hours per person per day and not necessarily every day;
- The majority of the clients recover fully and have no long-term activity limitations / participation restrictions or may be in a chronic phase;

Low intensity rehabilitation services are currently offered at all existing service points staffed with rehabilitation professionals, i.e. levels 1, 2 and 3 hospitals, sub-acute and chronic care services, e.g. Booth Memorial Hospital, Maitland Cottage Hospital, Life Care, Sarah Fox, etc. and CHCs and other community-based rehabilitation services.

It is these rehabilitation services that form the DHS Safety Net referred to in Figure 9.

6.5.3 SERVICE PLAN FOR COMMUNITY BASED REHABILITATION SERVICES

6.5.3.1 Outcome-based rehabilitation service plan

The proposed rehabilitation plan adopts an outcome-based approach which allows for:

- Patients in any phase of treatment to be operationally described and classified;
- Facilitates the appropriate allocation of resources to the different phases of care;
- Links specific treatment paths to resource utilization; and
- Ensures that rehabilitation is time-limited, goal-oriented and appropriate to the level of care.

The outcome-based approach recognizes the fact that rehabilitation services have many inter-related components that are difficult to compartmentalize for the purposes of service planning e.g. psychosocial-, vocational-, physical-, educational- and social rehabilitation (amongst others). While there may be some degree of overlap / commonality in service approaches, each has its own particular focus, primary target group and unique service delivery-, infrastructure- and human resource planning requirements.

The six clinical outcome levels addressed in the rehabilitation service plan are:

1) Level 0: Physiological instability
2) Level 1: Physiological (medical) stability
3) Level 2: Basic rehabilitation outcome (Physiological maintenance)
4) Level 3: Intermediate rehabilitation outcome (Home / residential re-integration)
5) Level 4: Advanced rehabilitation outcome (Community re-integration)
6) Level 5: Productive activity

Figure 9 depicts the acute and non-acute service settings as well as the interrelatedness of referrals between various rehabilitation service points on the total platform.

Outcome levels 0,1,2,3,4 and 5 are relevant for the community based rehabilitation service plan.

The Table below summarises the key rehabilitation interventions that need to be delivered appropriate to the patients' current outcome level as well as the appropriate health care service delivery points.

Table A51: Rehabilitation outcome levels and related interventions

Outcome level		Health care service points
Levels 0 & 1	Physiological instability; and Physiological (medical) stability	**High acuity**: Levels 1, 2 & 3 hospitals and acute medical facilities. **Role of rehabilitation professionals**: • Curative services & support to medical professionals medical interventions. **Rehabilitation outcome**: planning towards level 2
Level 2	Basic rehabilitation Outcome: Physiological maintenance	**Moderate acuity:** • Levels 1, 2 & 3 hospitals and out patient departments. • Home-based care. • Sub-acute care, e.g. Life Care, Booth Memorial Hospital. **Role of rehabilitation professionals**: • Basic rehabilitation interventions • Rehabilitation outcome planning towards level 3, e.g. functional training, referrals, training of family, provision of assistive devices, etc.
Level 3	Intermediate rehabilitation Outcome: Home/ residential re-integration	**Low acuity:** Sub-acute care, e.g. • Booth Memorial Hospital • Community-based rehabilitation, e.g. Elangeni • CHCs & home-based care • Rehabilitation OPDs, e.g. all hospitals • Specialised rehabilitation centres, e.g. WCRC **Role of rehabilitation professionals** • Functional skills training • Training of care-givers and home visits • Mobilisation of community resources • Provision of assistive devices.
Level 4 & 5	Advance rehabilitation Outcome: Community re-integration & productive activity	**Low acuity/ medical condition managed:** • Community-based rehabilitation. • Vocational rehabilitation units. • Specialised rehabilitation centres. **Role of rehabilitation professionals** • Advanced functional skills training • Vocational assessment and rehabilitation • Mobilisation of community resources • Advocacy and awareness raising • Work-site/ school visits • Effecting reasonable accommodations in the work-place

6.5.3.2 **Specialised versus generalised rehabilitation**:

The delivery of specialised rehabilitation services is generally associated with specialist medical areas, usually at level 2 and 3 facilities where physiotherapy, occupational and speech therapists add value to the work of the medical specialties. The cases managed are complex and require a high level of clinical expertise and experience. Examples include:

- Burns units
- ICUs
- Spinal cord injury units
- Acute psychiatric units
- Departments of: orthopaedics, neurosurgery, cardiovascular, maxillo-facial and hand surgery

- Memory clinics
- Specialised rehabilitation units
- Cochlear implant units, etc.

Generalised rehabilitation services relate to rehabilitation for persons whose medical conditions are not medically complicated, e.g.:

- Fractured femur;
- Pre and post natal group work;
- Chest: stab wounds / infections/
- Chronic conditions.

Services can be rendered by a wide range of professionals/ therapy assistants /COSMOS, however, adequate supervision from senior staff is essential due to the broad spectrum of patients that are managed.

6.5.3.3 **The de-hospitalized care component**

This component will provide services to clients discharged/ de-hospitalized from acute and other departmental hospital beds where care may have been provided at an inappropriate level. Community-based care for these patients will be provided in five different types of care centres/ sites. The most appropriate centre will be accessed depending on the acuity level and complexity of the clinical condition of the referred patient and the prescribed continuum of care plan as determined by the patient's current outcome level.

The 5 types of centres for de-hospitalized care are:

- Sub-acute centres: Provide care to fairly ill clients who need an average length of stay
  ALOS of 6 weeks (e.g. Booth Memorial model)
- Respite centres: Provide care to clients in care of families or home-based care who need a short period of "in – patient" / respite care
  ALOS of 2 weeks e.g. Hospice/ St. Luke's beds;
- Chronic / Life long care: Provides care for permanently brain damaged clients
  ALOS 120 days and longer e.g. Life Care);
- Community Mental Health centres: Will provide care for de-institutionalized mental health clients
  ALOS varies, e.g. licensed homes and group homes);
- Home based Care (HBC): Will provide care to clients in their homes

6.5.4 **CORE PACKAGES OF REHABILITATION SERVICES:**

6.5.4.1 **Core package of rehabilitation services for Primary Health Care (Minimum Standards):**

The following are minimum rehabilitation interventions that must be delivered (according to level of care" and the individual's current outcome level) to ensure optimal outcomes and the prevention of secondary complications which could result in re-entry to the acute health care system:

- Follow-up of all patients discharged from hospitals.
- Low-intensity rehabilitation services rendered by, at least, physiotherapists and/or occupational therapists for at least 1 – 2 hours per person /day but not necessarily every day.
- Screening and assessment (including screening for Disability Grants).
- Education, training and support of the patient, family and primary care givers/ home-based carers.

- Establishing adequate and safe systems of nutrition, respiration, skin preservation, joint maintenance and bladder and bowel management
- Therapeutic- and support groups.
- Correct prescription and issue of wheelchairs, or buggies in the case of children, including correct postural seating, together with the necessary pressure relief cushion(s).
- Correct prescription and supply of other required assistive devices.
- Facilitating the achievement with varying degrees of assistance as required of a basic degree of functional independence in self-care, mobility, safety, communication,

6.5.4.2 **Core package of rehabilitation services for levels 1, 2 and 3 hospitals (Minimum standards):**

The following are minimum rehabilitation interventions that must be delivered (according to level of care" and the individual's current outcome level) to ensure optimal outcomes and the prevention of secondary complications which will result in re-entry to the health care system.

- Clinical evaluation and management of all referred clients.
- Alleviation of acute symptoms (curative services).
- Low-intensity rehabilitation services rendered by, at least, physiotherapists and/or occupational therapists for a minimum duration of 1 – 2 hours per person/ day, not necessarily every day, on either an in-patient or OPD basis.
- Ensuring adequate respiration, skin preservation and joint / soft tissue maintenance.
- Establishing adequate medical, nursing, bladder- and bowel management and nutritional support protocols in collaboration with other team members.
- Early mobilization and initial functional re-education.
- Preparation for discharge from day 1 by arranging referral to an appropriate level / rehabilitation service point (high intensity rehabilitation or low intensity rehabilitation).
- Provision of various assistive devices to help overcome activity limitations and relieve the burden of care.
- Correct prescription & issue of wheelchairs or buggies in the case of children, including correct postural seating, together with the necessary pressure relief cushion(s).
- Counselling, education, training and support of the patient, family and primary care givers, if available.
- Providing information to identified consumer groups and their families e.g. for mental health consumers, traumatic brain injury, stroke.
- Link clients and their families to community resources for easier management at home and promotion of community integration.

6.5.4.3 **Human Resource Allocation**

The service plan focuses on the use of multi- or interdisciplinary teams in both acute and non-acute services at all levels of the health care platform. At Primary Health Care level, rehabilitation therapists are regarded as integral members of the primary health care team attached to the DHS.

Health professionals allocated for community based rehabilitation services are attached to the four sub-structure offices in the Cape Town Metro district. In the rural districts these health

professionals are attached to designated district hospitals as PHC outreach and support staff (See Table A49 for details). It is planned that they will be supported by mid level workers who will be employed by NGOs.

Given the complexity and interrelatedness of rehabilitation services, the allocation of health therapists and related health professionals to community based services should be evaluated within the broader context of the allocation of health therapists to acute and specialized hospitals.

6.5.4.4 Infrastructure requirements

In terms of infrastructure planning there are certain generic minimum requirements that need to be taken into account in respect of planning for rehabilitation services:

- In acute service settings, dedicated space should be assigned for rehabilitation purposes. Adequate provision must be made for space for therapeutic, administrative support and storage functions.
- Infrastructure needs to take into account rehabilitation-specific needs i.e. large areas for treatment, the movement of numbers of mobility-impaired individuals simultaneously in one area, secure storage of large items of equipment, mobility assistive devices etc.
- Easy access to the outdoors via exits and views through windows.
- All health facilities should be accessible to persons with disabilities according to the SABS standards for environmental accessibility or should meet universal access standards.

6.5.5 PROVISION OF ASSISTIVE DEVICES

6.5.5.1 General assistive devices are any devices and ergonomic solutions that:

- Enable individuals with disabilities to overcome activity limitations and participation restrictions;
- Play a key role in easing the burden of care of family members and care-givers;
- Are an essential component of all rehabilitation services, at all levels of care;
- Decrease the average length of stay/ facilitate speedy discharge from acute health settings;
- Facilitate the early initiation of rehabilitation;
- Promote safe, easy community access; and
- Restore human dignity where other alternatives have had to be utilized such as shopping trolleys/ prams.

Assistive devices can be categorized into:

- Communication devices: Include Braille frames / machines, adapted computers, magnifying glasses, hearing aids, sign language interpreters, alternative and augmentative communication systems cleft palate plates etc.
- Mobility devices: Include wheelchairs and buggies, crutches, prostheses, walking frames, white canes, guide dogs, special seating support, audible traffic signals etc.
- Activities of daily Living (ADL) devices: Include kettle tippers, transfer boards, adapted handles etc.

All hospitals as well as the DHS must make adequate budged allocations for assistive devices in their operational budgets over the MTEF period.

6.5.5.2 **Wheelchairs and buggies**

Prescription of wheelchairs and buggies must be individualized and must be accompanied by correct postural seating and the necessary pressure relief cushion. This seemingly "simple" rehabilitation intervention is both curative and rehabilitative and has many added benefits such as:

- Increasing the potential for schooling / employment of the disabled.
- Preventing secondary complications with increasing disablement.
- Conservatively correcting hip- and spinal deformities, provided intervention is early.
- Substantial cost-savings i.e. the cost of corrective spinal surgery or plastic surgery versus the cost of a basic wheelchair and pressure relief cushion which is approximately R2,000.

Many serious complications can be prevented by simply ensuring that a growing, disabled child (a particularly vulnerable group) is correctly positioned and seated in the correct size and type of wheelchair / buggy and is regularly monitored through follow-up seating clinics.

6.5.5.3 **Orthotic and prosthetic services**:

Orthoses and prostheses are critical elements of any rehabilitation service. The rehabilitation process is accelerated as soon as a correctly fitting device is supplied, while incorrectly made/ill-fitting devices or the delayed supply of devices impedes rehabilitation and results in poorer outcomes for clients.

Given the distances of the rural regions from the Orthotic and Prosthetic Centre in the Metro (inaccessibility, time and cost implications) it is envisaged that the Service Plan should provide for a region-based decentralized service which is totally or partially outsourced.

6.5.6 **QUALITY OF CARE MANAGEMENT**:

To promote quality assurance within all Rehabilitation Services, each rehabilitation service point at the different levels of care will need to develop their own objectives, criteria for expected performance, priorities, steps, procedures and protocols.

Program evaluation, providing answers on program efficiency and effectiveness will also need to be implemented for all rehabilitation programmes to answer questions such as e.g. did patients within a specific diagnostic group, gain the stated outcomes, how long did this take and at what cost.

The development of reliable and valid information systems for rehabilitation program evaluation is regarded as an extremely high priority for Health Care 2010 Rehabilitation Service Planning.

6.6 SERVICE PLAN FOR TUBERCULOSIS

6.6.1 INTRODUCTION

The Healthcare 2010 TB model was based on 1996 census figures. Since the 2001 census results were released and analysed, it became clear that the incidence as well as the impact of HIV and AIDS on population growth was over-estimated in the original model. This resulted in an over-estimation of the incidence of TB. Based on statistics released by the Actuarial Society of South Africa (ASSA) in 2002, the HIV and AIDS as well as the TB incidence rates were adjusted accordingly in a new model.

In order to ensure continuity of care TB hospitals are regarded as an integral part of the DHS.

6.6.2 ASSUMPTIONS UNDERPINNING THE CURRENT MODELLING EXERCISE

1) Using the Actuarial Society of South Africa (ASSA) 2002 statistics, total population prevalence of HIV infection was estimated to be **6%** by the year 2010, compared to **8%** in the original HC2010 model.

2) As a result of the revised HIV demographic modelling, the projected incidence of TB by the year 2010 is **56,590** new TB cases.

3) Of the total case finding, **70 %**(**38,549**) will be 1st TB episode cases.

4) Of the total case finding, **30 %(16,997**) will be re-treatment cases, compared to **13%** in the original model.

5) 1% of "new- new" (1st episode TB) cases and 4% of Re-treatment cases will be multi-drug resistant (MDR) cases, resulting in a total of **1,065** MDR cases.

6) Because of HIV co infection, TB patients are much sicker than previously, and thus provision was made in the new model that **6% of all case finding will require hospitalisation for acute level care, with an ALOS of 3.5 days (often until confirmation of diagnosis).**

7) 5% of the above admissions will be sufficiently stabilized after about 3.5 days and will be discharged to PHC Community DOTS.

8) 95% of those admitted into the acute hospitals, will still require **acute care** (level 1 care/ high nursing care) **in a TB institution** for a further 10 days or so. 10% of these patients will actually die within these 10 days, and another 45% will recover well enough for discharge to PHC Community DOTS.

9) The rest of the patients (45%) will require sub acute care (low nursing care) for an ALOS of another 10 days, within the TB Hospital.

10) Total ALOS acute/ sub acute care within a TB institution =21 days.

11) 10% of 1st episode and 39% of Re-treatment cases in sub-acute care will require chronic care (ALOS 40 days).

12) 23% of all Re-treatment cases will require direct admission to a TB hospital for chronic care/ rehabilitation, where preparation for de-institutionalization should ideally take place as soon as possible, with an ALOS of 60 days.

13) ALOS for MDR patients is 150 days.

Table A52 : Comparison of assumptions: Original Healthcare 2010 and current modelling

VARIABLE	ORGINAL HC2010 MODEL	CURRENT MODEL
1. Total uninsured population in 2010	**3,276,864** (1996 census projections)	3,742,482 **(Adjusted projections)**
2. HIV prevalence	**8%**	**6%**
3. TB Incidence 2010	**78,611**	**56,590**
4. Total 1st episode TB	**86%=** 67,419	**70%=** 38,549
5. Total Re-treatment TB	**13%=** 10,113	**30 %**= 16,997
6. Total MDR TB	1% of 1st episode + 4% of Re-treatment = **1,079**	1% of 1st episode + 4% of Re-treatment = **1,065**
7. % all case findings admitted to L1 and L2	---	6%
8. Re-treatment cases admitted straight to TB Hospital	**23%** of all Re-treatment = **2,360**	**23%** of all Re-treatment= **4,302**
9. % MDR cases admitted to TB Hospital	100%	100%
10. % First episode and Re-treatment ACUTE cases REFERRED to TB Hospital- Acute care	---	**95%** of those from L1/L2 hospital
11. % First episode and re-treatment cases in acute TB Hospitals discharged to PHC community DOTS	---	45%
12. % First episode from Sub Acute care unit referred to Chronic care unit	---	10%
13. % Re-treatment cases from sub-acute care unit referred to chronic care unit.	---	39%
14. Average length of stay (ALOS) L1 / L2 Hospital	---	**3.5 days**
15. ALOS TB Hospital- Acute Care Unit	---	10 days
16. ALOS TB Hospital- Sub Acute Care Unit	---	**21 days**
17. ALOS TB Hospital- Chronic Care Unit (ex- Acute/ Sub Acute)	---	**40 days**
18. ALOS TB Hosp (Chronic only)	First episode = **42** (6w) Re-treatment = **56**(8w) MDR= **180** (6m)	60 days (MDR= 150 days)
19. Bed occupancy rate (BOR) L1 / L2 in acute hospitals	---	85%
20. BOR TB Hosp	90%	**95%**
21. Total beds Acute care	**0**	**98**
22. Total beds Sub acute care	**0**	**44**
23. Total beds Chronic care	**1,166**	**1,145**
24. TOTAL BEDS RECOMMENDED	**1,166**	**1,287**

Table A53: Calculation of specialised TB beds required per district

District	Incidence		Distribution	Beds 2010			
	2004	2010		Acute	Sub Acute	Chronic	Total
Cape Town	25,755	31,685	56%	55	25	641	721
Cape Winelands	8,892	10,939	19%	20	8	221	249
West Coast	2,873	3,534	6%	6	3	71	80
Overberg	2,434	2,994	5%	5	2	61	68
Eden	5,404	6,648	12%	12	5	134	151
Central Karoo	641	789	1%	1	1	16	18
Province	**45,999**	**56,590**	**100%**	**99**	**44**	**1,144**	**1,287**

As stated previously, all district and regional hospitals will render acute TB services. However, specialised TB services will be rendered in TB Centres across district boundaries and will therefore treat patients referred from District Health facilities. Geographical factors (e.g. natural borders) and demographical statistics (e.g. population density) were taken into account to ensure easy access for the majority of the population of the province to the planned TB Centres.

Table A54: Planned TB Centres and drainage areas

Existing TB Hospitals	Planned TB Centres	Drainage areas: Sub Districts	Total Beds
Brooklyn Chest Hospital	Metro Centre	The eight sub districts of the Cape Town Metro District	721
DP Marais Hospital			
Brewelskloof Hospital	Cape Winelands Centre	Witzenberg	199
		Bredevallei	
		Brede River Winelands	
		Theewaterskloof	
		Overstrand	
		Cape Agulhas	
		Swellendam	
Harry Comay Hospital	South Cape Centre	Kannaland	169
		Langeberg	
		Mosselbay	
		George	
		Oudtshoorn	
		Plettenberg Bay	
		Knysna	
		Laingsburg	
		Prince Albert	
		Beaufort West	
Sonstraal hospital Malmesbury Infectious Disease Hospital	West Coast Centre	Drakenstein	198
		Stellenbosch	
		Matzikama	
		Cederberg	
		Bergrivier	
		Saldanha Bay	
		Swartland	
Total			**1287**

6.6.3 FINAL RECOMMENDATIONS

1) A TB Centre will make provision for acute, sub acute and chronic care beds for the proportion of patients who will be discharged from an acute L1 / L2 hospital after an ALOS of 3.5 days.
2) Such wards will be appropriately and adequately equipped and staffed (nursing staff) and a medical officer will render outreach service from the district hospital.
3) One TB Centre is recommended per geographic region i.e. one in the Metro, which will thus merge the beds in Brooklyn Chest Hospital and DP Marais Hospital under one institution, with a total of 721 beds.
4) The West Coast Centre (representing the current Sonstraal and Malmesbury ID Hospitals) drains the West Coast district plus the Drakenstein and Stellenbosch sub districts of the Cape Winelands district, and will thus require a total of 198 beds.
5) The Cape Winelands Centre (Brewelskloof Hospital) drains the Overberg district plus the rest of the Cape Winelands district (minus the Drakenstein and Stellenbosch sub districts), and would thus require a total of 199 beds.
6) In the Eden and Central Karoo districts one Centre (Harry Comay Hospital) is required with a total of 169 beds.

Table A55: Planning parameters for TB hospital centres:

Financial calculations in 2005/06 prices	
KEY PLANNING VARIABLES:	**Healthcare 2010 Targets**
BEDS	
Acute Beds	98
Sub-Acute Beds	44
Chronic Beds	1,145
TOTAL: BEDS	1,287
CAPITAL: MAINTENANCE & REPLACEMENT	
Buildings	
Capital as % of total expenditure	1.5%
HUMAN RESOURCES	
Total Staff : Bed ratio for acute beds	1.5
Total Staff : Bed ratio for sub-acute beds	1.1
Total Staff : Bed ratio for chronic beds	0.65
Total Number of Staff	940
Total Staff : Bed ratio	0.73
FINANCE	
Personnel as % of Total expenditure	80.00%
EFFICIENCY	
Bed occupancy rate	95.0%
Acute Beds: ALOS (Average length of stay)	10
Sub-Acute Beds:ALOS	10
Chronic Beds: ALOS	40
Chronic Beds (MDR): ALOS	150
Outpatients per Inpatient day	0.02
OUTPUT	
Total Admissions	7,438
Total Outpatients treated	8,925
Total Inpatient Days	446,267
Total PDE's	448,747

Table A56: TB Bed Plan

Hospital	Drainage	Beds	
		2005/06	HC 2010 Target
Brooklyn Chest Hospital	Cape Town Metro	305	721
DP Marais Hospital		260	
Brewelskloof Hospital	Overberg and Cape Winelands (minus Drakenstein and Stellenbosch)	206	199
Sonstraal Hospital (Paarl)	West Coast including Drakenstein and Stellenbosch from the Cape Winelands District	47	198
Malmesbury ID Hospital		90	
Harry Comay Hospital (George)	Eden and Central Karoo	90	169
	Total Beds	**998**	**1,287**

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6.7 MENTAL HEALTH SERVICES IN COMMUNITY-BASED SERVICES

6.7.1 INTRODUCTION

It is estimated by the World Health Organisation that mental and behavioural disorders account for 12% of the global burden of disease and mental disorders represent four of the top ten leading causes of disability worldwide.

The most important element of Healthcare 2010 for mental health services is the strengthening of Primary Health Care services and the development of community-based residential and day care services, which support community-based care as a replacement for custodial care.

As mental health services are predominantly an ambulatory service, increased efforts are made to strengthen this aspect of the service whilst hospital infrastructure changes are planned for in-patient shifts. Outpatient and liaison psychiatric services are shifted to acute hospitals. This will improve access to mental health services in general.

It must be recognised that mental health plays an integral role in all other aspects of health care and must be accommodated in all levels of health care planning.

The Millennium Development Goals focus amongst others on:

- Maternal health: Mental health is an important aspect to be considered in the campaign to improve maternal health as untreated maternal depression impacts severely on the future of the children. Teenage mothers and mothers separated by rapid urbanisation from their traditional extended family supports are particularly vulnerable, especially if they also have to deal with poverty, violence and general ill health. Strengthening the parent –infant programme is one significant preventative strategy.
- Combating HIV and AIDS. The significant mental health impact cannot be ignored in combating HIV and AIDS. Although Healthcare 2010 has built in strategies to address the AIDS and TB association, the link between HIV and AIDS and mental health has only clearly emerged following recent technical work.
- Development of global partnerships for the development of newer and more effective antipsychotic and antidepressants that are more affordable.

Generally improving socio economic conditions and creating more employment opportunities as seen in iKapa elihlumayo will also impact on the ability of communities to deal with mental illness and disability in a positive manner. Employment strategies need to accommodate people with mental illnesses.

In social capital formation the strengthening of relationships between people with mental illness or intellectual disabilities, their families and the various service provider groups, will be a cornerstone to the success of a community-based service approach. Volunteers and faith based organizations play a significant role in influencing social attitudes to people with mental illness and intellectual disability. Mental health strategies in communities should ensure their inclusion in awareness campaigns as well as practical care projects.

Two epidemics which impact significantly on the limited resources are the HIV and AIDS epidemic and the enormous mental health burden of co-morbidity and the substance abuse epidemic which has changed quite significantly since the early 2010 technical work. The escalation of use of Tik and heroin, cocaine and other drugs, particularly amongst the youth has resulted in large numbers of people presenting with substance induced psychosis as well as the range of addiction related behaviour problems and increased need for detoxification services before rehabilitation can be initiated.

6.7.2 COMMUNITY MENTAL HEALTH SERVICES

Healthcare 2010 and the proposed Service Plan aims to shift the primary site of mental health services from institutions to communities and to promote a more comprehensive and integrated approach to mental health care delivery. Internationally there is growing evidence and support for community mental health care as the preferred mode of service delivery for the majority of mental disorders (WHO, 2001).

Care in the community as an approach means:

- Services, which are close to home including general hospital care for acute admissions and long-term residential facilities in the community.
- Interventions that are related to disabilities as well as symptoms.
- Treatment and care specific to the diagnosis and needs of individuals.
- A wide range of services to address the needs of people with mental and behavioural disorders.
- Services, which are co-ordinated between mental health professionals and community agencies.
- Ambulatory rather than static services including home-based care.
- Partnerships with carers meeting their needs.
- Supportive legislation.
- Involvement of the local community (building social capital)

Societal beliefs, attitudes and responses decide many aspects of mental health care. People with mental illness are members of society, and social environment is an important determinant of outcome. If the social environment is favourable, it contributes to recovery and reintegration; if negative, it can reinforce stigma and discrimination. Initiatives to enhance the involvement of local communities are an integral part of a community care plan.

Non-profit organisations have played an important role in mental health in the past and are unquestionably key stakeholders in any community–based service.

De-institutionalisation whilst important as part of mental health care reform is not synonymous with de-hospitalisation and consists of three components:

- Prevention of inappropriate mental hospital admission through the provision of community facilities.
- Discharge to the community of long-term institutional patients who have received adequate preparation.
- Establishment and maintenance of community support systems for non-institutionalised patients.

6.7.3 MAPPING OF COMMUNITY MENTAL HEALTH FACILITIES

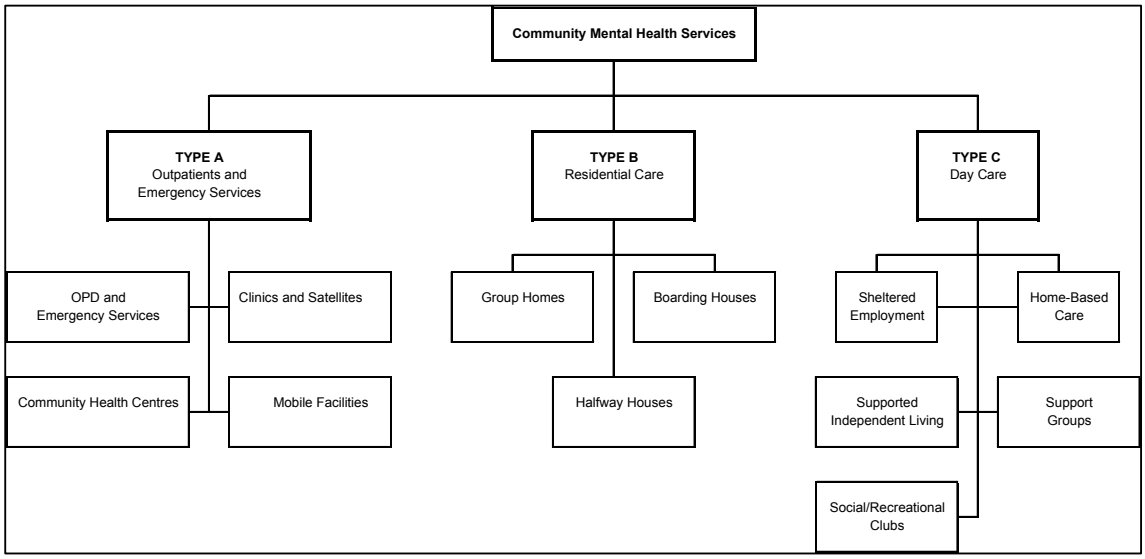
Community mental health services in South Africa can be divided into three major types of facilities, namely Types A, B and C. Each category was in turn subdivided into subtypes, as indicated below:

Type A facilities: Outpatient and Emergency services.
This was subdivided into Outpatient and Emergency services, Clinics and Satellites, Mobile facilities, and Community Health Centres.

Type B facilities: Residential Care.
Sub types of residential care facilities are group homes, boarding houses and halfway houses.

Type C facilities: Day care:
Subtypes include sheltered employment, supported independent living, social/recreational clubs, home based care and support groups.

Figure10: Community mental health services facilities



Source: March 2003. A.Flisher, S.Jansen, C.Lund, P. Martin, P.Milligan, B.Robertson, G.Winkler Report for the Department of Health, RSA.Tender No. GES142/2001-2002

6.7.4 COMMUNITY MENTAL HEALTH CARE PRIORITIES

1) **Provide treatment in Primary Health Care facilities.**
This is seen as the fundamental step in improving general access to services at an earlier stage. The strengthening of this service is the key to the shift away from custodial care.

2) **Make psychotropic drugs available**
There should be a consistent supply of essential psychotropic drugs. The best drugs to treat conditions should be made available wherever possible and psychotropic drugs must be on essential drug lists. Significant progress has been made in this area.

3) **Give care in the community**
This process of transition requires adequate resources for additional, well-trained personnel as well as the appropriate support structures to make this change possible.
For community care to succeed health workers and rehabilitation services must be available at community level, together with the provision of crisis support, protected housing and sheltered employment.

4) **Educate the public**
Education and public awareness campaigns are essential in removing barriers to treatment and care by increasing awareness of the frequency of mental illnesses (25% prevalence rate). Education needs to include information about the full range of mental illnesses and the importance of early intervention.

5) **Involve communities, families and consumers.**
Communities, families and consumers need to be involved in service development to ensure that services are tailored to meet their needs.

Facility Boards make some provision for greater involvement of communities in general, however, increasing consumer and family involvement at all levels of care needs development. This is provided for in the mental health legislation and it is anticipated that there will be increasing pressure from these groups to exercise their rights.

6) **Establish policies, programmes and legislation.**
Mental health policy, programmes and legislation are necessary to sustain mental health service reforms. Whilst the Mental Health Care Act is one of the most progressive in the world, the implementation and the additional resources required for implementation, remain a challenge.

7) **Develop human resources**
There is a need to improve training of mental health professionals. Specialist mental health care teams are needed to provide support to primary care programmes and include psychiatrists, clinical psychologists, mental health nurses, psychiatric social workers and occupational therapists.

In the Western Cape this is potentially the limiting factor to the implementation of Healthcare 2010. However, initiatives in both the District Health Service and specialist psychiatric hospitals should make a difference to this, as midlevel worker and professional development respectively are improved.

8) **Link with other sectors.**
Education, Labour, Social Services, Justice and Non Governmental Services links have been improved, however, these also need to be strengthened.

9) **Monitor Community Health**
Include mental health indicators in health information reporting systems.

6.7.5 COMMUNITY MENTAL HEALTH CARE SERVICE DELIVERY PLAN

The majority mental health care is provided at community level in clinics and CHCs as part of an integrated service. The service seeks to improve mental health and social well being of individuals and communities. Preventive measures for mental disability are included in all services such as antenatal, infant, child, reproductive health and curative care. The norms and standards of community-based mental health care are outlined in the following tables.

Table A57: Norms of community-based mental health care

1.	All clinics have regular visits (for patient care, training, supervision and support) from dedicated mental health or psychiatric nurses from health centers, hospitals or mobile teams based in the district.
2.	All clinics have access (by referral or by periodic clinic visits) to specialist mental health expertise (psychiatrists, psychologists, occupational therapists) and social workers from district or regional level at least once a month.
3.	In every clinic there is a member of staff who has had continuing education in psychiatry or mental health (including community aspects) in the last year.
4.	In every clinic there is at least one person trained in the hospitalisation and the management of victims of violence and rape.

Table A58: Standards for the delivery of community mental health care services

1	**REFERENCES, PRINTS AND EDUCATIONAL MATERIALS**
1.1	Mental health policy document.
1.2	List of visiting psychiatric staff at nearest health centre, district hospital, psychiatric specialist hospital or outreach service.
1.3	Mental health assessment guidelines.
1.4	Psycho-social rehabilitation checklist for community work.
1.5	Checklist for daily living skills for rehabilitated patients.
1.6	Admission procedures under current Mental Health Act.
1.7	Emergency medication protocol.
1.8	Essential drug list for Primary Health Care.
1.9	24-Hour ability to telephone or use radio to psychiatric unit of district hospital or nearest Mental Hospital.
1.10	Posters and pamphlets on mental health, severe psychiatric conditions, available services and user rights.
2	**MEDICINES AND SUPPLIES**
2.1	Emergency and routine medication provided according to protocol and EDL.
3	**COMPETENCE OF HEALTH STAFF**
	Recognising mental illness
3.1	Clinic staff consider risk factors for mental health within their catchment area: poverty, social power, unemployment, ill health, homelessness, migrancy, immigrants, isolated persons, HIV positives etc.
3.2	Staff identify and provide appropriate interventions for patients with depression, anxiety, stress related problems, violence, substance abuse and special needs of women (child bearing, abortion, sterilisation, disability, malignancy etc.)
3.3	Clinic staff recognise the expression and signs of emotional distress and mental illness early (especially in young patients or in relapse of a psychiatric condition).
3.4	Clinic staff participate in the promotion of healthy life styles in clinic attendees and the community.
	Organising services
3.5	Staff organise the clinic to have quarter periods of the day set aside for booked interviews.
3.6	Staff provide prompt help from or at the clinic if a patient's condition in the community deteriorates
3.7	Staff ensure time is allocated for home visits to patients who have returned from mental hospital
3.8	Staff ensure that there is no segregation or stigmatisation of patients who have to use other services, e.g. family planning, antenatal care at the clinic.
3.9	Staff arrange access to a consistent member of staff for each consultation.
	Managing care
3.10	Specially trained staff are able to:
3.10.1	Maintain relationships with patients that are just, caring, and based on the principles of human rights.
3.10.2	Perform an adequate medical examination which: 1) Identifies the general mental state e.g. psychotic or depressed. 2) Identifies the severity and level of crisis. 3) Rules out systematic illness. 4) Records temperature and blood glucose level.
3.10.3	Take a history that includes previous service use such as admission to hospital.
3.10.4	Take a family history and evaluate support.
3.10.5	Develop a sustained therapeutic relationship with patients and their families.
3.10.6	Know and implement standard treatment guidelines especially the section on delirium with acute confusion and aggression, acute psychosis and depression.
3.11	General nurses are able to:
3.11.1	Detect and provide services for severe psychiatric conditions as a component of comprehensive Primary Health Care.
3.11.2	Make appropriate and informed referrals to other levels of care.
3.11.3	Provide basic psychiatric care and assess urgency and severity of symptoms.
3.11.4	Provide individual community maintenance and care for stable long-term patients who have severe psychiatric conditions and have been discharged from hospital.
3.11.5	Provide each stable long-term user with individualised comprehensive care which includes: 1) An ongoing assessment of mental state, functional ability and social circumstances. 2) Familiarity with the internationally recognised diagnostic system. 3) An ability to detect and monitor distress and relapse. 4) An ability to provide basic counselling and support to patient and family. 5) A basic knowledge, criteria and pathways for referral for disability grants. 6) Knowing community referral and support organisations. 7) The follow-up of all cases returned to community after hospitalisation and keeping a register. 8) An ability to use records to facilitate continuity of care, 9) The condition of patients in the community is monitored and poor compliance, functional deterioration, substance abuse and family conflict community ridicule are identified. 10) The onset of mental deterioration in HIV positive patients is recognised.

	11) The prescription of sedation for aggressive of violent patients only as appropriate when other measures fail. 12) Coping with disturbed, intoxicated, aggressive suicidal behaviour without resorting to violence, abuse of undue physical restraint.
3.12	Clinic staff provide patient and caregiver satisfaction with assistance in alleviating family burden, achieving social integration, improving quality of life and general functioning while improving symptoms.
3.13	Clinic staff conduct consultations in privacy and in a confidential way and informed consent is obtained for communication to others.
4	**REFERRAL**
4.1	Referral pathways to other levels or types of care are known and expedited.
5	**PATIENT EDUCATION**
5.1	Patients, relatives and the community receive high quality information on mental health and mental illness.
5.2	Patients and their supporters are given individualised education when their situation is reviewed.
5.3	Patients and their supporters are educated on how to recognise predisposing factors and conditions to prevent relapse.
5.4	Clinic staff use education in the family and community to address ignorance, fear, and prejudice regarding patients with severe psychiatric conditions attending the clinic.
6	**RECORDS**
6.1	Records are kept according to protocol with emphasis on confidentiality and accuracy.
6.2	A register of psychiatric patients in the community is maintained.
6.3	Staff record mental health indicators on:- 1) The number and mix of cases 2) The frequency of contact
6.4	Staff analyse indicators and develop appropriate action.
7	**COMMUNITY AND HOME BASED ACTIVITY**
7.1	Staff participate in community awareness programmes for mental health according to the national and international calendar.
7.2	Staff participate in the training of family and carers of patients to plan an active role in their rehabilitation.
7.3	Staff encourage patient and caregiver support groups in community.
7.4	Staff keep the addresses and phone numbers of people assisting with mental health and social problems (e.g. women's shelters, community self-help groups
8	**COLLABORATION**
8.1	Staff respect and where appropriate seek collaborative association with local traditional healers.
8.2	Staff collaborate with all community services e.g. crisis counselling, (lifeline, priests with counselling skills) and mental health groups especially those for youth.
8.3	Staff collaborate with the hospital for planning discharges to the community.

Source: Associated Psychiatric Hospitals

6.7.6 HOSPITAL BASED MENTAL HEALTH SERVICES

Although the majority of mental health care is provided at community and clinic level this service is supported by district hospitals. These hospitals provide care for those with severe psychiatric morbidity including evaluation and management of attempted suicide, the management of substance withdrawal and delirium, the admission and initial treatment of patients with psychoses, and referral of medium-term admissions to psychiatric hospitals.

Providing in-patient services in general hospital settings is limited by physical infrastructure requirements as well as by the need to separate patients according to age, gender and level of containment required, rather than level of care. The strict hierarchical division into levels of care determined by sophistication of technology does not apply in mental health services.

In line with principles of least restrictive care the management of people with mental illness and behavioural disorders should, wherever possible, take place alongside people with physical illnesses. This will lead to better screening and treatment especially improving detection rates for people presenting with vague somatic complaints, which are related to mental illness and behavioural disorders. There is potential for improved management of the physical problems of those suffering from mental illness and better treatment of mental aspects of those suffering from "physical" illnesses. Generalists would develop greater expertise in management of mental illness and there would be a reduction in stigma of both patients and staff related to services for people with mental illness.

It is of great importance to provide for **appropriate ambulatory** and **in-patient services** that are safe, therapeutic and contribute to earlier diagnosis and intervention, prevent the development of secondary disability and address the serious stigmatisation of mental illness.

Healthcare 2010 presents the opportunity to **shift** a significant **17%** of **in-patient services** from specialist psychiatric hospitals to general hospitals as well as **>90%** of **ambulatory** services into **general settings**. There is also a need to increase liaison psychiatric services to patients in general district/regional hospital beds.

Designated psychiatric beds then need to provide for emergency admissions as well as for more serious illnesses. The hospital bed plan consists of the following:

1) Provision at all hospitals for the management of psychiatric emergencies with physical infrastructure that provides for a space to calm or sedate a patient and ensure vigilant observation until appropriate and safe transfer to a designated unit or hospital can be effected. This includes 72-hour assessment of involuntary patients, assisted and voluntary patients.

2) While district hospitals have capacity for managing emergencies, regional level beds will receive referrals for more complex patients. In view of the fact that there are two tertiary adult centres in the Metro it will be pragmatic to consolidate units according to diagnostic, gender and age rather than separating tertiary and secondary care.

The norms and standards of hospital-based mental health care are outlined in the following tables.

Table A59: Norms for hospital-based mental health care

1. There is a team approach to mental health problems, involving medical officers, dedicated psychiatric nurses, social workers and occupational therapists.
2. There is an appropriate area for temporary seclusion of patients in calm, quiet and humane environment to facilitate the management of uncontrolled behaviour with adequate monitoring.
3. All patients admitted to the hospital are referred back to local clinics and followed up.
4. There is a regular review of all patients in the district who are on psychiatric medication at least every 6 months.
5. Monitoring by means of key indicators of performance specific to mental health care (quarterly review).

Source: Associated Psychiatric Hospitals

Table A60: Standards for hospital based mental health care

1 REFERENCES, PRINTS AND EDUCATIONAL MATERIALS

As per clinic level, plus:

1.1 Mental Health Care Act.

1.2 Details of names and telephone numbers of consultants at the regional hospital and the psychiatric referral hospital.

1.3 Details of names and numbers of local support services, crisis centres, South African Police Services, etc.

1.4 Primary Psychiatry textbook.

1.5 National Mental Health Training Manual for PHC.

1.6 Local/provincial protocols for the management of common mental health problems, including guidelines giving indications and monitoring requirements for sedation and seclusion.

2 EQUIPMENT AND SPECIAL FACILITIES

2.1 Protected and secure seclusion area that is under close permanent observation of staff.

2.2 An appropriate, comfortable and private room is available for counselling.

3 MEDICINES AND SUPPLIES

3.1 As per EDL.

4 COMPETENCE OF HEALTH STAFF

4.1 Staff members (doctors, nurses, social workers and therapists) work as a team.

4.2 Dedicated psychiatrically trained nurses are available.

4.3 At least one nurse with psychiatric training or experience is on duty at all times.

4.4 Staff are able to:

- Manage medical and surgical aspects of suicide attempts (e.g. suturing, gastric lavage).
- Evaluate a patient after a suicide attempt to identify side effects of medication. In preparation for discharge, referral to social worker, referral to community mental health services, or referral to a psychiatric hospital.
- Manage substance withdrawal, especially delirium tremens.
- Manage delirium and diagnose the cause and refer to a regional or tertiary hospital if necessary.
- Certify psychiatric patients as envisaged under the (new) Mental Health Care Act. [*Many of the functions fulfilled by the magistrate in the past will now be fulfilled by the hospital superintendent/clinical manager*]
- Admit involuntary psychiatric patients for the 72-hour assessment period in accordance with the Mental Health Care Act
- Admit and treat psychiatric patients who:
  - Exhibit disruptive behaviour (e.g. restless, but not aggressive),
  - Exhibit destructive behaviour (e.g. breaking windows, but not aggressive towards people),
  - Are physically aggressive,
  - Do not give consent for treatment, and
  - Have no behaviour disturbance, but who need to be in a safe and calm environment for a few days.
- Deal with patients referred from clinics and support the local clinics in fulfilling their mental health function.

4.5 Additional functions include:

- Admission of patients with severe depression and with potential suicide risk for observation and initial treatment.
- Post-rape counselling (and other post-trauma counselling), with appropriate medical follow-up. Although this is also a clinic level function, most medico-legal work will be done at hospital level, and there is thus a need for a crisis centre and other support.

5 CLINICAL SUPPORT SERVICES

5.1 Laboratory tests, e.g. basic blood tests, HIV testing, CSF analysis.

5.2 Radiographic services, e.g. to exclude trauma.

5.3 Access to specialised laboratory services for additional investigations, e.g. monitoring of drug levels, blood alcohol testing, urine cannabis testing, etc.

6	**PATIENT EDUCATION**
6.1	Patients, relatives and the community receive appropriate information on mental health and mental illness.
6.2	Patients and their supporters are given individualised education when their situation is reviewed.
6.3	Patients and their supporters are given appropriate therapeutic education.
6.4	Hospital staff uses education in the family and community to address ignorance, fear, stigma and prejudice regarding patients with severe psychiatric conditions attending the hospital.
7	**RECORDS**
7.1	All medico-legal records are properly documented and retained by the hospital.
7.2	The patient or his/her family retains the patient information regarding ongoing treatment.
7.3	A register of patients is kept and monitored to assess follow-up.
7.4	Regular audit is performed in conjunction with clinics and the district office to assess the number of patients on treatment, including the incidence of drug reactions.
8	**COMMUNITY AND HOME BASED ACTIVITY**
8.1	Staff members participate: • In community awareness programmes for mental health according to the national and international calendar, and • In the training of family and carers of patients to play an active role in their rehabilitation, and provide counselling and education to families about mental health issues.
8.2	Staff members encourage patient and caregiver support groups in the community.
8.3	Staff members keep the addresses and phone numbers of people assisting with mental health and social problems (e.g. women's shelters, community self-help groups).
9	**REFERRAL AND OUTREACH**
9.1	Clearly established path of referral for the purposes of: • Consulting (advice on patient management), • Voluntary admission, and • Involuntary admission.
9.2	Access to properly equipped ambulances with trained paramedics to expedite transfers.
9.3	Clearly established protocol with the local ambulance service provider regarding the requirements for safe transfer of disturbed patients.
9.4	All patients admitted to the hospital are referred back to local clinics for follow up on discharge, with feedback to the clinics, continuous support for primary level staff in the management of patients and a mechanism to ensure the patients do not get lost to follow-up.
9.5	Regular support is provided to clinic staff and other community-based health professionals. This support involves supervision, education, review of patient treatment, and feedback.
10	**COLLABORATION**
10.1	Staff respect and, where appropriate, seek collaborative association with local traditional healers.
10.2	Staff collaborate with all community services e.g. crisis counselling (Lifeline, other crisis centres pastoral workers), churches and other religious groups, and mental health groups especially those for youth.
10.3	Staff members collaborate with the clinics when planning discharges to the community.
10.4	Staff members collaborate with SAPS when required.

Source: Associated Psychiatric Hospitals.

6.7.7 PLANNED PSYCHIATRIC BEDS IN ACUTE HOSPITALS

Table A61: Planned psychiatric beds in acute hospitals

DISTRICT	PLANNED 2010 BEDS	SERVICE
CENTRAL HOSPITALS	40 + 64 = 104	
Groote Schuur	15	Adult neuropsychiatry
	15	Adult therapeutic
	5	Adult emergency
	5	Adolescent emergency
Tygerberg	15	Adult neuropsychiatry
	15	Adult therapeutic
	5	Adult emergency
	5	Adolescent emergency
	14	Adolescent assessment and treatment over 12 years
TOTAL CENTRAL HOSPITALS	**104**	
METRO DISTRICT		
Victoria/False Bay	5	Emergency psychiatry (incl. 72-hour assessment)
	5	Therapeutic beds
Hottentots Holland	5	Emergency psychiatry (incl. 72 hour assessment)
	5	Therapeutic beds
G.F.Jooste	5	Emergency psychiatry (incl. 72 hour assessment)
Eersteriver	5	Emergency psychiatry (incl. 72 hour assessment)
Somerset Hospital	5	Emergency psychiatry (incl. 72 hour assessment)
Karl Bremer	5	Emergency psychiatry (incl. 72 hour assessment)
Khayelitsha	5	Emergency psychiatry (incl. 72 hour assessment)
	5	Therapeutic beds
Mitchells Plain	5	Emergency psychiatry (incl. 72 hour assessment)
	5	Therapeutic beds
TOTAL: METRO	**60**	
Cape Winelands District		
Eben Donges Hospital	20	Regional beds for acute psychosis
	10	Regional beds for therapeutic unit
Ceres Hospital	5	District beds
Robertson Hospital	5	District beds
Paarl Hospital	20	Regional beds for acute psychosis
	10	Regional beds for therapeutic unit
Total: Cape Winelands	**70**	
West Coast District		
Vredendal Hospital	5	District beds
	5	District beds
Swartland Hospital	5	District beds
Citrusdal Hospital	5	District beds
Total: West Coast	**20**	**District beds**
Overberg District		
Caledon Hospital	5	District beds
Swellendam Hospital	5	District beds
Total: Overberg	**10**	
Eden District		
George Hospital	20	Regional beds for acute psychosis
	10	Regional beds for therapeutic unit
Oudtshoorn Hospital	5	District beds
Knysna Hospital	5	District beds
Mossel Bay Hospital	5	District beds
Total: Eden	**45**	
Central Karoo District:		
Beaufort West Hospital	5	District beds
Total: Rural Districts	**150**	

Note: The psychiatric beds are not 'add on' beds but included in the beds allocated to acute hospitals.

6.7.8 STAFFING OF PSYCHIATRIC HOSPITALS

Table A62: Staffing of psychiatric hospitals

				Lentegeur	Valkenberg	Stikland	Alexandra	Total
			Beds	620	400	298	250	
			Salary Level	Posts	Posts	Posts	Posts	Posts
A1	**OFFICE: HEAD OF ADMINISTRATION**							
	C6010308	Assistant Director	10	1	1	1	1	4
	C6010309	Assistant Director (QA)	9	1	1	1	1	4
A2	**FINANCE**							
	HEAD OF FINANCE:							
	C6010308	Assistant Director: Fin Admin	9	1				1
	B2040000	Senior Admin Officer	8	1	1	1	1	4
	B2040000	Admin Officer (Inform)	7	1	1	1	1	4
	B1010200	Administrative Clerk (inform)	5	1	1	1	1	4
	EXPENDITURE:							
	B2040000	Admin Officer/State Accountant	7	1	1	1	1	4
	B1010200	Chief Financial Admin Clerk	7					
	B1010200	Financial Admin Clerk	5	2	2	2	2	8
	INCOME							
	B2040000	Case Manager	8	1	1	1	1	4
	B2040000	Admin Officer/State Accountant	7					
	B1010200	Financial Admin Clerk	5	4	3	2	2	11
	B1010200	Admin Clerk (Confirmation	4					
	ADMISSIONS							
	B2040000	Admin Officer	7	1	1	1	1	4
	B1010600	Admin Clerk	6	14	10	9	3	36
	SUPPLY CHAIN MANAGEMENT							
	C6010308	Assistant Director	9					
	B2040000	Senior Admin Officer	8	1				1
	B2040000	Admin Officer	7	1	1	1	1	4
	B1010500	Chief Admin Clerk	7					
	B1010500	Admin Clerk	5	10	6	5	4	25
	A2010000	Stores Assistant	2	6	2	2	2	12
	LINEN CONTROL							
	E1010000	Linen Supervisor	4	2	1	1	1	5
	A2010000	Linen Stores Assistant	2	10	8	7	6	31
	HUMAN RESOURCES							
	C6010302	Assistant Director: HRM	9	1				1
	B2040000	Senior Admin Officer	8	3	1	1	1	6
	B2040000	Admin Officer	7	1	2	2	2	7
	B1010400	Chief Admin Clerk	7					
	B1010400	Admin Clerk	5	6	4	3	2	15
A3	**SUPPORT SERVICES**							
	HEAD OF SUPPORT SERVICES:							
	B2040000	Admin Officer	8	1	1	1	1	4
	B1010600	Chief Admin Clerk	7					
	TRANSPORT SERVICES							
	H3010100	Light vehicle driver	3	4	6	4	2	16
	H3010200	Heavy vehicle driver	4	3	2	2	2	9
	B2040000	Admin Clerk	5	1	1	1	1	4
	TELEPHONE SERVICES							
	B1020200	Switchboard Operator	4	3	3	1	1	8
	PORTER SERVICES							
	REGISTRY AND MESSENGER SERVICES							
	B1010300	Admin Clerk	4	4	5	5	3	17
	F1010000	SASO	5	1				1
	H2030000	Operator	3					
	A2010000	Chief Messenger	4	1				1
	A2010000	Messenger	2	6	3	2	1	12
	GENERAL CLEANING SERVICES							
	E1010000	Housekeeping Supervisor (Including N Home)	4	6	1	1	1	9
	A1020000	Cleaners	1	8	6	6	6	26
	SECURITY SERVICES							
	A1020000	Security Officer	6	1				1
	A1020000	Security Officer	5	4	1	1	1	7
	A1020000	Security Officer	4	20	4	4	4	32
	CATERING SERVICES							
	E1010000	Food Services Manager	7	1	1	1	1	4
	E1010000	Food Services Supervisor	5	2	1	1	1	5
	E1010000	Food Services Supervisor	4	4	4	2	2	12

				Lentegeur	Valkenberg	Stikland	Alexandra	Total
			Beds	620	400	298	250	
			Salary Level	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**
	E1020000	Food Services Worker	3	8	6	4	4	22
	A1040000	Food Services Aid	1	20	14	12	10	56
	TECHNICAL SERVICES							
	G4020000	Artisan Superintendent	8	1	1	1		3
	G4020000	Artisan Foreman	7	1	1	1	1	4
	G4010000	Artisan	6	3	2	1	1	7
	A4020000	Handyman	4	6	4	3	2	15
	E1010000	Foreman grounds services	4	1	1	1	1	4
	A4020000	Tradesman Aid	2	3	2	1	1	7
	A1030000	Groundsman	1	8	6	4	4	22
	H2030000	Operator	3	3				3
B.	**MEDICAL AND MEDICAL ANCILLARY SERVICES**							
B1	**OFFICE: HEAD OF INSTITUTION**							
	C6010200	CEO	12	1	1	1	1	4
	B1010600	Administrative Clerk	4	3	3	2	2	10
B2	**CLINICAL SERVICES**							
	C3010200	Clinical Operations Officer	11	1	1	1	1	4
	C3010200	Medical Specialist	12	12	10	9	1	32
	C3010200	Medical Registrar	11	11	14	8	2	35
	C3010100	Chief Medical Officer	12					
	C3010100	Principal Medical Officer	11	5	3	3	1	12
	C3010100	Medical Officer	10	8	4	3	2	17
B3	**MEDICAL ANCILLARY SERVICES**							
	C3030100	Chief Pharmacist	10	1	1	1		3
	C3030100	Principal Pharmacist	9	2	1	1	1	5
	C3030100	Pharmacist	8		1			1
	F1010000	Pharmacy Assistant	4	4	2	2	1	9
	F1010000	Therapist Assistants	4	10	5	4	3	22
	C3050200	Physiotherapist	8	1			1	2
	C3050200	Physiotherapist	7	3	1	1	1	6
	C3050100	Occupational Therapist	9	1	1	1		3
	C3050100	Occupational Therapist	8	3	2	1	1	7
	C3050100	Occupational Therapist	7	8	6	5	2	21
	C3050500	Speech Therapist	7	2				2
	C3060100	Dietician	7	1				1
	C5040400	Social Worker	11	1	1			2
	C5040400	Social Worker	10	1	2			3
	C5040400	Social Worker	9	5	4	1	1	11
	C5040400	Social Worker	8	6	4	3	2	15
	C5040400	Social Worker	7	1	1	5		7
	C5040400	Psychologist	9	1	1	1		3
	C5040400	Psychologist	8	12	10	8	3	33
	C5040400	Psychologist (Interns)	6	6	4			10
C.	**NURSING SERVICES**							
C1	**OFFICE: HEAD OF NURSING**							
	C6010307	Nursing Services manager	11					
	C6010307	Nursing Services manager	10	1	1	1	1	4
	C6010307	ASD : Nursing: Area	9	6	4	4	3	17
	C6010307	CPN infection control	8	1	1	1	1	4
	C4010000	Chief Professional Nurse (Development)	8	1	1	1	1	4
	C4010000	Chief Professional Nurse (Outreach)	8	1	1	1		3
	B1010600	Admin Clerk	4	2	1	1	1	5
C2	**IN PATIENT SERVICES (Including RELIEF)**							
	C4010000	Professional Nurse: Unit Manager L9	9					
	C4010000	Professional Nurse: Unit Manager L8	8	26	15	11	8	60
	C4010000	Professional Nurse: Specialised (Production)	7	194	124	90	43	451
	C4010000	Professional Nurse: Production	6					
	F2020000	Staff Nurse	5	87	51	34	41	213
	F2010000	Nursing assistant	3	137	98	56	66	357
	E1010000	Housekeeping Supervisor	4	15	12	6	6	39
	A1020000	Household Aid	2	74	47	45	31	197
	B1010600	Admin Clerk	4					
C4	**NIGHT DUTY MANAGEMENT**							
	C4010000	Professional Nurse: Night duty manager	9	4	2	2	2	10
	E1010000	Housekeeping Supervisor	4	4	2	2	2	10
	A1020000	Household Aid	2	8	6	8	6	28
		TOTAL		**865**	**573**	**427**	**323**	**2188**

6.7.9 **CONCLUSION**

Human resources for community mental health services are incorporated into the planned establishments of community health centres, sub district offices and acute hospitals.

Psychiatric hospitals rendering specialist psychiatric care are discussed in Part C: Specialised Hospitals.

PART B: PLAN FOR THE RESHAPING OF ACUTE HOSPITAL SERVICES

1. INTRODUCTION

Part B addresses the reshaping of acute hospital services. The first section outlines how the provincial bed plan was determined. Key issues in this process are the projected 2010 population and also a weighting factor for rural hospitals based on population density and distance from Cape Town. The definitions of the levels of care are also provided in this section. It must be emphasized that currently routine reporting does not provide information per level of care but only per type of hospital. This is an issue that will need to be addressed in the future.

The following section outlines the distribution of beds between the respective levels of care. The number of level 3 beds is determined by the funding envelope of the conditional grants, i.e. the National Tertiary Services Grant (NTSG) and 50% of the Health Professions and Training Development Grant (HPTDG). The database, validated by the Tertiary Services Workgroup, was used to determine the relationship between the respective disciplines taking into consideration the 'ecosystem' of direct interdependencies between specialties and sub-specialties. (See Annexure E).

The bed plan proposes a significant increase of 1,038 acute level 1 beds in the Metro, 344 more level 2 beds and 1,014 current level 3 beds will be redefined as level 2 beds. There is an overall net increase of 368 acute beds in the Metro. In the rural areas the decrease of level 1 beds by 217 beds is offset by an increase of 370 level 2 beds, with a net increase of 153 acute beds in the rural areas.

The process according to which the staffing allocations were developed is then described. In the allocation of medical professionals it was decided to adopt a 'team approach' in order to achieve a balance between specialist, registrar and medical officer posts. Further refinement of the staff establishments will take place in various hospitals.

The principles of the Modernisation of Tertiary Services (MTS) were carefully considered in the development of this plan but it is noted that the MTS process has not been finalised.

The section dealing with Oral Health Services, with particular reference to Dental Hospital Services remains to be developed and will be included in due course.

2. METHODOLOGY APPLIED IN THE DEVELOPMENT OF A PROVINCIAL BED PLAN FOR ACUTE HOSPITALS

2.1 **Number of beds required**:

- In the development of Healthcare 2010 projected uninsured population figures were used to estimate the number of hospital admissions per level of care.
- Targets for the average length of stay (ALOS) were then determined.
- The **number of admissions** were **multiplied** by the **average length of stay** to determine the **number of inpatient days** that must be accommodated in hospital beds per annum.
- It was then possible to determine the **number of beds** required to accommodate the inpatient days at an **occupancy rate of 85%.**
- The distribution of beds between regions is based on population distribution.

Table B1: Calculation of Required beds for the Western Cape

			Population
Total population: census 2001 projected to 2010			5,197,897
Uninsured population (74%)			3,846,444
			Admissions
L1 Admissions/1000 uninsured			67
L2 Admissions/1000 uninsured			54
L3 Admissions/1000 uninsured*			10
			Acute bed ratios
L1 beds/1000 uninsured			0.62
L2 beds/1000 uninsured			0.66
L3 beds/1000 uninsured*			0.19
Total acute beds/1000 uninsured			1.47
Beds Required for uninsured 2010 population	**Beds**	**Bed Occupancy**	**ALOS**
L1 beds	2,366	85%	2.87
L2 beds	2,544	85%	3.8
L3 beds	1,460	85%	6
Total acute beds	6,370	85%	

* a weighted population figure was used for level 3 services to allow for admissions from other provinces.

2.2 **Weighting factor in the rural areas**:

In the rural areas weighting factors were applied to the allocation of beds to compensate for the fact that beds are geographically less accessible than in the Cape Town Metro area due to the greater distances to be travelled, poorer road infrastructure and the population density.

- Rural level 1 beds were weighted according to population density; and
- Level 2 beds were weighted according to the distance of the rural regional hospitals from Cape Town.

Table B2: Weighting factors applied in the allocation of beds to rural acute hospitals

Geographical area	Density Level 1 beds	Distance from Cape Town Level 2 beds
West Coast	0.247	0.025
Boland	0.274	0.050
Southern Cape	0.543	0.200

Table B3: Additional beds allocated to the rural areas as a result of weighting

Geographical area	Level 1 Beds	Level 2 Beds	Total Beds
West Coast	93	9	103
Boland	88	16	104
Southern Cape	173	64	237

Note: Tables B2 and B3 refer to geographical areas in the rural areas and not the historical regional structures

Table B4: Final result of the distribution of beds between geographic drainage areas as determined in Healthcare 2010:

Geographic drainage area	Level 1 beds	Level 2 beds	Level 3 beds	Total beds
Cape Town Metro	**1,246**	**1,509**	**1,460**	**4,215**
West Coast	385	362		747
Boland	334	315		649
Southern Cape	402	358		760
Subtotal rural beds	**1,121**	**1,035**		**2,156**
TOTAL BEDS	**2,367**	**2,544**	**1,460**	**6,370**

Note: The original Healthcare 2010 allocation of 1,290 level 3 beds was increased to 1,460 due to the increase in the National Tertiary Services Grant.
The Healthcare 2010 level 2 beds were increased by 24 to ensure an efficient drainage system for obstetric services in the Metro.
The distribution of beds per health district is shown in Table B15 and B16.

2.3 Broad parameters for the development of a bed plan for the Cape Town Metro district:

The following table shows the required shift of beds between levels of care to reach the Healthcare 2010 target

Table B5: Proposed shift of beds between levels of care in the Cape Town Metro district

Level of care	Current bed status 2004/05	2010 Target	Difference
Level 1 beds	208	1 246	1 038
Level 2 beds	1 165	1 509	344
Level 3 beds	2 474	1 460	-1 014
TOTAL	**3 847**	**4 215**	**368**

At present beds are classified according to the type of hospital in which they are located, i.e.:
- Beds in a district hospital are classified as level 1 beds;
- Beds in a regional hospital are classified as level 2 beds; and
- Beds in a central hospital are classified as level 3 beds.

The routine formal reporting of hospital information is aligned to the above classification and does not provide information per level of care.

In the table above the current beds for 2004/05 are listed per type of hospital, however, the Healthcare 2010 target beds are listed per level of care according to the following definitions.

2.3.1 Definitions of levels of care:

1) **Level 1** care is care delivered by general practitioners, medical officers or primary health care nurses in the absence of any specialist other than a family medicine specialist.
   - Primary health care clinics, community health centres and district hospitals operate at this level.

2) **Level 2** care is care that requires the expertise of general specialist led teams. This includes:
   - General surgery;
   - Orthopaedics;
   - General medicine;
   - Paediatrics;
   - Obstetrics and gynaecology;
   - Psychiatry;
   - Emergency Medicine;
   - Radiology; and
   - Anaesthetics.

3) **Level 3** care is care that requires the expertise of a specialist working in a registered sub-speciality.

4) **Level 4** care is provided by sub-specialties and includes services which are:

- Very new;
- Require scarce expertise;
- Require highly expensive technology; and
- As a result are found only in one or two Centres in the country.

Note that for planning purposes levels 3 and 4 are combined.

The gap between the current beds per level of care and the Healthcare 2010 targets is largely due to definitions of levels of care defined above. It is generally accepted that a significant proportion (40 – 45%) of the services currently provided in the regional hospitals can be classified as level one services and similarly that a significant proportion of the services rendered in the central hospitals can be classified as level two services (45 – 50%).

This is confirmed by a level of care study conducted by Dr B Jacobs in regional and central hospitals as well as an analysis of central hospital statistics by the Tertiary Services Workgroup.

Indications are that it would be possible to attain the target number of beds within the current infrastructure by 2007/08. However, the location of level one beds in the Cape Town Metro district would remain a problem until the completion of the new district hospitals in Khayelitsha and Mitchell's Plain.

2.3.2 Conditional Grants for the funding of Tertiary Services

The number of affordable tertiary beds increased from 1,290 in the original Healthcare 2010 model to 1,460 due to an increase in the National Tertiary Services Grant (NTSG) from 2004/05 onwards. The trends in the grant funding is discussed in the following paragraphs.

Currently there are a number of grey areas in the definitions applied by the National Department of Health to separate tertiary and secondary services. A set of 'exclusion options' was applied by the National Department of Health to facilitate the development of tertiary hospitals in under developed provinces. This means that some services that were classified as secondary in more developed provinces were classified as tertiary services in less developed provinces. The decrease of the NTSG from the year 2000 onwards forced the Western Cape to apply very stringent definitions that resulted in some complex conditions/procedures being classified as a level 2 service.

The increase in the NTSG has enabled the Department to review the classification of services and to move complex procedures, previously classified as level 2, back to the tertiary platform. For this reason the increase in tertiary beds was deducted from the original number of level 2 beds allocated in the original Healthcare 2010 model.

2.3.2.1 National Tertiary Services Grant (NTSG)

The 2004/05 NTSG allocation of R1,104,087,000 was used as the base year to calculate the NTSG allocations for the MTEF period. The projected allocations are calculated by increasing the 2004/05 allocation with expected inflation rates over the MTEF period.

Table B6: NTSG in current terms (R,000)

	2004/05	2005/06	2006/07	2007/08
Expected inflation (Source: Treasury)		0.048	0.055	0.05
NTSG in current terms	1 104 087	1 157 083	1 220 723	1 281 759

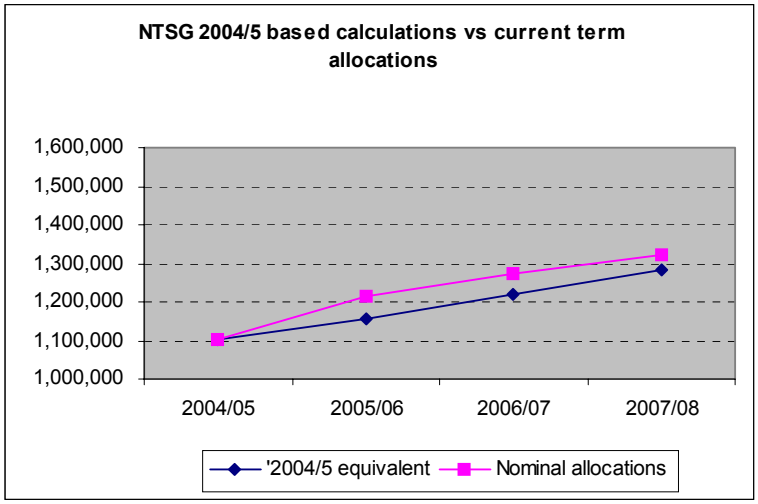
The NTSG allocations calculated in Table B5 can then be compared with the actual MTEF allocations in order to ascertain the real increase in the grant allocation.

Table B7: Difference between actual NTSG allocations for the MTEF period in comparison to allocations calculated in Table B6 above.

	2004/05 R'000	2005/06 R'000	2006/07 R'000	2007/08 R'000
Actual MTEF allocation	1 104 087	1 214 684	1 272 640	1 335 544
NTSG 2004/05 inflated	1 104 087	1 157 083	1 220 723	1 281 759
Difference: MTEF allocations less 2004/05 based Calculations	0	57 601	51 917	53 785
% Increase / (decrease)		5.0%	4.3%	4.2%

Table B7 indicates that there was an increase in the 2004/05 allocation in real terms, however, the size of this increase decreases over the MTEF period and is projected to level out in approximately 2010.

Figure 11



The NTSG funding trend suggests that the 2004/05 based calculations should be used as the operational funding base for tertiary services. This means that the additional allocation or increase in real terms cannot be used for expansion of services in the service platform. The additional funds should rather be used for addressing existing backlogs and bridging funds to restructure and consolidate the tertiary services platform across the three central hospitals.

2.3.2.2 Health Professions Training and Development Grant (HPTDG)

The same principle as above was applied to calculate the HPTDG allocation for the MTEF. It should be noted that if the HPTDG is redirected without replacement funding that the services will have to be reduced accordingly.

Table B8: Allocation of the HPTDG in current terms

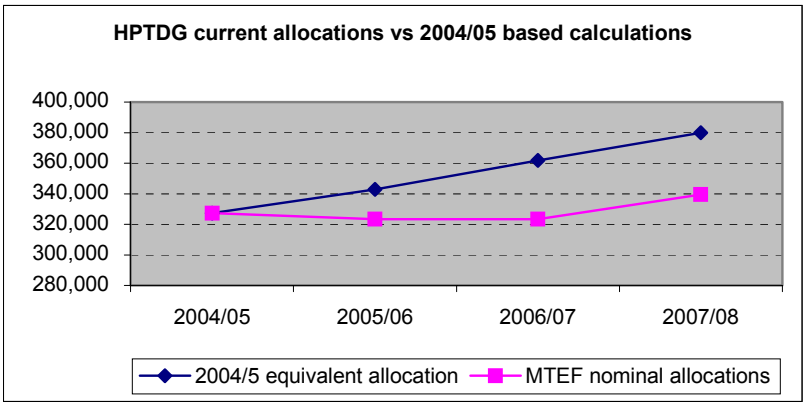
	2004/05	2005/06	2006/07	2007/08
Expected inflation (Source: Treasury)		0.048	0.055	0.05
Equivalent allocation in 2004/05 current terms: MTEF	327 210	342 916	361 776	379 865

The HPTDG allocations calculated in Table B8 can then be compared with the actual/nominal MTEF allocations in order to ascertain the real increase/decrease in the grant allocation.

Table B9: Difference between the actual HPTDG allocations for the MTEF period and the allocations calculated in Table B8 above

	2004/05 R'000	2005/06 R'000	2006/07 R'000	2007/08 R'000
MTEF allocation	327 210	323 278	323 278	339 442
Equivalent allocation in 2004/05 current terms: MTEF	327 210	342 916	361 776	379 865
Difference: MTEF allocations less 2004/05 based allocations		-19 638	-38 498	-40 423
% Increase / (decrease) : yr on yr		-5.7%	-10.6%	-10.6%

Figure 12 below shows a decrease in the HPTDG in real terms over the MTEF period**.**



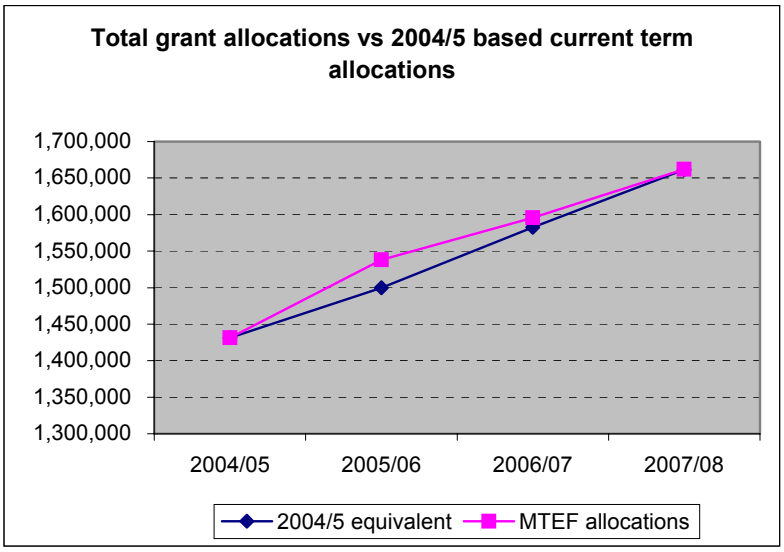
2.3.2.3 **The combined of the NTSG and the HPTDG**

Table B10: Difference between the combined NTSG + HPTDG for the MTEF period in comparison to allocations calculated based on the 2004/05 estimates

	2004/05 R'000	2005/06 R'000	2006/07 R'000	2007/08 R'000
NTSG + HPTDG based on 2004/05 calculations	1 431 297	1 499 999	1 582 499	1 661 624
MTEF allocation of the NTSG + HPTDG	1 431 297	1 537 962	1 595 918	1 674 986
Increase / (decrease) : yr on yr	-	37 963	13 419	13 362
% Increase / (decrease): yr on yr	0%	2.65%	0.87%	0.84%

Table B10 indicates that the increase in the allocation to the NTSG is largely offset by the decrease to the HPTDG.

Figure 13:



2.3.3 **Proposed reclassification and shift of hospital beds in the Cape Town Metro district**:

2.3.3.1 **Level 3 beds**:

Level 3 beds must be managed separately not only because there are particular staffing requirements for level 3 services in terms of number of staff and skills mix but also because of the conditional grant funding from the National Tertiary Services Grant that is specifically allocated for the provision of level 3 services. The classification and management by level of care will facilitate the process of treating patients at the most appropriate level of care.

Table B11: Distribution of level 3 Beds

	L3 Beds
Groote Schuur hospital	685
Tygerberg hospital	515
Red Cross hospital	260
TOTAL	**1,460**

2.3.3.2 **Level 2 beds**:

The principle that L2 services are referral services led to the decision to centralize most of these services in the central hospitals for the following reasons:

- Efficiency gains due to economies of scale;
- Prevents duplication of highly specialized and expensive equipment;
- Provides an 'ecosystem' of interdependencies between disciplines;
- Improved quality of care and treatment outcomes; and
- Consolidated teaching and training platform.

As the existing infrastructure in the central hospitals is insufficient, four hundred and eighty nine (489) level 2 beds were allocated to other hospitals in the Metro that have the available infrastructure. During this process the requirements for an efficient drainage system in the Metro were taken into account.

Table B12: Reclassification and shift of level 2 beds

Description of process	Number of level 2 beds
Central hospitals Reclassify 1 014 existing L3 beds in central hospitals as L2	1 014
Transfer level 2 beds from the existing Metro regional hospitals to the central platform	6
Subtotal	**1 020**
Distribution of L2 beds between central hospitals	
Groote Schuur Hosptial	286
Tygerberg Hospital	684
Red Cross Children's Hospital	50
Subtotal	**1 020**
District and regional hospitals Retain L2 beds in the district and regional hospitals	
Mowbray Maternity Hospital	165
Hottentots Holland Hospital	30
Somerset Hospital	152
Victoria Hospital	82
GF Jooste Hospital	60
Subtotal	**489**
TOTAL: L2 beds in central hospitals + L2 beds in other hospitals in the Metro	**1 509**

2.3.3.3 **Level 1 beds**:

The method applied to determine the number and distribution of L1 beds in the Cape Town metro district is described in Section A.

Table B13: Level 1 beds in the Cape Town Metro district

Description of process	Beds
Total existing acute beds	**3,847**
Less: Target L 2 beds	-1 509
Target L3 beds	-1 460
Existing L1 beds	878
Additional L1 beds required	368
Target L1 beds	**1,246**
Distribution of existing L1 beds:	
False Bay Hospital	70
Eerste Rivier Hospital	112
Wesfleur Hospital	31
Subtotal	**213**
Proposed distribution of existing reclassified L1 beds (previously L2)	
GF Jooste Hospital	120
Hottentots Holland Hospital	90
Karl Bremer Hospital	270
Somerset Hospital	95
Victoria Hospital	70
Subtotal	**645**
TOTAL EXISTING L1 BEDS (Existing designated level 1 beds + reclassified beds)	**858**
Level 1 beds for which an interim location is to be provided	**388**
Total Level 1 beds	**1,246**

This means that in the medium term 388 additional level 1 beds must be accommodated within the current infrastructure until the new Khayelitsha and Mitchell's Plain hospitals are completed. Possible interim location of new level 1 beds may include Karl Bremer, Stikland, Tygerberg and Lentegeur Hospitals.

Table B14: Ideal configuration of the level 1 beds in Cape Town Metro district:

Hospital	Number of Level 1 beds
New Khayelitsha Hospital	210
New Mitchell's Plain Hospital	210
Karl Bremer Hospital	210
Eerste River Hospital	90
Hottentots Holland Hospital	90
Wesfleur Hospital	31
Somerset Hospital	95
Victoria Hospital	90
False Bay Hospital	40
GF Jooste Hospital	180
TOTAL	**1,246**

Table B15: Proposed shift of beds in the Cape Town Metro from 2004/05 to the Healthcare 2010 target

Acute hospitals in the Cape Town Metro District	2004/05				2005/06 – 2006/07				2007/08				2010			
	L1	L2	L3	Total	L1	L2	L3	Total	L1	L2	L3	Total	L1	L2	L3	Total
Eerste River Hospital	112	-	-	112	112	-	-	112	112	-	-	112	90	-	-	90
False Bay Hospital	65	-	-	65	70	-	-	70	70	-	-	70	40	-	-	40
GF Jooste Hospital	-	184	-	184	120	60	-	180	120	60	-	180	180	60	-	240
Hottentots Holland Hospital	-	121		121	60	60		120	90	30		120	90	30		120
Karl Bremer Hospital	-	238		238	150	90		240	270	-		270	210			210
Somerset Hospital	-	288		288	85	200		285	95	152		247	95	152		247
Victoria Hospital	-	159		159	70	90		160	65	90		155	90	90		180
Wesfleur Hospital	31	-		31	31	-		31	31	-		31	31	-		31
Khayelitsha Hospital				-				-				-	210			210
Mitchells Plain Hospital				-				-				-	210			210
Mowbray Maternity Hospital	-	175		175		175		175		165		165		165		165
Groote Schuur Hospital	-	-	906	906	-	350	700	1,050	-	286	685	971	-	286	685	971
Red Cross Hospital	-	-	281	281	-	50	260	310	-	50	260	310	-	50	260	310
Tygerberg Hospital	-	-	1,287	1,287	100	630	550	1,280		684	515	1,199	-	684	515	1,199
Other Hospitals *	-	-							388							
Total: Metro	**208**	**1,165**	**2,474**	**3,847**	**798**	**1,705**	**1,510**	**4,013**	**1,246**	**1,509**	**1,460**	**4,215**	**1,246**	**1,509**	**1,460**	**4,215**
Year on year shift					**590**	**540**	**-964**	**166**	**448**	**-196**	**-50**	**202**	**-**	**-**	**-**	**-**

Note: * Alternative allocations of beds in hospitals such as Karl Bremer, Stikland and Lentegeur Hospitals. This will be finalised in operational planning phase.

2.4 **Development of a rural bed plan for acute hospitals by level of care**:

The decrease of 217 level one beds in the rural regions is offset by an increase of 370 level two beds, which results in a net increase of 153 beds in acute rural hospitals. The decrease in L1 beds is partly due to the relatively low bed occupancy in some rural hospitals which averages at 64%. The planned strengthening of the level 2 service platform also relates to the decreased level 1 beds.

The ideal would be to centralise all the rural L2 beds in the rural regional hospitals. However, the existing rural regional infrastructure does not currently allow for this, as these hospitals are required to accommodate L1 beds for the population in Paarl, Worcester and George where there are no district hospitals. These issues will not be solved in the short to medium term but it is envisaged that in the longer term district hospitals may be established in these areas.

In the development of the rural acute hospital bed plan the lack of an ideal hospital infrastructure was taken into account. However, the proposed hospital services plan is not purely the result of infrastructure. The table below shows that L2 beds have been allocated to most of the larger district hospitals in the rural areas, effectively replacing previous L1 beds. The purpose is to provide a specific framework for structured outreach and support from the rural regional hospitals to the district hospitals. It is generally accepted that there is a need to assist in the skills development and training of medical officers working in the rural areas. Access to and visits from specialists from the regional hospitals should have a significant impact in this regard. It also provides the opportunity to treat non-acute patients in district hospital that would otherwise have to be referred to a regional hospital. It is anticipated that this will have a favourable impact on the quality of care and the ability of rural district hospitals to deliver the full package of district hospital services and, consequently, improve the utilization and cost efficiency of rural hospitals. The referral from district hospitals to regional hospitals is expected to decrease significantly.

Table B16: Proposed shift of beds in the rural districts from 2004/05 to the Healthcare 2010 target

Acute hospitals in the Rural Regions	New Districts	Regions	2004/05				2005/06 – 2006/07				Healthcare 2010 in existing facilities				*Healthcare 2010 Ideal configuration			
											2007/08				2010			
			L1	L2	L3	Total	L1	L2	L3	Total	L1	L2	L3	Total	L1	L2	L3	Total
Ceres Hospital	Cape Winelands	Boland	76			76	76			76	55	10		65	55	10	-	65
Montagu Hospital	Cape Winelands	Boland	49			49	49			49	30			30	30	-	-	30
Robertson Hospital	Cape Winelands	Boland	46			46	46			46	60	20		80	60	20	-	80
Eben Donges Hospital*	Cape Winelands	Boland		213		213	30	220		250	52	255		307	52	255	-	307
Caledon Hospital	Overberg	Boland	65			65	50			50	50			50	50	-	-	50
Hermanus Hospital	Overberg	Boland	37			37	37			37	40	20		60	40	20	-	60
Otto Du Plessis Hospital	Overberg	Boland	40			40	40			40	10			10	10	-	-	10
Swellendam Hospital	Overberg	Boland	51			51	47			47	37	10		47	37	10	-	47
Total Boland			**364**	**213**	**-**	**577**	**375**	**220**	**-**	**595**	**334**	**315**	**-**	**649**	**334**	**315**	**-**	**649**
Beaufort West Hospital	Central Karoo	South Cape	57			57	47	10		57	47	10		57	47	10	-	57
Laingsburg Hospital PAH	Central Karoo	South Cape	20			20	20			20	20			20	20	-	-	20
Murraysburg Hospital PAH	Central Karoo	South Cape	14			14	15			15	15			15	15	-	-	15
Prince Albert Hospital PAH	Central Karoo	South Cape	29			29	29			29	20			20	20	-	-	20
Knysna Hospital	Eden	South Cape	98			98	60	30		90	50	40		90	50	40	-	90
Ladismith Hospital	Eden	South Cape	35			35	35			35	30			30	30	-	-	30
Mossel Bay Hospital	Eden	South Cape	90			90	60	30		90	50	40		90	50	40	-	90
Oudtshoorn Hospital	Eden	South Cape	127			127	95	30		125	70	53		123	70	53	-	123
Riversdale Hospital	Eden	South Cape	50			50	50			50	40			40	40	-	-	40
Uniondale Hospital PAH	Eden	South Cape	20			20	20			20	10	-		10	10	-	-	10
George Hospital*	Eden	South Cape		202		202	30	222		252	50	215		265	50	215	-	265
Total South Cape			**540**	**202**	**-**	**742**	**461**	**322**	**-**	**783**	**402**	**358**	**-**	**760**	**402**	**358**	**-**	**760**
Stellenbosch Hospital	Cape Winelands	West Coast	95			95	55	30		85	50	35		85	50	35	-	85
Paarl Hospital*	Cape Winelands	West Coast		250		250	60	190		250	85	242		327	85	242	-	327
Citrusdal Hospital	West Coast	West Coast	34			34	25			25	25			25	25	-	-	25
Clanwilliam Hospital PAH	West Coast	West Coast	32			32	42			42	30			30	30	-	-	30
LAPA Munnik Hospital	West Coast	West Coast	15			15	15			15	10			10	10	-	-	10
Radie Kotze Hospital	West Coast	West Coast	33			33	30			30	30			30	30	-	-	30
Swartland Hospital	West Coast	West Coast	85			85	55	30		85	50	35		85	50	35	-	85
Vredenburg Hospital	West Coast	West Coast	56			56	56			56	55	25		80	55	25	-	80
Vredendal Hospital	West Coast	West Coast	84			84	84			84	50	25		75	50	25	-	75
Total West Coast			**434**	**250**	**-**	**684**	**422**	**250**	**-**	**672**	**385**	**362**	**-**	**747**	**385**	**362**	**-**	**747**
Total: Rural			**1,338**	**665**	**-**	**2,003**	**1,258**	**792**	**-**	**2,050**	**1,121**	**1,035**	**-**	**2,156**	**1,121**	**1,035**	**-**	**2,156**
Year on year Shift							**-80**	**127**	**-**	**47**	**-137**	**243**	**-**	**106**	**-**	**-**	**-**	**-**

Note: * pending the resolution of the district hospital beds currently in the regional hospitals in George, Worcester and Paarl.

3. DISTRIBUTION OF BEDS BETWEEN DISCIPLINES PER LEVEL OF CARE

3.1 Level 3 beds per discipline

Whilst the National Department of Health has proposed a redistribution of existing specialised services after the modernisation of tertiary services process these recommendations have not been officially adopted. As a result a costed National Tertiary Services was not available and consequently a Tertiary Services Workgroup was established in 2004 to achieve agreement on a database for planning purposes. This workgroup represented personnel from the Department of Health Western Cape, the three central hospitals, the University of Cape Town and the University of Stellenbosch. This work resulted in:

1) A final dataset of all specialist patient care activities on the central platform (including level 2 services) which included both in and outpatient activities.;
2) A set of assumptions regarding the proportionate split between level 3 and 2 services on the central hospital platform;
3) An agreed grouping regarding a classification of departments, divisions, units and interest groups; and
4) Identified intensive care unit (ICU), high care and special care beds per specialty and sub-specialty.

The importance of the dataset and other findings of Tertiary Services Workgroup is such that the final report of the workgroup is attached as Annexure E.

In order to ensure functional integrity the Tertiary Services Workgroup used interdepartmental patient transfer data to determine the critical interdependencies between disciplines and sub-disciplines. The following criteria were developed to inform the allocation of beds per sub-discipline per hospital:

1) Uniqueness of service;
2) Services already on a single site;
3) The head of the unit allocating less than 50% of time to the unit
4) Scarcity of skills – consolidate to prevent loss of skills;
5) National imperatives (National referral unit);
6) Low patient load;
7) Highly specialized equipment – to avoid duplication;
8) High cost of capital infrastructure – to avoid duplication;
9) Rare procedures – concentrate skills; and
10) The development of an 'ecosystem' to facilitate immediate and direct interdependencies and support services.

The intention of the above rationalization criteria is to eliminate the fragmentation of services and the duplication of inefficient units across the central hospital platform. In addition to the above criteria the following measuring units were developed and applied to ensure functional efficiency:

- Resource Allocation Unit:
  Based on the UPFS (Unified Patient Fee Schedule)
- Clinical Activity Unit (CAU)
  This was developed as a more direct method for finding a simple, standardised unit of activity that lent itself to the planning process. The components are:
  - *Outpatient Unit:* The time required to evaluate patients varies between disciplines. The guidelines were derived from a modelled optimal situation and considered the different times required for new and follow-up patients.
  - Inpatient Unit: A minimum number of beds is required for a sub-speciality to function as a sustainable unit.
  - Procedure Unit: Calculating the number of and time per procedure against an 8 hour working day for 250 days per year, a standardised procedure unit can be derived. (PU). Theatre slates were used to address surgical requirements.

The application of the above measures (see Annexure E for detail) within the context of the interdependencies between disciplines, discussed in more detail in the following paragraphs, were used to counteract the inefficient fragmentation and duplication of services on the tertiary services platform. The clinical activity unit furthermore assisted the Department in defining which highly specialised services should be run as single service units. A single service unit can be defined as a clinical service rendered through a single clinical governance structure, clinical team and clinical head.

By applying the above-mentioned approach the workgroup found that the original Healthcare 2010 bed allocation of 1,290 level 3 beds as well as the bed distribution between the central hospitals resulted in the following functional problems:

1) An unsustainable tertiary configuration for adult general disciplines at Tygerberg Hospital;
2) Inability to address dependencies, especially those essential for emergency services;
3) A lack of support services for critical care at Tygerberg Hospital; and
4) An illogical distribution of Paediatric beds.

The Tertiary Services Workgroup indicated that the current demand is 1,425 beds. When the healthcare 2010 target L3 beds of 1,290 were increased to 1,460 it offered the opportunity to develop a functional central hospital service plan with an optimal distribution of beds and services between the three central hospitals. Dr R Muller, who was responsible for the technical work in the Tertiary Services Workgroup and who compiled the final report of the workgroup, assisted in the planning process by developing the new 1,460 bed plan in accordance with functional requirements. The Tertiary Services Workgroup recognised that it is not technically possible to incorporate waiting lists into the model. However, within an optimally resourced service waiting lists, of limited duration, will be used as a planning or scheduling tool.

Table B17: Allocation of L3 beds to the three Central Hospitals

Hospital	Number of beds
Groote Schuur Hospital	685
Tygerberg Hospital	515
Red Cross Hospital	260
TOTAL	**1 460**

The ratio between major specialties in terms of the above bed allocation is depicted in the table below:

Table B18: Ratio between major specialities in L3 beds

	L3 Beds	L3 Profile
Anaesthetics: Adults (ICU and High care)	73	
Anaesthetics: Paediatric (ICU)	35	
Anaesthetics: Total*	108	
*Anaesthetic beds were not taken into account to determine distribution profile since the beds support all disciplines		
Radiation Medicine	64	5%
Medicine	286	21%
Psychiatry	40	3%
Orthopaedics	91	7%
Paediatrics Medicine	311	23%
Paediatrics Surgery	97	7%
Surgery	344	25%
Gynaecology	41	3%
Obstetrics	78	6%
Sub-Total	1,352	100%
Total	**1,460**	

Figure 14: Distribution profile: L3 beds per major discipline

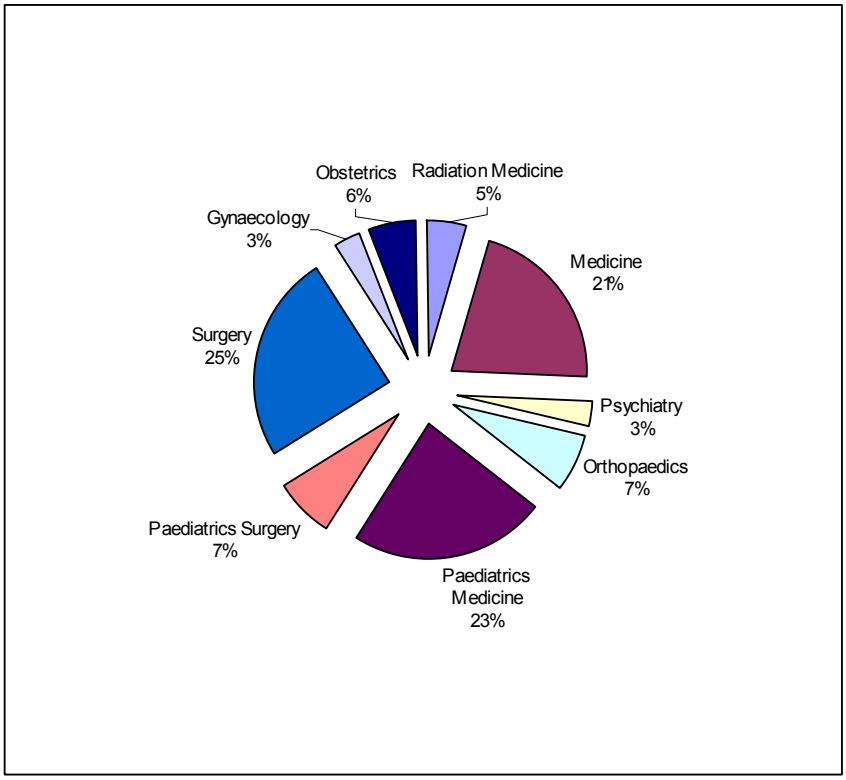
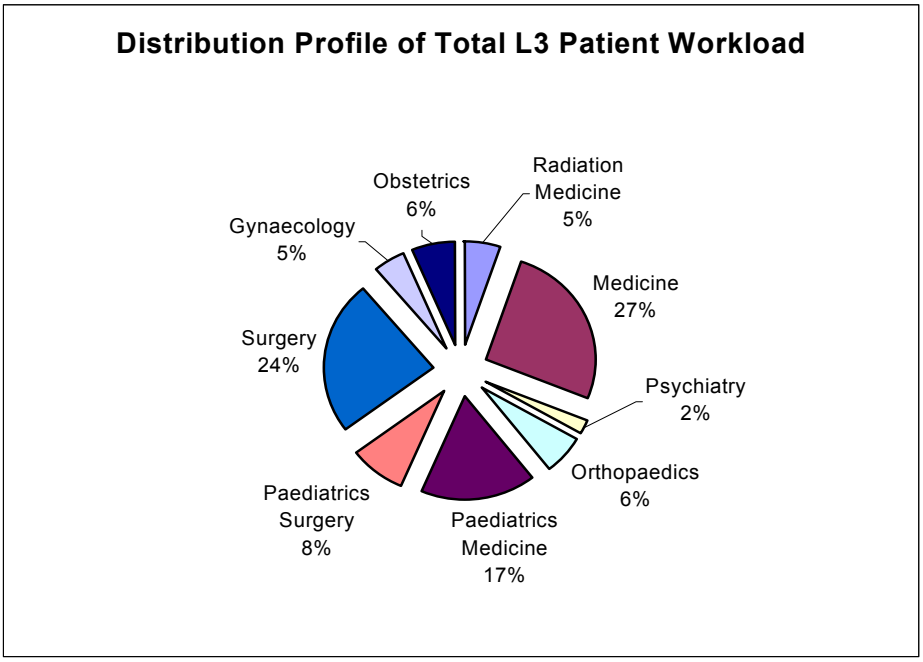


Figure 15: Distribution profile: L3 patient workload per major discipline



The above outcome was evaluated/validated by hospital from the basic dataset of the Tertiary Services Workgroup. The bed plan for the Tertiary Services is derived from this service platform and is depicted below per discipline/sub-discipline per hospital.

It is recognised that the consultation and liaison in Psychiatry is not effectively recorded on the Clinicom system.

It must be noted that the principle of consolidated ICUs is accepted and will part of the implementation process.

Table B19: Bed allocation per specialty and sub-specialty: Central Hospitals

Speciality	Sub Speciality	L3 beds			
		Groote Schuur	Red Cross	Tygerberg	Total
Anaesthetics	Critical Care – Adult	46	-	27	73
	Pain Clinic				
	Total: Anaesthetics	**46**	**-**	**27**	**73**
Clinical Laboratory Sciences	Human Genetics*				
	Immunology				
	Pharmacology				
	Total: Clinical Laboratory Sciences				
Medicine	General Medicine	70	-	44	114
	Emergency Medicine	-	-	-	-
	Allergology	-	-	-	-
Functions as a unit	Cardiology	5	-	3	8
	Cardiology Coronary Care	17	-	10	27
	Endocrinology	0	-	14	14
N.B. OPD Procedure load	Gastroenterology	-	-	-	-
***Beds Absorbed into General Medicine. Specialists are "special interest" with proportional time in General Medicine	Geriatrics ***	-	-	-	-
	Haematology/Medical Oncology	16	-	9	25
	Hepatology ***	5	-	-	5
	Infectious Diseases ***	-	-	-	-
Functions as a unit	Nephrology	7	-	4	11
	Nephrology HCU	3	-	2	5
	Neurology	19	-	11	30
Functions as a unit	Pulmonology	5	-	3	8
	Pulmonology ICU	9	-	6	15
	Rheumatology ***	8	-	0	8
	Dermatology	16	-	0	16
	Total: Medicine	**180**	**-**	**106**	**286**
Psychiatry	Psychiatry	**15**	**-**	**10**	**25**
Orthopaedics	General Orthopaedics	32	-	28	60
	Spinal Unit ICU	6	-	-	6
	Spinal Unit	15	-	-	15
	Hand Surgery	7	-	3	10
	Total: Orthopaedics	**60**	**-**	**31**	**91**
Surgery	General Surgery	65	-	35	100
	Trauma	6	-	4	10
	Neurotrauma	-	-	-	-
Functions as a unit	Burns	-	-	17	17
	Burns ICU	-	-	3	3
Functions as a unit	Cardiothoracic Surgery	21	-	12	33
	Cardiothoracic Surgery ICU	7	-	4	11
Functions as a unit	Neurosurgery	22	-	10	32
	Neurosurgery ICU/HCU	13	-	7	20

Speciality	Sub Speciality	L3 beds			
		Groote Schuur	Red Cross	Tygerberg	Total
	Ophthalmology	24	-	13	37
	Otorhinolaryngology	12	-	7	19
	Plastic Surgery	23	-	11	34
	Urology	19	-	9	28
	Total: Surgery	**212**	**-**	**132**	**344**
Obstetrics and Gynaecology	Gynaecology	26	-	15	41
	Obstetrics	49	-	29	78
	Total: Obstetrics and Gynaecology	**75**	**-**	**44**	**119**
Neonatology	Neonatology	33	-	26	59
	Neonatal ICU	23	-	17	40
	Total: Neonatology	**56**	**-**	**43**	**99**
Anaesthetics	Critical Care – Paediatric	**-**	**24**	**11**	**35**
Clinical Laboratory Sciences	Paediatric Human Genetics	**-**	**-**	**-**	
	Paediatric Immunology	-	-	-	
Paediatrics	General Paediatrics	**-**	44	28	72
	Emergency Paediatrics	-	-	-	-
	Paediatric Allergology*	-	-	-	-
Specialists carry a responsibility in General Paediatrics	Paediatric Cardiology*	-	19	0	19
	Paediatric Endocrinology*	-	7	-	7
	Paediatric Gastroenterology*	-	15	-	15
	Paediatric Haematology	-	18	9	27
	Paediatric Infectious Diseases	-	5	10	15
	Paediatric Nephrology*	-	19	-	19
	Paediatric Neurology*	-	15	-	15
	Paediatric Pulmonology*	-	-	20	20
	Paediatric Rheumatology	-	-	-	-
	Paediatric Dermatology*	-	3	-	3
	Total: Paediatrics	**-**	**145**	**67**	**212**
Psychiatry	Child Psychiatry*	**-**	**0**	**15**	**15**
Paediatric Orthopaedics	Paediatric Orthopaedics**	-	8	3	11
	Paediatric Hand Surgery	-	-	-	
	Total: Paediatric Orthopaedics	**-**	**8**	**3**	**11**
Paediatric Surgery ** services in TBH to form part of the adult service	Paediatric Surgery*	**-**	31	0	31
	Paediatric Trauma	-	-	-	-
	Paediatric Burns	-	11	-	11
	Paediatric Cardiothoracic Surgery*	-	6	-	6
	Paediatric Neurosurgery**	-	8	3	11
	Paediatric Ophthalmology*	-	3	-	3
	Paediatric Otorhinolaryngology*	-	11	-	11
	Paediatric Plastic Surgery*	-	6	-	6
	Paediatric Urology*	-	7	-	7
	Total: Paediatric Surgery	**-**	**83**	**3**	**86**
Radiation Medicine	Diagnostic Radiology	**-**	**-**	**-**	-
	Nuclear Medicine*	-	-	-	-
	Radiation Oncology	41	-	23	64
	Total: Radiation Medicine	**41**	**-**	**23**	**64**
	Total Beds	**685**	**260**	**515**	**1,460**

Note: * refers to single service units

Single service models for tertiary services

A single service is defined as a clinical service, which is rendered by one clinical team with a single clinical head and clinical governance structure. The aim of organising some of the tertiary clinical services into a Single Service is to achieve efficient and maximal utilisation of skills and resources and to deliver high quality specialised services.

The Clinical Activity Unit, developed by the Tertiary Services Workgroup, and which is based on outpatients, inpatients and procedure outputs reflects the relative size of clinical services and will assist in determining the viability and critical mass of service entities. The Clinical Activity Unit is used to determine which of the services should be organised into single clinical service units in order to eliminate fragmentation of services, duplication of cost inefficient units and as an imperative to improving quality of care.

The following rationalisation criteria have been applied to the outcomes of the Clinical Activity Unit data to determine whether a clinical service can be organised into a Single Service:

- Uniqueness of the service
- National imperatives (national units)
- Scarcity of skills
- Rationalisation of capital investment (equipment and infrastructure)
- Low patient load
- Rare procedures with a need to concentrate skills
- Improvement in quality of care by linking the service to an efficient 'ecosystem' to facilitate immediate and critical interdependencies.

Two types of single service models:

1) Single site single service model where all the clinical activities are performed on one site. Marked with * in Table B19.
   This will apply to services which already operate on one site or where more than seventy percent of the service is currently performed on one site or where a critical mass can only be achieved by combining current services on one site in which case the site that is currently stronger will be used as the base. This applies largely to paediatric sub-specialties as indicated in Table B19 but also includes adult services for endocrinology, dermatology and rheumatology.
2) Mini/maxi single service model:
   In this model clinical activities will be predominantly located at one of two sites due to case load and activities at tertiary and quaternary level. In order to avoid duplication and to utilise skills efficiently, rare and unique procedures will be concentrated at one site of expertise whilst more common procedures will be spread across the sites.

   It is important to indicate the unique situation of clinical genetic services and nuclear medicine. Clinical genetic services for instance would be organised in a hub and spoke formation towards the periphery, with the regionalised hub at a single site.

   Nuclear medicine is an important but scarce diagnostic and therapeutic service and the medical resources will be pooled with a continuation of the current mini/maxi distribution of services.

Table B20: Tertiary services: Single service models

Tertiary services across sites	Single site services
Neurosurgery	Electrophysiology
General surgery	Epilepsy surgery
Cardiology	Heart-lung transplantation
Cardiothoracic surgery	Liver transplantation
Heaematology	Marrow transplantation

Interdependencies allowed for in the above configuration of beds

Utilizing Clinicom data on inpatient transfers between disciplines, (speciality transfer-in and speciality transfer-out) a clear picture of critical and immediate interdependencies emerges. The number of patients transferred between specialities indicates the inter-reliance between specialties and therefore groups certain disciplines into functional clusters (Figure 16). These functional clusters need to be kept together in the platform design process.

Table B21 shows the major interdependencies reported by the Tertiary Services Workgroup. The middle column represents a major central discipline. The outer columns are patient numbers. The columns on the left reflects the “feeder’ disciplines and those on the right dependencies of the central discipline. The figure gives only the significant dependencies. It is of interest that there are 2 – 3 major links for each discipline. For paediatrics, there is only one significant link, being to and from the intensive care unit.

Table B21: Major interdisciplinary interdependencies

Total	From specialty	Target discipline	To speciality	Total
4,898 4,216 527 527	General Medicine Emergency General Medicine Vascular Surgery Cardiothoracic Surgery	Cardiology	Cardiothoracic Surgery General Medicine General Medicine Emergency Vascular Surgery	3,751 1,922 496 217
2,945 1,922 496 248	Respiratory Cardiology General Medicine Emergency Surgery	General Medicine	Cardiology Respiratory Cardiothoracic Surgery Neurosurgery	4,216 2,914 1,271 930
496 465 62 31	Cardiology Respiratory General Medicine Trauma	General Medicine Emergency	Cardiology Respiratory Neurosurgery General Medicine	4.898 2.883 1.953 496
2,914 2,883 930 651	General Medicine General Medicine Emergency Trauma Obstetrics	Respiratory	General Medicine General Medicine Emergency Trauma Neurosurgery	2,945 465 465 465
403 31 31	Surgery Trauma General Medicine	Gynaecology	Surgery Respiratory Cardiology	434 248 124
186 124 93	Respiratory Trauma Gynaecology	Obstetrics	Respiratory Trauma Surgery	651 186 155
16,120 2,077 899 620	Paediatric Intensive Care Neonatal Medicine Paediatric Emergency Paediatric Gastro-Enterology	General Paediatrics	Paediatric Intensive Care Neonatal Medicine Paediatric Surgery Paediatric Nephrology	11,129 2,356 403 248
7,409 217 93 31	Paediatric Intensive Care General Paediatrics Paediatric Cardiothoracic Surgery Paediatric Surgery	Paediatric Cardiology	Paediatric Intensive Care Intensive Care General Paediatrics Cardiothroracic Surgery	10,850 248 186 62
		Paediatric Gastro-Enterology	Paediatric Intensive Care General Paediatrics Neonatal Medicine	2,635 620 62
11,129 10,850 5,363 2,635 2,387	General Paediatrics Paediatric Cardiology Paediatric Surgery Paediatric Gastro-enterology Paediatric Emergency	Paediatric Intensive Care	General Paediatric Paediatric Cardiology Paediatric Cardiothoracic Surgery Paediatric Surgery Paediatric Ear Nose & Throat	16,120 7,409 7,378 4,991 4,061
		Paediatric Emergency	Paediatric Intensive Care General Paediatrics Paediatric Neurology	2,387 899 217
3,751 1,984 1,271 651 279	Cardiology Trauma General Medicine Surgery Respiratory	General Surgery	Surgery Trauma Respiratory Cardiology Vascular Surgery	2,542 682 434 372 155
4,805 1,953 930	Trauma General Medicine Emergency General Medicine	Paediatric Surgery	Paediatric Intensive Care General Paediatrics Paediatric Orthopaedics	5,363 527 155
		Trauma	Neurosurgery Surgery Cardiothoracic Surgery General Surgery Orthopaedics	4,836 3,317 1,984 1,643 1,550

Figure 16: Venn diagram of interdependencies
(This is not a proportional representation but merely a visual aid in the planning process.)

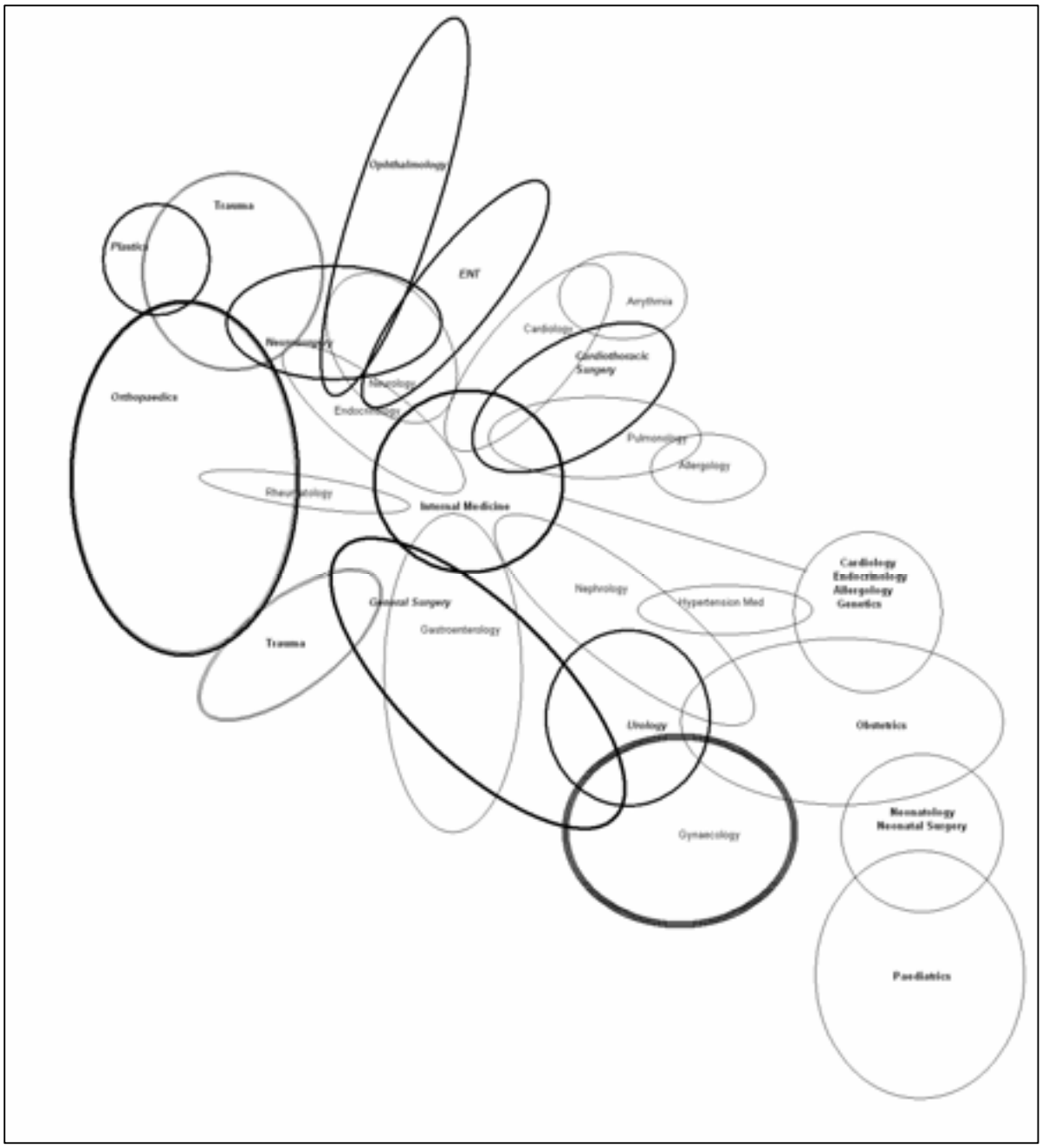


Table B22: Service delivery indicators: Level 3 services

Specialty	Sub-specialty	L3 Beds	In patient days	Out patient visits	Ratio: Follow up OPD visits	Average length of stay	Admissions	Patient day equivalents
Anaesthetics	Critical Care - Adult	73	22,648	-		4.3	5,292	22,648
	Pain Clinic		-	452	8.14	-	-	151
		73	**22,648**	**452**	**8.14**	**4.3**	**5,292**	**22,799**
Clinical Laboratory Sciences	Human Genetics		0		0.64	-	-	-
	Immunology		0			-	-	-
	Pharmacology		0			-	-	-
Medicine	General Medicine	114	35,369	24,758	4.44	6.0	5,895	43,621
	Emergency Medicine	0	-	-				
	Allergology	0	-	175	5.17	-	-	58
	Cardiology	8	2,482	27,091	1.84	3.8	650	11,512
	Cardiology Coronary Care	27	8,377			3.5	2,376	9,447
	Endocrinology	14	4,344	3,210	6.04	5.9	736	8,438
	Gastroenterology	0	-	12,282	2.17	7.1	-	165
	Geriatrics	0	-	494	3.39	8.0	-	439
	Haematology	25	7,756	1,317	19.07	10.0	776	7,961
	Hepatology	5	1,551	615	4.56	10.0	155	1,737
	Infectious Diseases	0	-	558	7.33	9.5	-	399
	Nephrology	11	3,413	1,197	33.24	8.3	412	3,413
	Nephrology HCU	5	1,551			5.1	302	1,551
	Neurology	30	9,308	8,253	1.52	8.0	1,163	12,059
	Pulmonology	8	2,482	5,643	3.50	3.5	711	4,363
	Pulmonology ICU	15	4,654			9.7	481	4,654
	Rheumatology	8	2,482	2,620	5.75	10.0	248	3,355
	Dermatology	16	4,964	5,009	3.08	10.0	496	6,634
		286	**88,732**	**93,221**	**2.73**	**6.2**	**14,402**	**119,805**
Psychiatry	Psychiatry	**25**	**7,756**	**3,053**	**3.16**	**6.5**	**1,188**	**8,774**
Orthopaedics	General Orthopaedics	81	25,130	12,565	3.49	8.0	3,141	29,319
	Hand Surgery	10	3,103	8,011	3.04	3.3	935	5,773
		91	**28,233**	**20,577**	**3.30**	**6.9**	**4,076**	**35,092**
Surgery	General Surgery	100	31,025	21,718	1.46	6.0	5,171	38,264
	Trauma	10	3,103			5.3	582	3,103
	Burns	17	5,274	407	0.96	-	-	5,410
	Burns ICU	3	931			-	-	931
	Neurosurgery	32	9,928	2,801	2.28	8.0	1,248	10,862
	Neurosurgery ICU/HCU	20	6,205			7.8	795	6,205
	Ophthalmology	37	11,479	21,307	2.12	2.0	5,728	18,582
	Otorhinolaryngology	19	5,895	6,619	1.78	3.5	1,664	8,101
	Cardiothoracic Surgery	33	10,238	9,214	3.10	5.4	1,882	13,310
	Cardiothoracic Surgery ICU	11	3,413			10.5	326	3,413
	Plastic Surgery	34	10,549	6,950	1.73	5.4	1,959	12,865
	Urology	28	8,687	7,478	3.05	6.6	1,324	11,180
		344	**106,726**	**76,495**	**1.97**	**5.2**	**20,679**	**132,224**
Obstetrics and Gynaecology	Gynaecology	41	12,720	24,669	0.97	3.6	3,490	20,943
	Obstetrics	78	24,200	22,968	2.56	4.2	5,705	31,855

Specialty	Sub-specialty	L3 Beds	In patient days	Out patient visits	Ratio: Follow up OPD visits	Average length of stay	Admissions	Patient day equivalents
		119	**36,920**	**47,637**	**1.51**	**4.0**	**9,195**	**52,799**
Anaesthetics	Critical Care - Paediatric	**35**	**10,859**	**-**		**6.0**	**1,810**	**10,859**
Clinical Laboratory Sciences	Paediatric Human Genetics							
	Paediatric Immunology							
Paediatrics	General Paediatrics	72	22,338	15,190	2.72	8.0	2,792	27,401
	Emergency Paediatrics		-	-		-	-	-
	Neonatology	59	18,305	247	8.09	3.8	4,830	18,387
	Neonatal ICU	40	12,410			10.0	1,241	12,970
	Paediatric Allergology		-	1,679	9.91	-	-	219
	Paediatric Cardiology	19	5,895	657	9.97	-	-	6,924
	Paediatric Endocrinology	7	2,172	3,087	4.91	6.0	363	2,258
	Paediatric Gastroenterology	15	4,654	259	8.56	-	-	4,944
	Paediatric Haematology	27	8,377	872	12.64	-	-	8,585
	Paediatric Infectious Diseases	15	4,654	625	7.59	8.0	582	4,814
	Paediatric Nephrology	19	5,895	481	11.97	-	-	7,327
	Paediatric Neurology	15	4,654	4,296	3.46	-	-	5,895
	Paediatric Pulmonology	20	6,205	3,723	12.94	-	-	6,261
	Paediatric Rheumatology	0	-	168	8.30	-	-	453
	Paediatric Dermatology	3	931	1,360	2.99	8.8	106	11,812
		311	**96,488**	**32,644**	**3.92**	**9.7**	**9,914**	**107,369**
Psychiatry	Child Psychiatry	**15**	**4,654**	**650**	**1.88**	**6.0**	**777**	**4,871**
Orthopaedics	Paediatric Orthopaedics	11	3,413	5,117	2.10	12.5	273	5,118
	Paediatric Hand Surgery		-	-			-	-
		11	**3,413**	**5,117**	**2.10**	**12.5**	**273**	**5,118**
Surgery	Paediatric Surgery	31	9,618	6,702	0.68	-	-	11,852
	Paediatric Trauma	0	-			-	-	-
	Paediatric Burns	11	3,413	817	1.60	-	-	3,685
	Paediatric Cardiothoracic Surgery	6	1,862	1,489	0.92	12.0	155	2,358
	Paediatric Neurosurgery	11	3,413	1,819	1.79	11.0	310	4,019
	Paediatric Ophthalmology	3	931	3,997	2.88	-	-	2,263
	Paediatric Otorhinolaryngology	11	3,413	7,690	0.78	2.5	1,365	5,976
	Paediatric Plastic Surgery	6	1,862	2,564	1.78	-	-	2,716
	Paediatric Urology	7	2,172	1,416	2.06	5.8	372	2,644
		86	**26,682**	**26,495**	**1.13**	**12.1**	**2,202**	**35,513**
Radiation Medicine	Diagnostic Radiology			74,112	1.41			
	Nuclear Medicine		-	17,017	1.56	-	-	5,672
	Radiation Oncology	64	19,856	48,022	9.17	6.0	3,309	20,869
		64	**19,856**	**139,151**	**2.30**	**6.0**	**3,309**	**26,541**
	TOTAL	**1,460**	**452,965**	**445,493**	**1.75**	**6.2**	**73,117**	**561,764**
	Out patient per in patient day ratio							**0.98**

3.2 **Level 2 beds per discipline**:

The following criteria were used to allocate L2 beds to the various disciplines in the Cape Town Metro district:

1) The beds for patients requiring more complex and expensive level 2 services will be concentrated in the central hospitals. The beds allocated for level 2 services outside of the central hospitals operate in an environment that consists mainly of level 1 beds and are allocated to general disciplines which will not require highly specialized and expensive equipment.
2) The outcomes of the data set developed by the Tertiary Services Workgroup were used as guidelines for the future allocation of beds per discipline in the central hospitals. The existing level 2 platform in the central hospitals remains unchanged except for the addition of 6 beds from the Metro Regional hospitals.

Table B23: Proposed distribution of L2 beds per general discipline in the Cape Town Metro district

General discipline	L2 beds in Central Hospitals	L2 beds in District & Regional Hospitals	Total L2 beds in the Cape Town Metro district	Distribution profile
Medicine	175	118	293	19%
Psychiatry*	64		64	4%
Orthopaedics	125		125	8%
Paediatrics	262	160	422	28%
Surgery	250	75	325	22%
Gynaecology	50	10	60	4%
Obstetrics	94	126	220	15%
TOTAL	**1,020**	**489**	**1,509**	**100%**

Note: * Psychiatry beds do not include the APH beds

The above distribution of beds between disciplines should be interpreted in the context of total patient workload per discipline in order to account for out patients. In the table below the total patient workload is expressed as the sum of inpatient and outpatient visits per discipline.

Emergency and trauma visits were not taken into account in order to exclude the after hours 'walk-in' patients that could be treated at level 1. It is assumed that serious level 2 emergency and trauma patients would be admitted and be reflected in the inpatient day statistics.

Table B24: L2 Patient workload per discipline

General discipline	Total inpatient days PLUS Total outpatient visits	Distribution profile
Medicine	206,350	23,7%
Psychiatry	29,983	3,4%
Orthopaedics	63,213	7,3%
Paediatrics	196,389	22,6%
Surgery	165,363	19%
Gynaecology	38,939	4%
Obstetrics	170,418	20%
TOTAL	**870.655**	**100.0%**

Table B25: Centralised L2 beds in the Cape Town Metro district

Discipline	Groote Schuur	Red Cross	Tygerberg
General Medicine	52		123
General Surgery	94		156
Orthopaedics	62	3	60
Psychiatry	33		31
Paediatrics (including Neonatology)	25	47	191
Gyneacology	20		29
Obstetrics	0		94
Total	**286**	**50**	**684**

Table B26: Decentralised L2 beds in the Cape Town Metro district

Discipline	Mowbray Maternity Hospital	Somerset Hospital	Victoria Hospital	Hottentots Holland Hospital	GF Jooste Hospital	Total L2 de-centralised
Obstetrics	96	30				126
Gynaecology		10				10
Paediatric Medicine		52	27	12		91
Neonatology	69					69
General Medicine		40	30	18	30	118
General Surgery		20	25		30	75
Psychiatry						
Total	**165**	**152**	**82**	**30**	**60**	**489**

Notes:
Psychiatry centralized for economies of scale;
Orthopaedics centralized for economies of scale and efficiency;
General surgery mainly to support trauma units

3.3 **Level 1 beds**:

Level 1 beds are usually not regarded as discipline specific, however, in the development of the generic hospital models for district hospitals, provision was made for maternity wards, paediatric wards and general male and female wards. This distinction was necessary to ensure that hospitals are correctly and adequately staffed in terms of skill mix and the number of staff required for specific services.

Maternity beds are the only level 1 beds that are linked to a specific discipline, i.e. obstetrics. The table below illustrates the existing level 1 and 2 maternity beds in the Cape Town Metro district. The fact that all the level 1 hospitals will in future provide maternity services will significantly improve the access to these services in all of the sub-districts. The planned distribution of level 1 maternity units in hospitals will further ensure a sound support base for MOUs operating in the drainage area of the specific hospitals. This will contribute towards the development of an integrated and seamless service. The location of MOUs is linked to the large CHCs, as indicated in Table A10, page 16. The clinical management of the MOUs will be from the district hospitals.

Table B27: Existing and planned maternity beds in the Cape Town Metro district

Hospital	Total planned L1 Beds in Cape Town metro district	Current L1 & L2 Maternity beds 2004/05*	Planned L1 Maternity Beds	% L1 Maternity Beds
Mitchell's Plain Hospital (new)	210		60	29%
Khayelitsha Hospital (new)	210		60	29%
Karl Bremer Hospital	210	48	60	29%
Victoria Hospital	100		30	30%
Hottentots Holland Hospital	90	16	30	33%
GF Jooste Hospital	180		50	28%
False Bay Hospital	40	4	10	25%
Eerste Rivier Hospital	90		30	33%
Wesfleur Hospital	31	8	10	32%
Total L1 beds in District Hospitals	**1,161**	**76**	**340**	**29%**
Regional Hospitals:				
Somerset Hospitals	85	72	30	35%
Mowbray Maternity Hospital (Only L2 obstetrics and neonatal in future)		119		
Total L1 beds in Regional Hospitals	**85**	**191**	**30**	**35%**
Total	**1,246**	**267**	**370**	**30%**

NOTE:
Current bed need is based on the reported inpatient days for maternity in the relevant hospitals.
It was then calculated how many beds were required at an occupancy rate of 85%.
The current data does not distinguish between L1 and L2.

	L1	L2	L3	TOTAL
TOTAL planned obstetric beds	**370**	**220**	**78**	**668**

During 2004/05 there were a total of 455 maternity beds in the acute hospitals in the Cape Town metro district. The planned increase of 213 beds should relieve the current pressure on maternity beds.

4. THE STAFFING OF ACUTE HOSPITALS

4.1 **Introduction**:

Generic model staff establishments were developed for each type of acute hospital. In order to estimate workload the following assumptions were made:

1) The target bed occupancy rate in acute hospitals is 85%;
2) The optimal size for a hospital ward is 30 beds;
3) The average length of stay ranges: Level 1 beds from 2.5 to 3 days
   Level 2 beds from 3.6 to 4 days
   Level 3 beds 6 days

The generic models have been applied to all the acute hospitals in the Province. In the rural districts the outcome for district hospitals has been discussed with hospital and district managers in order to make the necessary adjustments required by local circumstances, e.g. unfavourable hospital outlay, small wards, etc. This is referred to as the adjustment process. The adjustment of the rural regional hospitals has been done but the acute hospitals in the Cape Town Metro district must still be addressed.

To ensure that the correct skills mix is taken into account hospitals were staffed per service unit. The organizational structure of each hospital is displayed in an organogram. An organogram for each hospital is available. See Annexure G for examples for the different types of acute hospitals.

4.2 **Staffing hospital wards**:

A planning tool was developed to ensure that the correct skill mix and number of staff is allocated to specific types of wards to ensure that each ward is staffed to meet the needs of the patients for which it caters.

To assess the needs of patients in specific wards the following patient classification guidelines were applied.

4.2.1 Patient classification:

1) **Intense**:
   The condition of the intensely ill patient is unstable, there is multi-organ involvement, it is life-threatening and there is a high demand on the registered nurse for specialized knowledge and skills.

2) **High**:
   This patient is acutely ill, their condition tends to be unstable but is not life-threatening and serious complications are not anticipated. The patient requires skilled advanced nursing care with the associated nursing experience.

3) **Moderate**:
   The condition of the patient described as ‘moderate’ is stable but is still dependent on skilled nursing care and is subject to many potential problems. Nursing care of a moderate degree is required and the direct involvement of the registered nurse is to a lesser degree.

4) **Low**:
   The patient is recovering, i.e. there is a positive shift to wellness. Nursing care is elementary with a low degree of difficulty. The involvement of the registered nurse is indirect and supervisory.

5) **Minimal**:
   The patient is independent, mobile and can safely attend to his own needs. A very light degree of nursing is required while awaiting discharge. The function of the registered nurse is only supervisory.

(Classification developed during the Byrne Fleming project and accepted by the Department as a guideline).

4.3 **Intensive and / or high care units**:

Intensive care patients are regarded as patients who are physiologically unstable and as a result not able to maintain basic bodily functions without intensive medical and nursing care or observation and whose condition is such that they require the assistance of life support systems.

The same description is applicable to high care patients with the exception that these patients do not require the assistance of life support systems but because of the potential need of these systems they are cared for in an area where constant specialized nursing expertise is available.

The table below illustrates the standard direct patient care time required by patients in each category. The acuity indicator is calculated using Class 5 time (83 minutes) as a denominator for the other categories, e.g. Class 4 acuity = 100/83 = 1.2

Table B28: Calculation of standard direct patient care time

TOTAL STANDARD PATIENT CARE TIME PER 24 HOURS (ALL CATEGORIES OF STAFF INCLUDED)		
PATIENT CLASSIFICATION	**MINUTES PER DAY**	**ACUITY INDICATOR**
INTENSIVE CARE	960	11.57
HIGHCARE	540	6.51
CLASS 1: INTENSE	340	4.10
CLASS 2: HIGH	208	2.51
CLASS 3: MODERATE	166	2.00
CLASS 4: LOW	100	1.20
CLASS 5: MINIMAL	83	1.00

The above acuity indicators are linked to a calculation sheet where other ward specific variables are taken into account with regard to the staffing requirements of a ward:

1) Number of beds and layout of the ward;
2) Bed occupancy in the ward; and
3) The direct patient care factor.

The direct patient care factor indicates what percentage of available time a nurse can spend on direct patient care. This factor is determined by the size and the layout of the ward as well as the availability of administrative and other support staff. In the generic models administrative and other support staff were allocated to each ward.

Example of staffing calculation sheets:

Table B29: Example 1: District hospital ward

WARD NAME	Ward 1
WARD TYPE	General ward: District hospital (L1)

BED ALLOCATION PER DISCIPLINE:

General	Children	Maternity	Total
30			30

Total Beds	30	Direct patient care factor	0.65
Average Occupancy	85.00%		
Average inpatients per day	26	Max inpatients per day	30

Allocated Staff: FTE's (1 FTE=1 Post)	Posts	% of Total Staff	Minutes / week
Prof Nurse: Production	4.00		9,600
Prof Nurse: Unit Manager L8	1.00		1,440
Nurse: Unit Manager L9			-
Prof Nurse: Total	5.00	27.8%	11,040
Enrolled Nurse	2.00	11.1%	4,800
Enrolled Nursing Assistant	6.00	33.3%	14,400
Clerk	1.00	5.6%	2,400
Housekeeper	1.00	5.6%	2,400
Gen Assistants / Cleaners	3.00	16.7%	7,200
	18.00	100.0%	42,240

Unit Manager: Production factor	60%		
Direct care per patient per 24 hours (minutes)	150.86	Direct care per patient per week (hours)	17.60
Average acuity at 85% occupancy	1.82		

Table B30: Example 2: Regional hospital ward

WARD NAME	Ward 1
WARD TYPE	Medical Ward: Regional Hospital (L2)

BED ALLOCATION PER DISCIPLINE:

Medicine	Surgery	O&B	Paediatrics	Orthopedics	Psych	Neonatal	Total
30							30

Total Beds	30	Direct patient care factor	65.0%
Average Occupancy	85.00%		
Average inpatients per day	26	Max inpatients per day	30

Allocated Staff: FTE's (1 FTE=1 Post)	**Posts**	**% of Total Staff**	**Minutes / week**
Prof Nurse: Production L6	7.00		16,800
Prof Nurse: Unit Manager L8	1.00		1,440
Prof Nurse: Unit Manager L9			-
Prof Nurse: Total	8.00	33.3%	18,240
			-
Enrolled Nurse	4.00	16.7%	9,600
Enrolled Nursing Assistant	6.00	25.0%	14,400
Clerk	1.00	4.2%	2,400
Housekeeper	1.00	4.2%	2,400
Household aid	4.00	16.7%	9,600
	24.00	100.0%	56,640

Unit Manager: Production factor 60%

Direct care per patient per 24 hours (minutes)	202	Direct care per patient per week (hours)	23.60
Average acuity at 85% occupancy	2.44		

Table B31: Example 3: Central hospital ward

WARD NAME	Ward 1
WARD TYPE	Medical ward: Central Hospital (L3)

BED ALLOCATION PER DISCIPLINE:

Medical	Psych	Surgery	Orthopedics	Paediatrics	Gynaecology	Obstetrics	Neonatal	Total	0
30									30

Total Beds	30	Direct patient care factor	65.0%
Average Occupancy	85.00%		
Average inpatients per day	26	Max inpatients per day	30

Allocated Staff: FTE's (1 FTE=1 Post)	Posts	% of Total Staff	Minutes / week
Prof Nurse: Production L6	9.00		21,600
Prof Nurse: Unit Manager L8	1.00		1,440
Prof Nurse: Unit Manager L9			-
Prof Nurse: Total	10.00	38.5%	23,040
			-
Enrolled Nurse	4.00	15.4%	9,600
Enrolled Nursing Assistant	6.00	23.1%	14,400
Clerk	1.00	3.8%	2,400
Housekeeper	1.00	3.8%	2,400
Household aid	4.00	15.4%	9,600
	26.00	100.0%	61,440

Unit Manager: Production factor: 60%

Direct care per patient per 24 hours (minutes)	219.43	Direct care per patient per week (hours)	25.60
Average acuity at 85% occupancy	2.64		

Using the above approach, hospitals were staffed ward by ward to ensure that the correct ratio of professional nurse to other categories of ward staff is maintained for each type of ward and level of care. This resulted in an equitable allocation of ward staff between hospitals as well as the different levels of care. Provision has been made for adequate nursing management structures e.g. the allocation of nursing services area managers. A relief factor of 14% was applied for all categories of nursing staff excluding nursing managers.

4.4 The staffing of other hospital service units

In small district hospitals (between 30 – 85 beds) the obstetrics, trauma and outpatient services were staffed as a unit to compensate for inefficiencies due to the lack of economies of scale. In larger hospitals (85+ beds) these units were staffed with dedicated staff in accordance with the service requirements.

In larger hospitals dedicated theatre staff have been allocated, based on the number and type of operating theatres as well as the required number of operating theatre hours.
Dedicated night duty managers for nursing services have been allocated in accordance with the size of the hospital.

4.5 **The allocation of Medical Professionals**:

4.5.1 **The development of a clinical staffing model: Tertiary Services Platform**:

The process of determining the number of clinical posts in relation to patient related workload proved to be complex. The most obvious problem in this regard is that the indicators used to express patient workload (inpatient days, admissions, outpatient visits, procedures, etc) cannot be allocated to one specific clinician in order to calculate workload. A patient may be treated by a specialist during admission, but may have several follow-up contacts with registrars and medical officers during their stay in hospital. Certain procedures require the simultaneous involvement of several clinicians.

It was therefore decided to adopt a team approach in the allocation of clinical posts where each specialist is responsible for a clinical team. The composition of the team is determined by the relevant discipline or sub-discipline and the required ratio of registrars and medical officers per specialist post. The aim of the model is thus to determine the number of specialist posts required to render a specific service. The other categories of clinical posts are then factored in as a function of the number of specialist posts required. This approach takes account of the integrated nature of the service delivery as well as the teaching and training platforms.

4.5.2 In order to calculate the time available for a specialist to treat patients (referred to as the direct patient care factor) the following assumptions were made:

Table B32: Assumptions: Specialists' working hours

Assumption	Hours	Factor
1. Available normal working hours per week	40	1
2. Hours per week allocated to formal teaching, training and administration.	14	0.35
3. Hours per week required for indirect patient care.	6	0.15
4. Direct patient care factor.	20	0.5

4.5.3 **Assumptions regarding the calculation of the workload of specialists**:

The dataset developed by the Tertiary Services Workgroup was used in this model as well as the following assumptions applied by the workgroup regarding the workload of specialists on the tertiary services platform;

The time required for the treatment of outpatients varies between disciplines. Based on clinic booking patterns the Workgroup recommended the following:

Table B33: Patient classification and consultation times

Patient classification	Time per consultation in minutes
First visit	
High intensity	60
Moderate intensity	45
Low intensity	30
Follow up visits are allocated half the time of first visits.	

Source: Tertiary Services Workgroup
Note: Psychiatry excluded.

1) Each surgeon can manage 2 x full day theatre lists per week.
2) The time allocated to a new outpatient is equivalent to the patient contact time during a hospital admission.
3) Specialists see 78% of new patients and registrars see the remaining 22%.

4.5.4 **Workload calculations**:

The ratios in the dataset were linked with the proposed 1 460 planned tertiary beds in order to calculate the expected future workload per discipline. By applying the above sets of assumptions it was then possible to calculate the following values per discipline and sub-discipline:

1) Number of inpatients treated by specialists per week;
2) Number of new outpatients treated by specialists per week;
3) The average time spent with a new patient;
4) The number of hours required for new outpatients per week;
5) The number of hours required for new inpatients per week;
6) The estimated number of operations performed by specialists per week;
7) The number of specialist posts required for outpatients;
8) The number of specialist posts required for inpatients; and
9) The total number of specialists posts required.

A relief factor of 40% was built into the model to compensate for normal and other leave and to provide 24 hour cover.

4.5.5 **Model outcomes**:

The number of specialist posts per major discipline required on the planned tertiary services platform:

Table B34: Tertiary services platform: Specialist posts

Major Discipline	Specialists	Distribution
Medicine	33	20%
Surgery	35	21%
Orthopaedics	9	5%
Psychiatry	6	4%
Paediatrics (Including Neonates)	43	26%
Obstetrics & Gynaecology	21	13%
Radiation Oncology	14	8%
Nuclear Medicine	4	2%
TOTAL	**165**	**100%**

4.5.5.1 **Calculation of specialist clinical support posts: Level 3 services**:

Anaesthetists and diagnostic radiologists render a support service to other disciplines. The number of these posts provided is therefore proportionate to the related disciplines for which they provide support.

Table B35: Specialist clinical support posts

Specialist clinical support: Tertiary Services	Support Factor	Number of dependent specialist posts	Number of specialists clinical support posts
Anaesthetist	3.50	147	42
Diagnostic Radiology	7.60	147	19
Total			**61**

4.5.5.2 **Calculation of registrar posts: Level 3 services**:

A distinction has been made between registrars and specialist registrars. The latter refers to specialists who are further specializing in a sub-discipline. The number of registrars per specialist post was derived from the Table in Annexure F. The ratios of registrars to specialists are as follows per major discipline. This will require further consultation with the respective specialties.

Table B36: Required number of registrar posts on the tertiary services platform

Major Discipline	Ratio of Registrars per Specialist	Total number of Registrar Posts Required
Medicine	1.18	39
Surgery	1.57	55
Orthopaedics	1.78	16
Psychiatry	1.83	11
Paediatrics	1.28	55
Obstetrics & Gynaecology	1.38	29
Radiation Oncology	1.79	25
Nuclear Medicine	1.75	7
TOTAL	**1.44**	**237**

Table B37: Summary: Total medical professionals on the Tertiary Services Platform

Specialist	165
Specialist: clinical support	61
Specialist Registrar	69
Registrar	166
Registrar: clinical support	107
Medical Officer*	165
	733
*Medical officer posts were allocated at a 1:1 ratio to specialist posts.	

As the Service Plan is based on workload the student posts including medical interns were not reflected as the inclusion of student posts on the establishments of institutions would skew the staff to bed and workload ratios. The funding for teaching and training is included in the total funding envelope of the relevant institutions. An important source of funding for teaching and training activities incorporated in the services delivery platform is the HPTDG grant.

Table B38: Summary: Integrating the proposed post allocation of Medical Professionals with the expected patient workload on tertiary level (Excluding specialist clinical support)

	Medicine*	Surgery	Orthopaedics	Psychiatry	Paediatrics*	Obstetrics & Gynaecology	Radiation Oncology	Nuclear Medicine	Total
Number of Beds	359	344	102	40	432	119	64	0	1,460
Target bed occupancy rate	85%	85%	85%	85%	85%	85%	85%		85%
Inpatient days per annum	111,380	106,726	31,646	12,410	134,028	36,920	19,856		452,965
Outpatients per inpatient day	1.27	0.64	0.63	0.51	.32	1.41	.26		.82
Total outpatients per annum	141,590	68,201	20,046	6,375	43,368	51,961	5,227	33,836	370,605
Specialist posts	33	35	9	6	43	21	14	4	165
Total Registrar posts	39	55	16	11	55	29	25	7	237
Medical Officer posts	33	35	9	6	43	21	14	4	165
Total Medical Professionals	105	125	34	23	141	71	53	15	567
Number of Specialist teams	33	35	9	6	43	21	14	4	165
Inpatients per team per day (365 days)	9	8	10	6	9	5	4		8
Outpatients per team per day (250 days)	17	8	9	4	4	10	1	14	6
Beds per team	11	10	11	7	10	6	5	-	9

*For the purpose of workload calculation the adult ICU beds were added to Medicine and the children's ICU beds to Paediatrics

According to the recommendations made in the Final Report of the Hospital Strategy Project found that the ratio of Level III specialists to Level II specialists for Paediatrics and Internal Medicine was 0.53 or approximately two Level II specialists for every one Level III specialist (Appendix 12). This means that the workload on level three is 100% more than on level two. However, in this model the tertiary workload is increased with 70% to allow for teaching and training on the secondary platform as well as outreach and support to level 1. The outcome of applying a 1.7 factor (=70%) to the tertiary workload correlated well with current input and output indicators .

Table B39: The development of a clinical staffing model: Secondary Platform in the Cape Town Metro district
(Excluding specialist clinical support)

	Medicine	Surgery	Orthopaedics	Psychiatry	Paediatrics	Obstetrics & Gynaecology	Total
Number of Beds	293	325	125	64	422	280	1,509
Target bed occupancy rate	85%	85%	85%	85%	85%	85%	85%
Inpatient days per annum	90,903	100,831	38,781	19,856	130,926	86,870	468,167
Outpatients per inpatient day	1.271	0.639	0.633	0.514	0.50	1.407	0.86
Total outpatients per annum	115,560	64,434	24,566	10,200	65,463	122,262	402,485
Factor applied to L3 workload in order to estimate L2 workload	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Inpatients per team per day (365 days)	16	15	18	9	14	8	13
Outpatients per team per day (250 days)	29	14	16	7	10	17	16
Beds per team	18	17	19	11	17	10	15
Specialist posts	16	19	6	6	25	29	101
Total Registrar posts	28	33	11	11	44	51	178
Medical Officer posts*	16	19	6	6	25	29	101
Total Medical Professionals	60	71	23	23	94	109	380
Number of Specialist teams	16	19	6	6	25	29	101

Registrars were allocated at an average ratio of 1.75 registrars per specialist. The reason for this is that Chief and Principal Specialists have management responsibilities that do not allow for a registrar : specialist ratio of 2 : 1. Medical officer posts were allocated at a 1:1 ratio to specialist posts.

4.5.5.3 **Teaching and training of medical professionals:**

The clinical staffing model was primarily constructed from a service delivery point of view. This does not mean that training was ignored. From a training perspective the following has been provided:

- The required ratio of registrars to specialists;
- Eighteen Chief Specialist posts (equivalent to 9 FTEs) have been added for management purposes

It should be evident that the model provides for a favourable environment for the training of medical professionals:

- The ratios between supervisors and trainees are optimum;
- Posts are linked with outputs (PDEs) and thus integrated with service delivery.
- Ensure a patient case mix and workload that is necessary for efficient training (the problems associated with an overcrowded training platform are obvious);
- Dedicated time has been allocated for teaching and training in the formula for the calculation of specialist and registrar posts.

It can thus be concluded that the model provides an integrated and balanced platform for service delivery and the training of medical professionals.

The total costs for establishing and maintaining such a platform in terms of infrastructure, capital and current costs is considerable. The platforms complement each other in such a

way that it is impossible to determine exactly what should be allocated to the training account. The restructuring team therefore worked within the context of the total funding envelope and regarded the HPTDG as a subsidy to complement the cost of training. It suggests that the training grant should therefore not be regarded as a separate fund that must be 'added on' after the service platform has been determined. The direct relations between service delivery and training do not support such an approach.

4.5.5.4 **Calculation of specialist clinical support posts: Level 2 services**:

Anaesthetists and diagnostic radiologists render a support service to other disciplines. These posts were therefore calculated in relation to the disciplines that they support.

Table B40: Calculation of specialist clinical support service posts for level 2 services

Specialist clinical support: Secondary Services	Support Factor	Number of dependent Specialist Posts*	Number of specialist clinical support posts	Number of specialist clinical support registrar posts	Number of medical officer posts
Anaesthetist	8.20	95	12	21	12
Diagnostic Radiology	12.40	95	8	14	8
Total			**20**	**35**	**20**

* Excluding psychiatry

Table B41: Secondary services platform: Medical Professionals

Major Discipline	Specialists	Registrars	Medical Officers	Total
Medicine*	16	28	16	60
Surgery*	19	33	19	71
Orthopaedics	6	11	6	23
Psychiatry **	6	11	6	23
Paediatrics	25	44	25	94
Obstetrics & Gynaecology	29	51	29	109
Diagnostic Radiology	8	14	8	30
Anaesthetics	12	21	12	45
Total	**121**	**213**	**121**	**455**

Note: * includes emergency medicine
** Not included above are the psychiatrist posts allocated to the Associated Psychiatric Hospitals in Table C1 on page 156

Table B42: Distribution of Specialists: Secondary Services Platform

Major Discipline	Groote Schuur	Red Cross	Tygerberg	Total Central Hospitals	Total: Other Hospitals	Total Cape Town Metro
Medicine	4	-	7	11	5	16
Surgery	6	-	9	15	4	19
Orthopaedics	3	-	3	6	-	6
Psychiatry	3	-	3	6	0	6
Paediatrics	2	3	11	16	9	25
Obstetrics & Gynaecology	2	-	13	15	14	29
Diagnostic Radiology	2	-	6	8	-	8
Anaesthetics	3	-	4	7	5	12
Total	**25**	**3**	**56**	**84**	**37**	**121**

Table B43: Distribution of specialists and registrars: Tertiary Services Platform

	L3 Specialist Posts				L3 Registrar Posts			
Major Discipline	**Groote Schuur**	**Red Cross**	**Tygerberg**	**Total Central**	**Groote Schuur**	**Red Cross**	**Tygerberg**	**Total Central**
Medicine	20	-	13	33	24		15	39
Surgery	21	-	14	35	33		22	55
Orthopaedics	5	1	3	9	11		5	16
Psychiatry *	2		4	6	4		7	11
Paediatrics	6	24	13	43	8	31	16	55
Obstetrics & Gynaecology	13	-	8	21	18		11	29
Radiation Medicine**	9		9	18	16		16	32
Diagnostic Radiology	9	3	7	19	16	6	12	33
Anaesthetics	19	8	15	42	34	13	26	74
Total	**104**	**36**	**86**	**226**	**162**	**50**	**130**	**342**

Note: *Child and adolescent psychiatry will be a single service
** Includes nuclear medicine

Table B44: Summary: Distribution of Medical Professionals in the Cape Town Metro district

Major Discipline	Groote Schuur	Red Cross	Tygerberg	Total Central Hospitals	Total: Other Hospitals: L2	Total Cape Town Metro
Speclialists: Tertiary Services	104	38	84	226		226
Speclialists: Secondary Services	25	3	56	84	37	121
Speclialists: Total	**129**	**41**	**140**	**310**	**37**	**347**
Registrars: Tertiary Services	162	53	127	342		342
Registrars: Secondary Services	44	5	98	147	66	213
Registrars: Total	**206**	**58**	**225**	**489**	**66**	**555**
Medical Officers: Tertiary Services	76	27	62	165		165
Medical Officers: Secondary Services	27	3	52	82	66	148
Medical Officers: Total	**101**	**30**	**118**	**249**	**37**	**286**
Medical Professionals: Total (Specialists + Registrars + Medical Offers)	**436**	**129**	**483**	**1,048**	**140**	**1,188**

Table B45: Summary: Distribution of Medical Professionals in the Rural Regional Hospitals: Secondary Services

Discipline	Eben Donges Hospital		Paarl Hospital		George Hospital	
	Specialists	Medical Officers	Specialists	Medical Officers	Specialists	Medical Officers
Family Medicine	2	2	2	2	2	3
General Medicine	3	4	3	3	3	4
General Surgery	3	8	3	9	3	8
Ophthalmology	1	1	1	1	1	1
ENT	1		1		1	
Orthopaedics	2	3	2	3	2	3
Obstetrics & Gynaecology	3	3	3	3	2	3
Paediatrics	3	4	3	3	3	4
Psychiatry	1	1	1	1	1	1
Sessions (full posts)	3		2		3	
Sub-Total	**22**	**26**	**21**	**25**	**21**	**27**
Specialist clinical support:						
Anaesthetics	3	4	3	4	3	4
Diagnostic radiology	**1**	**1**	**1**	**1**	**1**	**1**
Sub-Total	**4**	**5**	**4**	**5**	**4**	**5**
Total	**26**	**31**	**25**	**30**	**25**	**32**

Notes:
The allocation of rural specialist posts is not normative, but based on the package of services to be rendered and critical mass.

5. OTHER CATEGORIES OF STAFF

5.1 **Medical Ancillary Services posts**:

Inputs from the Professions Allied to Medicine Workgroup were used to determine the number of medical ancillary posts required at each hospital. The workgroup did not provide guidelines for radiographers and pharmacists. The guidelines provided by the workgroup were applied within a broader context by taking into account the allocation of medical ancillary posts to Primary Health Care (PHC). This applies particularly to district hospitals as components of the District Health System (DHS). The application of normative (workload) guidelines was therefore not applied to district hospitals.

The following criteria were applied to determine the number of medical ancillary posts per district hospital:

- The level/s and number of beds per hospital (size and shape);
- The requirements of the type of services to be rendered in a hospital;
- Critical mass, i.e. the type of services requires a post but the workload does not justify a full post; and
- The number of posts allocated to PHC in the same sub-district.

The above approach resulted in an equitable distribution of medical ancillary posts for the DHS between sub-districts

Based on the service requirements and the size of Regional and Central hospitals, it was possible to apply a normative approach in the allocation of medical ancillary posts.

5.2 **Administrative posts**:

The administrative posts initially allocated in the generic models were based on a number of work study investigations done in recent years. Following this route it was possible to determine ranges for post allocation based on the size of the institution. These initial generic models were also substantially tested in the Southern Cape/Karoo Region.

The allocation of the administrative posts allocated in terms of the generic models was recently revised to allow for new and updated administrative and computer systems. A Finance workgroup made specific recommendations regarding their post allocation, taking these updated financial systems into account. The HR structure and posts were also revised taking the latest delegations into account. The management of HR Head Office provided specific inputs in this regard. More supervisory posts were specifically added to address a shortcoming in this regard and to ensure efficiency gains in the future.

The latest administrative post allocation in terms of the generic models was tested in all the rural hospitals and found to be sufficient by regional and hospital staff.

5.3 **Hospital Organisational Structures**

To ensure optimal functionality and management of service and support units, the above staff allocation models were applied within the context of organisational structures. An organogram has been developed for each hospital. For the purpose of this document examples of a typical District, Sub Regional, Regional and Central hospital have been included.

Refer to Annexure G.

6. MANAGEMENT STRUCTURES OF CENTRAL HOSPITALS

The envisaged management structures for central hospitals provides for the following main components, which are headed by a CEO:

- Clinical Services
- Finance
- Human Resources
- Support Services
- Maintenance

(With Red Cross Hospital being a much smaller institution in comparison to Groote Schuur and Tygerberg Hospital, its HR and Support services components are grouped together from a management perspective.)

The management structures of the Directorate Clinical Services provide for a clinical Centre approach whereby certain clinical services are grouped together within a Centre. Provision was made for five such Centres at Groote Schuur and Tygerberg Hospital respectively, while two Centres were allocated to Red Cross Hospital. Each Centre is managed by a Clinical Operations Officer/ Senior Medical Superintendent. In addition a nursing manager and an Administrative Coordinator is also provided. (In some instances assistant managers was also provided, depending on the size of the Centre.) The Directorate Clinical Services also provides for a Nursing Support component to ensure nursing norms and standards across the service platform and to look after nursing functions cross-cutting the five Centres e.g. CPD, Nursing education and Night Duty management.

The difference in this approach to the traditional management structure at the central hospitals is that each Centre is regarded as an autonomous hospital/ cost centre with dedicated resources. The nursing staff of the larger institution will for example be on the establishments of the respective cost Centres and not on the establishment of a functional nursing silo for the hospital. By following this approach a large and complex organisation such as Groote Schuur Hospital should become much more manageable.

In the generic hospital models for these hospitals a centralised model for the support services is envisaged. Specialist managers, who report directly to the CEO, head these support services components. The Centres will in-source their required services from the experts/dedicated staff in the Finance, Human Resources, Support Services as well as Maintenance and Engineering Services components. The envisaged Administrative Coordinators will be instrumental in this process and form the link between the Centres and these components.

Although the organisational structures of the generic models for these hospitals provide for a certain grouping of clinical services per clinical Centre, different options exist. The original models for TBH and GSH have been strengthened with two additional managerial posts (COO's) to provide for separate management structures for level 2 and level 3 services. The final grouping of clinical services per clinical Centre will be addressed during the adjustment of the models to fit the service requirements of the individual hospitals.

The Department is committed to modernise the management of the Central Hospitals by allocating quality assurance, bed and theatre managers.

7. APPLICATION OF PLANNING TOOLS

7.1 Staffing of respective categories of hospitals

The following tables illustrate the outcome of the application of the planning tools discussed above.

Table B46: Staffing of Central Hospitals

			Groote Schuur Hospital	Tygerberg Hospital	Red Cross Hospital	Total: Central Hospitals
		L2Beds	286	684	50	1020
		L3 Beds	685	515	260	1,460
		Total Beds	971	1199	310	2480
		Salary Level	Posts	Posts	Posts	Posts
A	**OFFICE: HEAD OF INSTITUTION**					-
	C60101200	Head of Institution: CEO	14	1	1	-	2
	C60101200	Head of Institution: CEO	13	-	-	1	1
	B2040000	Admin Officer: Public Relations Officer	8	1	1	-	2
	B2040000	Admin Assistant: Management Support	6	1	1	1	3
	B1010600	Admin Clerk: Management Support	4	1	1	-	2
B	**ADMINISTRATION & SUPPORT**		-	-	-	-	-
	GENERAL ADMINISTRATIVE SUPPORT		-	-	-	-	-
	B2040000	Administrative Officer	7	5	5	2	12
	B1010600	Administrative clerk	4	26	31	8	65
	INFORMATION MANAGEMENT AND TECHNOLOGY		-	-	-	-	-
	C6010313	Information & IT Manager	9	1	1	-	2
	B2040000	Senior Information Officer	8	1	1	1	3
	B2040000	Information Officer	7	2	2	2	6
	B1010100	Information Clerk	5	4	4	2	10
B2	**FINANCE**		-	-	-	-	-
	OFFICE: HEAD OF FINANCE		-	-	-	-	-
	C60101200	Senior Manager: Finance & Economics	13	1	1	-	2
	C6010308	Finance & Economics Manager: Dep Director	11	1	1	1	3
	C6010308	Finance & Economics Manager: Assist Director	9	-	-	1	1
	B1010200	Admin Assistant	6	1	1	-	2
	B1010600	Admin clerk	5	-	-	1	1
	EXPENDITURE:		-	-	-	-	-
	C6010308	Finance & Economics Manager: Assist Director	9	1	1	-	2
	B2040000	Senior Administrative Officer	8	2	2	1	5
	B2040000	Administrative Officer	7	-	-	1	1
	B1010200	Financial clerk	5	11	12	9	32
	B1010100	Data capturer	4	-	-	1	1
	INCOME		-	-	-	-	-
	B2040000	Senior Administrative Officer	8	1	1	1	3
	B2040000	Administrative Officer	7	2	2	1	5
	B1010200	Financial clerk	5	15	16	8	39
	ADMISSIONS		-	-	-	-	-
	C6010308	Administrative Related Manager: Assist Dir	9	1	1	-	2
	B2040000	Senior Admission Officer	8	1	1	-	2
	B2040000	Admission Officer	7	6	6	3	15
	B1020200	Chief Admission clerk	7	1	1	-	2
	B1020200	Admission clerk	6	49	56	20	125
	CASE MANAGER		-	-	-	-	-
	B2040000	Case Manager	8	2	2	1	5
	B1020600	Confirmation Clerk	4	2	2	1	5
B4	**SUPPLY CHAIN MANAGEMENT**		-	-	-	-	-
	C6010308	Administrative Related Manager: Assist Dir	9	1	1	1	3
	B2040000	Senior Material-recording Officer	8	2	2	1	5
	B2040000	Material-recording Officer	7	4	4	3	11

				Groote Schuur Hospital	Tygerberg Hospital	Red Cross Hospital	Total: Central Hospitals
			L2Beds	286	684	50	1020
			L3 Beds	685	515	260	1,460
			Total Beds	971	1199	310	2480
			Salary Level	Posts	Posts	Posts	Posts
	B1010500	Material-recording Clerk	5	32	35	15	82
	A2010000	Stores Assistant	2	14	15	4	33
	A2010000	Deliverer	2	2	2	-	4
	B1010100	Data capturer	4	1	1	-	2
	LINEN CONTROL		-	-	-	-	-
	E1010000	Linen Manager	8	1	1	-	2
	E1010000	Linen Supervisor	4	5	5	1	11
	A2010000	Linen Stores Assistant	2	9	10	5	24
	A2010000	Seamstress	3	2	2	1	5
B5	**HUMAN RESOURCES**		-	-	-	-	-
	C6010308	Director: Deputy	11	1	1	1	3
	C6010308	Assistant Director: HRM	10	4	4	1	9
	B2040000	Senior Admin Officer	8	7	7	3	17
	B2040000	Admin Officer	7	11	12	6	29
	B1010400	Admin Clerk	4	3	3	2	8
	B1010400	Admin Clerk	5	28	30	10	68
	B1010100	Typist: Principal	5	1	1	-	2
	A1010000	Household aid	2	1	1	-	2
B6	**SUPPORT SERVICES**		-	-	-	-	-
	OFFICE: HEAD OF SUPPORT SERVICES		-	-	-	-	-
	C6010311	Manager: Support services: ASD	9	1	1	-	2
	B2040000	Admin Officer	8	1	1	1	3
	B1010600	Chief Admin Clerk	7	-	-	1	1
	REGISTRY, ARCHIVE AND MESSENGER SERVICES		-	-	-	-	-
	B2040000	Admin Officer	8	1	1	-	2
	B2040000	Admin Officer	7	3	3	1	7
	B1010300	Registry clerk	4	22	22	9	53
	B1010600	Admin clerk	4	3	3	-	6
	A2010000	Messenger	2	9	10	4	23
	H2010000	Printing and related machine operator	3	2	2	-	4
	TRANSPORT SERVICES		-	-	-	-	-
	B1010600	Administrative clerk	5	1	1	1	3
	H3010100	Light vehicle driver	3	2	2	3	7
	H3010200	Heavy vehicle driver	4	1	1	-	2
	A2010000	Messenger	2	1	1	-	2
	TELEPHONE SERVICES			-	-	-	-
	B1020200	Switchboard Operator	5	1	1	1	3
	B1020200	Switchboard Operator	4	7	7	6	20
	B1010600	Administrative clerk	4	1	1	-	2
	PORTER SERVICES		5	-	-	-	-
	A2010000	Principal Porter	4	5	5	4	14
	A2010000	Porter	2	47	48	14	109
	B1010600	Chief Clerk	7	1	1	1	3
	ENVIRONMENTAL HEALTH SERVICES		-	-	-	-	-
	B2040000	Administrative Officer	7	1	1	-	2
	B1010600	Administrative clerk	4	4	4	-	8
	E1010000	Housekeeping Supervisor	4	9	10	4	23
	A1020000	Cleaner	1	75	77	10	162
	A1030000	Groundsman	1	7	7	3	17
	GAS STERILISATION		-	-	-	-	-
	F1010000	Senior Auxiliary Services Officer	6	1	1	1	3
	F1010000	Auxiliary Services Officer	4	5	5	2	12
	CSSD (CPD)		-	-	-	-	-

			Groote Schuur Hospital	Tygerberg Hospital	Red Cross Hospital	Total: Central Hospitals
		L2Beds	286	684	50	1020
		L3 Beds	685	515	260	1,460
		Total Beds	971	1199	310	2480
		Salary Level	Posts	Posts	Posts	Posts
C4010000	Professional Nurse: Unit Manager	9	1	1	-	2
H2030000	Operator (CSSD) Supervisor	4	4	4	1	9
H2030000	Operator (CSSD)	3	47	50	9	106
C4010000	Professional Nurse:	7	1	1	-	2
E1010000	Linen Supervisor	4	1	1	1	3
A2010000	Linen Stores Assistant	2	3	3	-	6
A1020000	Cleaner	1	3	3	1	7
B1010600	Administrative clerk	4	2	2	1	5
ACCOMODATION		-	-	-	-	-
B2040000	Senior Administrative Officer	-	-	-		-
B2040000	Administrative Officer	7	1	1		2
B1010600	Administrative clerk	4	1	1		2
E1010000	Housekeeping Supervisor	4	1	1	1	3
A1020000	Household aid	2	2	2	1	5
ESTATE MANAGEMENT		-	-	-	-	-
B2040000	Administrative Officer	8	1	1	1	3
B2040000	Administrative Officer	7	1	1	-	2
B1010600	Administrative clerk	4	2	2	-	4
CATERING SERVICES		-	-	-	-	-
C3060100	Dietician	7	1	1	-	2
B1010600	Administrative clerk	5	3	3	-	6
E1010000	Food Services Manager	8	1	1	1	3
E1010000	Food Services Manager	7	2	2	1	5
E1010000	Food Services Supervisor	4	23	25	4	52
E1020000	Food Services Worker	3	11	12	6	29
A1040000	Food Services Aid	1	92	98	14	204
LOGISTICAL SUPPORT		-	-	-	-	-
B2040000	Administrative Officer	8	1	1	-	2
B1010600	Administrative clerk	4	1	1	-	2
E1010000	General Foreman	4	2	-	-	2
A2010000	Deliverer	2	14	-	-	14
F1010000	Chief Auxiliary Services Officer	5	1	1	-	2
F1010000	Auxiliary Services Officer	4	5	5	-	10
TECHNICAL SERVICES		-	-	-	-	-
C1030200	Engineer: Chief	11	1	1	-	2
D2010600	Industrial Technician Chief	8	7	7	2	16
D2010400	Control Industrial Technician	10	1	1	1	3
D2010600	Industrial Technician (Control)	9	3	3	-	6
D2010600	Industrial Technician	7	2	2	-	4
G4020000	Artisan Superintendent	9	1	1	1	3
G4020000	Artisan Foreman	7	7	7	3	17
G4010000	Artisan	6	17	17	3	37
A4020000	Handyman	3	22	22	7	51
G4020000	Artisan Superintendent	8	4	4	-	8
A4020000	Tradesman Aid	2	7	7	3	17
H1010000	Operator Principal	5	1	1	-	2
H1010000	Operator	3	3	3	-	6
H3010100	Light vehicle driver	3	1	1	-	2
F1010000	Auxiliary Services Officer	5	1	1	-	2
F1010000	Auxiliary Services Assistant	4	7	7	-	14
B1010500	Material-recording Clerk	5	2	2	1	5
B1010600	Administrative clerk	7	1	1	-	2
B1010600	Administrative clerk	4	2	2	1	5

			Groote Schuur Hospital	Tygerberg Hospital	Red Cross Hospital	Total: Central Hospitals
		L2Beds	286	684	50	1020
		L3 Beds	685	515	260	1,460
		Total Beds	971	1199	310	2480
		Salary Level	Posts	Posts	Posts	Posts
A2010000	Stores Assistant	2	1	1	1	3
A1020000	Cleaner	1	1	1	-	2
A2010000	Messenger	2	1	1	-	2
C MEDICAL AND MEDICAL ANCILLARY SERVICES		-	-	-	-	-
C1 OFFICE: HEAD OF MEDICAL AND MEDICAL ANCILLARY SERVICES		-	-	-	-	-
C6010200	Chief Operations Officer	13	2	2	0	4
C6010200	Chief Operations Officer	12	0	0	1	1
C6010200	Senior Operations Officer	12	5	5	0	10
C6010200	Senior Operations Officer	11	0	0	2	2
C6010200	Medical Superintendent	11	1	1	0	2
B1010600	Administrative Clerk (Clinical Man Support)	4	6	6	1	13
C2 CLINICAL SERVICES		-	-	-	-	-
C3010200	Chief Medical Specialist	14	6	6	3	15
C3010200	Principal Medical Specialist	13	22	23	7	52
C3010200	Medical Specialist	12	107	117	32	265
C3010200	Registrar	11	206	225	55	486
C3010100	Chief Medical Officer	12	3	3	1	7
C3010100	Principal Medical Officer	11	16	19	5	40
C3010100	Medical Officer	10	82	96	24	202
C3010100	Medical Interns	8	-	-	-	-
C3 MEDICAL ANCILLARY SERVICES		-	-	-	-	-
C3030100	Chief Pharmacist	10	2	2	1	5
C3030100	Principal Pharmacist	9	7	7	2	16
C3030100	Pharmacist	8	17	17	9	43
F1010000	Pharmacy Assistant	4	22	23	14	59
B1010600	Admin Clerk	4	3	3	1	7
C3030100	Pharmacist: DD	12	1	1	-	2
C3050400	Radiographer	9	2	2	1	5
C3050400	Radiographer	8	22	22	6	50
C3050400	Radiographer	7	47	50	12	109
F1010000	Darkroom operator	4	3	3	1	7
C3050200	Physiotherapist	10	1	1	-	2
C3050200	Physiotherapist	8	3	3	1	7
C3050200	Physiotherapist	7	11	12	3	26
B1010600	Admin Clerk	4	1	1	-	2
F1010000	Auxiliary Services Officer	4	3	3	2	8
C3050100	Occupational Therapist	10	1	1	-	2
C3050100	Occupational Therapist	8	3	3	1	7
C3050100	Occupational Therapist	7	8	9	3	20
B1010600	Admin Clerk	4	1	1	-	2
F1010000	Auxiliary Services Officer	4	1	1	2	4
A2010000	Seamstress	3	1	1	-	2
G4010000	Artisan	6	2	2	-	4
C3050500	Speech Therapist	10	1	1	-	2
C3050500	Speech Therapist	8	3	3	1	7
C3050500	Speech Therapist	7	4	4	3	11
C3050500	Audiologist	7	4	4	2	10
C3060100	Dietician	10	1	1	-	2
C3060100	Dietician	8	4	4	1	9
C3060100	Dietician	7	9	10	3	22
C5040400	Social Worker	10	1	1	-	2
C5040400	Social Worker	9	3	3	1	7
C5040400	Social Worker	8	8	9	3	20

			Groote Schuur Hospital	Tygerberg Hospital	Red Cross Hospital	Total: Central Hospitals
		L2Beds	286	684	50	1020
		L3 Beds	685	515	260	1,460
		Total Beds	971	1199	310	2480
		Salary Level	Posts	Posts	Posts	Posts
	B1010600	Admin Clerk	4	1	1	-	2
	C5040300	Psychologist	10	1	1	1	3
	C5040300	Psychologist	9	4	4	2	10
NURSING SERVICES			-	-	-	-	-
D1	**OFFICE: HEAD OF NURSING**		-	-	-	-	-
	C6010307	Nursing Services manager	12	1	1	-	2
	C6010307	Nursing Services manager	11	0	0	1	1
	C6010307	DD : Nursing	11	4	4	0	8
	C6010307	ASD : Nursing	10	5	5	3	13
	C6010307	ASD : Nursing	9	4	6	2	12
	B1010600	Admin Clerk	4	10	11	7	28
	C4010000	Professional Nurse	8	8	8	5	21
D2	**GENERAL IN PATIENT SERVICES (Incl RELIEF)**		-	-	-	-	-
	C4010000	Professional Nurse: Unit Manager L9	9	18	7	-	25
	C4010000	Professional Nurse: Unit Manager L8	8	23	33	10	66
	C4010000	Professional Nurse: Specialised (Production)	7	105	108	-	213
	C4010000	Professional Nurse: Production	6	237	293	92	622
	F2020000	Staff Nurse	5	182	235	59	476
	F2010000	Nursing assistant	3	292	402	110	804
	E1010000	Housekeeping Supervisor	4	34	40	10	84
	A1020000	Household Aid	2	146	160	44	350
	B1010600	Admin Clerk	4	31	41	10	82
D3	**SPECIALISED NURSING SERVICES**		-	-	-	-	-
	C4010000	Professional Nurse: Unit Manager L9	9	30	28	12	70
	C4010000	Professional Nurse: Unit Manager L8	8	7	7	3	17
	C4010000	Professional Nurse: Specialised	7	354	366	125	845
	C4010000	Professional Nurse: Production	6	39	43	12	94
	F2020000	Staff Nurse	5	165	184	59	408
	F2010000	Nursing assistant	3	213	230	82	525
	E1010000	Housekeeping Supervisor	4	14	12	7	33
	A1020000	Household Aid	2	50	53	25	128
	B1010600	Admin Clerk	4	9	16	6	31
D4	**NIGHT DUTY MANAGEMENT**		-	-	-	-	-
	C4010000	Professional Nurse: Night duty manager	9	4	4	2	10
CLINICAL TECHNICAL SUPPORT			-	-	-	-	-
E1	**RADIOLOGY**		-	-	-	-	-
	D2010400	Medical Technical Officer: Chief	10	1	1	1	3
	D2010400	Medical Technical Officer:	9	2	2	1	5
	D2010400	Clinical Technologist (Control)	10	2	2	-	4
	D2010400	Clinical Technologist Chief	9	5	5	1	11
	D2010400	Clinical Technologist	8	21	22	5	48
	D2010400	Clinical Technologist	11	1	1	-	2
	D2010401	Clinical Technologist: Student	5	6	6	1	13
	C1010100	Physicist: Control	11	2	2	1	5
	C1010100	Physicist: Chief	10	1	1	1	3
	C1010100	Physicist	9	2	2	1	5
	C1010100	Physicist: Interns	7	2	2	1	5
	C2010100	Chief Specialist Scientist	13	1	1	1	3
	F1010000	Auxiliary and related personnel	5	2	2	1	5
	C2010100	Medical Natural Scientist	10	1	1	1	3
		TOTAL		**3,497**	**3,888**	**1,161**	**8,546**

Table B47: Staffing of acute beds in the district and regional hospitals in the Cape Town Metro district

			Eerste River	False Bay	Wesfleur	Karl Bremer	GF Jooste	Hottentots Holland	Victoria	Somerset	Mowbray	Khayelitsha	Mitchell's Plain	Total: Metro
		L1 Beds	90	40	31	210	180	90	90	95	0	210	210	**1246**
		L2 Beds					60	30	82	152	165			**497**
		Total Beds	**90**	**40**	**31**	**210**	**240**	**120**	**172**	**247**	**165**	**210**	**210**	**1743**
		Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**
A1	**OFFICE: HEAD OF ADMINISTRATION**													
	C6010308 Deputy Director Administration	11				1	1	-	1	1	1	1	1	**7**
	B1010200 Administrative Clerk	4				1	1	-	1	1	1	1	1	**7**
	C6010308 Assistant Director	10	1				-	1	-	-	-	-	-	**2**
	C6010309 Assistant Director	9		1	1		-	-	-	-	-	-	-	**2**
A2	**FINANCE**		-		-		-	-	-	-	-	-	-	**-**
	HEAD OF FINANCE:		-		-		-	-	-	-	-	-	-	**-**
	C6010308 Assistant Director: Fin Admin	9	-		-	1	1	-	1	1	1	1	1	**7**
	B2040000 Senior Admin Officer	8	1	1	1	2	3	1	2	3	2	2	2	**20**
	B2040000 Admin Officer (Inform)	7	-	-	-	1	1	1	1	1	1	1	1	**8**
	EXPENDITURE:		-	-	-	-	-	-	-	-	-	-	-	**-**
	B2040000 Admin Officer/State Accountant	7	-	-	-	-	1	-	1	1	1	-	-	**4**
	B1010200 Chief Financial Admin Clerk	7	-	-	-	-	-	-	-	-	-	-	-	**-**
	B1010200 Financial Admin Clerk	5	2	1	1	2	3	3	2	4	2	2	2	**24**
	INCOME		-	-	-	-	-	-	-	-	-	-	-	**-**
	B2040000 Admin Officer/State Accountant	7	1	-	-	1	1	1	1	1	1	1	1	**9**
	B1010200 Financial Admin Clerk	5	3	1	1	3	4	2	2	4	2	3	3	**28**
	B1010200 Cashier	6	-	-	-	1	1	1	1	1	1	1	1	**8**
	B1010200 Admin Clerk (Confirmation	4	-	-	-	-	-	-	1	1	1	-	-	**3**
	ADMISSIONS		-	-	-	-	-	-	-	-	-	-	-	**-**
	B2040000 Admin Officer	7	-	-	-	1	1	-	1	1	1	1	1	**7**
	B1010600 Admin Clerk	6	5	2	1	8	9	6	8	10	8	8	8	**73**
	SUPPLY CHAIN MANAGEMENT		-	-	-	-	-	-	-	-	-	-	-	**-**
	C6010308 Assistant Director	9	-	-	-	-	-	-	-	-	-	-	-	**-**
	B2040000 Senior Admin Officer	8	-	-	-	-	-	-	-	-	-	-	-	**-**
	B2040000 Admin Officer	7	-	-	-	-	-	-	-	-	-	-	-	**-**
	B1010500 Chief Admin Clerk	7	1	-	-	1	1	1	1	1	1	1	1	**9**
	B1010500 Admin Clerk	5	3	3	3	5	5	4	5	6	5	5	5	**49**
	A2010000 Stores Assistant	2	1	1	1	3	3	2	2	4	2	3	3	**25**
	LINEN CONTROL		-	-	-	-	-	-	-	-	-	-	-	**-**
	E1010000 Linen Supervisor	4	1	1	1	1	1	1	1	1	1	1	1	**11**
	A2010000 Linen Stores Assistant	2	2	1	-	5	5	2	4	6	4	5	5	**39**
	HUMAN RESOURCES		-	-	-	-	-	-	-	-	-	-	-	**-**
	C6010302 Assistant Director: HRM	9	-	-	-	1	1	-	1	1	1	1	1	**7**
	B2040000 Senior Admin Officer	8	1	1	1	1	1	1	1	1	1	1	1	**11**
	B2040000 Admin Officer	7	1	-	-	2	2	1	2	2	2	2	2	**16**
	B1010400 Chief Admin Clerk	7	-	-	-	1	1	-	1	1	1	1	1	**7**
	B1010400 Admin Clerk	5	1	1	1	4	5	3	5	6	5	4	4	**39**
A3	**SUPPORT SERVICES**		-	-	-	-	-	-	-	-	-	-	-	**-**
	HEAD OF SUPPORT SERVICES:		-	-	-	-	-	-	-	-	-	-	-	**-**
	B2040000 Admin Officer	7	-	-	-	1	1	1	1	1	1	1	1	**8**
	B1010600 Chief Admin Clerk	7	1	1	1	-	-	-	-	-	-	-	-	**3**
	TRANSPORT SERVICES		-	-	-	-	-	-	-	-	-	-	-	**-**
	H3010100 Light vehicle driver	3	1	1	1	2	2	2	2	2	2	2	2	**19**

			Eerste River	False Bay	Wesfleur	Karl Bremer	GF Jooste	Hottentots Holland	Victoria	Somerset	Mowbray	Khayelitsha	Mitchell's Plain	Total: Metro
		L1 Beds	90	40	31	210	180	90	90	95	0	210	210	**1246**
		L2 Beds					60	30	82	152	165			**497**
		Total Beds	**90**	**40**	**31**	**210**	**240**	**120**	**172**	**247**	**165**	**210**	**210**	**1743**
		Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**
H3010200	Heavy vehicle driver		-	-	-	-	-	-	-	-	-	-	-	**-**
TELEPHONE SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
B1020200	Switchboard Operator	4	1	-	-	5	5	2	5	5	5	5	5	**38**
PORTER SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
A2010000	Principal Porter	4	-	-	-	1	1	1	1	1	1	1	1	**8**
A2010000	Porter	2	3	1	1	7	10	5	8	13	6	7	7	**68**
REGISTRY AND MESSENGER SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
B1010300	Admin Clerk	4	1	-	-	3	4	1	3	4	3	3	3	**25**
A2010000	Messenger	2	1	-	-	2	2	1	2	2	2	2	2	**16**
GENERAL CLEANING SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
E1010000	Housekeeping Supervisor	4	1	-	-	1	1	1	1	1	1	1	1	**9**
A1020000	Cleaners	1	3	2	1	5	5	3	4	6	4	5	5	**43**
CATERING SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
E1010000	Food Services Manager	7	1	-	-	1	1	1	1	1	1	1	1	**9**
E1010000	Food Services Supervisor	4	2	1	1	2	2	2	2	2	2	2	2	**20**
E1020000	Food Services Worker	3	2	2	2	4	6	2	4	6	4	4	4	**40**
A1040000	Food Services Aid	1	4	2	2	8	10	6	8	10	6	8	8	**72**
TECHNICAL SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
G4020000	Artisan Foreman	7	1	-	-	1	1	1	1	1	1	1	1	**9**
G4010000	Artisan	6	-	-	-	2	1	1	2	2	1	2	2	**13**
A4020000	Handyman	4	2	1	1	2	1	1	2	2	1	2	2	**17**
E1010000	Foreman grounds services	4	-	-	-	-	-	-	-	-	-	-	-	**-**
A4020000	Tradesman Aid	2	1	-	-	2	2	2	2	2	2	2	2	**17**
A1030000	Groundsman	1	2	1	1	2	2	2	2	2	2	2	2	**20**
B. MEDICAL AND MEDICAL ANCILLARY SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
B1 OFFICE: HEAD OF INSTITUTION			-	-	-	-	-	-	-	-	-	-	-	**-**
C6010200	CEO	13					1		1	1	1			**4**
C6010200	CEO	12	1	1	1	1		1		0	0	1	1	**7**
B1010600	Administrative Clerk	4	1	1	1	1	3	1	2	4	1	1	1	**17**
B2 CLINICAL SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
C3010200	Clinical Operations Officer	12	1	1	1	1	1	1	1	1	1	1	1	**11**
C3010200	Medical Specialist	12	-	-	-	-	4	2	6	12	17	-	-	**41**
C3010200	Medical Registrar	11	-	-	-	-	7	4	11	23	32	-	-	**77**
C3010100	Chief Medical Officer	12	-	-	-	1	1	1	1	1	1	1	1	**8**
C3010100	Principal Medical Officer	11	2	1	1	6	3	2	2	3	3	6	6	**35**
C3010100	Medical Officer	10	4	2	1	10	15	7	11	16	13	10	10	**99**
B3 MEDICAL ANCILLARY SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
C3030100	Chief Pharmacist	10	-	-	-	-	-	-	-	-	-	-	-	**-**
C3030100	Principal Pharmacist	9	1	1	1	1	1	1	1	1	1	1	1	**11**
C3030100	Pharmacist	8	1	-	-	2	2	1	2	2	1	2	2	**15**
F1010000	Pharmacy Assistant	4	2	1	-	3	4	2	3	4	2	3	3	**27**
B1010500	Admin Clerk	4	-	-	-	-	1	1	1	1	1	-	-	**5**
C3050400	Chief Radiographer	8	1	-	-	1	1	1	1	1	1	1	1	**9**
C3050400	Radiographer	7	1	1	1	5	6	2	5	6	2	5	5	**39**
F1010000	Darkroom operator	4	-	-	-	1	1	1	1	1	-	1	1	**7**
C3050200	Physiotherapist	8	-	-	-	1	1	-	1	1	1	1	1	**7**
C3050200	Physiotherapist	7	1	-	-	1	1	1	1	1	-	1	1	**8**
C3050100	Occupational Therapist	7	-	-	-	-	1	-	1	1	-	-	-	**3**

			Eerste River	False Bay	Wesfleur	Karl Bremer	GF Jooste	Hottentots Holland	Victoria	Somerset	Mowbray	Khayelitsha	Mitchell's Plain	Total: Metro
		L1 Beds	90	40	31	210	180	90	90	95	0	210	210	**1246**
		L2 Beds					60	30	82	152	165			**497**
		Total Beds	**90**	**40**	**31**	**210**	**240**	**120**	**172**	**247**	**165**	**210**	**210**	**1743**
		Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**
C3050500	Audio / Speech Therapist	7	-	-	-	-	-	-	-	1	-	-	-	**1**
C3060100	Dietician	7	1	-	-	1	1	1	1	1	1	1	1	**9**
C5040400	Social Worker	8	1	-	-	1	1	1	1	1	1	1	1	**9**
C5040400	Social Worker	7	-	-	-	1	1	-	1	1	1	1	1	**7**
B1010600	Administrative Clerk	4	-	-	-	2	1	1	1	1	-	2	2	**10**
C. NURSING SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
C1 OFFICE: HEAD OF NURSING			-	-	-	-	-	-	-	-	-	-	-	**-**
C6010307	Nursing Services manager	11	0	0	0	1	1	0	1	1	1	1	1	**7**
C6010307	Nursing Services manager	10	1	1	1			1						**4**
C6010307	ASD : Nursing: Area	9	1	-	-	1	1	1	1	1	2	1	1	**10**
C6010307	PN infection control	7	-	-	-	1	1	1	1	1	1	1	1	**8**
C4010000	Chief Professional Nurse (Development)	8	1	1	-	2	2	1	2	2	1	2	2	**16**
B1010600	Admin Clerk	4	1	-	-	1	1	1	1	1	1	1	1	**9**
C2 GENERAL IN PATIENT SERVICES (Including RELIEF)			-	-	-	-	-	-	-	-	-	-	-	**-**
C4010000	Professional Nurse: Unit Manager L9	9	1	1	1	2	2	1	1	2	4	2	2	**19**
C4010000	Professional Nurse: Unit Manager L8	8	2	-	-	5	6	3	5	6	2	5	5	**39**
C4010000	Professional Nurse: Specialised (Production)	7	9	6	6	18	18	10	13	20	80	18	18	**216**
C4010000	Professional Nurse: Production	6	9	6	5	25	43	19	34	53	18	25	25	**262**
F2020000	Staff Nurse	5	11	8	5	25	40	17	31	48	37	25	25	**272**
F2010000	Nursing assistant	3	25	10	6	57	72	35	50	72	91	57	57	**532**
E1010000	Housekeeping Supervisor	4	3	1	1	7	8	4	6	8	5	7	7	**57**
A1020000	Household Aid	2	9	8	6	21	33	13	21	30	22	21	21	**205**
B1010600	Admin Clerk	4	3	1	1	7	8	4	6	8	5	7	7	**57**
C3 SPECIALISED NURSING SERVICES			-	-	-	-	-	-	-	-	-	-	-	**-**
C4010000	Professional Nurse: Unit Manager L9	9	2	-	-	2	2	2	2	2	1	2	2	**17**
C4010000	Professional Nurse: Specialised	7	7	-	-	21	23	11	17	28	11	21	21	**160**
C4010000	Professional Nurse: Production	6	1	-	-	2	3	1	2	3	2	2	2	**18**
F2020000	Staff Nurse	5	9	-	-	23	25	8	19	31	6	23	23	**167**
F2010000	Nursing assistant	3	5	-	-	23	29	12	20	34	12	23	23	**181**
E1010000	Housekeeping Supervisor	4	-	-	-	1	1	1	1	1	-	1	1	**7**
A1020000	Household Aid	2	3	-	-	6	5	3	5	8	4	6	6	**46**
H2030000	Operator (CSSD) Supervisor	5	-	-	-	1	1	-	1	1	1	1	1	**7**
H2030000	Operator (CSSD)	3	1	-	-	5	5	2	5	6	5	5	5	**39**
B1010600	Admin Clerk	4	1	-	-	2	2	2	2	2	2	2	2	**17**
C4010000	Professional Nurse: Unit Manager L8	8	-	-	-	-	1	1	1	1	-	-	-	**4**
C4 NIGHT DUTY MANAGEMENT			-	-	-	-	-	-	-	-	-	-	-	**-**
C4010000	Professional Nurse: Night duty manager	9	2	-	-	2	2	2	2	2	2	2	2	**18**
E1010000	Housekeeping Supervisor	4	-	-	-	2	2	-	2	2	2	2	2	**14**
A1020000	Household Aid	2	4	-	-	8	8	4	8	10	6	8	8	**64**
	TOTAL		**180**	**78**	**62**	**408**	**512**	**257**	**413**	**591**	**496**	**408**	**408**	**3,813**

Table B48: Staffing of acute beds in district and regional hospitals in the Cape Winelands and Overberg rural districts

			Ceres Hospital	Montagu Hospital	Robertson Hospital	Stellenbosch Hospital	Eben Donges Hospital	Paarl Hospital	Total: Cape Winelands	Caledon Hospital	Hermanus Hospital	Otto Du Plessis Hospital	Swellendam Hospital	Total: Overberg
		L1 Beds	55	30	60	50	52	85	**332**	50	40	10	37	**137**
		L2 Beds	10		20	35	255	242	**562**		20		10	**30**
		Total Beds	**65**	**30**	**80**	**85**	**307**	**327**	**894**	**50**	**60**	**10**	**47**	**167**
		Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**	Posts	Posts	Posts	Posts	**Posts**
A1 OFFICE: HEAD OF ADMINISTRATION														
C6010308	Deputy Director Administration	11					1	1	**2**					**-**
C6010308	Assistant Director Administration	10	1		1	1	-	-	**3**	1	1		1	**3**
B1010200	Administrative Clerk	4	-		-	-	1	1	**2**	-	-		-	**-**
C6010309	Assistant Director	9	-	1	-	-	-	-	**1**	-	-	1	-	**1**
A2 FINANCE			-	-	-	-	-	-	**-**	-	-	-	-	**-**
HEAD OF FINANCE:			-	-	-	-			**-**	-	-	-	-	**-**
C6010308	Assistant Director: Fin Admin	9	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B2040000	Senior Admin Officer	8	1	1	1	1	-	-	**4**	1	1	1	1	**4**
B2040000	Admin Officer (Inform)	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010200	Admin Clerk	5	-	-	-	-	1	1	**2**	-	-	-	-	**-**
EXPENDITURE:			-	-	-	-	-	-	**-**	-	-	-	-	**-**
B2040000	Admin Officer/ State Accountant	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010200	Financial Admin Clerk	5	1	1	1	2	2	2	**9**	1	1	1	1	**4**
INCOME			-	-	-	-	-	-	**-**	-	-	-	-	**-**
B2040000	Senior Admin Officer	8	-	-	-	-	2	2	**4**	-	-	-	-	**-**
B2040000	Admin Officer	7	-	-	1	1	-	-	**2**	-	-	-	-	**-**
B1010200	Chief Financial Admin Clerk	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010200	Financial Admin Clerk	5	2	1	3	3	6	6	**21**	1	2	1	1	**5**
B1010200	Cashier	6	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010200	Admin Clerk (Confirmation	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**
ADMISSIONS			-	-	-	-	-	-	**-**	-	-	-	-	**-**
B1010600	Chief Admin Clerk	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010600	Admin Clerk	6	3	2	5	5	14	15	**44**	3	3	2	3	**11**
SUPPLY CHAIN MANAGEMENT			-	-	-	-	-	-	**-**	-	-	-	-	**-**
B2040000	Admin Officer	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010500	Chief Admin Clerk	7	-	-	1	1	-	-	**2**	-	-	-	-	**-**
B1010500	Admin Clerk	5	3	2	3	3	8	9	**28**	3	3	2	3	**11**
A2010000	Stores Assistant	2	1	1	1	1	2	2	**8**	1	1	1	1	**4**
LINEN CONTROL			-	-	-	-	-	-	**-**	-	-	-	-	**-**
E1010000	Linen Supervisor	4	1	1	1	1	2	2	**8**	1	1	1	1	**4**
A2010000	Linen Stores Assistant	2	1	1	3	3	4	4	**16**	1	1	1	1	**4**
HUMAN RESOURCES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
C6010302	Assistant Director: HRM	9	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B2040000	Senior Admin Officer	8	1	1	1	1	3	3	**10**	1	1	1	1	**4**
B2040000	Admin Officer	7	-	-	1	1	1	1	**4**	-	-	-	-	**-**
B1010400	Admin Clerk	5	2	1	1	1	7	8	**20**	1	2	1	1	**5**
A3 SUPPORT SERVICES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
HEAD OF SUPPORT SERVICES:			-	-	-	-	-	-	**-**	-	-	-	-	**-**
B2040000	Admin Officer	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
B1010600	Chief Admin Clerk	7	1	1	1	1	-	-	**4**	1	1	1	1	**4**
TRANSPORT SERVICES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
H3010100	Light vehicle driver	3	1	1	1	1	2	2	**8**	1	1	1	1	**4**
H3010200	Heavy vehicle driver	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**
TELEPHONE SERVICES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
B1020200	Switchboard Operator	4	1	-	1	1	6	6	**15**	1	1	-	1	**3**
PORTER SERVICES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
A2010000	Principal Porter	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**

		Ceres Hospital	Montagu Hospital	Robertson Hospital	Stellenbosch Hospital	Eben Donges Hospital	Paarl Hospital	Total: Cape Winelands	Caledon Hospital	Hermanus Hospital	Otto Du Plessis Hospital	Swellendam Hospital	Total: Overberg
	L1 Beds	55	30	60	50	52	85	**332**	50	40	10	37	**137**
	L2 Beds	10		20	35	255	242	**562**		20		10	**30**
	Total Beds	**65**	**30**	**80**	**85**	**307**	**327**	**894**	**50**	**60**	**10**	**47**	**167**
	Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**	Posts	Posts	Posts	Posts	**Posts**
A2010000 Porter	2	2	1	2	3	16	17	**41**	1	2	1	1	**5**
REGISTRY AND MESSENGER SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
B1010300 Admin Clerk	4	-	-	-	1	4	4	**9**	-	-	-	-	**-**
A2010000 Messenger	2	-	-	-	1	1	1	**3**	-	-	-	-	**-**
H2030000 Operator	3	-	-	-	-	1	1	**2**	-	-	-	-	**-**
GENERAL CLEANING SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
E1010000 Housekeeping Supervisor	4	1	-	1	1	1	1	**5**	1	1	-	1	**3**
A1020000 Cleaners	1	2	1	2	2	9	10	**26**	2	2	1	1	**6**
NURSES HOME		-	-	-	-	-	-	**-**	-	-	-	-	**-**
E1010000 Housekeeping Supervisor	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**
A1020000 Cleaners	1	-	-	-	-	2	2	**4**	-	-	-	-	**-**
CATERING SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
E1010000 Food Services Manager	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
E1010000 Food Services Supervisor	5	-	-	1	1	1	1	**4**	-	-	-	-	**-**
E1010000 Food Services Supervisor	4	1	1	2	2	4	4	**14**	1	1	1	1	**4**
E1020000 Food Services Worker	3	2	2	2	2	6	6	**20**	2	2	2	2	**8**
A1040000 Food Services Aid	1	3	2	2	2	28	20	**47**	2	3	2	2	**9**
TECHNICAL SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
D2010400 Medical Technician	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
G4020000 Artisan Superintendent	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
G4020000 Artisan Foreman	7	1	-	1	1	1	1	**5**	1	1	-	1	**3**
G4010000 Artisan	6	-	-	-	-	3	3	**6**	-	-	-	-	**-**
A4020000 Handyman	4	1	1	2	2	2	2	**10**	1	1	1	1	**4**
E1010000 Foreman grounds services	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**
A4020000 Tradesman Aid	2	1	-	1	1	5	5	**13**	1	1	-	1	**3**
A1030000 Groundsman	1	1	1	2	2	2	2	**10**	1	1	1	1	**4**
B MEDICAL AND MEDICAL ANCILLARY SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
B1 OFFICE: HEAD OF INSTITUTION			-	-	-	-	-	**-**	-	-	-	-	**-**
C6010200 CEO/Head of institution	13	-	-	-	-	1	1	**2**					
C6010200 CEO/ Head of institution	12	1	1	1	1	-	-	**4**	1	1	1	1	**4**
C6010200 Medical Superintendent/ COO	11	-	-	-	-	-	-	**-**	-	-	-	-	**-**
B1010600 Administrative Clerk	4	1	1	1	1	1	1	**6**	1	1	1	1	**4**
B2 CLINICAL SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
C3010200 Clinical Operations Officer	12	1	-	1	1	1	1	**5**	1	1	-	1	**3**
C3010200 Principal Medical Specialist	13	-	-	-	-	8	8	**16**	-	-	-	-	**-**
C3010200 Medical Specialist	12	-	-	-	-	17	17	**34**	-	-	-	-	**-**
C3010200 Medical Specialist: Registrar	11	-	-	-	-	-	-	**-**	-	-	-	-	**-**
C3010100 Chief Medical Officer	12	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3010100 Principal Medical Officer	11	1	1	2	2	12	13	**31**	1	1	1	1	**4**
C3010100 Medical Officer	10	2	-	3	4	18	16	**43**	2	2	-	2	**6**
C3010100 Com Services Medical Officer		-	-	-	-	-	-	**-**	-	-	-	-	**-**
C3010100 Medical Interns	8	-	-	-	-	12	12	**24**	-	-	-	-	**-**
B3 MEDICAL ANCILLARY SERVICES		-	-	-	-	-	-	**-**	-	-	-	-	**-**
C3030100 Chief Pharmacist	10	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3030100 Principal Pharmacist	9	1	1	1	1	1	1	**6**	1	1	1	1	**4**
C3030100 Pharmacist	8	-	-	-	-	4	5	**9**	-	-	-	-	**-**
F1010000 Pharmacy Assistant	4	1	1	1	1	6	7	**17**	1	1	1	1	**4**
B1010500 Admin Clerk	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3050400 Chief Radiographer	8	1	-	1	1	2	2	**7**	-	1	-	-	**1**
C3050400 Radiographer	7	1	1	1	1	6	8	**18**	1	1	1	1	**4**

			Ceres Hospital	Montagu Hospital	Robertson Hospital	Stellenbosch Hospital	Eben Donges Hospital	Paarl Hospital	Total: Cape Winelands	Caledon Hospital	Hermanus Hospital	Otto Du Plessis Hospital	Swellendam Hospital	Total: Overberg
		L1 Beds	55	30	60	50	52	85	**332**	50	40	10	37	**137**
		L2 Beds	10		20	35	255	242	**562**		20		10	**30**
		Total Beds	**65**	**30**	**80**	**85**	**307**	**327**	**894**	**50**	**60**	**10**	**47**	**167**
		Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**	Posts	Posts	Posts	Posts	**Posts**
F1010000	Darkroom operator	4	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3050200	Physiotherapist	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3050200	Physiotherapist	7	1	-	1	1	3	4	**10**	-	1	-	-	**1**
C3050100	Occupational Therapist	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3050100	Occupational Therapist	7	-	-	-	-	2	3	**5**	-	-	-	-	**-**
C3050500	Speech Therapist	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3050500	Audiologist	7					1	1	**2**					
C3060100	Dietician	7	-	-	-	-	2	2	**4**	-	-	-	-	**-**
C5040400	Social Worker	8	-	-	1	1	1	1	**4**	-	-	-	-	**-**
C5040400	Social Worker	7	-	-	-	-	1	1	**2**	-	-	-	-	**-**
A1020000	Cleaners	1	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C3050100	Psychologist	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C. NURSING SERVICES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
C1 OFFICE: HEAD OF NURSING			-	-	-	-	-	-	**-**	-	-	-	-	**-**
C6010307	Nursing Services manager	11	0	0	0	0	1	1	**2**	0	0	0	0	**0**
C6010307	Nursing Services manager	10	1	0	1	1	1	1	**5**	1	1		1	**3**
C6010307	Nursing Services manager	9		1					**1**			1		**1**
C6010307	ASD : Nursing: Area	9	-	0	1	1	1	1	**4**	-	-	-	-	**-**
C6010307	PN infection control	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C4010000	Chief Professional Nurse (Development)	8	1	-	1	1	2	2	**7**	1	1	-	1	**3**
B1010600	Admin Clerk	4	-	-	1	1	1	1	**4**	-	-	-	-	**-**
C4010000	ASD Quality Assurance	8	-	-	-	-	1	1	**2**	-	-	-	-	**-**
C2 GENERAL IN PATIENT SERVICES (Including RELIEF)			-	-	-	-	-	-	**-**	-	-	-	-	**-**
C4010000	Professional Nurse: Unit Manager L9	9	2	-	2	2	3	2	**11**	1	1	-	1	**3**
C4010000	Professional Nurse: Unit Manager L8	8	-	1	-	-	9	10	**20**	-	-	1	-	**1**
C4010000	Professional Nurse: Specialised (Production)	7	-	5	-	-	30	36	**71**	-	-	5	-	**5**
C4010000	Professional Nurse: Production	6	9	5	10	10	65	73	**172**	6	8	5	6	**25**
F2020000	Staff Nurse	5	7	5	7	7	93	100	**219**	5	6	5	5	**21**
F2010000	Nursing assistant	3	14	5	14	14	103	87	**237**	10	10	5	10	**35**
E1010000	Housekeeping Supervisor	4	2	1	2	2	11	10	**28**	1	1	1	1	**4**
A1020000	Household Aid	2	6	6	6	6	24	34	**82**	6	6	6	6	**24**
B1010600	Admin Clerk	4	2	1	2	2	10	11	**28**	1	1	1	1	**4**
C3 SPECIALISED NURSING SERVICES			-	-	-	-	-	-	**-**	-	-	-	-	**-**
C4010000	Professional Nurse: Unit Manager L9	9	1	-	3	3	2	2	**11**	1	1	-	1	**3**
C4010000	Professional Nurse: Specialised	7	11	-	13	14	35	40	**113**	9	11	-	9	**29**
C4010000	Professional Nurse: Production	6	1	-	1	1	7	6	**16**	-	1	-	-	**1**
F2020000	Staff Nurse	5	6	-	13	12	31	31	**93**	6	6	-	6	**18**
F2010000	Nursing assistant	3	6	-	8	13	27	34	**88**	6	6	-	6	**18**
E1010000	Housekeeping Supervisor	4	1	-	1	1	2	3	**8**	1	1	-	1	**3**
A1020000	Household Aid	2	4	-	5	5	12	12	**38**	4	4	-	4	**12**
H2030000	Operator (CSSD) Supervisor	5	-	-	-	-	1	1	**2**	-	-	-	-	**-**
H2030000	Operator (CSSD)	3	1	-	1	1	10	10	**23**	1	1	-	1	**3**
B1010600	Admin Clerk	4	1	-	2	2	4	5	**14**	-	1	-	-	**1**
C4010000	Professional Nurse: Unit Manager L8	8	-	-	-	-	2	2	**4**	-	-	-	-	**-**
C4 NIGHT DUTY MANAGEMENT			-	-	-	-	-	-	**-**	-	-	-	-	**-**
C4010000	Professional Nurse: Night duty manager	9	-	-	2	2	2	2	**8**	-	-	-	-	**-**
E1010000	Housekeeping Supervisor	4	-	-	-	-	2	2	**4**	-	-	-	-	**-**
A1020000	Household Aid	2	2	-	4	4	8	8	**26**	-	2	-	-	**2**
	TOTAL		**124**	**60**	**159**	**169**	**764**	**804**	**2,080**	**100**	**115**	**60**	**99**	**374**

Table B49: Staffing of Acute beds in District and Regional hospitals in the Eden and Central Karoo rural districts

				Beaufort West Hospital	Laings-burg Hospital	Murrays-burg Hospital	Prince Albert Hospital	**Total Central Karoo**	Uniondale Hospital	Knsyna Hospital	Ladismith Hospital	Mossel Bay Hospital	Oudtshoorn Hospital	Riversdale Hospital	George Hospital	**Total Eden**
			L1 Beds	47	20	15	20	**102**	10	50	30	50	70	40	50	**300**
			L2 Beds	10				**10**		40		40	53		215	**348**
			Total Beds	**57**	**20**	**15**	**20**	**112**	**10**	**90**	**30**	**90**	**123**	**40**	**265**	**648**
			Salary Level	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**
A1	**OFFICE: HEAD OF ADMINISTRATION**															
	C6010308	Deputy Director Administration	11					-							1	**1**
	B1010200	Administrative Clerk	4	-				-		-		-	-		1	**1**
	C6010308	Assistant Director	10	1				**1**		1		1	1	-		**3**
	C6010309	Assistant Director	9	-	1	1	1	**3**	1	-	1	-	-	1		**3**
A2	**FINANCE**			-				-		-	-	-	-	-		**-**
	HEAD OF FINANCE:			-				-		-	-	-	-	-		**-**
	C6010308	Assistant Director: Fin Admin	9	-				-		-	-	-	-	-	1	**1**
	B2040000	Senior Admin Officer	8	1	1	1	1	**4**	1	1	1	1	1	1	-	**6**
	B2040000	Admin Officer (Inform)	7	-				-		-	-	-	-	-	1	**1**
	B1010200	Admin Clerk (Information)	5												1	**1**
	EXPENDITURE:			-				-		-	-	-	-	-	-	**-**
	B2040000	Admin Officer/ State Accountant	7	-				-		-	-	-	-	-	1	**1**
	B1010200	Financial Admin Clerk	5	1	1	1	1	**4**	1	2	1	2	3	1	2	**12**
	INCOME			-				-		-	-	-	-	-	-	**-**
	B2040000	Senior Admin Officer	8	-				-		-	-	-	-	-	2	**2**
	B2040000	Admin Officer	7	-				-		1	-	1	1	-	-	**3**
	B1010200	Chief Financial Admin Clerk	7	-				-		-	-	-	-	-	1	**1**
	B1010200	Financial Admin Clerk	5	2				**2**		3	1	3	3	1	6	**17**
	B1010200	Cashier	6	-				-		-	-	-	1	-	1	**2**
	B1010200	Admin Clerk (Confirmation	4	-				-		-	-	-	-	-	1	**1**
	ADMISSIONS			-				-		-	-	-	-	-	-	**-**
	B1010600	Chief Admin Clerk	7	-				-		-	-	-	-	-	1	**1**
	B1010600	Admin Clerk	6	3	2	2	2	**9**	2	5	2	5	6	2	14	**36**
	SUPPLY CHAIN MANAGEMENT			-				-		-	-	-	-	-	-	**-**
	B2040000	Admin Officer	7	-				-		-	-	-	-	-	1	**1**
	B1010500	Chief Admin Clerk	7	-				-		1	-	1	1	-	-	**3**
	B1010500	Admin Clerk	5	3	2	2	2	**9**	2	3	2	3	4	3	7	**24**
	A2010000	Stores Assistant	2	1	1	1	1	**4**	1	1	1	1	2	1	2	**9**
	LINEN CONTROL			-				-		-	-	-	-	-	-	**-**
	E1010000	Linen Supervisor	4	1				**1**		1	1	1	1	1	1	**6**
	A2010000	Linen Stores Assistant	2	1				**1**		3	1	3	3	1	4	**15**
	HUMAN RESOURCES			-				-		-	-	-	-	-	-	**-**
	C6010302	Assistant Director: HRM	9	-				-		-	-	-	-	-	1	**1**
	B2040000	Senior Admin Officer	8	1				**1**		1	1	1	1	1	2	**7**
	B2040000	Admin Officer	7	-				-		1	-	1	1	-	1	**4**
	B1010400	Admin Clerk	5	2	1	1	1	**5**	1	1	1	1	2	1	6	**13**
A3	**SUPPORT SERVICES**			-				-		-	-	-	-	-	-	**-**
	HEAD OF SUPPORT SERVICES:			-				-		-	-	-	-	-	-	**-**
	B2040000	Admin Officer	7	-				-		-	-	-	-	-	1	**1**
	B1010600	Chief Admin Clerk	7	1				**1**		1	1	1	1	1	-	**5**
	TRANSPORT SERVICES			-				-		-	-	-	-	-	-	**-**
	H3010100	Light vehicle driver	3	1	1	1	1	**4**	1	1	1	1	2	1	2	**9**
	H3010200	Heavy vehicle driver	4	-				-		-	-	-	-	-	1	**1**
	TELEPHONE SERVICES			-				-		-	-	-	-	-	-	**-**
	B1020200	Switchboard Operator	4	1				**1**		1	-	1	2	-	5	**9**
	PORTER SERVICES			-				-		-	-	-	-	-	-	**-**
	A2010000	Principal Porter	4	-				-		-	-	-	1	-	1	**2**
	A2010000	Porter	2	2				**2**		3	1	3	4	1	14	**26**
	REGISTRY AND MESSENGER SERVICES			-				-		-	-	-	-	-	-	**-**
	B1010300	Admin Clerk	4	-				-		1	-	1	1	-	3	**6**
	A2010000	Messenger	2	-				-		1	-	1	1	-	1	**4**
	H2030000	Operator	3	-				-		-	-	-	-	-	1	**1**
	GENERAL CLEANING SERVICES			-				-		-	-	-	-	-	-	**-**
	E1010000	Housekeeping Supervisor	4	1				**1**		1	-	1	1	-	1	**4**
	A1020000	Cleaners	1	2				**2**		2	1	2	3	2	9	**19**

				Beaufort West Hospital	Laings-burg Hospital	Murrays-burg Hospital	Prince Albert Hospital	**Total Central Karoo**	Uniondale Hospital	Knsyna Hospital	Ladismith Hospital	Mossel Bay Hospital	Oudtshoorn Hospital	Riversdale Hospital	George Hospital	**Total Eden**
			L1 Beds	47	20	15	20	**102**	10	50	30	50	70	40	50	**300**
			L2 Beds	10				**10**		40		40	53		215	**348**
			Total Beds	**57**	**20**	**15**	**20**	**112**	**10**	**90**	**30**	**90**	**123**	**40**	**265**	**648**
			Salary Level	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**
	NURSES HOME			-				**-**		-	-	-	-	-	-	**-**
	E1010000	Housekeeping Supervisor	4	-				**-**		-	-	-	-	-	1	**1**
	A1020000	Cleaners	1	-				**-**		-	-	-	-	-	2	**2**
	CATERING SERVICES			-				**-**		-	-	-	-	-	-	**-**
	E1010000	Food Services Manager	7	-				**-**		-	-	-	1	-	1	**2**
	E1010000	Food Services Supervisor	5	-				**-**		1	-	1	-	-	1	**3**
	E1010000	Food Services Supervisor	4	1	1	1	1	**4**	1	2	1	2	2	1	4	**13**
	E1020000	Food Services Worker	3	2	2	2	2	**8**	2	2	2	2	2	2	6	**18**
	A1040000	Food Services Aid	1	3	1	1	1	**6**	1	2	2	2	6	2	16	**31**
	TECHNICAL SERVICES			-				**-**		-	-	-	-	-	-	**-**
	D2010400	Medical Technician	8	-				**-**		-	-	-	-	-	1	**1**
	G4020000	Artisan Superintendent	8	-				**-**		-	-	-	-	-	1	**1**
	G4020000	Artisan Foreman	7	1				**1**		1	-	1	1	1	1	**5**
	G4010000	Artisan	6	-				**-**			-	-	1	-	3	**4**
	A4020000	Handyman	4	1	1	1	1	**4**	1	2	1	2	2	1	2	**11**
	E1010000	Foreman grounds services	4	-				**-**		-	-	-	-	-	1	**1**
	A4020000	Tradesman Aid	2	1				**1**		1	-	1	2	1	5	**10**
	A1030000	Groundsman	1	1	1	1	1	**4**	1	2	1	2	2	1	2	**11**
MEDICAL AND MEDICAL ANCILLARY SERVICES																
B1	**OFFICE: HEAD OF INSTITUTION**			-				**-**		-	-	-	-	-	-	**-**
	C6010200	Head of institution/ CEO	13	-	-	-	-	**-**	-	-	-	-	-	-	1	**1**
	C6010200	Head of institution/ CEO	12	1	1	1	1	**4**	1	1	1	1	1	1	-	**6**
	C6010200	Medical Superintendent/ COO														
	B1010600	Administrative Clerk	4	1	1	1	1	**4**	1	1	1	1	1	1	1	**7**
B2	**CLINICAL SERVICES**			-				**-**		-	-	-	-	-	-	**-**
	C3010200	Clinical Operations Officer	12	1	-	-	-	**1**	-	1	-	1	1	1	1	**5**
	C3010200	Principal Medical Specialist	13	-				**-**		-	-	-	-	-	8	**8**
	C3010100	Medical Specialist	12	-				**-**		-	-	-	-	-	17	**17**
	C3010100	Chief Medical Officer	12	-	-	-	-	**-**	-	-	-	-	1	-	1	**2**
	C3010100	Principal Medical Officer	11	1	1	1	1	**4**	1	3	1	3	3	1	10	**22**
	C3010100	Medical Officer	10	2	-	-	-	**2**	-	4	-	4	5	1	22	**36**
	C3010100	Medical Interns	8	-				**-**	-	-	-	-	-	-	12	**12**
B3	**MEDICAL ANCILLARY SERVICES**			-				**-**		-	-	-	-	-	-	**-**
	C3030100	Chief Pharmacist	10	-				**-**		-	-	-	-	-	1	**1**
	C3030100	Principal Pharmacist	9	1	1	1	1	**4**	1	1	1	1	1	1	1	**7**
	C3030100	Pharmacist	8	-				**-**		1	-	1	1	-	4	**7**
	F1010000	Pharmacy Assistant	4	1				**1**		2	1	2	2	1	6	**14**
	B1010500	Admin Clerk	4	-				**-**		-	-	-	1	-	1	**2**
	C3050400	Chief Radiographer	8	1				**1**		1	-	1	1	-	2	**5**
	C3050400	Radiographer	7	1	1	1	1	**4**	1	1	1	1	2	1	5	**12**
	F1010000	Darkroom operator	4	-				**-**		-	-	-	1	-	1	**2**
	C3050200	Physiotherapist	8	-				**-**		-	-	-	-	-	1	**1**
	C3050200	Physiotherapist	7	1				**1**		1	-	1	1	-	3	**6**
	C3050099	Occupational Therapist	8	-				**-**		-	-	-	-	-	1	**1**
	C3050100	Occupational Therapist	7	-				**-**		-	-	-	-	-	2	**1**
	C3050100	Speech Therapist	7												1	**1**
	C3050100	Audiologist	7												1	**1**
	C3060100	Dietician	7	-				**-**		-	-	-	1	-	2	**3**
	C5040400	Social Worker	8	-				**-**		1	-	1	1	-	1	**4**
	C5040400	Social Worker	7	-				**-**						-	1	**1**
	C3050100	Psychologist	8												1	**1**
	B1010600	Administrative Clerk	4	-				**-**		-	-	-	1	-	1	**2**
	A1020000	Cleaners	1	-				**-**		-	-	-	-	-	1	**1**
NURSING SERVICES																
C1	**OFFICE: HEAD OF NURSING**			-				**-**		-	-	-	-	-	-	**-**
	C6010307	Nursing Services manager	11	-											1	**1**
	C6010307	Nursing Services manager	10	1				**1**		1		1	1	1	1	**5**
	C6010307	ASD : Nursing: Area	9	-	1	1	1	**3**	1	1	1	1	1	-	1	**6**

				Beaufort West Hospital	Laings-burg Hospital	Murrays-burg Hospital	Prince Albert Hospital	**Total Central Karoo**	Uniondale Hospital	Knsyna Hospital	Ladismith Hospital	Mossel Bay Hospital	Oudtshoorn Hospital	Riversdale Hospital	George Hospital	**Total Eden**
			L1 Beds	47	20	15	20	**102**	10	50	30	50	70	40	50	**300**
			L2 Beds	10				**10**		40		40	53		215	**348**
			Total Beds	**57**	**20**	**15**	**20**	**112**	**10**	**90**	**30**	**90**	**123**	**40**	**265**	**648**
			Salary Level	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**
	C6010307	CPN infection control	8	-				**-**		-	-	-	1	-	1	**2**
	C4010000	Chief Professional Nurse (Development)	8	1				**1**		1	-	1	1	1	2	**6**
	B1010600	Admin Clerk	4	-				**-**		1	-	1	1	-	1	**4**
	C4010000	ASD Quality Assurance		-				**-**		-	-	-	-	-	1	**1**
C2	**GENERAL IN PATIENT SERVICES (Including RELIEF)**			-				**-**		-	-	-	-	-	-	**-**
	C4010000	Professional Nurse: Unit Manager L9	9	1				**1**		1		1	1	1	2	**6**
	C4010000	Professional Nurse: Unit Manager L8	8	-				**-**		2	1	2	3	-	7	**15**
	C4010000	Professional Nurse: Specialised (Production)	7	-	6	6	6	**18**	6	9	5	9	10	6	41	**86**
	C4010000	Professional Nurse: Production	6	8				**8**		10	5	10	19	6	63	**113**
	F2020000	Staff Nurse	5	6	3	3	3	**15**	3	12	5	12	17	8	76	**133**
	F2010000	Nursing assistant	3	10	3	3	3	**19**	3	25	5	25	32	10	89	**189**
	E1010000	Housekeeping Supervisor	4	1	1	1	1	**4**	1	3	1	3	4	1	10	**23**
	A1020000	Household Aid	2	6	4	4	4	**18**	4	9	6	9	12	8	33	**81**
	B1010600	Admin Clerk	4	1	1	1	1	**4**	1	3	1	3	4	1	10	**23**
C3	**SPECIALISED NURSING SERVICES**			-				**-**		-	-	-	-	-	-	**-**
	C4010000	Professional Nurse: Unit Manager L9	9	1				**1**		2	-	2	2	-	2	**8**
	C4010000	Professional Nurse: Specialised	7	11				**11**		6	-	6	11	-	32	**55**
	C4010000	Professional Nurse: Production	6	1				**1**		1	-	1	1	-	9	**12**
	F2020000	Staff Nurse	5	6				**6**		9	-	9	8	-	29	**55**
	F2010000	Nursing assistant	3	6				**6**		3	-	3	12	-	35	**53**
	E1010000	Housekeeping Supervisor	4	1				**1**		-	-	-	1	-	4	**5**
	A1020000	Household Aid	2	4				**4**		3	-	3	3	-	12	**21**
	H2030000	Operator (CSSD) Supervisor	5	-				**-**		-	-	-	-	-	1	**1**
	H2030000	Operator (CSSD)	3	1				**1**		1	-	1	2	-	10	**14**
	B1010600	Admin Clerk	4	1				**1**		1	-	1	2	-	4	**8**
	C4010000	Professional Nurse: Unit Manager L8	8	-				**-**		-	-	-	1	-	2	**3**
C4	**NIGHT DUTY MANAGEMENT**			-				**-**		-	-	-	-	-	-	**-**
	C4010000	Professional Nurse: Night duty manager	9	-				**-**		2	-	2	2	-	2	**8**
	E1010000	Housekeeping Supervisor	4	-				**-**		-	-	-	-	-	2	**2**
	A1020000	Household Aid	2	2				**2**		4	-	4	4	-	8	**20**
		TOTAL		**115**	**40**	**40**	**40**	**235**	**40**	**177**	**60**	**177**	**247**	**79**	**746**	**1,526**

Table B50: Staffing of acute beds in district and regional hospitals in the West Coast rural district

				Citrusdal Hosp	**Clanwilliam Hosp**	**LAPA Munnik Hosp**	**Radie Kotze Hosp**	**Swartland Hosp**	**Vredenburg Hosp**	**Vredendal Hosp**	**Total: West Coast**
				25	30	10	30	50	55	50	**250**
			L2 Beds					35	25	25	**85**
			L1 Beds	**25**	**30**	**10**	**30**	**85**	**80**	**75**	**335**
			Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**
A1	**OFFICE: HEAD OF ADMINISTRATION**										
	C6010308	Assistant Director Administration	10					1	1	1	**3**
	C6010309	Assistant Director	9	1	1		1	-	-	-	**3**
A2	**FINANCE**			-	-			-	-	-	
	HEAD OF FINANCE:			-	-			-	-	-	
	B2040000	Senior Admin Officer	8	1	1		1	1	1	1	**6**
	EXPENDITURE:			-	-		-	-	-	-	**-**
	B1010200	Chief Financial Admin Clerk	7	-	-	1	-	-	-	-	**1**
	B1010200	Financial Admin Clerk	5	1	1		1	2	1	1	**7**

				Citrusdal Hosp	Clanwilliam Hosp	LAPA Munnik Hosp	Radie Kotze Hosp	Swartland Hosp	Vredenburg Hosp	Vredendal Hosp	Total: West Coast
				25	30	10	30	50	55	50	**250**
			L2 Beds					35	25	25	**85**
			L1 Beds	**25**	**30**	**10**	**30**	**85**	**80**	**75**	**335**
			Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**
	INCOME			-	-		-	-	-	-	**-**
	C6010308	Assistant Director: Financial Admin	9	-	-		-	-	-	-	**-**
	B2040000	Senior Admin Officer	8	-	-		-	-	-	-	**-**
	B2040000	Admin Officer	7	-	-		-	1	1	1	**3**
	B1010200	Chief Financial Admin Clerk	7	-	-		-	-	-	-	**-**
	B1010200	Financial Admin Clerk	5	1	1		1	3	3	2	**11**
	ADMISSIONS			-	-		-	-	-	-	**-**
	B1010600	Admin Clerk	6	2	2	2	2	5	5	5	**23**
	SUPPLY CHAIN MANAGEMENT			-	-		-	-	-	-	**-**
	B1010500	Chief Admin Clerk	7	-	-		-	1	1	1	**3**
	B1010500	Admin Clerk	5	2	2		2	3	3	3	**15**
	A2010000	Stores Assistant	2	1	1		1	1	1	1	**6**
	LINEN CONTROL			-	-		-	-	-	-	**-**
	E1010000	Linen Supervisor	4	1	1		1	1	1	-	**5**
	A2010000	Linen Stores Assistant	2	1	1		1	3	3	1	**10**
	HUMAN RESOURCES			-	-		-	-	-	-	**-**
	C6010302	Assistant Director: HRM	9	-	-		-	-	-	-	**-**
	B2040000	Senior Admin Officer	8	1	1		1	1	1	1	**6**
	B2040000	Admin Officer	7	-	-		-	1	1	1	**3**
	B1010400	Chief Admin Clerk	7	-	-		-	-	-	-	**-**
	B1010400	Admin Clerk	5	1	1		1	1	1	1	**6**
A3	**SUPPORT SERVICES**			-	-		-	-	-	-	**-**
	HEAD OF SUPPORT SERVICES:			-	-		-	-	-	-	**-**
	B2040000	Admin Officer	7	-	-		-	-	-	-	**-**
	B1010600	Chief Admin Clerk	7	1	1		1	1	1	1	**6**
	TRANSPORT SERVICES			-	-		-	-	-	-	**-**
	H3010100	Light vehicle driver	3	1	1		1	1	1	1	**6**
	H3010200	Heavy vehicle driver	4	-	-		-	-	-	-	**-**
	TELEPHONE SERVICES			-	-		-	-	-	-	**-**
	B1020200	Switchboard Operator	4	-	-		-	1	1	1	**3**
	PORTER SERVICES			-	-		-	-	-	-	**-**
	A2010000	Principal Porter	4	-	-		-	-	-	-	**-**
	A2010000	Porter	2	1	1		1	3	2	2	**10**
	REGISTRY AND MESSENGER SERVICES			-	-		-	-	-	-	**-**
	B1010300	Admin Clerk	4	-	-		-	1	-	-	**1**
	A2010000	Messenger	2	-	-		-	1	-	-	**1**
	H2030000	Operator	3	-	-		-	-	-	-	**-**
	GENERAL CLEANING SERVICES			-	-		-	-	-	-	**-**
	E1010000	Housekeeping Supervisor	4	-	-		-	1	1	1	**3**
	A1020000	Cleaners	1	1	1		1	2	2	2	**9**
	CATERING SERVICES			-	-		-	-	-	-	**-**
	E1010000	Food Services Supervisor	5	-	-		-	1	1	1	**3**
	E1010000	Food Services Supervisor	4	1	1	1	1	2	2	1	**9**
	E1020000	Food Services Worker	3	2	2	2	2	2	2	2	**14**
	A1040000	Food Services Aid	1	2	2		2	2	2	3	**13**
	TECHNICAL SERVICES			-	-		-	-	-	-	**-**
	D2010400	Medical Technician	8	-	-		-	-	-	-	**-**
	G4020000	Artisan Superintendent	8	-	-		-	-	-	-	**-**
	G4020000	Artisan Foreman	7	-	-		-	1	1	1	**3**
	G4010000	Artisan	6	-	-		-	-	-	-	**-**
	A4020000	Handyman	4	1	1		1	2	2	2	**9**
	E1010000	Foreman grounds services	4	-	-		-	-	-	-	**-**
	A4020000	Tradesman Aid	2	-	-		-	1	1	1	**3**
	A1030000	Groundsman	1	1	1	1	1	2	2	2	**10**
MEDICAL AND MEDICAL ANCILLARY SERVICES				-	-		-	-	-	-	**-**
B1	**OFFICE: HEAD OF INSTITUTION**			-	-		-	-	-	-	**-**
	C6010200	CEO	12	1	1		1	1	1	1	**6**
	C6010200	Medical Superintendent/ COO	11	-	-	1	-	-	-	-	**1**

				Citrusdal Hosp	Clanwilliam Hosp	LAPA Munnik Hosp	Radie Kotze Hosp	Swartland Hosp	Vredenburg Hosp	Vredendal Hosp	Total: West Coast
				25	30	10	30	50	55	50	**250**
			L2 Beds					35	25	25	**85**
			L1 Beds	**25**	**30**	**10**	**30**	**85**	**80**	**75**	**335**
			Salary Level	Posts	Posts	Posts	Posts	Posts	Posts	Posts	**Posts**
	B1010600	Administrative Clerk	4	1	1	1	1	1	1	1	**7**
B2	**CLINICAL SERVICES**			-	-		-	-	-	-	**-**
	C3010200	Clinical Operations Officer	12	-	-		-	1	1	1	**3**
	C3010100	Chief Medical Officer	12	-	-		-	-		-	
	C3010100	Principal Medical Officer	11	1	1		1	2	2	2	**9**
	C3010100	Medical Officer	10	-	-		-	4	3	3	**10**
B3	**MEDICAL ANCILLARY SERVICES**			-	-		-	-	-	-	**-**
	C3030100	Chief Pharmacist		-	-		-	-	-	-	**-**
	C3030100	Principal Pharmacist	9	1	1	1	1	1	1	1	**7**
	C3030100	Pharmacist	8	-	-		-	-	-	-	**-**
	F1010000	Pharmacy Assistant	4	1	1		1	1	1	1	**6**
	C3050400	Chief Radiographer	8	-	-		-	1	1	1	**3**
	C3050400	Radiographer	7	1	1	1	1	1	1	1	**7**
	C3050200	Physiotherapist	7	-	-		-	1	1	1	**3**
	C5040400	Social Worker	8	-	-		-	1	1	1	**3**
NURSING SERVICES				-	-		-	-	-	-	**-**
C1	**OFFICE: HEAD OF NURSING**			-	-		-	-	-	-	**-**
	C6010307	Nursing Services manager	10	0	0	0	0	1	1	1	**3**
	C6010307	ASD : Nursing: Area	9	1	1	1	1	1	1	1	**7**
	C6010307	PN infection control	7	-	-		-	-	-	-	**-**
	C4010000	Chief Professional Nurse (Development)	8	-	-		-	1	1	1	**3**
	B1010600	Admin Clerk	4	-	-			1	1	-	2
C2	**GENERAL IN PATIENT SERVICES (Including RELIEF)**			-	-		-	-	-	-	**-**
	C4010000	Professional Nurse: Unit Manager L9	9					2	2	2	**6**
	C4010000	Professional Nurse: Unit Manager L8	8	1	1	1	1	-	-	-	**4**
	C4010000	Professional Nurse: Specialised (Production)	7	5	5	5	5	-	-	-	**20**
	C4010000	Professional Nurse: Production	6	5	5		5	10	10	10	**45**
	F2020000	Staff Nurse	5	5	5	3	5	7	7	7	**39**
	F2010000	Nursing assistant	3	5	5	2	5	14	14	14	**59**
	E1010000	Housekeeping Supervisor	4	1	1	1	1	2	2	2	**10**
	A1020000	Household Aid	2	6	6	4	6	6	6	6	**40**
	B1010600	Admin Clerk	4	1	1	1	1	2	2	2	**10**
C3	**SPECIALISED NURSING SERVICES**			-	-		-	-	-	-	**-**
	C4010000	Professional Nurse: Unit Manager L9	9	-	-		-	3	3	2	**8**
	C4010000	Professional Nurse: Specialised	7	-	-		-	14	13	11	**38**
	C4010000	Professional Nurse: Production	6	-	-		-	1	1	1	**3**
	F2020000	Staff Nurse	5	-	-		-	12	13	12	**37**
	F2010000	Nursing assistant	3	-	-		-	13	8	8	**29**
	E1010000	Housekeeping Supervisor	4	-	-		-	1	1	1	**3**
	A1020000	Household Aid	2	-	-		-	5	5	5	**15**
	H2030000	Operator (CSSD)	3	-	-		-	1	1	1	**3**
	B1010600	Admin Clerk	4	-	-		-	2	2	2	**6**
C4	**NIGHT DUTY MANAGEMENT**			-	-		-	-	-	-	**-**
	C4010000	Professional Nurse: Night duty manager	9	-	-		-	2	2	2	**6**
	A1020000	Household Aid	2	-	-		-	4	4	2	**10**
		TOTAL		**60**	**60**	**29**	**60**	**169**	**159**	**148**	**685**

7.2 Planning parameters for hospitals

Table B51: Planning parameters for District Hospital beds:

KEY PLANNING VARIABLES: DISTRICT HOSPITALS	Healthcare 2010 Targets
BEDS	
L1 Beds (Excluding Provincially Aided Hospitals)*	1,923
L2 Beds	353
TOTAL: BEDS	**2,276**
CAPITAL: MAINTENANCE & REPLACEMENT	
Buildings	
Equipment: Maintenance & Replacement	
Capital as % of total expenditure	4.0%
HUMAN RESOURCES	
Total Number of Staff	4,402
Total Staff : Bed ratio	1.93
FINANCE	
Total Personnel Expenditure	
Personnel as % of Total Expenditure	68.00%
Total Expenditure	
EFFICIENCY	
Bed occupancy rate	85.0%
Admissions per bed per annum	108
Average length of stay	2.8700
Outpatients per Inpatient day	1.00
Outpatients per Admission	2.87
Cost per bed per annum	
Cost per PDE	
Average cost per post	
OUTPUT	
Total Admissions	246,038
Total Outpatients treated	706,129
Total Inpatient Days	706,129
Total PDE's	941,505

Planning parameters: Regional Hospital Services

Table B52: Planning parameters: Regional Hospital Beds (excluding L2 services in Central Hospitals)

KEY PLANNING VARIABLES: REGIONAL HOSPITALS	Healthcare 2010 Targets
BEDS	
L1 Beds	372
L2 Beds	1,087
TOTAL: BEDS	1,459
CAPITAL: MAINTENANCE & REPLACEMENT	
Buildings	
Equipment: Maintenance & Replacement	
Capital as % of total expenditure	6.0%
HUMAN RESOURCES	
Total Number of Staff	3,627
Total Staff : Bed ratio	2.5
FINANCE	
Total Personnel Expenditure	
Personnel as % of Total Expenditure	65.00%
Total Expenditure	
EFFICIENCY	
Bed occupancy rate	85.0%
Admissions per bed per annum	82
Average length of stay	3.80
Outpatients per Inpatient day	1.02
Outpatients per Admission	3.88
Cost per bed per annum	
Cost per PDE	
Average cost per post	
OUTPUT	
Total Admissions	119,120
Total Outpatients treated	461,708
Total Inpatient Days	452,655
Total PDE's	606,557

Table B53: Planning parameters: Level 2 services in Central Hospitals

KEY PLANNING VARIABLES: REGIONAL HOSPITALS	Healthcare 2010 Targets
BEDS	
L1 Beds	
L2 Beds	1,080
TOTAL: BEDS	1,080
CAPITAL: MAINTENANCE & REPLACEMENT	
Buildings	
Equipment: Maintenance & Replacement	31,952,816
Capital as % of total expenditure	6.5%
HUMAN RESOURCES	
Total Number of Staff	2648
Total Staff : Bed ratio	2.5
FINANCE	
Total Personnel Expenditure	
Personnel as % of Total expenditure	64.00%
Total Expenditure	
EFFICIENCY	
Bed occupancy rate	85.0%
Admissions per bed per annum	78
Average length of stay	4.00
Outpatients per Inpatient day	1.02
Outpatients per Admission	4.08
Cost per bed per annum	
Cost per PDE	
Average cost per post	
OUTPUT	
Total Admissions	83,768
Total Outpatients treated	341,771
Total Inpatient Days	335,070
Total PDE's	448,994

Planning parameters: Tertiary Services

Table B54: Key planning parameters for Level 3 services (Central Hospitals):

KEY PLANNING VARIABLES: CENTRAL HOSPITALS	Healthcare 2010 Targets
BEDS	
L3 Beds	1,460
TOTAL: BEDS	1,460
CAPITAL: MAINTENANCE & REPLACEMENT	
Buildings	
Equipment: Maintenance & Replacement	
Capital as % of total expenditure	7.0%
HUMAN RESOURCES	
Total Number of Staff	5840
Total Staff : Bed ratio	4.0
FINANCE	
Total Personnel Expenditure	
Personnel as % of Total expenditure	55%
Total Expenditure	0
EFFICIENCY	
Bed occupancy rate	85.0%
Admissions per bed per annum	52
Average length of stay	6.00
Outpatients per Inpatient day	1.00
Outpatients per Admission	6.00
Cost per bed per annum	
Cost per PDE	
Average cost per post	
OUTPUT	
Total Admissions	75,494
Total Outpatients treated	452,965
Total Inpatient Days	452,965
Total PDE’s	603,953

8. CONCLUSION: PART B

Table B55: Summary of beds per health district

Health District	Current Beds: 2005/06				Target beds: 2010			
	L1	L2	L3	Total	L1	L2	L3	Total
Cape Town Metro	208	1,165	2,474	3,847	1,246	1,485	1,460	4,191
Cape Winelands	266	463		729	332	562		894
West Coast	339	-		339	250	85		335
Overberg	193	-		193	137	30		167
Eden	420	202		622	300	348		648
Central Karoo	120	-		120	102	10		112
Western Cape	**1,546**	**1,830**	**2,474**	**5,850**	**2,367**	**2,544**	**1,460**	**6371**
Shift per level from current to target					**821**	**714**	**-1,014**	**521**

The above table illustrates the shift of beds between levels of care in the Cape Town Metro district and the rural districts.

Table B56: Distribution of L1 beds per health district

Health District	Population density: persons per sq km	L1 beds per 1000 uninsured population
Cape Town Metro	1,330	0.55
Cape Winelands	32	0.57
West Coast	10	0.95
Overberg	21	0.71
Eden	22	0.71
Central Karoo	2	1.65
Western Cape	**40**	**0.62**

The direct relationship between population density and the allocation of L1 beds is illustrated in Table B56. During the weighting process less densely populated geographical areas were allocated more beds to compensate for longer travelling distances that could impact on for example the average length of the hospital stay.

Table B57: Distribution of L2 and L3 beds per geographic area

Geographic Area	L2 beds per 1000 uninsured population	L3 beds per 1000 uninsured population*
Cape Town Metro	0.65	
Rural Districts	0.68	
Western Cape	**0.66**	**0.38**

Level 1 beds are an integral part of the DHS and the L2 beds are referral beds that are allocated per geographical region. Table B55 illustrates the strengthening of L2 specialist services in the rural districts which should ensure that the minimum number of rural patients are referred to regional hospitals in Cape Town.

Level 3 beds are regarded as national beds. The allocation of 0.38 beds per 1,000 is based on the uninsured population of the Western Cape. Currently a significant number of patients referred from neighbouring provinces are treated in the central hospitals. If the uninsured population of the Northern and Eastern Cape are taken into account the allocation is approximately 0,2 beds per 1,000.

Table B58: Current versus planned staff in acute hospitals

Acute Hospital	Type of Hospital	Health District	Total Staff		
			Current Filled Posts	Target 2010	Shift
Eerste River Hospital	District	Cape Town Metro	220	180	-40
False Bay Hospital	District	Cape Town Metro	167	78	-89
GF Jooste Hospital	District	Cape Town Metro	504	512	8
Hottentots Holland Hospital	District	Cape Town Metro	275	258	-17
Karl Bremer Hospital	District	Cape Town Metro	559	408	-151
Somerset Hospital	Regional	Cape Town Metro	554	591	37
Victoria Hospital	Regional	Cape Town Metro	330	413	83
Wesfleur Hospital	District	Cape Town Metro	119	62	-57
Khayelitsha Hospital	District	Cape Town Metro	-	408	408
Mitchell's Plain Hospital	District	Cape Town Metro	-	408	408
Mowbray Maternity Hospital	Regional	Cape Town Metro	293	496	203
Groote Schuur Hospital	Central	Cape Town Metro	3,595	3497	-98
Red Cross Hospital	Central	Cape Town Metro	1,069	1161	92
Tygerberg Hospital	Central	Cape Town Metro	3,865	3888	23
Sub Total		**Cape Town Metro**	**11,550**	**12360**	**810**
Ceres Hospital	District	Cape Winelands	95	124	29
Montagu Hospital	District	Cape Winelands	61	60	-1
Robertson Hospital	District	Cape Winelands	74	159	85
Eben Donges Hospital	Regional	Cape Winelands	560	764	204
Stellenbosch Hospital	District	Cape Winelands	186	169	-17
Paarl Hospital	Regional	Cape Winelands	558	804	246
Sub Total		**Cape Winelands**	**1,534**	**2080**	**546**
Caledon Hospital	District	Overberg	78	100	22
Hermanus Hospital	District	Overberg	75	115	40
Otto Du Plessis Hospital	District	Overberg	62	60	-2
Swellendam Hospital	District	Overberg	66	99	33
Sub Total		**Overberg**	**281**	**374**	**93**
Beaufort West Hospital	District	Central Karoo	114	115	1
Laingsburg Hospital PAH	District	Central Karoo		40	40
Murraysburg Hospital PAH	District	Central Karoo		40	40
Prince Albert Hospital PAH	District	Central Karoo		40	40
Sub Total		**Central Karoo**	**114**	**235**	**121**
Knysna Hospital	District	Eden	174	177	3
Ladismith Hospital	District	Eden	50	60	10
Mossel Bay Hospital	District	Eden	161	177	16
Oudtshoorn Hospital	District	Eden	231	247	16
Riversdale Hospital	District	Eden	82	79	-3
Uniondale Hospital PAH	District	Eden		40	40
George Hospital	Regional	Eden	484	746	262
Sub Total		**Eden**	**1,182**	**1526**	**344**
Citrusdal Hospital	District	West Coast	43	60	17
Clanwilliam Hospital PAH	District	West Coast		60	60
LAPA Munnik Hospital	District	West Coast	26	29	3
Radie Kotze Hospital	District	West Coast		60	60
Swartland Hospital	District	West Coast	191	169	-22
Vredenburg Hospital	District	West Coast	122	159	37
Vredendal Hospital	District	West Coast	104	148	44
Sub Total		**West Coast**	**486**	**685**	**199**
Sub Total: Rural			**3,597**	**4900**	**1303**
Grand Total			**15,147**	**17260**	**2113**

Assumption: All provincial aided hospitals (PAH) will be provincialised by 2010

Table B59: Planned staffing profile per category of staff in acute district and regional hospitals

	Total: Metro	Total: Overberg	Total: Cape Winelands	Total: Eden	Total Central Karoo	Total: West Coast	Total L1 and L2	
L1 Beds	1246	137	332	300	102	250	**2367**	
L2 Beds	497	30	562	348	10	85	**1532**	
Total Beds	**1743**	**167**	**894**	**648**	**112**	**335**	**3899**	
Category of Staff	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Posts**	**Profile**
Therapists	92	6	60	38	6	16	**218**	**2.50%**
Technical Support	76	14	50	44	10	25	**219**	**2.51%**
General Support	772	96	402	319	62	167	**1818**	**20.86%**
Pharmacists	26	4	17	15	4	7	**73**	**0.84%**
Nursing Services	1950	166	1086	757	91	307	**4357**	**50.00%**
Medical Professionals	271	13	155	102	7	22	**570**	**6.54%**
Management and Admin	547	68	266	220	53	132	**1286**	**14.76%**
Auxiliary workers	80	7	44	31	2	9	**173**	**1.99%**
Grand Total	**3814**	**374**	**2080**	**1526**	**235**	**685**	**8714**	**100%**
Staff per Bed	**2.19**	**2.24**	**2.33**	**2.35**	**2.10**	**2.04**	**2.23**	

Table B60: Planned staffing profile per category of staff in the central hospitals

	Groote Schuur Hospital	Tygerberg Hospital	Red Cross Hospital	Total: Central Hospitals	
L2Beds	286	684	50	**1020**	
L3 Beds	685	515	260	**1460**	
Total Beds	**971**	**1,199**	**310**	**2480**	
Category of Staff	**Posts**	**Posts**	**Posts**	**Posts**	**Profile**
Therapists	142	149	42	**333**	**3.9%**
Technical Support	73	73	20	**166**	**1.94%**
General Support	603	624	170	**1397**	**16.35%**
Pharmacists	27	27	12	**66**	**0.77%**
Nursing Services	1693	1966	580	**4239**	**49.6%**
Medical Professionals	445	492	127	**1064**	**12.45%**
Management and Admin	363	401	162	**926**	**10.84%**
Clinical Technical Support	48	49	16	**113**	**1.32%**
Auxiliary workers	103	107	32	**242**	**2.83%**
Grand Total	**3497**	**3888**	**1161**	**8546**	**100%**
Staff per bed	**3.6**	**3.24**	**3.75**	**3.45**	

PART C: SPECIALISED HOSPITALS

1. WESTERN CAPE REHABILITATION CENTRE (WCRC)

The Western Cape Rehabilitation Centre is an example of a high intensity rehabilitation centre which are characterised by:

- Rehabilitation services are provided by a multidisciplinary team;
- There is a high frequency of contacts, i.e. 4-6 hours of rehabilitation per person per day;
- Services may be provided on an in or out patient basis;
- The majority of the patients have long-term activity limitations / participation restrictions;
- Services should be rendered for at least 5 days per week per patient, for in-patients, or according to the patient's needs, in the case of out patients.
- Interdisciplinary team assessment and disability management planning; and
- Length of stay varies from an average 28 days (e.g. traumatic brain injury or stroke) to 90 days or longer for paraplegia or quadriplegia.

The Western Cape Rehabilitation Centre is the only high intensity rehabilitation facility in the Western Cape at present. Services are rendered to all districts in the province and also to neighbouring provinces. This service provides comprehensive rehabilitation/disability management services to people who are physically disabled with complex conditions or multiple system involvement, e.g. traumatic brain injury, spinal cord injury, stroke, amputations or combinations of these conditions.

Table C1: Staff establishment: Western Cape Rehabilitation Centre

			Salary Level	Posts
A1	**OFFICE: HEAD OF ADMINISTRATION**			
	C6010308	Assistant Director	10	1
A2	**FINANCE**			
	HEAD OF FINANCE:			
	B2040000	Senior Admin Officer	8	1
	B2040000	Admin Officer	7	1
	EXPENDITURE:			
	B1010200	Financial Admin Clerk	5	3
	INCOME			
	C6010308	Assistant Director: Financial Admin		
	B2040000	Case Manager	8	1
	B2040000	Admin Officer/State Accountant	7	1
	B1010200	Financial Admin Clerk	5	2
	ADMISSIONS			
	B1010600	Admin Clerk	6	2
	SUPPLY CHAIN MANAGEMENT			
	B1010500	Admin Clerk	5	6
	A2010000	Stores Assistant	2	2
	LINEN CONTROL			
	E1010000	Linen Supervisor	4	1
	A2010000	Linen Stores Assistant +CSSD	2	1
	HUMAN RESOURCES			
	B2040000	Senior Admin Officer	8	1
	B2040000	Admin Officer	7	1
	B1010400	Chief Admin Clerk	7	
	B1010400	Admin Clerk	4	3
A3	**SUPPORT SERVICES**			
	HEAD OF SUPPORT SERVICES:			
	B2040000	Admin Officer	7	1
	TRANSPORT SERVICES			
	H3010100	Light vehicle driver	3	1
	H3010200	Heavy vehicle driver	4	1
	B1010400	Admin Clerk	4	1
	TELEPHONE SERVICES			
	B1020200	Switchboard Operator	3	1
	PORTER SERVICES			
	A2010000	Porter	2	9
	REGISTRY AND MESSENGER SERVICES			
	B1010300	Admin Clerk (1 Gen Reception)	4	3
	A2010000	Messenger	2	2
	H2030000	Operator	2	1

			Salary Level	Posts
	CATERING SERVICES			
	E1010000	Food Services Manager	7	1
	E1010000	Food Services Supervisor	4	2
	E1020000	Food Services Worker	3	4
	A1040000	Food Services Aid	1	8
	TECHNICAL SERVICES			
	A4020000	Handyman (Wheelchair w)	5	1
	G4020000	Artisan Foreman	7	1
	G4010000	Artisan	6	2
	A4020000	Handyman	4	3
	E1010000	General Foreman	4	2
	A4020000	Tradesman Aid	2	2
	A1030000	Groundsman	1	6
MEDICAL AND MEDICAL ANCILLARY SERVICES				
B1	**OFFICE: HEAD OF INSTITUTION**			
	C6010200	CEO	12	1
	C6010200	Clinical Operations Officer	11	1
	B1010600	Administrative Clerk	4	2
B2	**CLINICAL SERVICES**			
	C3010100	Principal Medical Officer	11	3
	C3010100	Medical Officer	10	3
	C3010100	Development Officer	8	1
B3	**MEDICAL ANCILLARY SERVICES**			
	C3030100	Assistant Director: Health Services	10	1
	C3030100	Principal Pharmacist	9	1
	F1010000	Pharmacy Assistant	4	2
	B1010500	Admin Clerk	4	2
	C3050400	Chief Radiographer	8	1
	C3050400	Radiographer	7	1
	F1010000	Darkroom operator	4	1
	C3050200	Physiotherapist	8	2
	C3050200	Physiotherapist	7	12
	C3050100	Occupational Therapist	8	2
	C3050500	Audio / Speech Therapist	8	1
	C3060100	Dietician	7	1
	F1010000	Auxiliary Services Officer (OT & Phys.Ass.)	4	8
	C3050100	Occupational Therapist	7	11
	C5040400	Social Worker	8	1
	C5040400	Social Worker	7	8
	A2010000	Seamstress	3	1
	C3050500	Audio / Speech Therapist	7	1
NURSING SERVICES				
C1	**OFFICE: HEAD OF NURSING**			
	C6010307	Nursing Services manager	11	1
	C6010307	ASD : Nursing: Area	9	2
	C6010307	PN infection control	8	1
	C4010000	Chief Professional Nurse (Development)	8	2
	B1010600	Admin Clerk	4	2
C2	**GENERAL IN PATIENT SERVICES (Incl RELIEF)**			
	C4010000	Professional Nurse: Unit Manager L9	9	
	C4010000	Professional Nurse: Unit Manager L8	8	8
	C4010000	Professional Nurse: Specialised (Production)	7	
	C4010000	Professional Nurse: Production	6	35
	F2020000	Staff Nurse	5	34
	F2010000	Nursing assistant	3	99
	E1010000	Housekeeping Supervisor	4	8
	A1020000	Household Aid	2	41
	B1010600	Admin Clerk	4	8
C3	**SPECIALISED NURSING SERVICES**			
	H2030000	Operator (CSSD)	3	1
C4	**NIGHT DUTY MANAGEMENT**			
	C4010000	Prof Nurse: Night duty manager	8	2
	A1020000	Household Aid	2	4
				395

2. PSYCHIATRIC HOSPITAL SERVICES

For specialist psychiatric hospital level, Health Care 2010 represents a continuation of the process of rapid downsizing and consolidation of services started in 1997 and confirmed in Cabinet Resolution 419 of 1998.

- At that stage there were 3 500 beds, 1 750 for Intellectual Disability and 1 750 for psychiatric services.
- In 2005 there are 2 127 beds in total.
- Progress in downsizing to the proposed 1 557 total beds should be evaluated with this in mind.
- NGO run step down services were established on the grounds of Alexandra Hospital for Intellectual Disability Services and at Stikland Hospital for psychiatric services, these facilities provided for rapid de-hospitalisation of chronic patients in 1997. The future role of these facilities requires firm decisions.

Table C2: Bed plan: psychiatric services

HOSPITAL	SERVICE	2010
General psychiatric services		
Lentegeur	Acute Adult	130
	Adult therapeutic unit	15
	Adolescent unit for Psychosis management	18
	Adolescent therapeutic unit for non psychotic illness	12
	Intensive rehabilitation	40
	Long Term	0
	Frail ill	10
	Total	**225**
Stikland		
	Acute Adult	130
	Adult therapeutic unit	28
	Psychogeriatric	40
	Alcohol Detoxification	30
	Opiate Detoxification unit (Additional to 2010 plan)	10
	Rehabilitation Psychogeriatric	20
	Intensive rehabilitation adult	30
	Residential care	0
	Frail ill	10
	Total	**298**
Valkenburg	Acute Adult	132
	Adult therapeutic unit	15
	Intensive rehabilitation adult	40
	Residential care	0
	Frail ill	8
	Total	**195**
GRAND TOTAL		**718**

HOSPITAL	SERVICE	2010
FORENSIC SERVICES		
Valkenberg	**Observation Services**	
	Male	30
	Female	10
	Juvenile	10
	Intellectual Disability	10
	State Patients	
	Maximum secure male	50
	Medium secure male	65
	Low secure male	30
	Total	**205**
Lentegeur	**State Patients**	
	Medium secure Female	20
	Male Rehabilitation	85
	Male step down (new for possible NGO partner)	20
	Medium secure Juvenile and Intellectual disability	20
	Total	**145**
GRAND TOTAL		**350**
INTELLECTUAL DISABILITY SERVICES		
Alexandra	Acute Adult	36
	Medium term dual diagnosis / behaviour disturbance	95
	Psychosocial Rehabilitation	95
	Respite & assessment for frail patients	24
	Residential	0
	Total	**250**
Lentegeur	Acute children's assessment & training	15
	Medium term dual diagnosis / behaviour disturbance	110
	Psychosocial Rehabilitation	85
	Respite & assessment for frail patients – children	20
	Respite & assessment for frail patients – geriatric & multiple handicapped children	20
	Residential	0
	Total	**250**
GRAND TOTAL		**500**
Total planned beds in Psychiatric beds		**1568**

Table C3: Planning parameters of psychiatric hospitals

KEY PLANNING VARIABLES:	Healthcare 2010 Targets
BEDS	
General psychiatric beds	718
Forensic services	350
Intellectual disabillity	500
TOTAL: BEDS	**1,527**
CAPITAL: MAINTENANCE & REPLACEMENT	
Buildings	
Equipment: Maintenance & Replacement	
Capital as % of total expenditure	1.5%
HUMAN RESOURCES	
Total Staff : Bed ratio for acute beds	1.3
Total Staff : Bed ratio for other beds	0.85
Total Staff : Bed ratio for forensic beds	1.5
FINANCE	
Total Personnel Expenditure	
Personnel as % of Tot Exp	78.75%
Total Expenditure	
EFFICIENCY	
Bed occupancy rate	90.0%
Outpatients per Inpatient day	0.04
Average length of stay	70
Cost per bed per annum	
Cost per PDE	
Average cost per post	
OUTPUT	
Total Admissions	7,166
Total Outpatients treated	20,065
Total Inpatient Days	501,620
Total PDE's	508,308

PART D: EMERGENCY MEDICAL SERVICES

1. INTRODUCTION

The Constitution of South Africa, Chapter 2, Section 27 (3) states that no one may be refused emergency medical treatment and the Health Act, Chapter 2, Section 5 states that a Healthcare Provider, health worker or health institution may not refuse a person emergency medical treatment.

2. SERVICE NORMS AND STANDARDS

2.1 Information Communication Technology Services

Emergency Medical Services must receive and process emergency calls throughout the Province in all six Districts. Once registered, the emergency calls received must be dispatched via a communication system to a responding ambulance or emergency vehicle and the responding vehicle must be able to return communication immediately wherever its location in the Province.

The composite vehicle resource available to EMS must be rationalized between the responses required and managed across the geographic area of each district to ensure the most appropriate, efficient and effective response.

2.2 Emergency Ambulance Services

All communities in the six districts (5 rural and the Cape Town Metro district) of the Western Cape must have access to Emergency Ambulance Response within the service targets. In built up, town or so-called urban environments the target response time is 15 minutes and EMS must meet this target in 90% of responses. In rural or agricultural areas (outside of built up areas) the response time target is 40 minutes for all priorities achieved in 90% of all cases.

Emergency Ambulance Services are also required to transfer acutely ill patients between hospitals, so called Inter-Hospital Transfers, within the same response time targets appropriate to the respective emergency.

2.3 Medical Rescue Services

All communities in the six districts of the Western Cape must have access to Emergency Medical Rescue Response within the service targets. All rescue responses are Priority 1 responses and must therefore be achieved in 15 minutes in urban areas and 40 minutes in rural areas 90% of the time.

Medical rescue means the medical release from entrapment e.g. in a motor vehicle accident where patients are trapped by the compressed frame and body of the vehicle.

2.4 Patient Transport Services

All patients referred for consultation, from one health institution to another, must be transported by the Non Emergency Transport Services (HEALTHNET) and reach their referral hospital by the appointment time.

2.5 Aero-medical Services

An air service to transport acutely ill patients from distant referring centres is required to keep ambulance services in local towns, reduce transfer time and improve the quality of care to rural patients.

These services may include a combination of fixed and rotor wing aircraft. Rotor wing aircraft provide the added advantage of being able to assist with medical rescue because of the capacity to winch patients up into the aircraft.

2.6 Emergency Medicine

EMS is responsible for the co-ordination of the development of policy, protocol, clinical governance and quality management within the Emergency Departments across the Province as well as coordinating the Education and Training for specialists and undergraduates in Emergency Care.

2.7 Management, Administration and Support

In order to manage the above EMS functions EMS requires;

- Strategic and General Management
- Financial Management and Supply Chain Management
- Human Resource Management and Development
- Public Liaison and Communication
- Operational Management (included in the Ambulance Services)

2.8 Infrastructure

2.8.1 Vehicle Fleet

Emergency Medical Services has a fleet of several hundred vehicles that must be monitored and managed to keep them in an operational condition.

2.8.2 Facilities

Emergency Medical Services needs fixed facilities from which Emergency Resources and Support functions can be launched. These facilities must be optimally located to facilitate appropriate response but do not necessarily form the only static point from which resources respond.

3. SERVICE PLAN FOR EMERGENCY MEDICAL SERVICES

3.1 Methodology

An electronic modelling tool was developed to assist in the planning process. This tool correlates indicators that are interdependent e.g. population size and the expected number of emergency cases per geographical area; ambulance hours required; the number of ambulances required; ambulance staff required, etc. The tool was applied to develop a scenario that would address the need for emergency services within the context of the optimal utilization of human and other resources. The proposed scenario will enable EMS to meet the required service delivery standards in terms of response time, mission time, quality of care, etc.

3.2 Emergency rate

3.2.1 The emergency rate estimate is based on:

- The prevalence rate of trauma and medical emergencies; and
- The inter-hospital transfer rate.

3.2.2 In modelling the Service Plan an emergency rate of 350 per 1000 population was applied. This is based on the total number of patients that present for emergency treatment at trauma and emergency units in one year. It is assumed that 25% of the patients is transported by ambulance.

3.2.3 The inter-hospital transfer rate is determined by calculating the total number of hospital admissions per level of care in 2010. Projected admission rates per level of care were applied:

Table D1: Target admission rates per level of care: 2010

L1 Admissions/1000	67
L2 Admissions/1000	54
L3 Admissions/1000	10

It is assumed that 20% of total admissions will be transferred between hospitals by means of ambulances.

Table D2: Calculation of emergency rate in the Cape Town Metro district: 2010

Inter hospital transfer rates			Emergencies			Total ambulance missions per annum
L1+L2+L3 Admissions	Hospital Transfer rate	Number of transfers / annum	Emergencies / 1000	Percentage of emergencies arriving by ambulance	Total emergency missions	
428,803	20.0%	85,761	326	25%	268,411	354,172

The same assumptions were applied to the rural districts except for the inter-hospital transfer rate that was adjusted to 13%.

Table D3: Calculation of emergency rate in the rural districts: 2010

Inter-hospital transfer rates			Emergencies			Total ambulance missions per annum
L1+L2+L3 Admissions	Hospital transfer rate	Number of transfers / annum	Emergencies / 1000	Ambulance utilisation rate for emergencies	Total emergency missions	
245,452	12.5%	30,682	326	25%	153,642	184,324

Table D4: Summary of key indicators

Key indicators	Cape Town	Rural districts
Emergency rate per 1000 population	32.6%	32.6%
Ambulance utilization rate per 1000 population	108	98
Percentage of total population utilizing ambulance services	10.8%	9.8%
Kilometres travelled per 1000 population	2,042	5,555

3.3 Demographic indicators

3.3.1 Cape Town Metro district

Table D5: Population density

District	Area in Sq Km	% of Total Area	Total Population 2006	Persons per sq km
Central metro	620	85.8%	2,680,197	4323
Metro: urban/rural areas	1,880	14.2%	445,046	237
Cape Town: Total	**2,500**	**100.0%**	**3,125,243**	**1250**

3.3.1.1 Response time

- Eighty five percent of the population in the Cape Town Metro district is concentrated in an area of approximately 620 km² resulting in an average density of 4,257 persons per km². An estimated 14.2% of the population lives in more remote areas in the metro district with an average density of 233 persons per km².
- If the central Metro is divided into six ambulance dispatching areas in relation to population density, the estimated average distance to an emergency is 6 km. The new computerised ambulance dispatch system calculates the most appropriate distribution of ambulances in a geographical area in order to respond optimally in the case of an emergency. In theory the number of dispatch areas can thus be increased to the number of ambulances available that will result in an even shorter average distance to an emergency. However, for planning purposes six optimally situated distribution sites have been selected for the dispatch of ambulances in the central metro.
- The remote areas include Hout Bay, False Bay, Atlantis and Somerset West. If ambulances are allocated to each of these areas, the average distance to emergencies is 14 km. The average for the Cape Town metro district is 10 km.
- The response time in the central Metro calculated from the moment the call is received should be less than 12 minutes if 3 minutes is allowed for dispatch and a speed of 50 - 60 km per hour to the emergency scene. Based on the same assumption the response time in the remote areas of the Metro should be 20 minutes and less. The average response time for the Cape Town metro district is approximately 15 minutes.

3.3.1.2 Mission time

- The current distribution of hospital trauma and emergency units in relation to population distribution and density is inequitable as there are as yet no hospitals in the densely populated Khayelitsha and Mitchell's Plain sub districts. The result is that emergencies from these areas have to be transported to hospitals in other sub districts. Another contributing factor is that not all the existing acute hospitals render trauma and emergency services. These factors result in longer distances for ambulances from the emergency scene to the hospital.
- The completion of the planned hospitals in Khayelitsha and Mitchell's Plain will significantly increase access to hospital trauma and emergency services. The Service Plan also allocates trauma and emergency units to all the acute hospitals in the Cape Town Metro district. In addition, maternity units have been planned for all the acute hospitals except Red Cross hospital.
- By 2010 the planned distribution of hospitals together with the comprehensive packages of services to be rendered at these hospitals will result in shorter distances for ambulances to drive from the emergency scene to the nearest appropriate hospital.

Table D6: Summary of ambulance driving time analysis

Optimal efficiency Model 2010	Km to emergency site	Km from emergency site to hospital	Total Km	Speed	Time in minutes to site	Time in minutes to hospital	Total time in minutes
Central metro	6.00	4.67	10.67	55	7	5	12
Metro: urban/rural areas	14.00	19.20	33.20	55	15	21	36
Cape Town: Average	10.00	8.97	18.97	55	11	10	21

Table D7: Mission time in minutes

Mission Time Estimate:	Cape Town metro district		
	Urban/rural	Central	Average
Ambulance dispatch time*	3	3	3
To the emergency scene*	15	7	11
On the emergency scene	15	15	15
From scene to hospital	21	5	10
At hospital	15	15	15
Cleaning/stock/refuelling etc.	6	6	6
Total mission time (minutes)	75	51	60
Driving time (minutes)	30	22	26
Driving time as % of total time	40%	43%	43%

Note: *The response time = dispatch time + driving time to the emergency scene.

- The EMS plan for the Cape Town metro district assumes an average mission time of 60 minutes as apposed to the current 94 minutes.

3.3.2 Demographic indicators: Rural districts

- Densely populated areas in and around Paarl, Stellenbosch, Worcester and George are similar to the Cape Town metro district with regard to access to ambulance services. However, the distribution of hospitals is less favourable and therefore the average future mission time in these areas is estimated at 75 minutes. A relatively large proportion of the rural population are concentrated in the abovementioned semi urban settlements.
- Less than 5% of the rural population lives in low density, remote areas where access is poor due to road infrastructure.
- Ambulance dispatch sites as well as the number of vehicles allocated in the rural districts are determined by population density and the location of hospitals except for low population density areas where ambulances were allocated to ensure access to emergency services.
- The average mission time for the rural districts is calculated at 110 minutes with an average travel distance of 49 km.

3.4 Calculation of the number of ambulances and staff required

Table D8: Calculation of the number of ambulances and staff required

Indicator	Cape Town Metro district	Rural Districts	Western Cape
Total ambulance hours required per annum	359,679	337,926	697,606
Total ambulance hours required per day	985	926	1,911
Missions per day	985	505	1,490
Allowance for major repairs, accidents and routine services per ambulance (days per annum)	20	20	20
Operational fleet size required	79	87	166
Average missions per ambulance per day	12	6	8.5
Additional ambulances required	4	5	9
Total ambulances fleet size required	83	92	175

3.4.1 Cape Town Metro district

3.4.1.1 In calculating the number of required ambulances, emergency calls received during a week at the Metropolitan communications centre were analysed and profiled over 24 hours per day. By applying this method it was possible to determine the peak hours per day and the number of ambulances required during that period. The following profile was used in the development of the EMS service plan.

Table D9: Profiling of ambulance hours required per day in the Cape Town Metro

Number of ambulances required per 8 hour period			Ambulance hours available	Staff per shift	Missions per day
42	required for	8 hours	336	148	218
69	required for	8 hours	552	243	358
79	required for	8 hours	632	278	410
		24 hours	1,520	669	985

3.4.1.2 The number of ambulances required during the peak period was regarded as the total required operational fleet size. A total fleet size of 83 ambulances was allocated to the Cape Town Metro district. The allocation of staff is not determined by the total number of ambulances but by the utilization profile as shown in the Table D8 above. If all 83 ambulances were to be 100% staffed, 835 staff would have been required. The proposed 669 staff results in an efficiency gain of 20%.

3.4.2 Rural districts

3.4.2.1 The number of ambulances allocated to the rural districts was determined by population density as well as the minimum requirement to ensure 24-hour access to emergency services in lower density areas.

3.4.2.2 Twenty-six towns have a low emergency call rate per hour due to a small drainage population and where one ambulance was allocated per town. Nineteen towns were allocated two or more ambulance. (see Annexure H/I). A total of 87 operational ambulances were allocated to the rural districts with a total fleet size of 92.

Table D10: Profiling of ambulance hours required in the rural districts

Number of ambulances required per 8 hour period			Ambulance hrs available	Staff per shift	Missions per day
63	required for	8 hours	504	222	141
75	required for	8 hours	600	264	168
87	required for	8 hours	696	307	195
		24 hours	1,800	793	505

3.4.2.3 The above staffing profile will provide 100% staffing for 63 rural ambulances. The 26 single ambulance dispatch sites will be staffed 100% for 24 hours. Where more than one ambulance is allocated, the staffing is aligned with the profiled dispatch rate as shown in the Table above. If all 87 ambulances were to be 100% staffed, 920 staff would have been required. The proposed 793 staff result in an efficiency gain of 13.8%.

Table D11: Summary: operational ambulances required by 2010

District	Ambulances
Cape town metro district	79
Rural districts	87
Total Western Cape	166

Total fleet size for the Cape Town Metro district	**83**
Total fleet size for the rural districts	**92**
TOTAL	**175**

Table D12: Summary of ambulance staff required by 2010

Ambulance Staff Required		**Cape Town**	**Rural**	**Total**
Profiled Staff		669	793	1,462
Job title: Ambulance Staff	**Skill Mix**			
Emergency Care Practitioner Advanced	20%	134	159	293
Emergency Care Practitioner Intermediate	50%	335	396	731
Emergency Care Practitioner	30%	200	238	438
	Total Staff	**669**	**793**	**1,462**

3.5 Communication centres

3.5.1 In a joint initiative with the Departments of Local Government, Housing and Community Safety, EMS will establish Disaster Management and Emergency Medical Services Communication Centres in Bredasdorp, Worcester, Cape Town, Beaufort West, George and Moorreesburg. The Bredasdorp and Beaufort West Centres became operational during June and August 2005 respectively and the Cape Town Centre was officially opened on 15 December 2005 and it is anticipated that the George, Worcester and Moorreesburg centres will become operational during 2006/07.

Table D13: Staffing for communication centres

Health District	Dispatchers	Call Takers	Dispatcher / Call Taker	TOTAL
Cape Town	21	29		50
West Coast			5	5
Cape Winelands			5	5
Overberg			5	5
Eden			5	5
Central Karoo			5	5
Western Cape Province	**21**	**29**	**25**	**75**

Management and support staff allocated to the communication centres is included in Table D15.

3.6 Medical Rescue Services

All communities in the six districts of the Western Cape must have access to Emergency Medical Rescue Response within the service targets. All rescue responses are Priority 1 responses and must therefore be achieved in 15 minutes in urban areas and 40 minutes in rural areas 90% of the time.

3.6.1 Cape Town Metro district

Based on the incidence rate four sub-districts in the Cape Town Metro district require medical rescue units as well as specialised vehicles. Each unit must be available 24 hours per day.
Staffing Parameters:

- 4 rescue units
- 4 specialised vehicles
- 2 staff members per unit/vehicle
- Staffed at 100%

3.6.2 Rural districts

Twenty-three rural towns have rescue units, five of which are District Rescue centres with an additional rescue unit (see Annexure H/I)
Staffing Parameters

- 23 rescue units
- 5 main centres with 2 vehicles per centre staffed with one staff member per vehicle
- 1 staff member per unit/vehicle at 18 minor centres (Second staff member drawn from ambulance staff if/when required.)

Table D14: Total staff for Medical Rescue Services personnel for rural and metro districts

Health District	Rescue Vehicles	Total Staff
Cape Town	8	84
West Coast	6	32
Cape Winelands	7	37
Overberg	5	26
Eden	6	32
Central Karoo	4	21
Total	**36**	**232**

3.7 Planned Patient Transport Services

3.7.1 The Non-emergency Transport Services (HEALTHNET) transport patients from one institution to another when they are referred for consultation. Approximately 45,000 such patients are required to be transported annually. A network of transport routes exists, serviced by 16-seater, 25-seater and 60-seater busses. These services are generally only available from Monday to Friday.

3.7.2 Each bus needs one driver if the travel distance is within 200km of the referral Centre and if the travel distance is greater than 200km from the referral centre, two drivers are required for safety reasons.

3.7.3 A transport hub is created in the network in each referral centre i.e. Cape Town, George, Beaufort West, Worcester and Paarl. Busses converge on hubs and redistribute or consolidate patients for further transit.

3.7.4 EMS has 46 Patient Transport Vehicles.

- 16-seaters
- 25-seaters
- 50-seaters

3.7.5 The Healthnet Routes include;

- Ceres – Cape Town
- Montague – Worcester
- Mc Gregor – Robertson
- De Doorns – Worcester
- Worcester – Cape Town
- Murraysburg – Nelspoort
- Beaufort West – Worcester – Cape Town
- Plettenberg Bay – George
- Dysselsdorp – George
- Groot Brak – Mossel Bay
- Mossel Bay – Cape Town
- Oudtshoorn – Riversdale
- Barrydale – Caledon
- Arniston – Caledon
- Gansbaai – Botrivier
- Botrivier – Cape Town
- Villiersdorp – Cape Town
- Vredendal – Cape Town
- Lamberts Bay – Clanwilliam
- Elands Bay – Piketberg
- Porterville- Piketberg
- Riebeek West – Malmesbury
- Veldrift – Vredenburg
- Hopefield – Vredenburg
- Saldahna – Vredenburg
- Vredenburg – Cape Town
- Cape Town Local Area

3.7.6 The projected fleet requirement for 2006 is 56 vehicles and the projected driver requirement for the service is 77. The Healthnet System requires a provincial manager, with some additional managerial and administrative support, to assist with scheduling, enquiries, typing etc is required.

3.8 Aeromedical Services

3.8.1 The Red Cross Air Mercy Service flies approximately 342,000 km annually and rescues and transports 933 patients (517 fixed wing, 39 rescues and 416 helicopter transfers).

3.8.2 Economic modelling of long distance patient transfers indicates that the use of air response and transport is efficient and provides a safe quality care environment with shorter transit times.

3.8.3 Current utilization figures indicate that the long distance transfers can economically be achieved through the deployment of three aircraft, a fixed wing and helicopter operating from Cape Town and a helicopter operating from Oudtshoorn.

3.9 Emergency Medicine

The Emergency Medical Services is responsible for the development of policy, protocol, clinical governance and quality management within the emergency departments across the Province as well as coordinating the education and training for specialists and undergraduates in emergency care. A Chief Specialist is provided to drive this program and process. Support in the form of a specialist consultant, registrars, medical officers, paramedics and administrative support is also required to deliver these services across the Province. This section will also provide clinical governance to the pre-hospital EMS.

3.10 Management, Administration and Support

The Emergency Medical Service is an autonomous service delivery unit, cross cutting the Health service platform. To manage this diverse service, with a budget in the region of R 350 million, a Chief Executive Officer with assistant managers is required. The component is self-sufficient with regard to financial management (including supply chain management), human resources and general administrative support and also requires dedicated personnel to support the managers in this regard. A dedicated fleet manager with support staff is also required for fleet management.

Table D15: Summary planning parameters for EMS

Total projected population in 2010	5,197,892
Population based utilization indicators related to ambulance services:	
Emergency rate per 1000 population	33%
Emergencies serviced by ambulance	25.0%
Emergency missions per annum	426,227
Inter-hospital transfer rate based on admissions	13%
Inter-hospital transfers	117,776
Total ambulance missions per annum	544,003
Ambulance utilization rate per 1000 population	104.66
Percentage of total population utilizing ambulance services	10.5%
Response and Mission time in minutes:	
Response time: Urban	13
Response time: Rural	32
Mission Time: Urban	60
Mission Time: Rural	110
Calculation of ambulances required:	
Total ambulance hours required per annum	697,606
Total ambulance hours required per day	1,911
Total missions per day	1,490
Operational fleet size	166
Allowance for maintenance per ambulance per annum (days)	20

Additional ambulances required		9
Total number of ambulances required (Fleet size)		175
Average missions per ambulance per day		8.5
Average ambulance hours per ambulance per day		10.92
Vehicle utilization indicators		
Average distance travelled per mission: Urban		18
Average distance travelled per mission: Rural		49
Average kilometres per ambulance per annum		98,253
Total ambulance km per annum		17,194,324
Ambulance Staff Required		
Profiled Staff		1462
Skill mix: Ambulance Staff	**Skill Mix**	
Emergency Care Practitioner Advanced	20%	292
Emergency Care Practitioner Intermediate	50%	731
Emergency Care Practitioner	30%	439
	Total Staff	1462
Rescue Staff Required:		
Rescue Vehicles		36
Total Staff		232
Skill mix: rescue staff	**Skill Mix**	
Emergency Care Practitioner Advanced	20%	46
Emergency Care Practitioner Intermediate	80%	186
	Total Staff	232
Communication Centre: Staff Required		
Call Taker/Dispatcher		25
Call Taker		29
Dispatcher		21
	Total Staff	75
Management and support staff		597
TOTAL PROPOSED STAFF ESTABLISHMENT FOR EMS		**2,366**
Current staff establishment of EMS		**1,280**
Difference		**1,086**

PART E: FORENSIC PATHOLOGY SERVICES

1. INTRODUCTION

For the past 30 years or more the police have been responsible for the custody of the persons presumed to have died from unnatural causes. The South African Police Service (SAPS) was responsible for the 'medico-legal mortuaries' and for the transport of corpses to these facilities. The Departments of Health have always provided the medical expertise of pathologists and doctors for the 'medico-legal investigation of death'. Now, in terms of section 27(2) of the Health Act, 2003, the provincial Departments of Health (Heads of Department) will be responsible for implementation of the entire Forensic Pathology Service, excluding Forensic Laboratories (which is a national responsibility), in compliance with national policies and law. This is the culmination of a Cabinet decision on 29th April 1998 to transfer the medico-legal mortuaries from SAPS to Health.

2. POLICY FRAMEWORK

2.1 Vision of the Forensic Pathology Service (FPS):

The Forensic Pathology Service (FPS) aims to render a standardised, objective, impartial and scientifically accurate service (following nationally uniform protocols and procedures) for the **medico-legal investigation of death** that serves the judicial process.

2.2 Mission of Forensic pathology services

Forensic Pathology Services aim to:

1) Ensure the development of a just South African society
2) Assist in the fight against crime
3) Assist in the prevention of crime
4) Assist in the prevention of unnatural death
5) Endeavour to protect the rights of all persons
6) Establish the independence of medical and related scientists
7) Ensure that the service is rendered within a uniform system
8) Ensure participation of society in the service
9) Ensure that the service is equitable
10) Ensure that the service is efficient and cost-effective
11) Ensure the promotion of relevant education, training and research
12) Rectify the deprived state of the service
13) Provide for the specific needs of those persons rendering the service, and
14) Establish adequate data collection and processing

2.3 Statutory and legal requirements

The FPS operates under the statutory provisions of the Inquests Act, the Health Professions Act and several other pieces of legislation.

The transfer of the Medico-Legal Mortuaries from SAPS to Health will be guided by a Memorandum of Understanding between SAPS and the Departments of Health and Public Works. The Departments of Health will continue to rent certain facilities from Department of Public Works, some of which are also rented by SAPS for use as police stations but they will also develop or transfer services to selected Health Department facilities. The MOU also deals with personnel matters.

2.4 Organisation of the service

2.4.1 The new FPS will be a medical service rendered by the provincial Departments of Health. It will be coordinated and supported nationally by a Directorate of the national Department of Health, which has already been established in the Cluster: Non-Communicable Diseases.

2.4.2 Every province will create a component to manage the FPS. This component may be part of a larger component that deals with issues in addition to FPS (such as forensic medical care and all other medico-legal matters) but each will have a discrete budget and an appointed manager (to facilitate reporting since it is envisaged that the budget will be ring-fenced in a conditional grant for a period of five years from the transfer of the medico-legal mortuaries from SAPS).

2.4.3 **Organisation of the service in the Western Cape Department of Health**:

2.4.3.1 Provincial Government: Western Cape proposes to create a Directorate to manage the FPS. This directorate will be part of Chief Directorate Professional Support Services that deals with issues in addition to FPS, forensic medical care and all other medico-legal matters). The FPS component **will have a discrete budget and an appointed manager** in the rank of Director (Level 13).

2.4.3.2 Two positions of Chief Specialist Forensic Pathologist currently exist as part of Salt River Mortuary and Tygerberg Mortuary to lead the technical provision of the service. (The Chief Forensic Pathologists head the Departments of Forensic Medicine and are linked to the Universities of Cape Town and Stellenbosch). The Provincial Government: Western Cape may enter into agreement with other provinces to offer regular support from the Chief Specialist Forensic Pathologists to those provinces.

2.4.3.3 The Provincial Government: Western Cape Provincial FPS will establish a committee with other key departments which will serve as a forum to share statistics, for monitoring the service, for ensuring the implementation of the national goals and objectives, for ensuring the delivery of the forensic pathology service for medico-legal investigation of death and where advice can be obtained on the needs of the service within the province. This will also be a forum where FPS can motivate for the allocation of an adequate budget for the service.

2.4.3.4 The Provincial Government: Western Cape service has been designed **to commence with investigation at the scene of the death** and to take custody of the corpse (and possessions of the deceased) from the time that SAPS completes the crime scene investigation and requests the removal of the body to a FPS facility for medico-legal investigation of death until it ends when the body is handed over to the relatives or authorities for burial or cremation.

2.4.3.5 Apart from the two components for Forensic Medicine at Groote Schuur and Tygerberg Hospitals respectively, the proposed organogram provides for four FPS regions, i.e. three rural and one metro region.

Each region with a management office (Deputy Director) based at the Regional Management Centre in each of the rural regions, and Provincial Head Office:

West coast Winelands Region	Malmesbury
Boland Overberg Region	Worcester
South Cape Karoo Region	George
Metro region	Provincial Head Office

Mortuaries of six general categories are planned to manage work-loads from less than 250 autopsies per annum to more than 1250 per annum.

- M1 <250
- M2 251 – 500
- M3 501 – 750
- M4 751 – 1000
- M5 1001 – 1250
- M6 >1250

Existing SAPS mortuaries or hospital mortuaries, and in a few instances totally new mortuaries, will be systematically developed (buildings, equipment, etc) to manage the workloads anticipated in the planning process. This will take five years or more to implement.

2.4.3.6 Autopsies In the four regions will be will be conducted at fourteen centres namely:

West Coast/Winelands:

1) Paarl (M3)
2) Stellenbosch (M3)
3) Malmesbury (M1)
4) Vredendal (M1)
5) Vredenburg (M1)

Boland/Overberg Region:

6) Worcester (M3)
7) Hermanus (M2)
8) Swellendam (M1)

South Cape/Karoo Region:

9) George (M3)
10) Knysna (M2)
11) Oudtshoorn (M2)
12) Mossel Bay (M2)

Metro Region:

13) Tygerberg Mortuary (M6 Academic)
14) Salt River Mortuary (M6 Academic)

2.4.3.7 Use will be made of five small storage (holding) facilities in remote areas:

Boland Overberg Region

1) Wolseley
2) Robertson

South Cape Karoo Region

3) Beaufort West
4) Laingsburg
5) Riversdale

2.4.3.8 When SAPS attend to a scene where there is a death suspected of being due to unnatural causes the SAPS Officer will contact the EMS Call Centre who in turn will alert the nearest FPS Laboratory to attend the scene and remove the body. The Forensic Officer on duty will take photographs and make their own records at the scene and then remove the body to the nearest FPS facility (mortuary or holding facility) to be stored until the autopsy is scheduled by the attending doctor.

2.4.3.9 No forensic autopsies will be conducted at the five holding facilities. Their role is to facilitate the families' access to the corpse before and after the post mortem examination has been concluded at a mortuary. This means that the bodies will be transported between facilities on a scheduled basis, using the storage capacity of all facilities in the most efficient manner.

2.4.3.10 The function of the Deputy Director (Regional Coordinator Forensic Services) is to coordinate these movements and to ensure that no undue delays are experienced in removing bodies, conducting autopsies and releasing the corpses to the next-of-kin.

2.4.3.11 The organisational design of the services is based the available autopsy statistics and on national guidelines but will be organised, in the most efficient manner that local circumstances dictate, **to commence with investigation at the scene of the death** and to take custody of the corpse (and possessions of the deceased) from the time of removal of the body to a FPS facility for medico-legal investigation of death until it ends when the body is handed over to the relatives or authorities for burial or cremation.

Table E1: Western Cape autopsy statistics

Mortuary Grade	Mortuary Location	Population (Census 2001)	2003	2004	Average for 2 years	Rate/1000 pop
M1	Malmesbury	128,440	224	185	205	1.59
M1	Vredendal	89,533	219	204	212	2.36
M1	Vredenburg	116,862	173	152	163	1.39
M3	Paarl	194,421	448	458	453	2.33
M3	Stellenbosch	117,704	515	453	484	4.11
M2	Hermanus	175,169	308	299	304	1.73
Holding	Robertson	81,263	84	109	660	2.08
M3	Worcester	152,518	404	370		
Holding	Wolseley (Ceres)	83,558	167	185		
M1	Swellendam	28,072	64	79	72	2.55
M2	Mossel Bay	97,624	179	209	270	2.77
Holding	Riversdale	44,104	67	85		
M1	Beaufort West	43,374	114	102	108	2.49
Holding	Ladismith	23,970	10	13	300	2.41
M2	Oudtshoorn	84,685	231	249		
Holding	Prince Albert	9,507	46	32		
Holding	Uniondale	6,181	9	10		
M3	George	135,415	475	409	442	3.26
M1	Laingsburg	5,912	113	135	124	20.97
M6	Salt River	2,893,251	2971	2604	5380	1.86
M6	Tygerberg		2625	2559		
	Total	**4,621,906**	**9656**	**9141**	**9399**	**2.03**

2.5 **Western Cape FPS facilities**:
Most of the facilities in the province are in need of maintenance and some need major refurbishment or alteration to meet the needs of the FPS in a humane manner.

2.5.1 **Paarl M3**
Paarl Mortuary is in Paarl (Drakenstein Municipality) in the West Coast/ Winelands Region. It services a population of about 195 000. Paarl will act as the Regional referral centre. This facility is presently a SAPS facility. The facility is appropriate for a mortuary for the immediate future but needs to be upgraded and secured. In the medium term a new facility will need to be built on the premises of TC Newman Community Health Centre to support the Wellington, Franschoek and Klapmuts and the surrounding districts as well as Regional referrals. A Regional forensic pathologist will be based here.

2.5.2 **Stellenbosch M3**

The present SAPS facility services a population of about 118 000. Interim capital upgrading and temporary office accommodation will need to be provided. Stellenbosch mortuary (also Stellenbosch Municipality) receives cases referred from Somerset West, Pniel, Jacobsdal, Strand, Gordon's Bay, Sir Lowry's Village. It is expected that the population growth will render the current facility too small within five years and it is proposed that a new facility be built in the long term. Cases that drain from the Helderberg area would further need to be re-diverted and a holding facility is therefore proposed in the Helderberg area in the long-term. Part-time private practitioners will provide the autopsy service in the short term but a full-time employee is planned.

2.5.3 **Malmesbury M1**

Malmesbury (Swartland Municipality) serves a population of about 128 440. The building is on the hospital premises. In the short term Mooreesburg mortuary will be utilized for the performance of autopsies but it is too small for long term services and less well located than Malmesbury for referrals. A new facility will need to be erected on the hospital grounds or the service will have to be provided from the premises of a private undertaker. Malmesbury will be providing an autopsy service to Moorreesburg, Riebeeck Kasteel, Riebeeck West, Kalbaskraal, Riverlands, Koringberg, Piketberg, Porterville, Laaiplek, Velddrift, Yzerfontein, Elandsbaai Philladelphia and Redelingshuys. Part-time private practitioners will provide the autopsy service.

2.5.4 **Vredendal M1**

Vredendal (Matzikama Municipality) serves a population of about 90 000. Vredendal has a mortuary in the Police Station which is in a good condition. Some upgrading is required and separate access will need to be provided. Vredendal will be providing an autopsy service to Clanwilliam, Citrusdal, Graafwater, Lamberts Bay, Van Rhynsdorp, Klawer, Bitterfontein, Nuwerus, Lutzville, Doringbaai and Strandfontein. Part-time private practitioners will provide the autopsy service in the short term but a full-time employee is planned.

2.5.5 **Vredenburg M1**

The service is provided from a private undertaker facility. Vredenburg (Saldanha Bay Municipality) serves a population of about 117 000. The services will be continued to be provided from the private sector facility. Vredenburg will be providing an autopsy service to Hopefield, Saldanha Bay, Langebaan and St Helena Bay. Part-time private practitioners will provide the autopsy service.

2.5.6 **Worcester M3**

In the Bredevalley Municipal area, this mortuary services a population of about 315 000. Worcester will act as the Regional referral centre. The service in this area is currently being provided at a private undertaker facility. In the medium term a new facility will need to be built on the premises of the Worcester Hospital to accommodate the Regional referral role that this center performs. A Regional forensic pathologist will be based here. Worcester will also be providing an autopsy service to Wolseley and Robertson as well as a large section of the N1 highway stretching through De Doorns as far as Touwsriver.

2.5.7 **Hermanus M2**

The greater Hermanus area, which is a high-growth area with population growth of 8.3% per annum, is served from Hermanus town. The facility also services the greater Caledon, Betty's Bay and Bredasdorp areas, with a total population of about 175 000. The facility is currently situated on SAPS premises and requires upgrading in the short-term. A new facility will need to be erected in the grounds of the district hospital in the medium term. Part-time private practitioners will provide the autopsy service in the short term but a full-time employee is planned.

2.5.8 **Swellendam M1**

This mortuary serves a population of 28,000 in the Greater Swellendam, Bonnievale, Barrydale and Suurbraak areas. Currently, the medico-legal mortuary service is conducted on private premises. Due to the geographic location, it is our intention to retain this service as it stands, despite the low annual workload. Part-time private practitioners will provide the autopsy service.

2.5.9 **Wolseley (Holding facility)**

This mortuary serves a population of about 83 600 in greater Wolseley, Ceres, Tulbagh, Prince Alfred Hamlet and Saron. This will be utilised as a holding facility only and cases will be transported to the regional mortuary in Worcester for post mortem examination. The facility is currently on SAPS premises and will require repairs and separation in the short term.

2.5.10 **Robertson (Holding facility)**

This mortuary serves a population of about 81 500 in greater Robertson, Ashton, Montagu and McGregor. This will be utilised as a holding facility only and cases will be transported to the regional mortuary in Worcester for post mortem examination. The facility is currently on SAPS premises and will need to be relocated into private sector facilities for holding requirements only.

2.5.11 **George M3**

This mortuary serves a population of about 135 500 including the greater George area, Herold and Wilderness. This mortuary serves as a regional support and referral center. The facility is currently on SAPS premises and is inadequate. As a Regional priority a new facility needs to be erected in close proximity to the George Regional Hospital. A Regional forensic pathologist will be based here.

2.5.12 **Knysna M2**

This facility serves a population of about 110 500 which includes greater Knysna, Sedgefield, Rheenendal, Plettenberg Bay and surrounding areas. A M2 facility is required in view of the rapid population growth of the area. The existing facility is on SAPS premises. In the short term repairs are required to meet acceptable occupational health standards. In the medium term, structural extensions and upgrades will be required to meet the demands of predicted increase in workload. Part-time private practitioners will provide the autopsy service in the short term but a full-time employee is planned.

2.5.13 **Oudtshoorn M2**

This mortuary serves a population of about 124 000, including the areas of greater Oudtshoorn, De Rust, Dysselsdorp, and Calitzdorp. This facility will also render a medico-legal post-mortem service to holding facilities at Prince Albert, Ladismith and Uniondale. The existing mortuary is situated in the center of SAPS premises and is inadequate. In the short-term, repairs are required and in the medium term structural extensions and upgrades will be required to meet the demands of predicted increase in workload. A qualified forensic pathologist will be based at this site.

2.5.14 **Mossel Bay**

This mortuary serves a population of about 141 000, including greater Mossel Bay, Great Brak River and Herbertsdale. Post-mortem services are provided to Riversdale holding facility. The building is on SAPS premises and is newly renovated. In the short term, some repairs are needed. In the medium term, structural upgrades and extensions will be necessary. Part-time private practitioners will provide the autopsy service in the short term but a full-time employee is planned.

2.5.15 **Beaufort West (Holding facility)**

This mortuary serves a population of about 43 500, including greater Beaufort West, Murraysberg, Leeugamka, Merweville and Nelspoort, which includes a large stretch of the N1 highway. The caseload dealt with in this facility is primarily related to road traffic collisions. The facility is on SAPS premises and requires upgrading in the short term. Cases will be transported to Oudtshoorn for Post Mortem.

2.5.16 **Laingsburg (Holding facility)**

This mortuary serves a population of about 6 000, including Laingsburg town and a large stretch of the N1 highway. This area has a ratio of 20.97 deaths/1000 population annually in comparison with the provincial average of 2. This is largely due to the location of the N1 highway. In the short-term, structural extensions and upgrades are required for the existing facility on SAPS premises. Cases will be transported to Oudtshoorn for Post Mortem.

2.5.17 **Riversdale (Holding facility)**

This mortuary serves a population of about 44 200 in greater Riversdale, Heidelberg, Albertinia and Stilbaai. This will be utilised as a holding facility only and cases will be transported to the mortuary in Mossel Bay. This service is provided on private undertaker premises and the arrangement will continue for the foreseeable future.

2.5.18 **Tygerberg academic centre M6 Academic**
This facility serves the east Metropole of the City of Cape Town with a total population of about 2,9 million. The city is currently experiencing a growth in population of 2.5% per annum. This facility is a SAPS facility situated on the Tygerberg Hospital premises, which will be transferred to the provincial administration. The facility requires short-term upgrading to accommodate current workload. Training and teaching is provided including under and postgraduate training to University of Stellenbosch.

2.5.19 **Salt River academic centre M6 Academic**
This facility serves the west Metropole of the City of Cape Town. This is a separate SAPS facility which will be transferred to the provincial administration. It requires short-term upgrading to accommodate the current workload. In the medium-term office accommodation will be required to house mortuary staff and forensic pathologists. Training and teaching is provided including under- and postgraduate training to University of Cape Town.

3. HUMAN RESOURCES

3.1 Forensic officers

3.1.1 The FPS is designed to provide a cadre of personnel, in addition to the medically qualified pathologists and other doctors, who are trained to:

1) Record matters related to the death at the scene (photographs or other records), to work with the SAPS investigating officer and to remove the body from the scene;
2) Assist with the identification of the deceased;
3) Assist with the medico-legal investigation of death, including the performing of an autopsy;
4) Removal and referral of medico-legal specimens (exhibits); and
5) Appropriate medico-legal record keeping.

3.1.2 Historically this has been a problem and the work has been allocated to uniformed policemen and women who are not necessarily trained or equipped for the job and who have had no career prospects in forensic pathology. The national objective is to develop a competent professional cadre of personnel who will assist the forensic pathologist or medical practitioner with the medico-legal investigation of death. Training courses have already been developed and will be provided to lead to an initial basic competence as a **Forensic Officer**. This career has been evaluated at levels 5, 6, 7, and 8 in the category of Social, Natural, Technical and Medical Sciences Supplementary and Support Personnel.

3.1.3 Forensic Officers will be the generic term for Forensic Dissectors and Forensic Investigators. These personnel will render support services to medical professionals and do preparations for specialised tasks in support of such professionals. They will perform semi-skilled manual, specialist clerical and technical tasks where the work content is multi-tasked, but well defined and they will be trained to use medical equipment under supervision.

3.1.4 Entry requirement for appointment as Forensic Officer will be Grade 12 schooling and a Code EB driving license. The provincial service will provide orientation and in-house training during the first year (Probation Period) in the personnel category of “Social, Natural, Technical and Medical Sciences Supplementary and Support Personnel” according to a Job Description based on standards that have been developed and approved by the National Personnel Committee in the Department of Health.

3.1.5 Forensic Officers will have different job titles as per their functions:

Chief Forensic Officer	Level 8
Senior Forensic Officer	Level 7
Forensic Officer	Level 5 and 6

3.1.6 Forensic Officers will be able to register for a 3-year diploma course for Forensic Officers at an approved training institution (University of Technology).

3.1.7 The courses that are to be offered will meet South African Qualifications Authority (SAQA) requirements and be provided within the framework of the Health and Welfare Sector Education and Training Authority (HWSETA) by technical universities.

3.1.8 The intention is that promotion and career advancement will be available to the good Forensic Officers to mortuary and regional management positions beyond level 7. The diploma or equivalent qualification in a health field will be a requirement for a managerial position in **levels 8; 9 and 10** (Mortuary Manager).

3.1.9 The intention is that promotion and career advancement beyond the basic entry grade, which is level 5, will ultimately require registration with the Health Professions Council of South Africa (HPCSA).

3.1.10 Many Forensic Officers will be stationed in remote areas. They will operate from FPS facilities (mortuaries and 'holding facilities') from where they will be on 24-hour call on a roster basis for a designated area. This means that in many instances accommodation and call allowances will have to be provided for them.

3.2 **Medical Officers and Pathologists**

3.2.1 The ideal is that Forensic Pathologists should be conducting autopsies. This is clearly unrealistic and the system will be dependent on Medical Officers. Where possible (and in large centres this will be the objective) full-time Forensic Medical Officers will complement the establishment of Pathologists. In smaller centres the service will depend on part-time Forensic Medical Officers, either appointed on shared posts with the public hospitals or on sessions from the private sector.

3.2.2 The important issue is that the FPS must have a dedicated staff establishment and not an assumed contribution of medical service from the hospitals and district services. (Forensic Clinical Services should not be confused with the FPS since the clinical service is an integral part of every Medical Officer's normal job description.)

3.2.3 All Medical Officers who conduct autopsies will be encouraged to complete the Diploma in Forensic Medicine at the cost of the Service. This training has been provided for in the costing models.

3.3 **Training**

3.3.1 Managerial and administrative personnel will attend the normal government training programmes that are available.

3.3.2 All personnel will have to be orientated to the new IT system when it is installed.

3.3.3 Those personnel who will operate 4x4 vehicles in inaccessible terrain will have to receive appropriate driver training.

3.3.4 Provision has been made in the costing models for the Chief Medical officers/Pathologists to attend conferences to remain on top of their subject.

3.3.5 The provision that has been made for training of personnel is based on:

- Diploma in Mortuary Technique: Durban Institute of Technology
  R6,000 per Mortuary Technician per annum
- Diploma in Forensic Health Care: University of Kwa Zulu-Natal
  R6,000 per Forensic Investigator per annum
- Diploma on Forensic Pathology for Medical Officers
  R4,000 at a South African university

- Forensic Pathologists courses and conferences
  R20,000 for each course or conference
- Other personnel — Budget R5,000 for any other short course

3.3.6 The numbers of persons for whom training has been budgeted and the estimated costs are reflected in detail in Provincial Implementation Plans and summarised in Table 4.2. More than 1% of the total recurrent budget and close to 2% of the personnel budget has been provided for training in the plans.

3.4 Personnel Numbers

3.4.1 The estimated numbers of personnel required to run the service are reflected in Table E2. The increases in the numbers of personnel that are shown in the tables over the three years reflect the plans for the development of the facilities and the services.

3.4.2 On a national level the staff complement working in the FPS is presently estimated to be in the region of **700 - 800 staff (SAPS and health personnel)**. This is very difficult to accurately determine owing to the fact that many more uniformed police are involved in the service than the few who work exclusively in the mortuaries. This number needs to double to operate a reasonable service and is expected to grow from about **1500 to 1850** over three years as the service is established, a further growth of 20% or so after establishment.

3.4.3 Approximately half of the staff will be Forensic Officers (the new cadre), one third managerial and administrative and the remainder medically qualified. The table shows one idiosyncrasy in that Eastern Cape have determined a need for exclusively Chief Medical Officers (which posts have been counted with Pathologists) in the province's belief that this will be the only way to recruit doctors to do this work.

3.4.4 Table E4 shows that the effect of implementing this establishment will be that the average number of investigations managed by each Forensic Officer will be in the order of 78 per annum and each medical staff member will manage an average of about 275 cases per annum.

3.5 Staff establishment

3.5.1 The FPS establishment in the Western Cape is designed to provide sufficient personnel to cover the needs of the province 24 hours a day, 7 days a week on a shift and **standby** basis.

3.5.2 Pathologists and other doctors who are trained to conduct autopsies will be employed at all sixteen mortuaries. The Chief Forensic Pathologists in the Metro or the Principal Forensic Pathologists in the three rural regions will conduct autopsies in the mortuaries in which they are based but will also be available to assist with complex cases at any centre and to support the professional development of the FPS in the regions.

3.5.3 Forensic Officers with basic competence in dissection and investigation work will be employed at levels 5, 6, 7, and 8. They will collect corpses at the scene of death, collect basic information and take photographs, and assist with dissections. They will perform semi-skilled manual, specialist clerical and technical tasks where the work content is multi-tasked, but well defined and they will be trained to use medical equipment under supervision. These officers will be based at the fourteen mortuaries and at three of the five holding facilities.

3.5.4 Forensic officers will operate from FPS mortuaries from where they will be on 24-hour call on a roster basis for a designated area. This means that in many instances standby allowances will have to be provided for them.

3.5.5 Besides the Provincial FPS Senior Manager (Director) there will be a Regional Coordinator: Forensic Pathology Services (Deputy Director) in each of the four regions. In the Metro the Mortuary Managers will be responsible to ensure rosters for 24-hour service, etc. and to keep

constant contact with SAPS Investigating Officers to ensure that cases are not neglected. Mortuaries of level M3 and above will have Mortuary Managers to ensure that these busy facilities function properly and efficiently and will also have personnel to render support services.

3.5.6 The total numbers of staff are shown in Tables E2 and E3 which tables show the three-year growth of establishment. (Summarised below.) It is expected that the staff establishment will increase very marginally after the initial establishment of the service as follows:

Forensic Officers	109 to 117 to 127
Forensic Medical Officers (incl PMO/CMO)	14
Forensic Pathologists (Qualified)	17 to 17 to 18
All other personnel	74 to 76 to 80
TOTAL Establishment	**214 to 224 to 239**

3.5.7 Private Doctors on Sessional Basis performing FPS functions are included under Forensic Medical Officers.

3.5.8 The number of Forensic Officers will increase only marginally.

3.5.9 The current SAPS staff engaged in the Provincial Government: Western Cape are about 90 in number, mostly in level 7 posts, appointed as Inspectors.

Table E2: Human Resources: proposed staff establishment: 2006/07 to 2008/09

Mortuary Grade	District: location of mortuary	Forensic Officer			Forensic Medical Officer			Forensic Specialist			All other personnel			Total Personnel		
		2006 -07	2007 -08	2008 -09	2006 -07	2007 -08	2008 -09	2006 -07	2007 -08	2008 -09	2006 -07	2007 -08	2008 -09	2006 -07	2007 -08	2008 -09
N/A	**WESTCOAST REGION**	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2
M1	Malmesbury	3	3	3	0.6	0.6	0.6	0	0	0	0	0	1	3.6	3.6	4.6
M1	Vredendal	3	3	3	0.6	0.6	0.6	0	0	0	1	1	1	4.6	4.6	4.6
M1	Vredenburg	3	3	3	0.6	0.6	0.6	0	0	0	0	0	1	3.6	3.6	4.6
M3	Paarl	4	5	6	0	0	0	2	2	2	4	4	4	10	11	12
M3	Stellenbosch	6	7	7	0	0	0	1	1	1	2	2	2	9	10	10
N/A	**BOLAND REGION**	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2
M2	Hermanus	3	4	5	0.6	0.6	0.6	0	0	0	2	2	2	5.6	6.6	7.6
Holding	Robertson	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1
Holding	Wolseley	2	2	2	0	0	0	0	0	0	0	0	0	2	2	2
M3	Worcester	4	5	7	0	0	0	1	1	2	4	4	4	9	10	13
M1	Swellendam	1	1	1	0.5	0.5	0.5	0	0	0	0	0	0	1.5	1.5	1.5
N/A	**SOUTHERN REGION**	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2
M2	Knysna	3	4	5	0.6	0.6	0.6	0	0	0	2	2	2	5.6	6.6	7.6
M2	Mosselbay	3	4	5	0	0	0	0	0	0	2	2	2	5	6	7
Holding	Riversdale	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1
M1	Beaufort West	2	2	2	0	0	0	0	0	0	0	0	0	2	2	2
Holding	Ladismith	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M2	Oudtshoorn	4	5	7	0	0	0	1	1	1	4	4	4	9	10	12
Holding	Prince Albert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Holding	Uniondale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M3	George	4	5	7	0	0	0	2	2	2	4	4	4	10	11	13
M1	Laingsburg	2	2	2	0	0	0	0	0	0	0	0	0	2	2	2
M6A	Salt River	30	30	30	4	4	4	5	5	5	18	19	20	57	58	59
M6A	Tygerberg	30	30	30	4	4	4	5	5	5	18	19	20	57	58	59
PROV	**HEAD OFFICE**	0	0	0	0	0	0	0	0	0	7	7	7	7	7	7
TOTAL ESTABLISHMENT		109	117	127	14	14	14	17	17	18	74	76	80	211	221	236

Table E3: Human Resources: growth of the staff establishment: 2006/07 to 2008/09

PROVINCE	FORENSIC OFFICERS			MEDICAL OFFICERS			FORENSIC PATHOLOGISTS INCLUDING CMOs			ALL OTHER PERSONNEL			ALL PERSONNEL		
	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09	2006/07	2007/08	2008/09
WESTERN CAPE	109	117	127	14	14	14	17	17	18	74	76	80	**214**	**224**	**239**
NATIONAL TOTAL	**761**	**864**	**999**	**100**	**109**	**116**	**104**	**112**	**123**	**529**	**561**	**604**	**1494**	**1647**	**1842**
% Growth		7.3	8.5						5.9		2.7	5.3		4.7	7
% of Total	50.9	52.2	53.1	6.5	6.3	5.9	7.9	7.6	7.5	34.6	33.9	33.5	100.0	100.0	100.0

Table E4: Human resources: analysis of proposed establishment: 2006/07 to 2008/09

PROVINCE	Number of post mortems in 2004	Number or post mortems per TOTAL FPS personnel per annum				Number of post mortems per FORENSIC OFFICER per annum				Number of post mortems per MEDICAL STAFF per annum			
		2006/07	2007/08	2008/09	Average	2006/07	2007/08	2008/09	Average	2006/07	2007/08	2008/09	Average
WESTERN CAPE	8,519	39.8	38	35.6	37.8	78.2	72.8	67.1	72.7	274.8	274.8	266	271.9
TOTAL	**81,321**	**54.4**	**49.4**	**44.1**	**49.3**	**106.9**	**94.1**	**81.4**	**94.1**	**398.2**	**366.6**	**339.7**	**368.2**

Table E5: Human resources: Training provisions: 2006/07 to 2008/09

	2006/07			2007/08			2008/09		
	Training Provision	% Personnel Budget	% Total Recurrent Budget	Training Provision	% Personnel Budget	% Total Recurrent Budget	Training Provision	% Personnel Budget	% Total Recurrent Budget
WESTERN CAPE	847,000	3.15%	2.33%	790,000	2.91%	2.16%	572,000	1.95%	1.50%
TOTAL	**3,735,000**	**1.83%**	**1.38%**	**3,426,000**	**1.64%**	**1.25%**	**2,767,000**	**1.21%**	**0.94%**

4. INFRASTRUCTURE

4.1 Physical facilities

4.1.1 The FPS organisation has been designed so that mortuaries should not be operated unless about 100 to 250 medico-legal investigations of death, including autopsy, are conducted on site per annum. Where the numbers do not justify a separate autopsy facility the service should still be designed to accommodate community needs (identification of the deceased and access for burial) at a district level. This may be achieved through "holding facilities" which provide secure refrigeration and a humane identification room. The medico-legal investigation of death service, and specifically autopsies, will be organised through referral to more central mortuary facilities to serve the smaller surrounding districts.

4.1.2 The FPS facilities may be stand-alone, attached to, but separate from police stations, attached to, but separate from public sector hospitals or health centres, or sub-contracted to private undertakers.

4.1.3 The balance between centralisation and decentralisation of the mortuary location is area specific (relates to population density, road infrastructure, etc) but aims to provide an accessible and humane service to the public while serving the criminal justice system. It must be remembered that the doctor who conducts the investigation of death and autopsy may well be called to give evidence in court. This too may influence where the autopsy is conducted and by whom.

4.1.4 The SAPS mortuaries are mostly integral parts of either Police Stations or other SAPS complexes. These facilities are technically the property of the national Department of Public Works and are utilized by the Department of Safety and Security for SAPS. An outline of the proposed plan for each facility is presented in each province's Implementation Plan. Those few facilities used by SAPS which are "stand-alone", such as Gale Street in Durban and Salt River Mortuary in Cape Town, can be transferred from national government to the respective provinces but the majority will remain national assets to be rented by the provinces

4.1.5 Management of the service will be vertical (FPS specific) in some provinces and integrated into the hospital/district health system in others. New forensic mortuary buildings should be built following standard national guideline plans and construction specifications.

Provincial departments may, in exceptional cases, have to consider providing residential accommodation in remote areas, in which case this will be provided according to the same principles used for the clinic building programme.

PART F: CONCLUSION

The Service Plan provides the framework for the implementation of Healthcare 2010 which is essential for the provision of a sustainable and quality health service in the Western Cape.

The document also accommodates the new sub-district boundaries as agreed between the province and the City of Cape Town. This exercise illustrates the fact that the planning tools that have been developed to model the Service Plan are flexible, integrated and enable the Department to accommodate adjustments, such as adjustments to the population figures and develop sensitivity analyses to evaluate different scenarios and outcomes.

The foundation of the plan is to realistically but significantly strengthen the District Health Services (DHS). In the Cape Town Metro district the proposed configuration of primary health care services aims to increase access to the full package of services rendered at clinic level. Extended *clinic* services, i.e. until 21:30 at twenty-five Community Health Centres will replace the existing nine 24- hour trauma and emergency units at the large CHCs. All trauma and emergency cases will be consolidated in the trauma and emergency units provided at all the acute hospitals in the Cape Town metro district. It is envisaged that these changes will increase the utilization of nurse-driven clinic services for non-emergency visits and decrease the number of non-emergency visits after hours to doctor-driven trauma and emergency units.

It is anticipated that the appointment of Family Medicine Practitioners (specialists) at the larger CHCs and district hospitals will improve the quality of care at primary health care level. Maternity units have been provided at all the acute hospitals and will be responsible for the clinical management of the midwife obstetric units (MOUs) in their drainage areas. The service plan also outlines the development of a comprehensive and integrated community-based service delivery plan to cater for the needs of de-hospitalized patients and people suffering from chronic diseases. Another important focus of community-based services is the rendering of preventative and promotive health programmes.

The strengthening of the DHS will enable the Department to rationalize the existing acute hospitals in the Cape Town Metro district. Most of the required level one beds will be provided by the reclassification of existing level two beds. However, the ideal configuration of level one beds in the Cape Town Metro district will only be possible once the two new hospitals in Khayelitsha and Mitchells Plain have been completed. The majority of level two beds are centralized in the central hospitals with the remaining 405 allocated to four other acute hospitals. A large proportion of the required level two beds will be accommodated by the reclassification of 1,014 beds currently designated as level three beds. The Service Plan also aims to facilitate the allocation of the appropriate resources that are aligned with the reconfigured services.

The current under utilization and, consequent inefficiency of a number of rural district hospitals is addressed in the plan. In the larger rural district hospitals level one beds were decreased and replaced by level two beds. The purpose of these beds is to provide a structured framework for sustainable outreach and support from the rural regional hospitals to the district hospitals and therefore medical specialists are not allocated to the establishment of the district hospitals. This will have a positive impact on the quality of care in district hospitals as well as the ability of these hospitals to deliver the full package of district hospital care.

It is intended that the provision of specialist support and outreach will provide the basis for the development of the skills and expertise of the doctors working in the rural areas. Access to specialists also presents the opportunity to treat less complicated, non-acute conditions requiring specialist expertise in district hospitals. The outcome of these arrangements should facilitate the optimal utilization of rural district hospitals and a decrease of referrals from these hospitals to regional hospitals. It is hoped that the opportunity for on-going professional development will be a positive factor in the retention of scarce skills in the rural areas.

Provision has been made for specialists in all the general disciplines as well as ENT, ophthalmology and pathology in the rural regional hospitals. Sufficient resources have allocated to enable these hospitals to provide the full package of regional hospital services to

the population in their drainage areas and to provide planned outreach to the district hospitals with no referrals to regional hospitals in Cape Town.

The central hospitals will provide tertiary (level three) services, which are funded by national conditional grants, to referred patients from the Western Cape and other provinces, mostly the Eastern Cape and Northern Cape provinces. Groote Schuur and Tygerberg Hospitals will physically accommodate extensive level two service components whereas Red Cross Children's Hospital will provide mostly level three services. The two levels of service in these hospitals will be managed separately to ensure efficiency and accountability.

Although the Service Plan focuses on service delivery, provision has been made for an extensive but balanced teaching and training platform for medical professionals. Registrar posts are allocated on the secondary and tertiary services platforms with dedicated time allowances for formal teaching and training for specialists and registrars. The teaching platform includes level one services, where Family Medicine Practitioner (specialist) posts are provided for. Medical Officer posts are interchangeable with registrar posts according to training and service needs. The teaching and training of other health professionals are not explicitly addressed in this document. However, the teaching and training requirements for these professionals (including medical students) should be provided within the context of the Health Professionals Training and Development Grant.

The differences between urban and rural service delivery patterns are highlighted in the plan. Services in rural areas are more expensive because of decreased population density, greater distances, lack of public transport and poor road infrastructure. Despite the lack of efficiencies (unit costs, workload per worker, etc.), resources have been allocated to all the rural communities to ensure relatively easy access to the full package of Primary Health Care services, including 24-hour access to a medical doctor in the case of emergencies.

The continuum of care for acute patients is addressed in the referral patterns between PHC facilities and district, regional and central hospitals. For chronic and sub-acute patients the continuum of care is ensured by the provision of a well-developed community-based system supported by specialized hospitals for TB, mental health and rehabilitation. The provision of these services should alleviate current issues such as chronic patients being treated in acute beds and level one patients admitted to level two beds due to the current lack of resources at the appropriate levels.

Due to the technical nature of this document, it is possible that the inter-relatedness of the different service components and levels of care may be obscured. It is important thus to focus on the interdependencies and track the progress of patients (e.g. TB patients, psychiatric patients, etc.) through the proposed integrated service delivery platform.

The Service Plan is primarily service-driven and aims to determine the resources required to deliver an acceptable package of healthcare services in line with the nationally accepted packages of health care. The Service Plan is also aligned with the Millennium Development Goals, the priorities of the National Department of Health and the transversal Provincial strategy of social capital formation and of course the principles of Healthcare 2010.