HUMAN RESOURCES FOR HEALTH SOUTH AFRICA

HRH Strategy for the Health Sector: 2012/13 – 2016/17

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

HRH SA

Human Resources for Health South Africa

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11th October 2011

Acknowledgement

The HRH Strategy for the Health Sector:

Human Resources for Health South Africa

Prepared with the funding from UK Department for International Development's programme for Strengthening South Africa's Response to HIV and Health, and management support from HLSP.

Abridged version of the HRH SA Strategy for the launch of the HRH SA Strategy at University of the Witwatersrand, 11th October 2011.

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MINISTER'S STATEMENT OF POLICY AND COMMITMENT

Minister of Health, Dr Aaron Motsoaledi

We have a vision to improve access to health care for all and health outcomes in the short and medium term, with a particular focus on improving maternal and child health. To realise this vision we require the human resources to implement re-engineered Primary Health Care and ensure the service capacity for a health system with improved financing through National Health Insurance. It is necessary to develop and employ new professionals and cadres to meet policy and health needs, to increase workforce flexibility to achieve this objective, to improve the working lives of the existing workforce, to improve retention, increase productivity and revitalise aspects of education, training and research.

This HRH Strategy document is a guide to action. Starting with immediate effect we need to undertake a range of activities, make new policies, develop new programmes, make detailed staffing plans for new service strategies, and manage our health care workforce in ways that motivate them to provide quality health care. These activities need to be undertaken by provincial departments of health, faculties of health sciences, labour organisations, health care managers and professionals etc…HRH SA strategies need to be developed in all these organisations using the national HRH Strategy as a guide.

Realising our vision requires involvement of the many stakeholders in the health sector. We are committed to consultative engagement and to work together to build the human resource capacity and working environment to ensure quality health care. Most important health professionals and cadres must know that we value and need them. Without their skills, knowledge and caring attitude we cannot build the re-engineered health care system we are striving for.

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PREAMBLE: STATEMENT FROM THE DIRECTOR-GENERAL

Director General, Malebona Precious Matsoso

Ensuring an appropriate, trained and sustainable workforce is a priority for the South African health sector. Common to health systems across developing and developed countries is the dependence on their health workforce to achieve the objective of good health outcomes. The improvement of the health status of the population/communities is at times hampered by poor working environments, skill gaps and the use of inappropriate policy tools that often fail to provide best incentives or optimise performance of the health workforce. This Human Resource for Health (HRH) strategy aims to close these gaps.

The challenge is to identify the appropriate steps to move towards sustained and effective development of the health workforce. We propose a strategic framework, a process and infrastructure for developing and implementing effective human resource policies in health care. We have been, and must continue, to be bold and affirmative in providing solutions. Emphasis will be on strengthening human resources to meet new services demands for the immediate medium and the long term future. The introduction of new financing mechanisms, such as National Health Insurance, will pose service challenges, which will demand a strong human resource capacity for the health sector.

Ad hoc and reactive interventions consistently fail to correct workforce imbalances in health care. It takes years to educate train and socialise health professionals, Time needs to be invested in training new professionals and cadre so there is unlikely to be a quick fix for many of the human resource problems in health care. Human resource decisions have long lasting effects and are often difficult to reverse. This means that, rather than respond reactively, or worse not act at all, we need a strategic approach which supports an evolving health system. Our strategic approach must be grounded in a national vision for the

population's health which embraces re-engineered primary health care, strengthened hospital care, health promotion and protection. Given the changing technical and health environment within which the health workforce exists, policy responses and strategic actions must be designed to be flexible, to facilitate learning, and to foster innovative and self sustaining processes at all levels of the health system. The future character and culture of the South African health sector will be determined by decisions and actions taken in the next five years. We have a responsibility to act in a considered and decisive manner.

We need to ensure the supply of the health workforce and this involves a range of activities of policy, planning and management. We need to identify the quantity and type of health workers needed at different levels of the health system to ensure that its goals are met. We have started to use forecast modelling tools to model demand and supply and we will develop more sophisticated models for this exercise as our information on the range of variables which affect health workforce supply improves. We need to pay much closer attention to the needs of the population, service delivery implications, and this affects what health care workers do, the composition of the health workforce and skills mix.

A strategic approach to health workforce supply also confronts us as policy-makers with the task of designing regulatory, financial and organisational structures that will support development, recruitment, retention and equitable deployment of the workforce and to ensure we generate incentives that are consistent with our health system objectives. An additional challenge is to manage the global context and mobility of the health workforce to and from South Africa.

Our strategic framework must also ensure a health care environment where the health workforce is valued and supported and has the opportunity to develop while providing high quality care. A complex set of interrelated issues such as job design, performance management, employment relationships, workplace cultures and human resource practices, affect the motivation and abilities of health care professionals. Effective governance and leadership, and investment in management development, are necessary to manage and ensure optimal use of the health workforce.

We will have forums and task teams in the strategic priority areas so that stakeholders and the national and provincial departments of health walk the process of implementation together.

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1 OVERVIEW OF HRH STRATEGY FOR THE HEALTH SECTOR: 2010/13 – 2016/17

The Context

Workforce planning for the health service is challenging and complex. Nonetheless, workforce planning is an important process. The health, policy, legislative and economic context influence the task of visualising and implementing improvements in the health workforce. The policy context provides the framework for the development of the HRH Strategy. The Minister of Health, in his Budget Speech in May 2011, announced the re-engineering of the Primary Health Care system and the overhaul of the health system. Implementing the three main streams for re-engineering Primary Health Care is the short-term priority. These streams are: District Clinical Specialist teams, a School Health Programme and Community Outreach PHC Teams.

The Problem Statement

An overview of the trends and challenges in HRH for South Africa is grouped into 3 thematic areas. For each thematic area the key issues are highlighted and brief recommendations provided which informed the HRH Strategy.

Theme I	The supply of health professionals and equity of access
Theme II	Education, training and research
Theme III	The working environment of the health workforce

Strategic Priorities

A vision to improve access to health care for all and health outcomes, makes it is necessary to develop and employ new professionals and cadres to meet policy and health needs, to increase workforce flexibility to achieve this objective, to improve ways of working and productivity of the existing workforce, to improve retention, increase productivity and revitalise aspects of education, training and research.

Achieving this vision requires the organisational infrastructure for education, training and service development, namely effective and efficient Academic Health Complexes. It also requires improved management of health professionals and cadres and improvement in their working lives.

Realising the vision requires firm, accountable and consultative leadership, well informed by information and planning capacity, processes and tools. Most important is Ministerial leadership and leadership of the NDoH to drive the process of change. The Minister, the DG for Health and the NDoH are committed to this process.

Eight thematic priorities were identified to form the framework for the HRH Strategy.

- Leadership, governance and accountability
- Health workforce information and health workforce planning
- Re-engineering of the workforce to meet service needs
- Scaling up and revitalising education, training and research
- Creating the infrastructure for workforce and service development - Academic Health Complexes and nursing colleges
- Strengthening and professionalising the management of HR and prioritise health workforce needs
- Ensuring professional quality care through oversight, regulation and continuing professional development
- Improving access to health professionals and health care in rural and remote areas.

Vision, Mission and Values

Vision: A workforce developed through innovative education and training strategies and fit for purpose to meet the needs of the re-engineered health system and measurably improve access to quality health care for all.

Mission: To ensure a workforce fit for purpose to meet health needs by:

- Ensuring necessary and equitable staffing of the health system
- Developing health professionals and cadres to meet health and health care needs
- Ensuring the health workforce has an optimal working environment and rewarding careers
- Ensuring innovative and efficient recruitment and retention of the health workforce
- Enabling clinical research which enhances clinical and service development
- Providing the organization and infrastructure for health workforce development

- Provide quality professional care that is effective and evidence based
- Ensuring the regulatory, organizational environment and leadership by NDoH to support HRH

Values: The values which inform the HRH SA Strategy aim to provide patient-centred quality health care, ensure universal coverage and universal access to health care, and enable an innovative and caring environment for health professional development and patient care.

Professions forecast modelling

The NDoH Workforce Model developed in 2008 was used for developing initial indicative modelled requirements for the health professions. The figures and scenarios produced are the beginning of a process of forecast modelling. Further work is required in the future and has been identified for action in the Strategic Priorities in Section 5. Further work is also required on the model to make sure it is useful as a tool for planning for National Health Insurance staffing requirements.

The 'gap' in health professionals was identified at this preliminary stage as follows and will need refinement by the relevant task teams in 2012 as part of the implementation of the HRH SA Strategy.

	GAP IN CRITICAL HEALTH PROFESSIONALS				
Staff Name	**base year**	**2011**	**2015**	**2020**	**2025**
Enrolled Nursing assistants	-8,381	-6,434	1,993	1,304	-723
Enrolled Nurses	21,010	22,471	4,470	4,061	3,046
Staff Nurse	-20,138	-19,805	-15,380	-8,990	-1,357
Professional Nurses	-20,736	-22,352	-22,121	-11,527	-898
Medical Practitioners	-4,145	-4,294	-3,930	-2,820	-1,213
Medical Specialists	-7,590	-7,471	-5,677	-3,158	-583
Dental Practitioners	0	168	480	603	519
Dental Specialists	-22	-24	-21	2	13
Community health worker	-11,689	-14,651	-14,279	-3,006	152
Home based care worker	-7,360	-9,655	-9,874	-2,079	197
Other	-23,911	-20,995	-2,096	8,135	9,414
Total	**-82,962**	**-83,043**	**-66,435**	**-17,475**	**8,568**
% of total	***n/a***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

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2 THE CONTEXT

2.1 INTRODUCTION

Workforce planning for the health service is challenging. The future workforce is difficult to predict. Social and technological changes require adaptation, retraining and realignment of resources while demand for others will suddenly increase. Basic staff numbers are hard to forecast and problems are exacerbated by the time required to train staff. It takes at least three years to train many professions, and up to fifteen or twenty years for some senior doctors.

Nonetheless, workforce planning is an important process. In most countries the health workforce comprises about 65% - 70% of recurrent health expenditure, depending on the service delivery setting. This does not include the substantial investment to train and educate health professionals. If health outcomes are to be improved, it is important that this massive investment in training and employment of the health workforce is well planned, appropriately targeted and properly managed.

Human Resource for Health is central to health and health care. The unique encounter between the health care worker and person who needs care is what the health system is about. There is ample evidence that health care worker numbers and quality are positively associated with improved immunisation coverage, successful outreach in primary health care, infant, child and maternal survival, impact on communicable diseases and enhancing quality and length of life.

The health, policy, legislative and economic context influence the task of visualising and implementing improvements in the health workforce.

2.2 THE EPIDEMIOLOGICAL CONTEXT

Health indicators are determining the new priorities for the Minister of Health and provide a demand for health workforce development and service provision, which must be addressed. Data indicates that the *under-five mortality, infant mortality and maternal mortality* in South Africa are high and increasing. The under-five mortality rate has risen from 59(1998) to 104(2007) per 1000 live births, whereas the 2015 MDG target is 20. The infant mortality rate has remained virtually static at 54(2001) to 53(2007) per 1000

live births, which is equally far from the 2015 MDG target of 18. In the more rural part of the country the infant mortality rate is as high as 80 per 1000 live births. Notable is the maternal mortality ratio which has risen from 369 (2001) to 625 (2007) per 100,000 live births, almost doubling and almost 20 times higher than the 2015 MDG target of 38.[1]Only 43.7% of this figure can be attributed to AIDS.

HIV/AIDS, interpersonal violence, TB and road traffic injuries were the leading causes of people seeking health care in 2000. The multiple burdens of disease are characterised by the co-existence of diseases associated with under-development such as diarrhoea and malnutrition, as well as chronic non-communicable diseases such as diabetes and stroke. These are compounded by a high injury burden and the HIV/AIDS epidemic.[2,3]

There has been a *rapid increase in infectious diseases,* with tuberculosis becoming the leading registered cause of death, and the proportion of the deaths due to infectious and parasitic causes has increased from 13.1 per cent to 25.5 per cent from 1997 to 2006.

At least 7.3 per cent of the total population are ≥60 years [4], amongst the highest in Africa, and there is indication that the *population is ageing further*.

The 2000 South African National Burden of Disease Study[5] and the Comparative Risk Assessment[6] highlighted the inclusion of *non-fatal outcomes in the measurement of the burden* results, specifically in *mental health problems, such as unipolar depression and alcohol depen*dence ranking amongst the leading causes. In addition, other non-fatal health problems such as adult-onset hearing loss and cataract-related blindness feature among the leading single causes of health loss.

The National Burden of Disease Study highlighted the need for the provision of a wide range of health services, but emphasised the *need to promote health and prevent disease*. The risk factor assessment shows that the loss of health in South Africa is dominated by sexually transmitted diseases resulting from

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[1]Third progress report on the Millennium Development Goals (MDGs).StatsSA, UNDP (2010)
[2]Bradshaw D, Norman R, Schneider M. A clarion call for action based on refined DALY estimates for South Africa. *S Afr Med J*. 2007;97(6):438-40.
[3]Dorrington RE, Johnson L, Bradshaw D, Daniels T. The Demographic Impact of HIV/AIDS in South Africa: National and Provincial Indicators for 2006. Cape Town: Centre for Actuarial Research, South African Medical Research Council, Actuarial Society of South Africa; 2006.
[4]2001 Population Census
[5]Bradshaw D, Norman R, Schneider M. A clarion call for action based on refined DALY estimates for South Africa. S Afr Med J 2007;97(8):438-40.
[6]Norman R, Bradshaw D, Schneider M, Joubert J, Groenewald P, Lewin S, Steyn K, Vos T, Laubscher R, Nannan N, Nojilana B, Pieterse D; South African Comparative Risk Assessment Collaborating Group. A comparative risk assessment for South Africa in 2000: towards promoting health and preventing disease. S Afr Med J 2007;97(8 Pt 2):637-41.

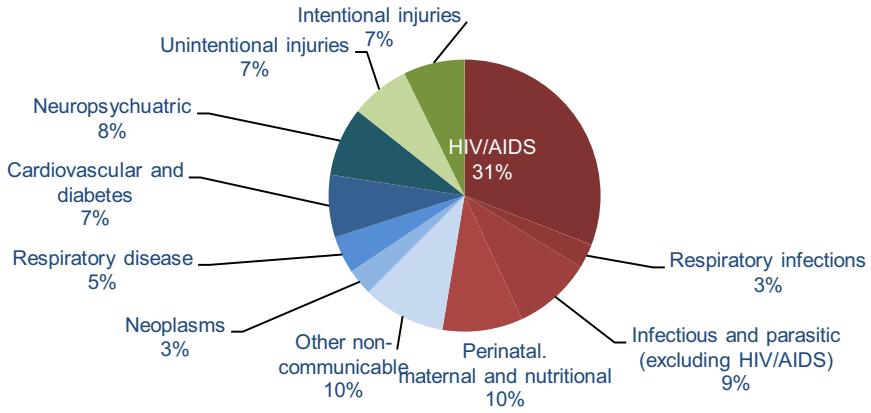
unsafe sex. Interpersonal violence and alcohol harm are other risk factors from the social sphere. These are accompanied, on the one hand, by risk factors related to poverty and under-development, such as under-nutrition, unsafe water, sanitation and hygiene and indoor smoke from solid fuels, and on the other hand by risk factors associated with an unhealthy lifestyle related to tobacco, diet and physical activity.

2.3 STRATEGIC IMPLICATIONS OF THE BURDEN OF DISEASE

The extensive and changing burden of disease in South Africa has several implications for human resource development and planning:

- Health professional training and development must provide for a wide spectrum of conditions
- The short term priority for the NDoH is to improve maternal and child health
- Innovative HR approaches and interventions are needed, in particular for the high AIDS and TB burden, the emerging cardiovascular and diabetes burden and mental health problems
- Addressing health inequalities and the social determinants of health needs to be high on the agenda
- The ageing trend in the population also calls for training and services to meet the needs of older people
- Strengthening public health, building the evidence base and improving surveillance data are needed to promote health and prevent disease.

Figure 1: Proportions of leading categories of causes of death, 2010 Source: D Bradshaw, MRC 2010



2.4 NATIONAL DEPARTMENT OF HEALTH POLICY PRIORITIES

The process of planning improvements in Human Resources for Health is guided by the national Department of Health's 10 Point Plan, detailed below. It incorporates *human resources planning, development and management* as one of the priorities:

- Strategic leadership and creation of a social compact for better health outcomes
- Implementation of the National Health Insurance
- Improving the quality of health services
- Overhauling the healthcare system
- *Improving human resources, planning, development and management*
- Revitalisation of the infrastructure
- Accelerated implementation of HIV and AIDS, STI and TB and communicable diseases
- Mass mobilisation for better health for the population
- Review of drug policy and
- Strengthening research and development.

The fifth point in the 10 point plan, *"Improving human resources, planning, development and management"* has six documented strategic priorities in the Medium Term Strategic Framework (MTSF) for 2009–2014:

- Refinement of the HR plan for health;
- Re-opening of nursing schools and colleges;
- Recruitment and retention of professionals, including urgent collaboration with countries that have an excess of these professionals;
- Focus on training of PHC personnel and mid-level health workers;
- Assess and review the role of the Health Professional Training and Development Grant (HPTDG) and the National Tertiary Services Grant (NTSG);
- Manage the coherent integration and standardisation of all categories of Community Health Workers.

The Human Resource Strategy of NDOH, HRH SA builds on these priorities.

These human resource and health priorities are located within the policy initiative launched by the Minister in August 2011 to develop National Health Insurance as the primary financing mechanism for the health system, and thereby provide more equitable access to health care.

2.5 THE NEW POLICY OF THE MINISTER OF HEALTH ON RE-ENGINEERING PRIMARY HEALTH CARE

The Minister of Health has signed a National Service Delivery Agreement 'for a Long and Healthy Life for All South Africans' with the President of South Africa. In this document the Minister of Health and the NDOH are committed to four strategic outputs that the health sector must achieve:

Output 1: Increased life expectancy

Output 2: Decreased maternal and child mortality

Output 3: Combating HIV and AIDS and a decrease in the burden of disease from Tuberculosis

Output 4: Strengthened Health System Effectiveness

To address these priorities the Minister of Health, in his Budget Speech in May 2011, announced the *re-engineering of the Primary Health Care system and the overhaul of the health system*. In his speech the Minister announced that the PHC re-engineering will be according to three main streams to consolidate PHC as the primary mode of health care delivery focussing on prevention of disease and the promotion of health. The PHC system will be located in a district-based service delivery model focusing especially on maternal and child mortality. The three main streams are:

a. *District Clinical Specialist Support teams:* These teams will consist of four specialist clinicians (paediatrician, family physician, obstetrician & gynaecologist and anaesthetist), an advanced midwife, advanced paediatric nurse and advanced PHC nurse and will be deployed in each district.
b. *School Health Services:* This programme aims to address basic health issues amongst school going children such as eye care, dental and hearing problems, as well as immunisation programmes in schools. Contraceptive health rights, teenage pregnancy, HIV and AIDS programmes, and issues of drugs and alcohol in school will be part of this initiative.
c. *Municipal Ward-Based Primary Health Care Agents*: This team will be bases in a municipal ward and will involve about 7 PHC workers or PHC agents per ward comprised of 6 community health workers and a specialist PHC nurse.

The Minister has stated that improved management of health care institutions and health districts will be essential to facilitate the re-engineering of PHC.

The Minister also announced in 2011 the commissioning of five Flagship Academic Hospitals as part of the process to re engineer and strengthen the health system, and develop a balanced capacity for health care delivery.

The policy guidelines that inform the HRH priorities for the short to medium term are informed by the re-engineering of the Primary Health Care system, in the context of the implementation of National Health Insurance. The Human Resource Strategy of NDoH, HRH SA, is directed to creating the human resource capacity for meeting these new health goals and service needs.

2.6 THE LEGISLATIVE MANDATE

The development of the HR Strategy for NDoH is governed by The Health Act paragraphs 51 and 52. In terms of the act the Minister:

i. May establish Academic Health Complexes
ii. Must ensure education and training of the health workforce to meet requirements of the health system, and adequate resources for this purpose
iii. May create new categories of health workers and ensure sufficient skills, competencies and expertise
iv. Must identify shortages and find ways to fill them through local and foreign recruitment
v. Must prescribe strategies for and retention
vi. Must ensure human resource planning development and management structures
vii. Must ensure institutional capacity at national, provincial and district levels to develop and manage human resources
viii. Must ensure clarity on roles and functions of the NDoH, provincial departments and municipalities with regard to planning, production and management of human resources.

A number of other aspects of legislation impact on the management of human resources by the NDoH. These include the Higher Education Act 1997, which defines higher education as a national competence of the Department of Higher Education and Training; and the Public Service Act 1994, and Labour Relations Act 1995, both of which govern conditions of employment for public servants and remuneration.

The legislative and operational framework of developing and managing human resources for the health sector necessitates a close and ongoing working relationship with the relevant Ministries.

2.7 THE ECONOMIC CONTEXT

Competing demands on the national fiscus make substantial increases in the 8.7% of the budget spent on health unlikely. The health sector must demonstrate allocative and operational efficiency (optimal spending between different categories of health workers and productivity of the existing workforce) in the management of human resources before additional spending can be motivated.

The national commitment to the establishment of a National Health Insurance (NHI) delivery model may provide potential positive financing changes for the health sector that may result in an increasing percentage of the GDP being spent on health services over the next 15 years. No commitment to an increase has been formally announced but, if there is any increase, it is not likely to be massive, given the other competing demands in society.

The assumption has to be made in planning for HRH SA that spending will be aligned to growth in GDP. The percentage of GDP spent on health (or even the public budget) on human resources for health may be increased, but this implies one or more of the following:

- An increase in health workforce financing as a share of GDP;
- revenue generation by the public sector;
- A shift in public spending towards health;
- A shift in public health spending towards human resources for health;
- Additional private sector financing towards human resources for health.

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3 THE PROBLEM STATEMENT: TRENDS AND CHALLENGES FOR HRH IN SOUTH AFRICA

An overview of the trends and challenges in HRH for South Africa was grouped into 3 thematic areas. For each thematic area the key issues are highlighted and brief recommendations provided.

Theme I: The supply of health professionals and equity of access

Theme II Education, training and research

Theme III The working environment of the health workforce

The HRH Strategy has been developed to address the problem statement and thematic issues.

3.1 THEME I: THE SUPPLY OF HEALTH PROFESSIONALS AND EQUITY OF ACCESS

A primary task of planning the health workforce is ensuring appropriate supply and distribution of health care workers. The goal is to ensure equity of access to appropriately trained health care workers for all the population. The supply of health professionals in South Africa is not being actively managed.

A review of the supply of health professionals in South Africa indicates the following:

- There was a stagnant to negative growth in public sector clinical posts for 10 years from 1997 – 2006;
- Sufficient planning and budgeting for clinical posts in the public sector is not undertaken;
- The numbers of health professionals in the public sector have started to grow slowly since 2002;
- Expenditure on health personnel in the public sector has doubled in the past 5 years due to the Occupation Specific Dispensation;
- There is high attrition from the key health professions;
- There is insufficient of retention of Community Service professionals with about 23.1% indicating they are likely to leave the country due primarily to working conditions in the public sector;

- There is a lack of retention of health professional graduates in the public health sector due to various 'push' factors and limited public sector posts;
- More graduates being produced than are absorbed into the public sector;
- There is a maldistribution of health professionals between rural and urban areas, and the public and private sectors, and this pattern has not changed in the past 15 years;
- There are high numbers of 'vacancies' in the public sector although this data is not reliable and it would be impossible to fund the 'unfilled' posts;
- South Africa compares poorly with its peers in relation to health professionals per 10,000 and health outcomes; and
- Foreign recruitment is not managed efficiently and effectively.

3.1.1 Trend in public sector HRH numbers 1996 – 2010

In 2008 the National Department of Health completed a review of the public sector health workforce. The review indicated an overall stagnation in growth of clinical professionals (Table 1).

Table 1: Health Professionals Employed in the Public Sector 1997 –2006

Professional category	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Administration & Man	28,676	27,435	27,188	25,884	27,629	27,253	26,622	28,935	32,052	37,419
Ass Health Prof	13,786	13,779	13,598	13,524	13,824	16,955	18,307	19,363	22,470	23,349
Hospital & Health Support	81,097	77,603	72,849	67,172	67,209	65,614	62,330	60,397	60,388	60,030
Management	420	381	379	342	555	620	700	800	1,314	1,091
Medical	15,554	15,593	14,875	14,256	14,759	14,980	13,752	14,219	14,659	16,006
Nursing	111,102	105,757	101,982	99,473	99,618	100,079	101,090	103,387	107,762	113,153
TOTAL	250,635	240,548	230,871	220,651	223,594	225,501	222,801	227,101	238,645	251,048

Source: Adapted from NDoH Review of National and Provincial Human Resource Public Health Expenditure 2008

Since 2002 the numbers of health professionals in the public sector have grown slowly. Table 2 indicates that numbers of doctors increased by 4,373 from 2002 to 2010. Table 2 shows that overall numbers of workers in the public health sector increased quite considerably from 153,383 to 280,511 between 2004 and 2010. The increase has been mainly in the nursing category. Upon closer investigation, it is evident that there is a significant difference between the figures in Table 1 and Table 2 for the total public health sector workforce, and for many of the professional categories. Although the sources are different, such a large discrepancy between the NDoH and National Treasury/ Persal data for the same data series, is quite concerning. The margin of error is in the region of 30% in some cases. More detailed (lower level) data from either source were not available and therefore the differences could not be further investigated or explained.

Table 2: Growth in public sector health professionals, 2002 – 2010

Occupational classification	2002	2003	2004	2005	2006	2007	2008	2009	2010
Medical Practitioners	7291	7517	8039	8595	9415	9989	10462	11036	11664
Medical specialists	3585	3437	3579	3595	4108	4091	4213	4413	4513
Pharmacologists, pathologists and related professionals	5	4	6	10	65	49	45	47	47
Nursing Assistants	28566	29426	30651	31672	33449	34025	34103	34652	35376
Professional Nurses	40786	41871	42676	43791	44725	47863	49226	51592	55309
Staff nurses and pupil nurses	20305	20807	20594	20826	21797	22649	23099	24201	26338
Student nurses	7136	7546	8055	8361	9065	9386	9634	10285	10772
Dental practitioners	527	545	573	662	739	739	648	792	828
Dental specialists	30	31	37	45	41	35	47	61	134
Dental technicians	38	32	34	37	36	34	33	31	33
Dental therapists	125	124	140	150	155	157	152	173	221
Ambulance and related workers	4686	5397	6071	7517	8796	9705	10984	10244	10560
Emergency services personnel	58	114	122	166	362	532	538	1698	2229
Pharmaceutical assistants	353	329	337	379	511	638	674	1012	1059
Pharmacists	1234	1203	1381	1574	1678	1742	1790	2344	3285
Radiographers	1984	1996	2019	1974	2041	2052	2086	2148	2282
Supplementary diagnostic radiographers	178	197	178	184	186	173	165	162	174
Community development workers	179	187	202	200	219	178	157	73	101
Dieticians and nutritionists	262	364	410	416	506	536	585	647	763
Environmental health practitioners	533	767	791	843	840	819	735	737	789
Health science professionals	1354	1434	2045	2326	2636	3256	5963	6060	6330
Medical researchers and related professionals	83	97	89	70	74	70	69	73	75
Medical technicians/technologists	865	828	786	787	425	402	410	402	397
Occupational therapists	414	531	565	578	649	685	768	776	837
Optometrists and opticians	24	27	35	53	67	72	82	113	126
Oral hygienists	127	127	142	140	144	152	156	163	194
Physiotherapists	459	617	686	706	741	823	863	932	970
Psychologists and vocational councillors	273	312	385	399	423	431	454	494	529
Speech therapy and audiology	124	209	223	255	263	283	326	347	396
Core administration			22532	23966	27088	29330	30965	31184	34180
TOTAL			153383	160277	171244	180896	189432	196892	210511

Source: National Treasury / Persal

Table 3: Percentage increase in selected public sector health professionals, absolute & per population, 2002-2010

Occupational classification	Absolute numbers				Per 10,000 uninsured population			
	2002	2010	% increase	Average annual increase	2002	2010	% increase	Average annual increase
Medical Practitioners	7291	11664	60.0%	6.1%	1.89	2.85	50.6%	5.3%
Medical specialists	3585	4513	25.9%	3.0%	0.93	1.10	18.5%	2.3%
Professional Nurses	40786	55309	35.6%	3.9%	10.57	13.49	27.6%	3.1%
Dental practitioners	527	828	57.1%	6.3%	0.14	0.20	47.9%	5.5%
Pharmacists	1234	3285	166.2%	13.8%	0.32	0.80	150.6%	13.0%

Source: Source: National Treasury / Persal

3.1.2 Historical expenditure on health personnel in the public sector

Table 4 shows that expenditure on health personnel between 2006/7 and 20010/10 doubled from R28,240m to R58,919m. The significant increase is due to the introduction of the OSD.

Data was not available from National Treasury or provincial departments of health on the expenditure on health care workers by professional category and level of care. Table 4 shows the costs per professional category by taking the numbers of professionals from the National Treasury data source reported in Table 2, and multiplying by the mid-point of the OSD for the professional category. The results in a cost of R1,3bn more than the National Treasury costs in Table 4. This is a further indication of the need for improved data and financial information on health professionals in the public sector.

Table 4: Growth in public sector expenditure on the health workforce 2006/07 – 2010/11 (R million)

Province	2006/07	2007/08	2008/09	2009/10	2010/11	Average annual growth
Eastern Cape	3,860	4,563	6,085	7,397	8,392	**29.5%**
Free State	2,012	2,352	2,881	3,144	3,777	**23.4%**
Gauteng	5,347	6,519	8,158	9,877	12,225	**31.7%**
KZN	6,629	8,644	10,077	12,126	12,940	**25.0%**
Limpopo	3,311	4,044	4,692	5,594	6,617	**26.0%**
Mpumalanga	1,628	1,992	2,603	3,073	3,614	**30.5%**
Northern Cape	621	786	891	1,034	1,278	**27.2%**
North West	1,914	1,983	2,537	2,877	3,269	**19.5%**
Western Cape	3,419	4,139	4,876	5,780	6,805	**25.8%**
Total	**28,740**	**35,022**	**42,801**	**50,903**	**58,919**	**27.0%**

Source: National Treasury / Persal

Table 5: OSD costs of public sector health professionals, 2010

Occupational Classification	2010 Costs (OSD)
Medical practitioners	R 9,294,131,808
Medical specialists	R 4,748,741,068
Pharmacologists pathologists & related professional	R 49,455,092
Nursing assistants	R 4,525,970,064
Professional nurse	R 21,769,124,619
Staff nurses and pupil nurses	R 4,396,470,650
Student nurse	R 1,798,116,100
Dental practitioners	R 446,212,512
Dental specialists	R 140,999,624
Dental technicians	R 9,391,536
Dental therapy	R 62,894,832
Ambulance and related workers	R 5,690,826,240
Emergency services related	R 2,345,434,044
Pharmaceutical assistants	R 101,736,012
Pharmacists	R 1,351,830,060
Radiography	R 288,253,112
Supplementary diagnostic radiographers	R 28,734,360
Community development workers	R 28,743,792
Dieticians and nutritionists	R 217,143,696
Environmental health	R 224,543,088
Health sciences related	R 1,801,467,360
Medical research and related professionals	R 21,344,400
Medical technicians/technologists	R 112,983,024
Occupational therapy	R 238,203,504
Optometrists and opticians	R 35,858,592
Oral hygiene	R 55,210,848
Physiotherapy	R 276,054,240
Psychologists and vocational counsellors	R 150,549,168
Speech therapy and audiology	R 112,698,432
TOTAL	**R 60,323,121,877**

Source: National Treasury personnel numbers and OSD mid-point rates

3.1.3 Current health professionals registered with the Councils

There were 162,630 health professionals registered with the Health Professions Council of South Africa (HPCSA) in a number of professional categories in June 2011. In addition there were 231,086 nurses registered with the South African Nursing Council (SANC) in 2010. In 2010 the Pharmacy Council had 12,813 pharmacists and 9,071 pharmacist assistants registered.

The Statutory Council numbers are included for the purpose of completion only and it is important to note that these figures are not a true reflection of the numbers of health professionals available for the health workforce. The Council registers do not record whether a re-registering professional is in South Africa or not, whether they are practicing in South Africa or retired, and whether they are part time or full time.

In consultations on the draft HRH strategy, the Statutory Councils agreed to adjust their data and change the process for reporting annual registrations so as to better reflect the current realities and provide informative data on the health workforce.

The Allied Health Professions Council oversees the 'Allied Health Professions' namely: Ayurveda, Chinese Medicine, acupuncture, chiropractic, homeopathy, naturopathy, osteopathy, phytotherapy, therapeutic aromatherapy, therapeutic massage therapy, therapeutic reflexology and Unani-tibb. There are 1591 registered practitioners in the diagnostic professions, and 1392 registered in the non-diagnostic professions. The Allied Health Professions Council and the complimentary practitioners are not employed generally in the public sector. They however wish to extend their role in the public sector and in a NHI service delivery framework in healing and complimentary health care.

3.1.4 Current numbers by professional category in the public and private sectors

3.1.4.1 Public and private sector distribution per 10,000

Data from Persal were obtained regarding the number of health professionals in the public sector, and these were combined with data from the private sector[7] to determine the total number of health professionals working in South Africa. To correct for people working in both sectors and thus avoid double counting, 5% was subtracted from both Persal and HPCSA for specialists and 2.5% for all other.[8] Hence totals reflected will not match directly with either source. In the HPCSA data, professionals who either failed to indicate their location or indicated this as "foreign" were excluded from the counts, to allow for those professionals who are practicing abroad, but still registered in South Africa. All nursing categories were calculated using SANC data from 2010. Allowance was made for 18% of nurses who are registered but not actively working in South Africa. It was assumed that 41.4% of nurses work in the private sector.[9]

The total number (public and private), as well as the distribution per 10,000 population for the 27 key professions for all provinces is detailed in Annexure A Table 3. Table 6 below is a summary of Annexure A Table 3 showing ratios per 10,000 population for the public and private sectors. The figure below shows

[7] Data sources include HPCSA, SANC, SAPC and previous Econex Health Reform Notes.
[8] See Econex Health Reform Note 8 November 2010. In instances where such an adjustment would yield nonsensical results, or was deemed unnecessary, it was omitted.
[9] For more information on these assumptions see Econex Health Reform Note 9, December 2010.

a large variance between the provinces. For example, the ratio of HRH per 10,000 population of 33.06 in the North West is less than half of the ratios in Gauteng, and the Western Cape. The Eastern Cape has just over half the density of health professionals per 10,000 compared to that of Gauteng and the Western Cape.

Figure 2: Total (public & private) HRH per 10,000 population per province, 2010

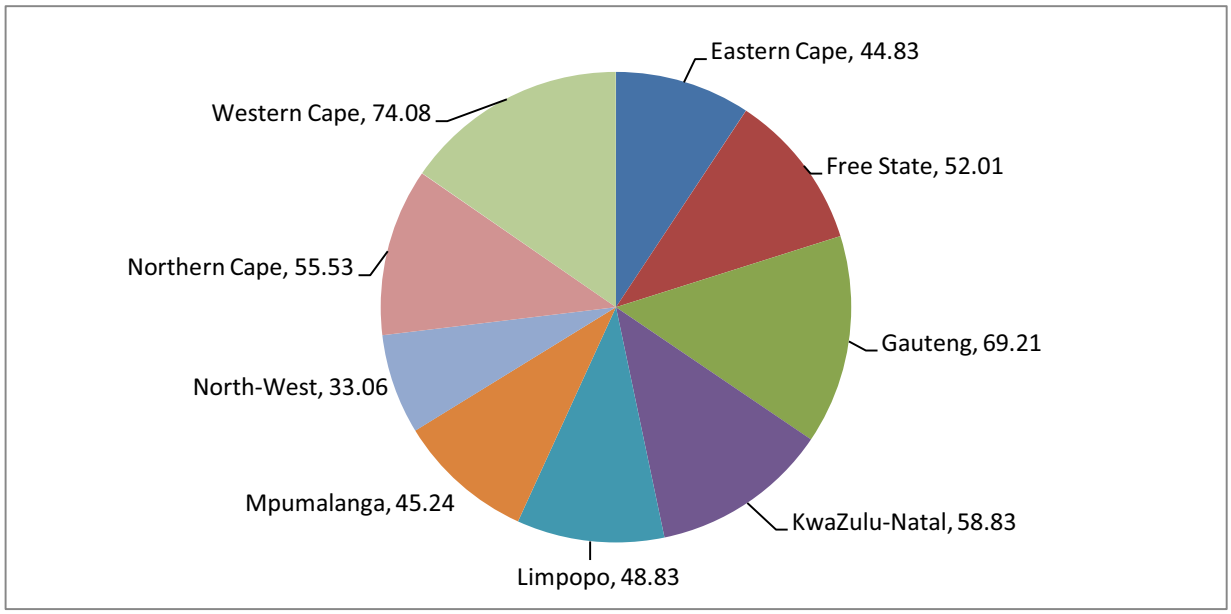


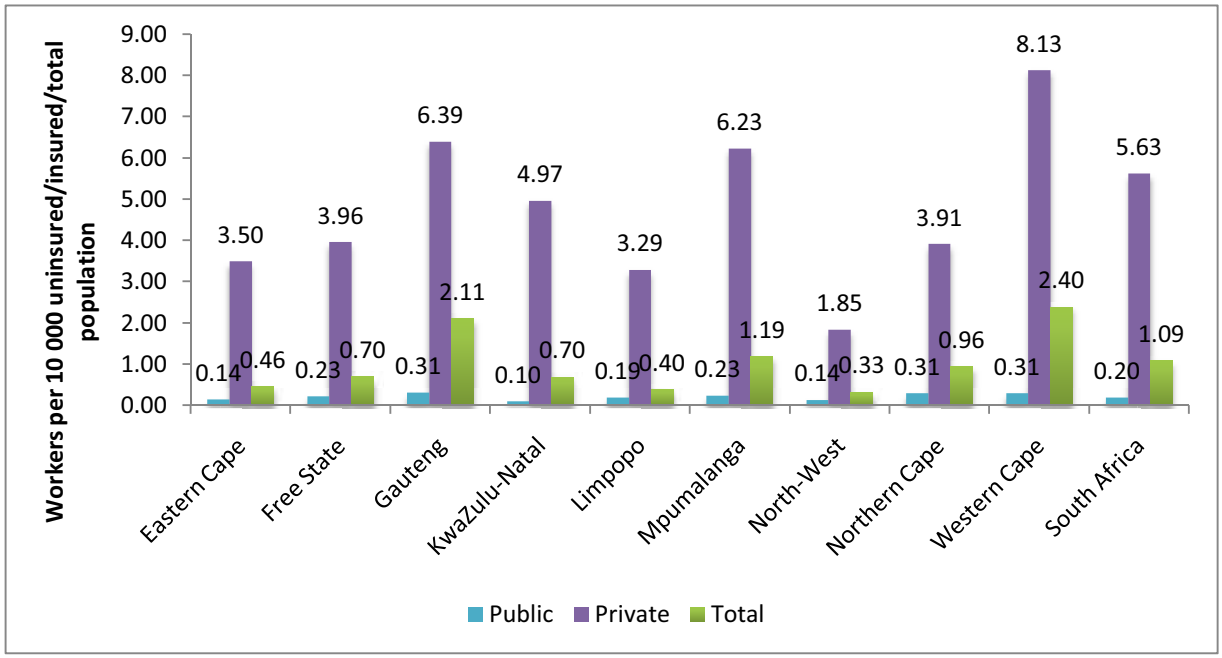
Table 6: Health professionals per 10,000 for the public and private sectors

	South Africa	
Medical Practitioners	18147	3.7
Medical specialists	9637	1.96
Pharmacologists, pathologists and related professionals*	47	0.01
Nursing Assistants	56039	11.42
Professional Nurses	93049	18.97
Staff nurses and pupil nurses	31395	6.4
Dental practitioners	5345	1.09
Dental specialists*	127	0.03
Dental technicians*	33	0.01
Dental therapists	648	0.13
Emergency medical services*	12789	2.61
Pharmaceutical assistants*	1059	0.22
Pharmacists	11425	2.33
Radiographers	7500	1.53
Supplementary diagnostic radiographers*	170	0.03
Community development workers*	101	0.02
Dieticians and nutritionists*	763	0.16
Environmental health practitioners	3172	0.65
Health science professionals*	6330	1.29
Medical researchers and related professionals*	75	0.02
Medical technicians/ technologists*	397	0.08
Occupational therapists	3779	0.77
Optometrists and opticians*	126	0.03
Oral hygienists*	194	0.04
Physiotherapists	5850	1.19
Psychologists and vocational councillors	6718	1.37
Speech therapy and audiology*	396	0.08
TOTAL	273098	55.67

*Public sector data only

There are generally there are more health professionals per 10,000 in the private sector than in the public sector. As an example is the public/private split of dental practitioners in Figure 3 where the private sector has 5.63 dentists per 10,000 population as opposed to only 0.20 per 10,000 population in the public sector.

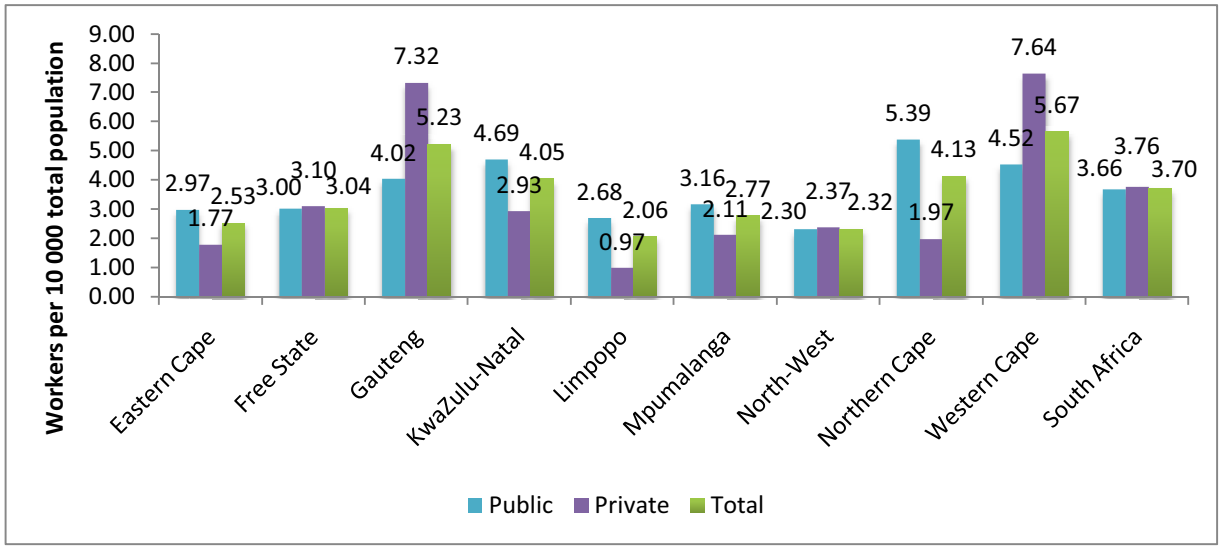
Figure 3: Number of dental practitioners per 10,000 population in each sector, by province, 2010



There are a few exceptions though where the population ratios are higher in the public sector than the private sector. For example, Figure 4 shows that the ratio of medical practitioners per 10,000 population in the public sector, is higher than that of the private sector in a number of provinces.

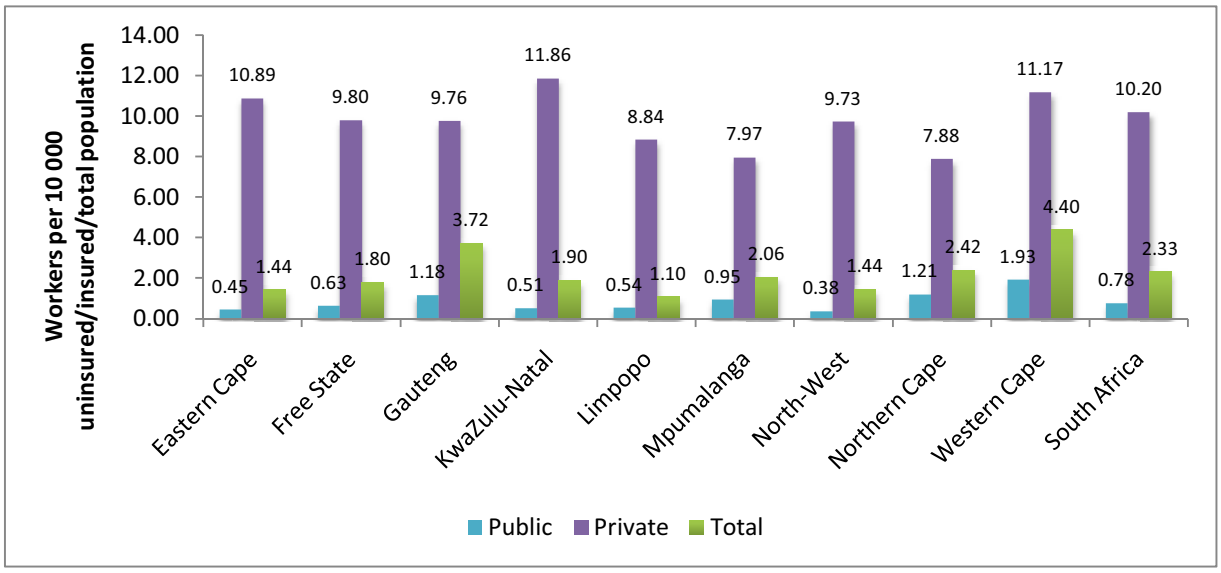
However, for the majority of professions this is not the case and most health professionals are not distributed equally between the public and private sectors between the different provinces. Figure 5 for example, shows that there are a total (public and private sector) of 4.4 pharmacists per 10,000 population in the Western Cape, and only 1.1 per 10,000 population in Limpopo. Such ratios will affect access to care.

Figure 4: Number of medical practitioners per 10,000 population in each sector, by province, 2010



Note: A large percentage of the uninsured also visit private medical practitioners. According to Econex Health Reform Note 4, 36.7% of the total population in 2008 used private sector medical practitioners (GPs) for their primary healthcare needs

Figure 5: Number of pharmacists per 10,000 population in each sector, by province, 2010



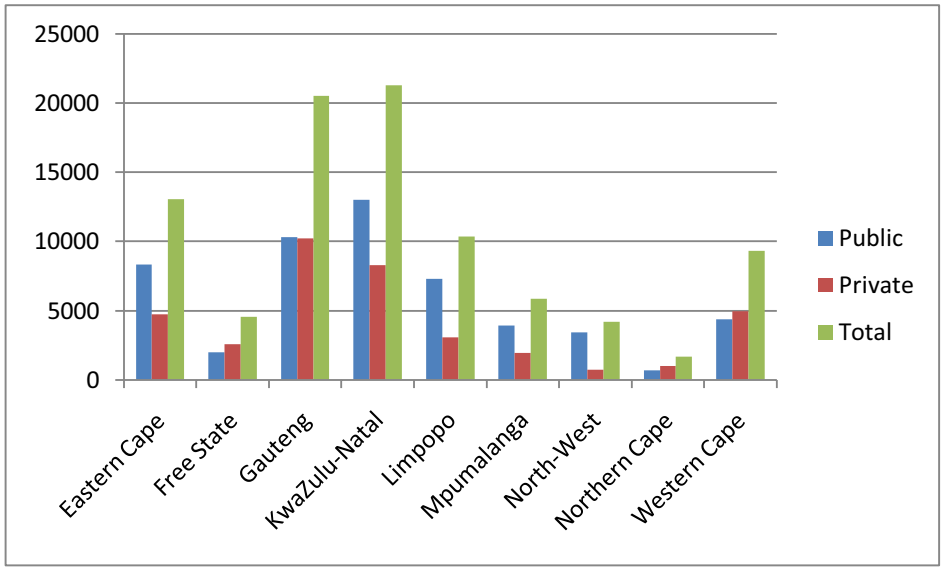
3.1.4.2 Specialists by specialty in the public and private sectors

Table 4 in Annexure A details the number of specialists by specialty in the public and private sector for 2008. Table 4 shows that outside of the main urban centres, there is limited access to many specialist categories.

3.1.4.3 Nurses in the public and private sectors

Table 5 in Annexure A gives the total number of nurses that was registered with the SANC at the end of 2010 by province, gender and qualification. Figure 6 provides the numbers of nurses actively working (not just registered) in the public and private sectors.

Figure 6: Number of professional nurses actively working in the public and private sectors, by province, 2010



**Note that the number of private sector nurses includes both nurses who are formally employed in the private hospital sector (about a third of the total) and elsewhere. The bulk of private sector nurses work for NGOs, mining hospitals, pharmacy clinics, etc.[10] It is important to note that most of these organisations serve mainly the uninsured population, which means that the population ratios for public and private sector would not be entirely correct.*

3.1.5 Access to health professionals in rural areas

The differences in density of health professionals per 10,000 between rural and urban provinces have been detailed above. Providing health services to rural communities presents challenges in every country. In South Africa 43.6% of the population live in the rural areas. However they are only served by 12% of the doctors and 19% of nurses. Of the 1200 medical students graduating in the country annually, only about 35 end up working in rural areas in the longer term. About 21.3% of households in metropolitan areas belong to a medical aid in comparison with only 5.4% of households in rural districts: access to private care is low in these areas. Access to PHC also needs improvement in rural areas. The infant

[10] See Econex Health Reform Note 9 for a detailed discussion of this specific issue. Available at: www.econex.co.za

mortality rate, for example, is 32.6 in urban areas compared to in 52.6 on average in rural areas with some areas in the Eastern Cape having an infant mortality as high as 70.[11]

Lack of health professionals in rural areas is affected by funding, historical deficiencies in infrastructure, no additional benefits for working in more inhospitable settings or policy priority settings, fear of safety, lack of opportunities for schooling for children, lack of work opportunities for spouses of health workers, poor social infrastructure and a lack of strategies to recognise and compensate for these negative factors.

3.1.6 Traditional healers

Traditional healers play an important role in the health care system. Information on the total numbers and their distribution was not available for the preparation of this document. However, the role of traditional healers as the first line of care in many parts of the country requires collaboration with the Community Outreach teams. Their role should be further detailed in the process of strengthening of HRH.

3.1.7 Migration of South African Health Professionals

A notable trend in HRH in South Africa is the migration of South African trained health professionals abroad. A lack of employment opportunities and an unfavourable working environment in the public sector, results in health professionals pursuing careers outside of South Africa. Table 7: below shows that 8,921 South African medical practitioners were outside of South Africa at the time the data was sourced from an OECD migration study in 2003. This amounts to a third of doctors registered in South Africa with HPCSA at the time.

A range of issues affect the attrition rate of health professionals from South Africa, which is conservatively estimated at an annual rate of 25%.[12] The estimation assumes that each year 25% of the potential workforce does not actively enter the South Africa health sector (not just new graduates). Newly qualified undergraduate and postgraduate health professionals have difficulty finding jobs in the South Africa public health sector after qualification. The attrition rate of 25% excludes an additional 6% attrition rate due to retirement, death and change in profession.

[11] Third progress report on the Millennium Development Goals (MDGs).StatsSA, UNDP (2010)
[12] Econex Notes on Health Reform Number 8, 2010; The Colleges of Medicine Report: The Training of Medical Specialists and Subspecialists 2011 – 2015, 2010

Table 7: Distribution of South African health professionals abroad

	Medical Practitioners	Nurses	Other health professionals	TOTAL
Australia	1 114	1 085	1 297	**3 496**
Canada	1 345	330	685	**2 360**
New Zealand	555	423	618	**1 596**
United Kingdom	3 625	2 923	2 451	**8 999**
United States	2 828	2 083	2 591	**6 956**
TOTAL	**8 921**	**6 844**	**7 642**	**23 407**

Source: NDoH A National Human Resources Plan for Health, 2006

Factors affecting attrition and migration are: lack of posts in the public sector, HIV &AIDS, working conditions, workload in the public sector, workplace security, relationship with management in the public sector, morale in the workplace, risk of contracting TB, personal safety, etc. Lifestyle and income were not the most significant factors.[13] The working environment and management relationships are critical factors affecting why health professionals leave the public sector and South Africa. Table 8 provides a more comprehensive list of push and pull factors affecting health professionals' choice to migrate. The high level attrition of health professionals from South Africa is creating a shortage of health professionals in the country, despite the number being trained.

Table 8: Main push and pull factors in migration and international recruitment of health workers[14]

Push factors	Pull factors
Low pay (absolute and/or relative)	Higher pay & opportunities for remittances
Poor working conditions	Better working conditions
Lack of resources to work effectively	Better resources health systems
Limited career opportunities	Career opportunities
Limited educational opportunities	Provision of post-basic education
Impact of HIV and AIDS	Political stability
Unstable/dangerous working environment	Travel opportunities
Economic instability	Aid work

[13] Wade Pendelton et al, The Haemorrhage of Health Professionals from South Africa: Medical Opinions, SAMP, IDASA, 2007
[14] James Buchan, in Human Resources for Health in Europe, C Du Bois et al, 2006 p44-52.

3.1.8 Attrition of Community Service professionals

The attrition of Community Service (CS) professionals leads to a notable loss of trained professionals to the health system. 'Community Service' is a requirement which entails one year of practice in the public sector for most health professionals following their graduation. A survey of medical CS professionals in 2009 reported that 17% did not report for CS, and a further 6.1% reported that they would emigrate after completing CS. This amounts to 23.1% planning to leave the country. If the doctors do not report for CS they cannot practice in South Africa. Even though this is less than the 43% who planned to leave the country in 2001, this is equivalent to the output of one medical school, each year, planning to leave the country.[15] The primary reason given by CS professionals is the working environment in the public sector which does not provide professional support and career opportunities.

3.1.9 Graduate unemployment and lack of absorption

As has been noted earlier in this section, from 2002 to 2010 employment in the public health sector began to grow. However, graduates from Faculties of Health Sciences are not retained in the public health sector. Whilst there is not a linear relationship between employment growth and graduate output, what is evident from the data in Table 9 is that graduates are not being absorbed into the public sector. For example, whilst 11,700 doctors graduated between 2002 and 2010, the number of doctors employed in the public sector only went up 4,403. Notable is the Allied Health professions (physiotherapy and occupational therapy) for which absorption is particularly low due to a lack of public sector posts.

Table 9: Retention Gap for Health Professional Graduates 2002 – 2010

	2002 – 2010			
Profession	**Graduate Output**	**Public Sector post Increase**	**Retention Gap**	**Retention Gap %**
MBChB	11700	4403	7297	62.4%
Dentistry	2140	248	1892	88.4%
Pharmacy	3645	1960	1685	46.2%
Physiotherapy	2934	497	2437	83.1%
OT	1827	410	1417	77.6%
SLP + Audiology	1413	265	1148	81.2%
Dietetics	657	502	155	23.6%

Sources: Department of Higher Education and National Treasury

[15]Wolvaardt G, A review of doctors experiences over the first 10 years of CS, Foundation for Professional Development, 2010

3.1.10 Shortages and vacancies

Vacancies are regularly used as an indicator of the shortage of health professionals in South Africa and priority is given by provincial departments of health to the filling of vacancies. Data on the vacancies for the 14 key professional categories in the public sector were summarised by province. Vacancies could potentially be a reasonable indicator of need for human resources and in determining the HR 'gap'. There are however, various problems with the public sector vacancy data which make the use thereof not recommended.

Table 2 in Annexure A also details the costs of filling the vacancies for the 14 key professions by province, based on the average cost per professional in the public sector according to the Occupational Specific Dispensation. As is evident from the table, it would cost almost R 40 billion to fill all listed vacancies. This is clearly not a realistic target and suggests that the establishments are not based on both carefully planned staff requirements and available resources.

Table 10 details the 'vacancies' for the private hospital sector. Whilst the methods of determining need for health professionals in the private sector may vary, the information does indicate a shortage of specialist medical practitioners for the private sector.

Table 10: Specialist vacancies/opportunities in private sector hospitals, 2010

Speciality	Medi-Clinic	Netcare	Life Health	Total
Anaesthetist	3	3	8	14
Cardiologist	3	9	6	18
Cardiothoracic Surgeon	1		1	2
Dermatologist	1		1	2
ENT	3	4	1	8
Gastroenterologist	1	3	4	8
General Surgeon	8	8	8	24
Gynaecologist	11	8	13	32
Maxillo-facial	4	2	3	9
Nephrologist			1	1
Neurologist	3	10	9	22
Neurosurgeon	1	4	2	7
Oncologist		1		1
Ophtalmologist	1	3	3	7
Orthopaedic surgeon	2	3	11	16
Paediatric Surgeon	2		2	4
Paediatrician	7	4	10	21
Physician	14	8	22	44
Plastic Surgeon	4	5	4	13

Pulmonologist	1		1	2
Rheumatologist	1		2	3
Trauma GP	1			1
Urologist	5	3	8	16
Vascular Surgeon		3		3
TOTAL	**77**	**82**	**121**	**280**

Source: Hospital data by interview

3.1.11 International benchmarking

One way of evaluating the HRH position in South Africa, the supply of health professionals and whether South Africa has a shortage of health professionals, is to compare South Africa with other countries. Vacancies or an HR 'gap' which is derived from service and staff planning should provide a more accurate indication, but this planning information is not currently available in a reliable format for all provinces. South Africa was compared with 6 peer countries which have similar population size, per capita GDP, Gini coefficient, and GDP growth. Table 11 summarises the comparison between the six countries for numbers of health professionals in four professional categories per 10,000 population, and infant and maternal mortality health outcomes.

Table 11: Comparative benchmarks for staffing per 10,000 population and health outcomes

	International benchmarks													
Indicator	Brazil		Chile		Costa Rica		Colombia		Thailand		Argentina		SA current	
Population	193 733 795		16 970 265		4 578 945		45 659 709		67 764 033		40 276 376		49 320 150	
GDP per capita (USD)	4 399		6 083		5 043		3 102		2 567		9 880		3 689	
%GDP Health	9.05		8.18		10.47		6.42		4.31		9.53		8.51	
GDP growth (annual %)	-0.64		-1.53		-1.50		0.83		-2.25		0.85		-1.78	
GINI index	53.9		52.06		50.31		58.49		53.57		45.77		57.77	
DOCTORS	17.31	17%	15.71	42%	20.42	39%	19.43	58%	8.72	19%	31.96	62%	5.43	12%
NURSES	65.59	64%	10.45	28%	22.19	42%	5.83	17%	33.21	71%	4.87	10%	36.1	80%
PHARMACY	5.81	6%	3.72	10%	5.34	10%	0	0.0	2.92	6%	5.08	10%	2.29	5%
ORAL HEALTH	13.69	13%	7.44	20%	4.85	9%	8.26	25%	1.73	4%	9.28	18%	1.2	3%
Total	102.39		37.32		52.8		33.52		46.59		51.19		45.02	
IMR (per 1,000 live births)	17.3		7.0		9.6		16.2		12.0		13.0		43.1	
MMR (per 100,000 live births)	75		18.2		26.7		75.6		12.2		40		165.5	

From assessing the composition of the various countries' staffing models (see the percentage of the four categories that the doctors, nurses, pharmacy and oral health personnel comprise in each country), it is evident that South Africa has a nurse-based health care system, similar to Thailand and Brazil. Colombia and Argentina have doctor-based systems, while Chile and Costa Rica have more balanced doctor/nurse

designs. South Africa has the highest percentage of nurses, with 80% of staff for the four professional categories being in the nursing category. The table also shows that South Africa has a much higher infant and maternal mortality than peer countries. This reflects on poor productivity, poor service design and poor management of resources and not only necessarily on the number of available professionals in the health sector.

It is worth noting however, that South Africa does have considerably fewer doctors, pharmacists and oral health practitioners per 10,000 population than the other comparable countries. One could conclude from this comparison that South Africa has a shortage of doctors and other health professionals, but not necessarily a shortage of nurses. It does depend however on competence and type of skills the nurses have and the management of health needs in relation to outcomes. South Africa would need 60,000 more doctors to have the same doctor to population ratio as Brazil.

Benchmarking has limitations as each health system is different. But the results of such comparison should inform future HRH strategy.

3.1.12 Recruitment of foreign-trained health professionals

Health professionals are highly skilled and, like other skilled professionals, very mobile. The migration of foreign health professionals in and out of South Africa needs to be managed. Further, an instrument for managing the supply of the health workforce is the management of the recruitment of foreign trained health professionals. Current national NDoH policy is to limit recruitment of foreign doctors to a maximum of 6% of the medical workforce and only to use country-to-country agreements. There are currently 3,004 foreign doctors in South Africa (approximately 10% of the medical workforce) – see Annexure A, Table 3.

Priority has been given to recruitment of Cuban doctors for South Africa and training of medical students in Cuba, based on a bilateral government-to-government agreement. Bilateral agreements are also in place with Iran, Tunisia, Germany and the United Kingdom. These latter agreements have not been fully activated.

A number of other potential arrangements exist for international recruitment. Table 12 details the possible arrangements, of which government-to-government bilateral agreements is only one.

The main international policy framework for addressing shortages and maldistribution of health professionals is the *Global Code of Practice on the International Recruitment of Health Personnel*,

adopted by the WHO's 63rd World Health Assembly in 2010.[16] Although non-binding on Member States and recruitment agencies, the Code promotes principles and practices for the ethical international recruitment of health personnel.

Table 12: Potential policy interventions for the recruitment of foreign trained health professionals

Level	Characteristics/examples
Organisational	
Twinning	Hospital in source and destination countries develop links, based on staff exchanges, staff support and flow of resources to source country
Staff exchange	Structured temporary move of staff to other organisation, based on career and personal development opportunities/organisational development
Educational support	Educators and or/educational resources and/or funding in temporary move from destination to source organisation
Bilateral agreement	Employers in destination country develop agreement with employers or educators in source country to contribute to training and development of staff
National	
Government-to-government bilateral agreement	Government agreements to train and develop staff

Source: Buchan and Dolvo 2004 in Buchan 2006 p 60

Opinion of stakeholders in South Africa indicates the following:

- The policy which only allows government-to-government agreements should be reviewed, and all existing bilateral agreements should monitored;
- The management process for foreign recruitment is slow and this process needs to be more efficient and effective;
- Foreign recruitment should be considered as a useful mechanism for meeting short-term shortages in doctors and other professionals, but needs careful and considered management;
- The recruitment system should be made attractive and easy to use.

[16] *International recruitment of health personnel: global code of practice.* Resolution adopted by the Sixty-third World Health Assembly, Geneva, May 2010 - available on http://apps.who.int/gb/e/e_wha63.html

3.1.13 Recommendations to inform Strategic Priorities

Active management is required of the health workforce in order to secure supply, meet demand for services, enable equitable access, and to attract and retain graduates and health professionals in the public sector and private sectors. The following interventions are recommended:

A. Short term strategies:
   - *Nurture Community Service professionals:*
     - Improve the recruitment process for Community Service professionals
     - Accredit sites and provide support to Community Service professionals
     - Attract Community Service professionals to remain in the public sector
     - Create academic Community Service posts in Faculties of Health Sciences

   - *Review the foreign recruitment policy and process:*
     - NDoH to review the foreign recruitment policy on who may work in South Africa and under what arrangements
     - Review all applications with the Foreign Workforce Management Programme of the NDoH
     - Refrain from recruiting from developing nations which have a shortage of health professionals
     - Actively recruit South African health professionals 'back home' (doctors nurses, pharmacists and other categories including non-health professionals working in the health sector such as heath economists and data analysts)
     - Ensure a better coordinating mechanism between the Departments of Health and Home Affairs and the Health Professions Council of South Africa (HPCSA) for recruitment of foreign health professionals
     - Implement an effective recruitment and management process for foreign health professionals
     - Improve as needed the international linkages for training in South Africa and internationally

   - *Transform the recruitment and retention process for the public sector*
     - Provincial HR managers must be required to develop and implement a recruitment and retention strategy (short term and medium term) applicable to their local context
     - Recruitment and retention targets should be in the key performance indicators of hospital and district managers
     - Develop an attractive website for health professionals to assist with informing of posts and sites for service and collegial exchange of information, for local and foreign recruitment and attracting South African health professionals 'back home'

   - *Plan critical posts and stop freezing of clinical posts*

- Provincial departments of health should not be allowed to freeze critical clinical posts due to budget cuts
- Minimum staffing norms and workload analysis should be used to guide staff and service planning
- Transparent budget monitoring reporting of staffing by type and level of facility must be developed and provincial departments of health must link budgets to detailed staffing plans

B. Medium term strategies:

- Carefully *plan growth in posts for the public se*ctor linked to service, staff planning and budgets

- Attention must *be given to local requirements for productivity and work load* as part of planning post numbers and requirements

- There is a need for *alignment of education strategies (supply) and employment requirements (demand)* in the public and private sectors

- Implement *a rural health strategy* to attract and retain health professionals in the rural areas, including:
    - Rural health interventions to attract Community Service professionals
    - Rural health interventions to extend the health science education and training platform to rural areas
    - Financial and professional incentives for professionals practicing in rural areas

- Develop a *contracting strategy to utilize private sector health professionals* in the public sector in urban and rural areas at all levels of the system

- Develop *a financial incentive structure through the OSD* to attract and retain health professionals in the rural and urban areas, and in primary health care in order to strengthen the re-engineered health system

- The NDoH must ensure that health system generates an *effective demand that attracts appropriately trained health* professionals to rewarding jobs

3.2 THEME 2: EDUCATION, TRAINING AND RESEARCH

3.2.1 Education and training of health professionals for the future

The second thematic area reviewed as part of the development of the problem statement is education, training and research. There are about 100 registered health professions in South Africa, excluding professional non-clinical categories also essential to the health sector, such as health economists, health actuaries, health managers, biostatisticians, data analysts and clinical engineers. All these professions require post-school qualifications that have to be obtained from one of 22 higher education institutions (HEIs), provincial training colleges, nursing and ambulance colleges. Training health professionals also requires a clinical health service teaching platform for training in patient care and service delivery.

The education and training system for the health sector in South Africa has not grown sufficiently to meet health needs and health system requirements. This is in part due a lack of integrated planning between the health and education sectors on the development of health professionals in relation to health care need, and inadequate financing mechanisms for health professional development. The transformative and necessary role of the education and academic sector to health system development, management and innovation has also not been not fully recognized in policy and by the leadership of the health and education sectors. The harnessing of the potential of the health education sector, health professionals and academic clinicians requires top level leadership commitment which NDoH is now prioritizing.

3.2.2 Output of undergraduate health professionals from Higher Education Institutions

Health professional output from Higher Education Institutions has been stagnant in most health science programmes for the past fifteen years and planned growth has not taken place in relation to population growth and in relation to health need. The National Human Resource Plan for Health of the National Department of Health of 2006 recommended an increase in output for most of the professions with MBChB proposed expansion from 1300 graduates per annum to 2400 graduates per annum. This growth did not take place. Exceptions are Pharmacy and Emergency Medical Services, and some growth in MBChB graduates from Walter Sisulu University (WSU) and University of KwaZulu Natal (UKZN) (see Table 13 below).

The current output of undergraduate health professional students for the supply for the health workforce from the 22 Higher Education Institutions (excluding nursing) is a total of 3173 students each year on average (see Annexure A Table 6).

Table 13: Number of MBChB Graduates, 2000 – 2008

Institution	2000	2001	2002	2003	2004	2005	2006	2007	2008
UCT	134	162	167	155	159	150	185	160	164
UL	235	249	243	283	238	294	239	200	153
UKZN	90	116	132	165	178	298	201	189	224
UFS	110	115	109	88	167	106	105	129	109
UP	203	212	203	184	180	197	207	198	200
Stellenbosch	140	140	129	177	148	150	170	149	167
WSU	26	43	48	56	119	69	89	97	103
Wits	193	192	181	188	205	247	170	175	189
TOTAL	**1131**	**1229**	**1212**	**1296**	**1394**	**1511**	**1366**	**1297**	**1309**

Source: DHE&T 2010

3.2.3 The training of specialist and subspecialist medical and dental professionals

The training of specialists and sub specialists is constrained by the lack of planning and funding for HPCSA accredited registrar and sub specialists training posts. On average 30% of accredited HPCSA registrars training posts are unfilled, and 75% of sub specialist training posts are unfilled (see Tables 14 and 15 below). UKZN, Walter Sisulu and University of Limpopo have a particularly low percentage of registrar training posts that are filled.

The shrinkage of specialist and sub specialist training posts impacts on the capacity of the health system as a whole. Planned growth in specialists and sub specialists is essential to meet the Health Minister's plans for specialist teams at district level, to provide the staffing for the 'Five Flagship Academic Hospitals Project', to provide educators for training, and to develop service capacity.

Table 14: Number of 'HPCSA Approved Registrar Training Posts' Vacant and Filled by Faculty

Faculty	UCT	US	Wits	UP	UKZN	FS	UL	WSU	Total
Vacant	148	63	210	126	433	56	148	169	**1353**
Filled	299	287	568	260	436	214	159	6	**2229**
Total	**447**	**350**	**778**	**386**	**872**	**270**	**307**	**175**	**3582**
% Filled	67%	82%	73%	67%	50%	79%	52%	3%	62%

Note: HPCSA sites visits were undertaken between 2008 and 2010

Table 15: Number of 'HPCSA Approved Sub specialist Training Posts' Vacant and Filled by Faculty

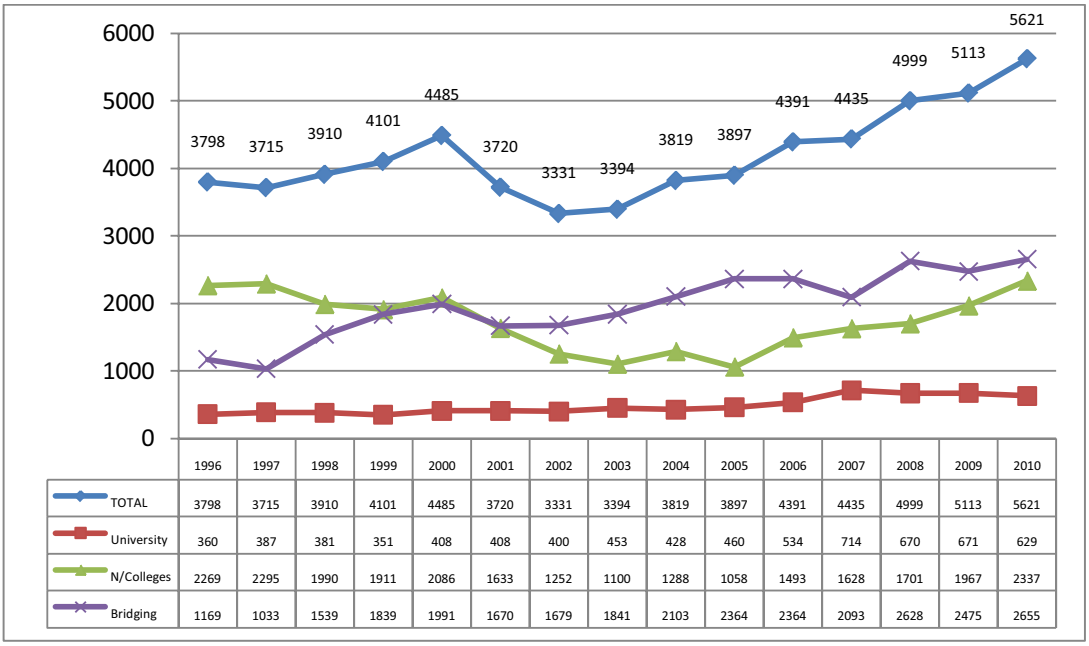
Faculty	UCT	US	Wits	UP	UKZN	FS	UL	WSU	Total
Vacant	49	62	59	69	42	29	43	27	**380**
Filled	29	24	53	0	8	2	0	0	**116**
Total	**78**	**86**	**112**	**69**	**50**	**31**	**43**	**27**	**496**
% Filled	37%	28%	53%	0%	16%	6%	0%	0%	25%

Note: HPCSA sites visits were undertaken between 2008 and 2010

3.2.4 Output of nurses from nursing colleges and HEIs

The education and training of nurses takes place in a range of different education and training institutions across the public health and education sectors and in private further education and training institutions. Figure 7 shows the numbers of registered professional nurses produced between 1996 and 2010 for the four year comprehensive qualification.

Figure 7: Production of Registered Nurses 1996 - 2010

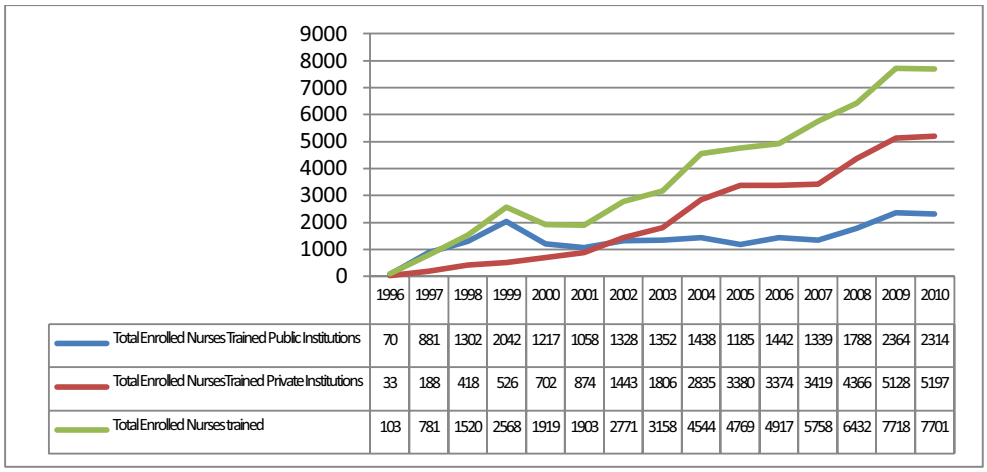


	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TOTAL	3798	3715	3910	4101	4485	3720	3331	3394	3819	3897	4391	4435	4999	5113	5621
University	360	387	381	351	408	408	400	453	428	460	534	714	670	671	629
N/Colleges	2269	2295	1990	1911	2086	1633	1252	1100	1288	1058	1493	1628	1701	1967	2337
Bridging	1169	1033	1539	1839	1991	1670	1679	1841	2103	2364	2364	2093	2628	2475	2655

Source: SANC 2010

Figure 8 shows the number of enrolled nurses produced between 1996 and 2010.

Figure 8: Production of Enrolled Nurses 1996 - 2010



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Enrolled Nurses Trained Public Institutions	70	881	1302	2042	1217	1058	1328	1352	1438	1185	1442	1339	1788	2364	2314
Total Enrolled NursesTrained Private Institutions	33	188	418	526	702	874	1443	1806	2835	3380	3374	3419	4366	5128	5197
Total Enrolled Nurses trained	103	781	1520	2568	1919	1903	2771	3158	4544	4769	4917	5758	6432	7718	7701

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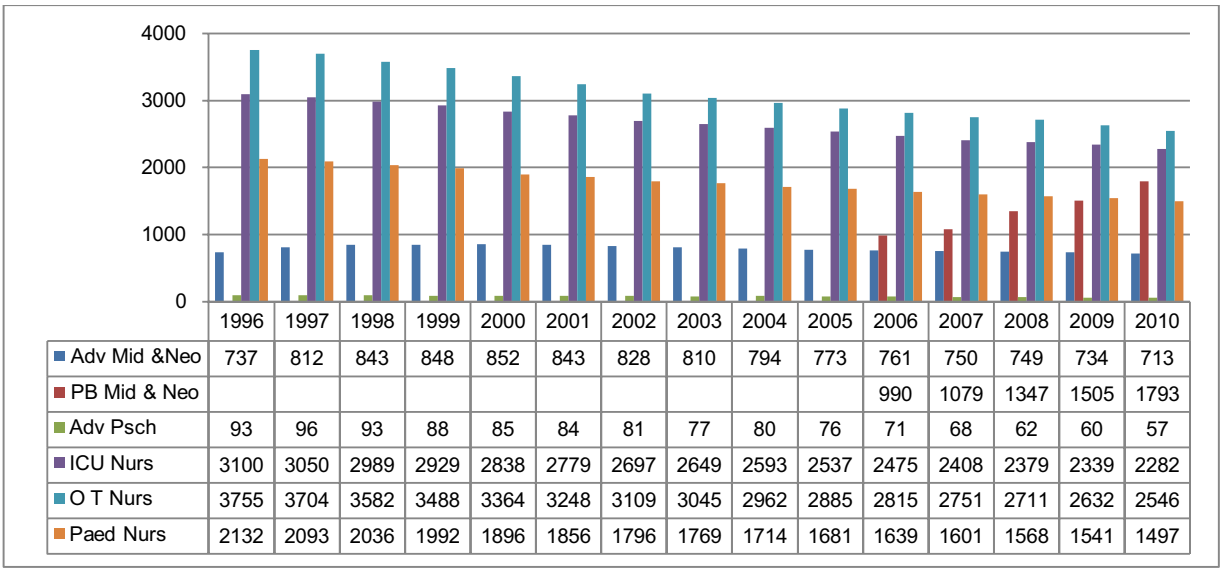
Source: SANC 2010

3.2.5 The training of specialist nurses

Table 16 illustrates that the specialist nursing qualifications registered by the SANC for the period 1996 to 2010 appear to be declining since 1999 (except the post basic midwifery and neonatal care). There is a gradual decline in the number of nurses with specialist qualifications on the register for intensive care, operating theatre, advanced midwifery and psychiatry. The data are confirmed by reports from specialists in public sector hospitals who indicate that operating theatre time is constrained by lack of available specialist nurses. The private sector also reports on the need to train Operating Theatre Assistants to fill the gap of Operating Theatre nurses in the short term.[17]

[17] Mediclinic written input into the HR Strategy Consultation process 22nd September 2011

Table 16: Nursing Specialist Qualifications, 1996 – 2010



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Adv Mid &Neo	737	812	843	848	852	843	828	810	794	773	761	750	749	734	713
PB Mid & Neo											990	1079	1347	1505	1793
Adv Psch	93	96	93	88	85	84	81	77	80	76	71	68	62	60	57
ICU Nurs	3100	3050	2989	2929	2838	2779	2697	2649	2593	2537	2475	2408	2379	2339	2282
O T Nurs	3755	3704	3582	3488	3364	3248	3109	3045	2962	2885	2815	2751	2711	2632	2546
Paed Nurs	2132	2093	2036	1992	1896	1856	1796	1769	1714	1681	1639	1601	1568	1541	1497

3.2.6 Public Health specialists and public health professionals[18]

The re-engineered PHC approach prioritises a preventative approach to health. Public Health Medicine is a branch of medicine concerned with improving the health of the population rather than treating the diseases of individual patients.

Public Health medicine specialists work with colleagues in other disciplines and areas of health care, and across sectors in the prevention of disease and injury and the promotion of healthy behaviour. They also work in the development of health policy, planning, implementation, monitoring and evaluation of services and programmes, the control of communicable and non-communicable diseases, reproductive health and diseases, environmental health and sustainable development, occupational health and health economics. They are trained in research methods and have particular skills in interpreting and translation of research findings for public health policy and clinical intervention. Their training in health management and behavioural sciences enables them to contribute to key public health functions within state and non-governmental services geared at equitable access to health services.

There are 101 Public Health Medicine specialists registered with the HPCSA. The registrar training programme is only 50% filled with 48 registrars in training as opposed to a potential 108. About 7 qualified Public Health Medicine specialists are produced annually. However, the career pathing and requirements

[18] A 'Proposal on Public Health Specialists and Professionals in the new PHC model' was submitted to the Minister of Health from academic heads of Department from universities graduating Public Health Medicine specialists in May 2011

for the use of Public Health Medicine specialist in the management of the health system and health strategy has not been specified and needs to be. Managers in the public sector at various levels should have Public Health Medicine as a prerequisite for appointment and do not.

There are other public health qualifications that are offered at a number of the universities in South Africa such as the Masters in Public Health and Masters in Epidemiology and Biostatistics. Curricula vary widely between institutions. There is a need to develop a standardised competency based and accredited Masters in Public Health (offered to medical and non medical professionals) with specified requirements by the National Department of Health. Further, the career pathing and job opportunities for the qualification need to be specified. Many public health sector positions should have a requirement for a Masters in Public Health. This is the position in many other countries, developed and developing.

Public Health Medicine specialists and other Public Health professionals have an important play in the re-engineered health system.

3.2.7 The training of non-clinical professionals essential to the health sector

A range of other non clinical professionals are essential to the health sector and will become vital for the development of the health system for National Health Insurance. These include health economists, health actuaries, health care managers, clinical engineers, data analysts, biostatisticians, epidemiologists, medical physicists, medical scientists, and others. A review of health system requirements for these professionals is necessary, and then the HEIs need to be engaged in discussion and accredited for the production, development and career pathing for these categories of professionals.

3.2.8 The employment of academic clinicians

Academic health science faculty members are the ultimate resources for all education institutions. They are the teachers, stewards, leaders, agents of knowledge transmission and role models for students – reproducing the profession by training the next generation of health professionals. The trend of the past fifteen years has been the retrenchment of academic clinicians and the freezing of academic clinician posts. The trend of vacant (generally frozen) academic clinician posts has accompanied the limited growth in medical specialist training, limited growth in MBChB training, and lack of growth in allied and nursing professions undergraduate and specialist training in HEIs. Of 2361 accredited HPCSA academic specialist medical and surgical clinician posts, 591 or 30% are unfilled and unfunded.

Academic clinicians are generally employed on ‘joint posts’ which entails a ‘joint post’ between the provincial department of health and university to which they are affiliated. In effect in most provinces the academic clinician is employed by the provincial department of health, with the exception of the Western

Cape where there is a 51% / 49% funding relationship between the Faculty and the provincial department of health for a limited proportion of the academic clinical staff. Academic conditions of employment are not defined in all provinces and faculties of health sciences leading to an undermining of the academic clinical and research role. [19]

3.2.9 The clinical training platform - Academic Health Complexes (AHCs) and colleges

There are constraints on the service sites which form part of Academic Health Complexes. In particular, the Central Hospitals, which form part of AHCs experience resource challenges. The complexity of managing Academic Health Complexes, partly owing to the multiplicity of stakeholders, has been underestimated. Budget frameworks have meant that human resource planning is based on service requirements, while academic needs cannot always be met.

The role of the Academic Health Complex in-service, training and research is important to the development of health care and the health system and requires integration of the missions of teaching, research and service. It is important to ensure the optimal organisational and financing framework within which the health sciences and service delivery can grow.

Academic Health Complexes provide a platform for the clinical training of all health professionals. In addition nurses are trained in nursing colleges and emergency care workers in ambulance colleges. An audit of nursing colleges took place in 2010. Treasury funds have been allocated for the revitalisation of the nursing colleges which includes physical infrastructure and equipment.

3.2.10 Equity implications of the urban location of education and training sites

Training of health professionals is inequitably distributed. Annexure A, Tables 7 and 8 show how few students are in training in the Eastern Cape, Limpopo, Mpumalanga and the North West provinces. There are almost no allied health professionals in training in these provinces. Dental training only takes place in two provinces and in the provinces where training does not take place there is a very low population to dentist ratio.

The student training platform of HEI's enables service development and it is essential that rural and peri-urban campuses are created to build services in rural provinces and areas of health need so as to improve access to health professionals. Conditional grant mechanisms must be used to ensure the appropriate incentives and accountability for achieving this change. The development of rural and peri-

[19] The Colleges of Medicine of South Africa, Report Section 2.2: The Strengthening of Academic Health Complexes: An Issue for Academic Medicine, Page p6

urban campuses does involve new resources but without this expenditure and resource investment improving equity of access cannot be achieved and the current maldistribution in access to health care and health professionals will be perpetuated.

3.2.11 Research and innovation

A Report of the Academy of Science of South Africa, Revitalisation of Clinical Research (ASSAF) published in 2010 detailed the situation with regard to clinical research in South Africa and the importance of revitalising the culture of clinical research in South Africa, which began at the beginning of the 20th Century. ASSAF documented the decline in published clinical research output in South Africa and the ageing of the academic clinical research fraternity over the past fifteen years.

Clinical research in a developing country like South Africa contributes to health care at all levels by identifying the causes of problems, facilitating diagnosis, improving the efficiency and effectiveness of care, and promoting good policy-making. It also supports the training of competent health professionals of all kinds, and contributes to global knowledge about locally, as well as generally, prevalent diseases in terms of prevention and treatment.

ASSAF identified the barriers to revitalising clinical research in South Africa. These include:

- Inadequate public engagement with clinical research
    - Government does not promote clinical research sufficiently in the public domain
    - Researchers do not engage sufficiently with issues of importance to research participants and policy-makers.
- Lack of research planning, regulation and coordination
- Inadequate capacity for clinical research (human resources and
- infrastructure)
- Lack of adequate and appropriate funding
- An absence of monitoring and evaluation of clinical research.

3.2.12 The training of all professional categories

Table 6 in Annexure A shows the Higher Education programmes for the main professional categories. A review is required of the needs of all professional categories, the available training programmes, and whether these should be enhanced and new programmes developed.

3.2.13 Training of Mid Level Workers (MLWs)

A small number of MLWs are trained at HEIs, specifically at the Universities of Technology. These are Emergency Medical Care Technicians, Radiographer Assistants, Pharmacy Technicians, and Forensic Pathology Assistants. Clinical Associates are the only MLW trained in a Faculty of Health Sciences. Clinical Associates are trained at University of the Witwatersrand (Wits), Walter Sisulu, and Pretoria Faculties of Health Sciences. The training output of MLWs is very small as there is no policy by NDoH to develop MLWs. For a number of categories such as orthotists, there is no plan and training platform. The provincial departments of health have started to try to make their own plans given the lack of a national plan and the demand for MLWs in the services.

The issue of formalizing and expanding the training of MLWs at HEIs has never got to the planning and development phase. The HEIs have wanted to know what the requirements are, based on service plans, how the training would be financed, and the plans for employment and career pathing. HEIs did express capacity problems but these could be addressed through appropriate planning and financing. The NDoH have never given the go ahead to start the planning process.[20]

The Standards Generating Board for MLWs has agreed a 240 credit programme at NQF Level 6, which is part of the Higher Education Qualification Framework. It is important to formalize the training and accreditation of MLWs to meet service needs, and also to address complaints to the HPCSA of 'MLWs' who practice with four weeks training.

3.2.14 Training Community Health Workers

The PHC re-engineering initiative undertaken by the Minister of Health has identified a population based approach to the delivery of PHC with the inclusion of community based workers as an integral part of the PHC outreach team. The goal of the CHWs in the PHC Outreach Team at a household level is to strengthen health promotion and prevention so as to improve population health and to identify individuals and families which are at risk and which need further interventions.

The findings of a recent audit conducted by the National Department of Health indicate that there are some 65 000 community based health workers comprising of various types. The categories of community based health workers found in the majority in most of the provinces are home based carers or community care givers (47 121), lay counsellors (9 243), adherence counsellors (2010), DOTS supporters (2 740)

[20] Rumeth Facroodeeen, CD MLWs, NDoH, feedback to Draft HR Strategy September 2011

and peer educators (1 810). Most of them are employed by non-profit organisations who are funded through public funds (conditional grants and equitable share) or donor funding.

It is evident from the findings of the audit that the roles, responsibilities and functions fulfilled by the community based workers varies across provinces and organisations and there needs to be standardisation of services offered by community based health workers especially with regard to their roles responsibilities employment mechanisms . The education and training of community based workers is also varied and diverse ranging from a few weeks to 4 years.

The transition of this very diverse and varied workforce with considerable variation in their range of knowledge, skills, and competence , from an informal workforce to that of the formal position of health community health worker as a member of the PHC outreach team will require careful planning and co-ordination. It will ne necessary to:

- Create and establish the position of CHW as a formal part of the PHC Outreach Team (Including scope, roles responsibilities, job description, qualification requirements, employment mechanisms, remuneration and conditions of service);
- Develop the capacity of the existing cadre of community based health workers to meet the requirements of the Community Health Worker as a member of the PHC Outreach Team.

The initial training programme for the first 5000 new category Community Health Workers has been started in October 2011 and Provincial Guidelines developed for their training and employement.

3.2.15 The training platform for professional education and training

The policy of the NDoH is to harness all resource towards a balanced health care system, using National Health Insurance as a primary financing mechanism. Access to quality health training that is affordable and meet standards of quality is key. It is against this background that we will explore the role currently played by the private sector and Nongovernmental Organisations (NGO). It is suggested that an audit of training on these alternative platforms is undertaken to ensure uniformity across all graduates.

3.2.16 Planning the growth of health professionals

Assessing the demand for an increase in health professional output is a complex matter, which inevitably has uncertainties over a medium term and long term planning horizon. It entails evaluating and taking into account:

- Likely health patterns and demand for health care in the future;
- Changes in the organisation of health service delivery and working patterns, for example the re-engineered primary health care model;

- The extent to which growth can be met by developing a different skills mix through task shifting and development of new categories of health workers, and the training implications of this;
- Changes in working hours and the gender distribution of health professionals;
- Consultation with the health professions on their view of the health need and requirements of the professions to meet this need;
- The capacity of Higher Education Institutions to meet demand and the develop appropriate curricula and training modalities;
- The possibility of attracting health professionals qualified in other countries to work in South Africa to fill the perceived 'gap' in the short term;
- The outcome of effective short term strategies to improve retention, thereby reducing growth requirements (attrition is currently estimated at about 25 % for most health professionals);
- Finance available for the training of health professionals and employment of graduates once qualified;
- Finance available for developing the service training platform (which also improves equity of access to health services).

Scenario modelling in preparing the Draft HR Strategy has shown that increasing supply of health professionals is a slow process, but particularly so for doctors. Planning the output of health professionals requires careful medium to long term planning. To get 1,053 extra MBChB graduates annually (in addition to the current 1,300) by 2025, requires increasing enrolment of medical students from 8,589 to 15,549 (a doubling of the current medical training platform).[21]

A pragmatic start is necessary and the process of expanding output of doctors has already been initiated by the Minister of Health in agreements with Faculties of Health Sciences in 2011 for which 40 new medical students will be admitted by each Faculty of Health Sciences.

3.2.17 The cost of training health professionals

The cost to the public sector of training health professionals is considerably higher than other education and training programmes. The reason is the time required in clinical training, which involves low academic trainer to student ratios, and a health service training environment which needs to be appropriately equipped and is offering health services to the public. There is an extensive international literature on the costing of medical education.[22] [23] [24] The literature indicates that direct and indirect costs of health

[21] Modelling scenarios are detailed in the unabridged version of the HRH SA Strategy
[22] Scottish Higher Education Funding Council, Higher Education Funding Council for England, Higher Education Funding Council for Wales, Management Information for Decision Making: Costing Guidelines for Higher Education Institutions

professional education need to be addressed. As part of the development of the HRH SA Strategy the costs of each Health Science Education programme offered by HEIs were established. Academic teaching costs and clinical training costs were detailed. The cost of doubling output of graduates for all Health Science programmes is elaborated in the unabridged HRH SA Strategy.

3.2.18 The financing of health professional education

Financing for health professional development currently occurs through a number of funding streams, primarily:

- The Clinical Training Grant and the Block Grant from DHET
- The Health Science Programme of provincial health budgets
- The Health Professions Teaching and Development Grant (HPTDG) and the National Tertiary Services Grant (NTSG), which are allocated to provinces from the NDoH budget.

The financing of health professional training and development is currently being reviewed by the key stakeholders, specifically National Treasury, NDOH and DHET. The development of improved effective and efficient financing mechanisms is necessary to enabling the growth of health professionals.

Table 17 provides a rough estimate on spending on health professional development. In total approximately R7 billion a year is being spent on health science education and training in HEIs and provincial departments of health. Exactly how this money is spent needs further investigation.

Table 17: Expenditure - Health Sciences Education and Training

Programme	6. Health Science and Training								
	2007/08	2008/09	2009/10		2011/12	2012/13	2013/14		
Sub programme	Audited			Adjusted appropriation	Medium-term estimates			Change Pa 07/08-10/11	Change Pa 10/11-13/14
6.1 Nurse training Colleges	1,065,782	1,409,742	1,610,983	1,802,741	1,930,748	1,956,757	2,047,846	19.1%	4.3%
6.2 EMS Training Colleges	41,344	55,877	61,251	119,408	118,225	138,307	144,970	42.4%	6.7%
6.3 Bursaries	185,176	319,407	319,877	353,246	394,472	422,827	448,905	24.0%	8.3%
6.4 Primary Health Care Training	266,037	322,641	315,587	405,234	390,322	411,304	430,920	15.1%	2.1%
6.5 Training Other	379,553	478,497	646,523	799,039	859,169	915,847	971,043	28.2%	6.7%
Total	1,937,893	2,586,164	2,954,222	3,479,668	3,692,936	3,845,042	4,043,683	21.5%	5.1%
Other related									
Health Professions training and development grant	2,076,920	1,970,144	1,563,175	1,865,387	1,977,310	2,076,176	2,190,366		
Higher Education institutions	1,832,528	2,134,000	2,350,040	2,503,042	2,653,225	2,812,418	2,981,164		

Source: National Treasury 2011

[23] Valberg L et al, Planning the Future Academic Medical Centre, Conceptual Framework and Financial Design, Canadian Medical Association 1994
[24] The Hay Group, The Cost Impact of the Academic Mission of Teaching Hospitals, A Review the Literature, 2005

3.2.19 Quality of output of graduates and postgraduates from HEIs

Reports from academic clinicians indicate a difference in the quality of output of graduates and postgraduates from Faculties of Health Sciences. The quality of output is measured by the ability of the new graduates in a clinical setting. The quality of the clinical training infrastructure on the health service platform, including the availability of academic clinical supervisors, is a factor affecting the quality of graduate and postgraduate output.

The HPCSA accredits training sites for registrar and subspecialist training. Where problems are identified by accreditation visits they are reported by academic clinicians. This ensures that problem issues need to be addressed by the appropriate authorities.

3.2.20 The training of undergraduate medical students abroad

Training of South African medical students abroad occurs through government arrangement and individual arrangement. The South African government trains students abroad by formal arrangement with the Cuban government. This programme started in the 1990s and has grown. The Cuban training programme has developed partnerships with local institutions. International collaboration on the training of health professionals can be further investigated.

3.2.21 Information on graduate and postgraduate trainee output

Information on output of undergraduate and postgraduate health professionals is not consolidated and difficult to obtain. The nomenclature and coding on DHET database makes some qualifications not identifiable. The output of graduates and postgraduates, for all relevant health professional qualifications should be monitored by a national health professional education planning structure.

3.2.22 Stakeholder engagement in education and research development

Professional educators are key players in the future of the health system as change and innovation is not possible without their leadership and ownership. National structures need to be formalized which include all education and training stakeholders and involve them in the planning and prioritization process for health professional development.

3.2.23 Recommendations to inform Strategic Priorities

A. Short Term Strategies
   a. Design and develop an information database on health professional ,education and training:

i. Detail institutions and the programmes offered at undergraduate and postgraduate levels in the clinical and non clinical professions for the health sector in faculties of health sciences, provincial training colleges, nursing and ambulance colleges
ii. Set up a framework for annual update of output and throughput of programmes identifying inefficiencies of throughput where it exists
iii. Work with DHET and the Faculties of Health Sciences to tidy up the nomenclature of programmes for purposes of analysis and funding
iv. Detail alternative training platforms, programmes and graduate outputs.

b. Develop a database and tracking capacity on all health professional graduates and career opportunities.

c. Develop a database to enable the planning, financing and monitoring of registrar development and specialist and subspecialist employment (linked to national service plans).

d. Develop a website for promotion, attraction and retention of graduate health professionals to the public and private sectors.

e. Develop an accountable and permanent national stakeholder structure for the planning and financing of the health professions.

f. Review and update existing costing frameworks for academic medicine and health science education, and develop the appropriate financing mechanism for health professional development including the financing of registrar development.

g. Identify and detail additional sources for financing and resourcing the education and training of health professionals, and this should include the extension of the clinical training platform.

h. Consult with the DHET on the Clinical Training Grant to ensure all relevant health science programmes are included in the financing mechanism (including MLWs).

i. Establish a National Advisory Committee for the Minister of Health on Academic Health Complexes and the development of the health professions.

j. Develop a strengthened financing and governance organizational framework for Academic Health Complexes that ensures funding of the academic and service missions of all levels of service and training

k. Develop a national framework for the employment of academic clinicians who also work in essential service for the provincial departments of health.

l. Explore the expansion of clinical training sites which enhance exposure for health professionals and provide resourcing for the training of health professionals.

m. For the nursing profession there is a need to:

    i. Strengthen the education and training of nurses informed by the outcome of the Nursing Summit ;
    ii. Commission the revitalisation of the nursing colleges and effectively spend funds allocated by National Treasury to this objective;
    iii. Plan the training of new nursing categories to meet the needs of the re-engineered Primary Health Care system
    iv. Plan and implement training of specialist nurses and MLWs to assist specialist nurses.

n. On Public Health specialists and Public Health professionals:
    i. Work with the universities that graduate Public Health Medicine specialists and the College of Public Health Medicine to design the job framework for the health sector for Public Health Medicine in the implementation of re-engineered Primary Health Care;
    ii. Work with universities offering the Masters in Public health and related qualifications to define the competency framework and career path for the qualifications;
    iii. Increase the output of Public Health Medicine specialists and Masters in Public Health graduates.

o. On Allied Health Clinical professionals (physiotherapy, occupational therapy, clinical psychologists, dieticians, oral hygienists, environmental health practitioners, medical technologists, radiographers, optometrists, pharmacist assistants, etc) a special team will

be established to determine appropriate staffing norms and standards, and the training implications.

B. Medium Term Strategies

a. Plan the growth of the professions in consultation with the HEI,s provincial training structures and provincial department of health service planners.

b. Investigate the requirements for non-clinical professionals for the health sector to meet the requirements of financing and delivery of NHI, scientific and technological development, clinical engineering, financial & actuarial modeling and management, data analysis for clinical and financial information management, case management, leadership and management, health economics, health facility management.

c. Commission the non clinical programmes defined in b. with the HEIs and attract students to choose the defined areas as careers.

d. Develop the policy, service requirements, plans for training, the scopes of practice, regulations and career pathways for MLWs.

e. Consolidate the training of Clinical Associates, ensure formal financing of the programmes, expand production to all faculties of Health Sciences, ensure they are on Persal, have career pathways, and posts in the public and private sectors.

f. Develop the training infrastructure, plans, reimbursement and career pathways for Community Health Workers.

g. Faculties of Health Sciences to plan curricula which are integrated into the re-engineered primary health care model and incorporate training in teams (as appropriate) and inter professional education.

h. Review and plan curricula which will meet the burden of disease, new development in technology and service requirements for the future.

i. Consolidate existing HEIs by utilizing existing capacity, meeting minimum requirements in terms of output and standardizing quality of clinical training.

j. Develop twinning arrangements (from within South Africa and international) to build capacity in Faculties of Health Sciences which have low numbers of academic clinicians and graduate output.

k. Plan and implement accreditation of all clinical training sites and ensure action where standards are not met.

l. Plan new campus and service sites in rural and peri urban areas.

m. Plan dental campuses from existing Dental Schools in provinces which do not have dental schools and link this to provision of dental services in these provinces.

n. Faculties of Health Sciences to plan the growth of academic clinicians in the short term through local and foreign recruitment, and in the medium term through professional mid career attraction to academic careers.

o. Faculties of Health Sciences to plan the development of academic clinicians in relation to future professional programmes and developing health and service needs.

p. Faculties of Health Sciences to plan the growth of clinical research and its application in-service and clinical innovation.

q. To implement the strengthening of Academic Health Complexes which will provide and organizational and financing infrastructure for teaching, training research and service.

3.3 THEME 3: THE WORKING ENVIRONMENT OF THE HEALTH WORKFORCE

The key role of the leadership of the health sector at all levels is to ensure a health care environment where the health workforce is valued and supported and has the opportunity to develop while providing high quality care. A set of interrelated issues such as job design, performance management, remuneration, employment relationships, physical work environment and equipment, workplace cultures and human resource practices, facility workforce planning and career pathing, affect the motivation and abilities of health care professionals. The future of Human Resources for Health and the quality of the health care system will be determined by how well the system is led and managed at all levels, especially at the level of facilities which enable an optimal environment for patient care.

3.3.1 Leadership and management

The Minister of Health has identified as 'Priority Number 1' for HRH the issue of management and leadership in the health sector. The Minister has attributed the weaknesses evident in the health sector to the weakness of management and leadership at all levels of the health system. Some of these weaknesses are:

- Problematic health outcomes for a country at South Africa's level of development and with South Africa's level of health care resources;
- Neonatal deaths in hospitals;
- Repeated newspaper reports of catastrophic management of hospitals;
- Over-expenditure at provincial and institutional levels in the health sector;
- Understaffing due to reported budget constraints;
- Lack of implementation of the planned PHC model;
- Demotivated health care professionals and health care support workers;
- Lack of retention of health care professional and inability to fill vacant posts.

The Minister of Health commissioned the Development Bank of South Africa (DBSA) to review the management of hospitals, health care facilities and health districts. The outcome of the review was that the management cadre of the health sector, managers responsible for facilities and districts at all levels, were of varying competence and varying backgrounds. Frequent reports from clinicians highlight a lack of basic management and understanding of the requirements of health care institutions by the managers responsible.

3.3.2 Human Resource Management

3.3.2.1 Human Resource plans

Provincial Human Resource Plans are developed by provincial departments of health in a template format prescribed by the Department of Public Service and Administration (DPSA). The Provincial Departments of Health produce human resource plans to comply with Public Service regulations Chapter 1, part 111.B.4 & D of 2001 and the Public Finance Management Act 1999. The human resource plans are required to support the MTEF strategic plan for the each provincial department of health. The human resource plans should detail the human resource requirements to address the gaps that inhibit service delivery.

In some provinces the documents are used for the operational process of planning and managing human resources, but in others they are merely documents which meet DPSA requirements and are not management and workforce development tools. A review of HR Plans was not able to provide meaningful information on the HR 'gap', and how it should be filled to provide adequately staffed service establishments, due to data weaknesses, unclear staff planning assumptions and different time frames of HR Plans.

3.3.2.2 The Occupation Specific Dispensation (OSD)

The OSD was designed as a public service-wide generic solution to human resource constraints being experienced in several services sectors in relation to remuneration of professionals. The collective agreement in 2007 was intended to provide a broad framework of flexibility within which departments could design a range of 'occupation specific dispensations' for sector-specific professions. These professions were enumerated in the agreement. The aim was to make key service occupations attractive in the public service so that existing personnel would be retained and new personnel recruited to vacancies. The opportunity existed for creative, responsive dispensations that could address the problems being experienced, many of which have been outlined earlier on retention of health professionals.

Virtually none of these issues was addressed in the first two rounds of the OSD, the design was delayed and then rushed, a formulaic model was presented, which was poorly costed and ambiguously annotated so that provincial employers used wide discretion in applying the new benefits. The result has been overspending on budgets with a concomitant inability to fill vacancies for financial reasons. The problem was that OSD was seen as a personnel matter and not an HR development tool.

There is a need to revisit the opportunity that the OSD agreement provided and to see how the HRH issues can be accommodated in further amendments.

3.3.2.3 Staff turnover and absenteeism

Staff turnover for health professionals in most provinces is significantly high, in some provinces as high as 80% per annum. This is linked to retention and attraction of health professionals in the public sector and is an issue to address in order to develop a stable and well capacitated health workforce. Absenteeism is a reported problem which needs investigation.

3.3.2.4 Moonlighting and RWOPS

Moonlighting and RWOPs (Remunerative Work Outside of the Public Service) pose a challenge to the productivity of the health workforce. It is common knowledge that public sector professionals 'moonlight', with or without permission, and that this reduces their productivity significantly and is a contributor to poor quality care.[25] There is evidence that doctors, in particular, use official service and teaching time to conduct their private practices. 'Ghost workers' are another problem where administrative creativity results in a fictitious employee receiving a salary and also giving the impression that the numbers of employees are higher than they are.

Section 30 of the PSA provides for any public servant to undertake *"Other remunerative work"*. This is known as RWOPS. The law prevents every employee from performing or engaging to perform *"remunerative work outside his or her employment in the relevant department, except with the written permission of the executive authority of the department."* The executive authority is required *"at least take into account whether or not the outside work could reasonably be expected to interfere with or impede the effective or efficient performance of the employee's functions in the department or constitute a contravention of the code of conduct contemplated"* in the Act. Provincial departments of health report that this statutory provision is being widely abused and should be much more closely managed. Private work performed in official hours definitely interferes with or impedes the effective or efficient performance of the employee's functions, especially when the employee has academic and public service commitments.

3.3.2.5 Performance management and productivity

Most private employers have performance management systems. The Public Service Regulations provide for performance management too but they are generally poorly implemented:

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[25]Rispel L, et al, Centre for Health Policy, University of Witwatersrand, The Nature and Health System Consequences of Casualisation, Agency Nursing and Moonlighting in South Africa, Technical Report, December 2010

"Departments shall manage performance in a consultative, supportive and non-discriminatory manner in order to enhance organisational efficiency and effectiveness, accountability for the use of resources and the achievement of results. Performance management processes shall link to broad and consistent plans for staff development and align with the department's strategic goals. The primary orientation of performance management shall be developmental but shall allow for effective response to consistent inadequate performance and for recognising outstanding performance. Performance management procedures should minimise the administrative burden on supervisors while maintaining transparency and administrative justice."[26]

The implementation of performance management in the health workforce is essential to improving efficiency, productivity and quality of care. Productivity studies need to be regularly undertaken for key service activities in order to make comparisons and highlight best practice to guide expansion in staffing establishments and ensure growth in graduate output is related to need. Productivity is locally determined and care should be taken to avoid 'norms' which can misguide staffing needs and not be relevant to local practice.

3.3.2.6 The importance of managing competence in a changing health system

As is evident in the section above, the issue of competence is linked to productivity and performance. The starting point for performance management is to make sure that the employer and the employee have the same expectations. It cannot be assumed that a job title or professional rank will automatically express a common understanding of the 'scope of practice' of the employee. However if the competence framework is statutory or regulated by a single regulator (professional council) then it is easier to understand what can be expected of whom. The challenge in the changing PHC and health system reform environment is to review the spread of depth of expected competencies across professions to ensure that there are no gaps and minimal overlaps (to avoid poor productivity). The immediate need is for CHW, all MLW, nurse (staff/enrolled and professional) and doctor competence frameworks to be reviewed and adjusted appropriately.

3.3.2.7 Continuing Professional Development (CPD)

To enhance skills and competencies requires implementing comprehensive ongoing training and development at all levels in line with agreed national competence framework. The objective must be to determine the national priority competencies and to focus reward on those contributing to these priorities. In that way the reward system will contribute directly to addressing priorities. CPD courses must be developed to keep pace with the changing health care environment and new service strategies.

[26] Part VII A: Public Service Regulations

3.3.2.8 A professional HR function for the health sector

The complexity and challenges of managing human resources in the work environment indicates the need for the strengthening of the HR function.

A submission to the Draft HR Strategy consultation process suggested that in addition to general health care management skills, all public sector health care human resource managers should:

- possess formal general management qualifications, including training in best practice human resource (HR) management
- undergo training in specific government policies and procedures relating to HR, recruitment, induction, procurement and finance
- have competencies in soft leadership skills fostered through mentorship and training, and assessed through upward feedback mechanisms
- be managed against performance targets that include key performance indicators in HR
- Ensure clear succession planning for managers who are successful and who are, consequently, promoted in order to ensure sustainable services

3.3.3 Ensuring quality care

Oversight is required to define and monitor how professionals practice in the work environment. The Minister of Health has publicly stated extreme concern with the amount of litigation due to malpractice by clinicians and by implication hospital managers in the public sector. Improving the operations of the Statutory Councils is an essential part of improving professional practice and ensuring quality care for the public and private sectors.

The health professions are regulated by the Health Professions Council of South Africa (HPCSA), South African Nursing Council (SANC) and South African Pharmacy Council (SAPC).The Professional Boards are co-ordinating bodies for all the healthcare practitioners registered. HPCSA has oversight over 26 professions and uses a system of twelve boards that are each established to deal with any matters relating to that specific profession. These boards consist of members appointed by the Minister of Health, educational institutions and nominated members. They are established to provide better regulation of the training, registration and practices of practitioners of health professions, and to provide for matters arising with the professions.

Regulatory responsibilities include determination of the scope of practice of professionals, quality of qualifications and competencies, aspects pertaining to registration, education and training, professional conduct and ethical behaviour, ensuring continuing professional development, and fostering compliance

with healthcare standards. Improving the effectiveness of implement the mechanism for ensuring quality professional care is necessary.

Professional councils have been accused of protecting errant practitioners and of siding with government or their professions instead of protecting the public from poor or unethical practices. This is a regular accusation all over the world and the Councils must increase transparency and remain autonomous and vigilant.

3.3.4 Information for planning

Information for planning and managing the health workforce is not available. The use of the public service information system, Persal, is not used in a way that ensures it is accurate and can be used for management purposes. Various professional categories, for example medical specialists by category, are not captured. The HPCSA and other Statutory Councils do not provide accurate information on the professions and this could be easily corrected with the required information being captured on an annual basis when professionals reregister. There is not a comprehensive source on all practitioners in the private sector.

All information gathered for the HRH Strategy has been gathered as a 'once off' exercise and this is not adequate for future health workforce planning and management. There is the need for an agreed national data set with inbuilt quality assurance to ensure accuracy and timeliness. HRH information at facility level collected in a national format also needs to be part of the data set collected for health workforce planning and management.

3.3.5 Workforce planning capacity and structures

The leadership, structures, processes and data systems have not been in place for effective health workforce planning and management. The lack of planning results in an 'unmanaged' health workforce, where attrition, shortages, poor access, and dissatisfaction become part of the culture of Human Resources for Health in the South Africa health system.

Service planning is essential for effective workforce planning.[27]Service planning is a provincial competence and effective plans are needed at provincial level to integrate into a national planning framework and process.

[27]See Discussion Document Draft HR Strategy Annexure B14 Review of STPs and HR Plans, submission to NHC 4th August 2011

The Service Transformation Plan (STP) process in each province is an important step towards national service and workforce planning, but the results do not provide sufficient basis to inform staffing requirements to plan development of the health workforce at this stage. The targets generated are far in excess of what can be achieved. Provincial departments do not use the same reporting format or planning assumptions for determining the HR gap and needs, and data is presented in different formats for the various provinces. Different data is also available on the HRH gap for a single province. HR plans and STP plans generally do not reflect the same HRH requirements and are not integrated. National norms and frameworks for HRH planning are required.

3.3.6 Recommendations to inform Strategic Priorities

A. Short Term Strategies

a. To define the competency framework for managers at all levels of the health care system and the job specifications for health management posts in the public sector;

b. To define the competency framework and job specifications for the HR function in health care (including HR competencies required by top management, facility managers clinical management, HR managers);

c. To tighten the management of RWOPs, accountability of clinicians in this regard, and implementation by the executive structures in provinces of the law on RWOPS;

d. To define the training programmes required to strengthen the HR management function;

e. To work with the Statutory Councils to strengthen their role and improve professional oversight;

f. To develop an information data base for workforce planning;

g. To develop the appropriate structures, processes and capability at national provincial levels for workforce planning and management;

h. To specify the staffing requirements and implementation plan for re-engineered PHC model.

B. Medium Term Strategies

a. For the NDoH and provincial departments of health to work together to develop an HR planning approach and format for Service Transformation Plans which are aligned to national and provincial planning and budgeting processes;

b. To review the Occupation Specific Dispensation;

c. To undertake an audit of the working environment of health care professionals and health care support staff;

d. To improve HR information systems so as to monitor efficiencies and use of personnel;

e. To implement a performance management approach;

f. To develop staffing plans for new health strategies and HR plans which are tools for management and implementation.

4 PRIORITY WORKFORCE IMPLICATIONS FOR RE-ENGINEERING PRIMARY HEALTH CARE

4.1 THE MODEL FOR RE-ENGINEERING PRIMARY HEALTH CARE

The re-engineering of Primary Health Care[28] requires a priority attention on maternal, child and women's health, maintaining the HIV and AIDS focus and an emphasis on community based care and preventative health care. The service delivery model will still be district-based but with district clinical specialist teams responsible for clinical governance in the district. The community base will be achieved through outreach teams which are ward based and comprised of a primary health care nurse and community health workers. A School Health Programme will be aimed at eye care, dental and hearing problems, immunisation, teenage pregnancy, HIV and AIDS, and issues of drug and alcohol abuse.

Extensive work has been done on optimal structures and staffing for community engagement and for clinical and other support. The relations between the different service levels remain a challenge. Strengthened, accountable and auditable referral systems, amongst other things, will be essential to the success of the re-engineered PHC system. These are critical issues and must be actively promoted to ensure that the re-engineered PHC model is implemented and sustainable.

The specialist teams, outreach teams and school health teams provide the spearhead and priority for the re-engineered PHC model. However, new service strategies will need to be developed for the health system, at all levels of care, and for the different professions, in order to meet the needs of a strengthened health system for the future.

This section places emphasis on the approach and professional and staffing categories required to implement re-engineered Primary Health Care.

[28] For a more detailed description of the reengineered PHC model see Discussion Document Draft HR Strategy Annexure B1, submitted to National Health Council 4th August 2011

4.2 PRIORITY WORKFORCE IMPLICATIONS FOR RE-ENGINEERING PRIMARY HEALTH CARE

4.2.1 Task shifting and defining new roles

The 'scopes of practice' of all health care professionals need to be reviewed and revised with a view to shifting tasks to the category of worker that can most efficiently perform the work. In many instances this will mean providing in-service training and continuing professional development to ensure that competencies are developed appropriately. This includes redefinition and extension of the scope and roll of the current Enrolled Nurse (EN) and registration of a new category for PHC, increasing competencies of pharmacy assistants and reaffirming the role of medical officers in clinical care (as opposed to playing a PHCN role and referring so much to specialists).

4.2.2 Community Health Workers (CHWs)[29]

Historically the role of the CHW has been varied and not defined in national HRH policy. The role of the CHW is central to the PHC initiative. The wide range of auxiliary workers trained and employed in vertical programmes need to be consolidated to a common core CHW set of competencies, predominantly focusing on maternal, child and women's health plus basic household and community hygiene. Most CHWs will be employed in the Public Service and organised as members of teams, supervised by professional nurses, responsible for pro-active community outreach at home and community level.

CHWs have been introduced in South Africa over recent years mainly through NGOs. They follow the international model whereby local people are recruited to take responsibility for working with a defined population, based on an agreed number of households. International evidence suggests that CHWs are best utilised to:

- Strengthen demand side (e.g.. increase the number of women seeking ante natal care and a skilled birth attendant)
- Promote health and prevent illness (e.g. advocating for immunisation and the use of bed nets where appropriate, for example.)
- Encourage appropriate referral to a health clinic for minor ailments and injuries.

Roll out of CHWs as part of an extended primary care team will require the following actions:

[29] For more detail on Community Health Workers and their role in the reengineered PHC model see Discussion Document Draft HR Strategy Annexure B 2 Submitted to National Health Council 4th August 2011

- Agreement on a standardised scope of work
- Agreement on the competences required by CHWs
- Agreement on a training and supervision package
- Agreement on the terms and conditions of service (CHWs can either be employed on a part time basis or receive a stipend plus expenses and equipment).

4.2.3 The Nursing Profession

There are insufficient professional nurses, trained midwives and PHC trained nurses in the public health service to implement the re-engineered PHC system. Additional graduates must be trained, and qualified nurses attracted back to the profession. A special emphasis must be placed in the training of professional nurse midwives and advanced midwives. Community based nursing as a career must be made more attractive by improving the working environment and creating incentives for specific jobs. There are existing vacancies on the staff establishments of every province which could be used immediately for new staff. However the total staff establishments will need to be redesigned and posts redefined for the PHC model. It will be necessary to re-orientate many nurses to the new scopes of practice in the nursing categories and CHWs.

4.2.4 District Clinical Specialists Teams (DCSTs)

DCSTs will strengthen clinical governance of maternal, neonatal and child health services at hospitals, community and primary health care and home-based levels in order to promote the wellbeing of the population within the geographical catchment area of a regional hospital.

The team will comprise of four experienced medical specialists (Family Physician, Obstetrician and Gynaecologist, Paediatrician and Anaesthetist) and three advanced nursing professionals (Advanced Primary Heath Care Nurse, Advanced Midwife and Advanced Paediatric Nurse).

Each health district will have a DCST. The teams may be based in regional hospitals and / or district offices as determined by the prevailing circumstances of a geographical service area such as burden of disease, referral patterns and processes and systems. The Family Physician and Advanced Primary Health Care Nurse in the DCST are to provide support at the midwifery obstetrics units, primary health care clinics, community health care clinics, primary health care outreach teams and communities, including engaging private sector facilities working in primary health care (e.g. general practitioners and the mining sector).

The model further proposes that the primary focus of the other team members in the DCST will be to improve services within the district hospitals. Their secondary focus will be to provide support to the community and primary health care facilities and outreach teams.

DCST members will be required to function as a team within the district management context and as individual professionals in their interaction with other professionals in the health system. The effectiveness of DCST's will be measured by their impact on health outcomes; improvement in clinical processes and improvement in selected aspects of health system performance.

Challenges will include the pure deficiency of numbers available plus the very clinical, hospital oriented insights of most clinicians. It is the historical tendency of many specialists to guard their domains rather than deliberately task-shift to other qualified professionals. Clinical competencies at a specialist level will not automatically translate to improved clinical outcomes. It will be necessary to re-orientate clinicians to community health thinking within which they can promote quality clinical care at the PHC level. A further challenge will be to encourage specialists to work in a team with the full PHC complement of staff from CHWs through the nursing ranks and medical officers to other specialists.

4.2.5 Pharmacy assistants and other Mid-Level Workers

The second largest expenditure item in the health system, after staff, is medicines (and pharmaceutical accessories). There are insufficient pharmacists to manage the supply chain to PHC level (home-based medication for long term conditions, clinics and health centres). The solution that was used in the past was to establish a competent cadre of Pharmacy Assistants. Pharmacy Assistants will be used as members of the new PHC specialist teams. This will mean training many more, reviewing the curriculum to fit an expanded scope of work and orienting the remaining team to the role of this cadre.

Lay counsellors and health promoters have also been identified as part of the PHC team. Stakeholders have identified other Mid Level workers that they think should be part of the PHC teams, such as health care workers who specialise in the care of the elderly. These issues will need to be worked out based on local need and the MLW category planned for and trained.

Several other Mid Level workers have been important members of the health care team in underserved areas in the past, including laboratory assistants and various rehabilitation assistants.. An intensive period of review of new roles and scopes of practice is required to meet new health and service challenges and identify new categories required.

4.2.6 Clinical Associates

An important new Mid Level health professional in the new healthcare model is the Clinical Associate. This Clinical Associate (CA) will initially work in district hospitals to strengthen health care services in the district and to address the shortage of doctors at district hospital and community health centre level. The district hospital is considered to be the ideal setting for the CA due to its well-defined and manageable level of care where it is possible to be specific about the scope and practice limits for the CA. The CA will be part of a team in different units in the district hospital (emergency unit, outpatient departments, medical and surgical units, and maternity). In operating theatres, the CA will assist the doctor in basic procedures like incisions, drainage and evacuations. The regulation of the CA will rest with the HPCSA. The scope of practice of the CA is intended to fill the gap that exists in district hospitals where a large proportion of the clinical work of doctors is related to emergency care, diagnostic and therapeutic procedures and in-patient care. This differs from the scope of practice of the PHCN practitioner at the clinic where first contact care, chronic care and prevention are most important.

Clinical Associates are currently being trained at Wits, Pretoria and Walter Sisulu Faculties of Health Sciences. About 1,350 are required for district hospitals (5 per district hospital). At current output rates it will take 17 years, until 2028, to train this quota to staff all district hospitals, which may indicate the need for a steep increase in Clinical Associates.[30]

4.2.7 Environmental Health Officers (EHOs)

Environmental health is defined as a municipal function in the Health Act. Many social and environmental determinants of health (refuse, sewage, food handlers, solid waste management, vector and vermin control, etc) are closely associated with preventable disease, especially communicable diseases such as diarrhoea and pneumonia. The fragmentation of EHOs from the remaining PHC team is detrimental to comprehensive community based PHC. The EHO will be a member of the new PHC team. This means that the policy and process for integration of this cadre into the district health system will need to be refined and implemented as the PHC model is rolled out.

4.2.8 General Medical practitioners/Medical Officers

Medical Officers (including interns, community service doctors and private general practitioners) are in short supply. They tend to be fully engaged in clinical services and have little time to become involved in the community services at clinics and health centres, and generally do not have time for home-based

[30] For more detail on Clinical Associates and their role in the reengineered PHC model see Discussion Document Draft HR Strategy Annexure B11 Submitted to National Health Council 4th August 2011.

care. The negative consequences are that they are often unaware of the patient in the home or workplace context and they fail to invest in improving the competence of the nursing and Mid Level Workers who are able to reduce their clinical workload. This becomes a vicious cycle, patients believe that they have to see the doctor, and so by-pass the clinics and exacerbate the doctor's workload, often unnecessarily. Productivity and efficiency deteriorate and all concerned are frustrated. In the private sector, especially in urban areas where specialists are concentrated, the GP is frequently reduced to seeing minor ailments and does not perform the clinical work for which a medical degree is intended. Private GPs must be actively recruited to serve in the PHC system and district hospitals.

There is a historical tendency in the public service to create the most senior MO posts in urban areas and big hospitals. This is not sensible design and the most senior doctors should be employed where the staff numbers are few and the spectrum of clinical services is the most diverse owing to paucity of referral options. MOs in large centres and hospitals with specialist can be junior since they have a good support system.

The role of the generalist doctor must be re-established in the PHC team as an important clinical care and teaching role. The MO/GP (and Family Physician where available) is a key player in patient referral to the appropriate level of care, thus playing an important role in financial viability as much as in patient care and satisfaction.

4.2.9 Emergency Care Workers

Even in a well-functioning and staffed PHC system with optimal preventive activities there are always patients who require rapid transfer to a more sophisticated clinical care environment. Many are casualties in home or on the streets. The historical tendency has been to use nurses, often too junior to cope, to accompany critical patients in transit. The PHC system needs a reliable ambulance and emergency service to back it up when the need arises. Properly trained personnel are indispensable. However, it is essential that they have a smooth interface with the facilities (clinics, health centres and the hospitals) and the EMS cannot be a totally separate entity or part of a fire service. The role of a new cadre skilled to meet emergency needs in the home, could be considered. These skills include triage, stabilisation, CPR, maintenance of airways, pain relief etc..This was done in the UK very successfully and limits the transfer to hospital.

4.2.10 Planning for service at all levels

Critical mass and minimum staffing norms in district regional and tertiary hospitals are required to ensure hospital infrastructure is strengthened and not undermined whilst the re-engineered PHC model is

prioritised. Similarly new and amended roles need to be introduced to strengthen hospital staffing in the context of limited numbers of doctors, and limited staffing budgets.

All professional categories will need to be reviewed as part of the process of strengthening HRH for the health system. Physiotherapists, occupational therapists, dental therapists, oral hygienists, psychologists, and other categories, must have their roles defined in the context of re-engineering Primary Health Care.

4.2.11 Recommendations to Inform Strategic priorities

The policy and practical implications of development of new cadres, professions, roles and scopes of practice are many. They include:

- Professional associations and Councils must review scope of work for the professional categories in relation to the re-engineered PHC model;
- Academic institutions will need to review curricula and capacity to improve competencies and contribute to the redefinition and development of new roles and scopes of practice for all health cadres;
- CHW competencies must be agreed, curriculum must be standardised and services providers identified to provide re-training;
- CHW posts must be created in the public service (provinces), budgeted for and CHWs absorbed;
- Community based nursing posts must be incentivised;
- Programmes for re-orientation of clinicians to holistic community health approach will be necessary;
- Policy guidelines, incentives and management will be essential to prevent specialists gravitating out of the PHC environment;
- Management and oversight of pharmacies will have to be included in the scope of practice of a Pharmacy Assistant;
- MLWs roles must be chosen and developed with care as this creates an permanent policy direction;
- Environmental Health Officers must be integrated into the district health PHC teams;
- General medical officers (GPs) must be essential members of the PHC team;
- The most senior MO posts must be in the smaller and more peripheral hospitals in districts;
- EMS personnel should be a part of the district health service and be trained with paramedical skills triage, first line treatment and stabilisation;
- All professional categories must be reviewed for their role in re-engineered PHC;
- Staffing of hospitals must be reviewed and strengthened.

HRH SA

5 HRH STRATEGY FOR THE HEALTH SECTOR: 2012/13 – 2016/17

HRH SA STRATEGY OVERVIEW

5.1 THE HRH SA STRATEGY AS A GUIDE TO ACTION

The HRH SA Strategy serves a strategic guide to inform the process of implementing change in Human Resources for Health. Starting with immediate effect it is necessary to undertake a range of activities, make new policies, develop new programmes, make detailed staffing plans for new service strategies, and manage our health care workforce in ways that motivates them to provide quality health care. These activities need to be undertaken by provincial, departments of health, Faculties of Health Sciences, the professional associations, labour organisations, Statutory Councils, health care managers, professionals, health care workers etc.. HRH SA strategies need to be developed in all these organisations and by stakeholders using the national HRH Strategy as a guide, but developing the detail from the bottom up. A culture of innovation is encouraged which involves critical inquiry into what we have and innovative ideas for the future to transform HRH in South Africa.

5.2 THE STRATEGIC DIRECTION

The past fifteen years has been a period of health workforce redundancy and vacancy freezes, 'shortages', graduate unemployment and cuts in education and training provision. Recently this trend has begun to reverse slightly. In this time frame health outcomes have worsened and inequities of access to health professionals between the public and private sectors, and urban and rural areas, have not significantly improved.

A vision to improve access to health care for all, and health outcomes, makes it is necessary to develop and employ new professional and cadres to meet policy and health needs, to increase workforce flexibility to achieve this objective, to improve ways of working and productivity of the existing workforce, to improve retention, increase productivity and revitalise aspects of education, training and research.

Achieving this vision requires the organisational infrastructure for education, training and service development, namely effective and efficient Academic Health Complexes. It also requires improved management of health professionals and cadres and improvement in their working lives.

Realising the vision of the HRH SA Strategy requires firm, accountable and consultative leadership, well informed by information and planning capacity, processes and tools. Most important is Ministerial leadership and leadership of the NDoH to drive the process of change. The Minister, the DG for Health and the NDoH are committed to this process.

Eight thematic priorities were identified to form the framework for the HRH Strategy.

- Leadership, governance and accountability
- Health workforce information and health workforce planning
- Reengineering of the workforce to meet service needs
- To upscale and revitalise education, training and research
- Create the infrastructure for workforce and service development - Academic Health Complexes and nursing colleges
- Strengthen and professionalise the management of HR and prioritise health workforce needs
- Ensure professional quality care through oversight, regulation and continuing professional development
- Improve access to health professionals and health care in rural and remote areas.

5.3 SHORT, MEDIUM AND LONG TERM STRATEGIC HRH PLANNING

The HRH SA Strategy is designed to be realistic and achievable. The nature of planning for HRH however, requires strategies with long, medium and short term outcomes, and active ongoing involvement of all, for it to be realised.

A long lead time is required to develop and mould the human resources required to staff a health system that responds optimally to health needs. There is also a constantly changing health and technology environment and service needs are not always predictable in the long term. Strategic objectives with a long term outcome shape the macro design of the system for example whether and how the system will be nurse based, general doctor based or specialist based, whether MLWs will form a substantial part of the design or be the exception to fill niche needs, public private provider mix, and whether and how scope of work and job design will be adjusted through task shifting and task sharing. Forecast modelling and scenario planning, ideally based on bottom-up staff planning, is a tool used for defining the long term strategic objectives. Most important is careful work by the professions on how they should 'look' in the future.

Strategies which produce an outcome in the medium term focus on interventions that aim to define the content of how the long term objectives will be achieved. These activities include planning staff needs for new service strategies, planning and revising scopes of practice and competency frameworks, developing curricula and training modalities, upscaling graduate and postgraduate output, developing clinical research initiatives, monitoring these interventions and evaluating whether they are achieving the desired outcome, development of establishment structures such as Academic Health Complexes, redesigning remuneration and incentive structures, professionalising HR Management, ensuring professional standards etc. It is also a period for starting other more complex interventions that could not be addressed in the short term owing to capacity, economic and other constraints.

The short term strategies are for immediate action in a relatively predictable environment. An opportunity exists to lay foundations for the medium and long term outcomes. Short term strategies need to set up the organisational structures for HRH strategy development and implementation. The short term will involve data gathering, improving planning systems, consultation, professional and technical regulatory amendments and 'quick gain' interventions. At all levels the quick gains are very important to identify and implement. Nurturing Community Service professionals and stopping attrition, improving the management of foreign and local recruitment, filling unfilled critical training and clinical service posts, auditing the work environment to establish what makes professionals leave and intervening to change the environment, are all quick gain interventions. Care must be taken not to implement these quick gains in a manner that will obstruct the longer term strategy. Quick gains must be aligned to longer term strategy.

The time horizons for HRH strategic planning and outcomes are:

Short Term	1 to 3 years	2011/12 to 2013/4
Medium Term	3 to 5 years	2011/2 to 2015/16
Long Term	10 to 20 years	2021/22 to 2029/30

The framework for the HRH Strategy is:

- Strategic Priorities — Broad priority areas
- Strategic Objectives — Several major focus strategies that will collectively realise the priority (with a stated indicator and target for implementation)
- Activities — Lists of actions that should be planned and executed to achieve the strategic objective (with responsible person and timeline for implementation)
- Implementation Activities — These will follow and form a part of the operational or work-plan of the responsible persons
  To these must be added indicative budgets

HRH SA VISION, MISSION AND VALUES

VISION

A workforce developed through innovative education and training strategies and fit for purpose to meet the needs of the re-engineered health system and measurably improve access to quality health care for all.

MISSION

To ensure a workforce fit for purpose to meet health needs by:

- Ensuring necessary and equitable staffing of the health system
- Developing health professionals and cadres to meet health and health care needs
- Ensuring the health workforce has an optimal working environment and rewarding careers
- Ensuring innovative and efficient recruitment and retention of the health workforce
- Enabling clinical research which enhances clinical and service development
- Provide quality professional care that is effective and evidence based
- Providing the organization and infrastructure for health workforce development
- Ensuring the regulatory, organizational environment and leadership by NDoH to support HRH

VALUES

Patient Centered Quality Care Universal Access Innovation Caring

HRH for South Africa is informed by the need to:

- Provide patient centered quality health care
- Ensure universal coverage and universal access to health care; and
- Enable an innovative and caring environment for health professional development and patient care.

STRATEGIC PRIORITIES	HRH SA STRATEGY
STRATEGIC PRIORITY 1 STRATEGIC OBJECTIVE 1:	**LEADERSHIP AND GOVERNANCE** *To provide proactive leadership and an enabling framework to achieve the objectives of the NDOH HRH Strategy for the health sector: HRH SA*
STRATEGIC PRIORITY 2 STRATEGIC OBJECTIVE 2	**INTELLIGENCE AND PLANNING FOR HRH** *Establish a Centre for Health Workforce Intelligence which will provide health workforce information and ensure oversight on health workforce planning across the health care system.*
STRATEGIC PRIORITY 3 STRATEGIC OBJECTIVE 3	**A WORKFORCE FOR NEW SERVICE STRATEGIES** *To meet workforce requirements of new and emerging service strategies and thereby ensure a health service which promotes health and provides value for money.*
STRATEGIC PRIORITY 4 STRATEGIC OBJECTIVE 4	**UPSCALE AND REVITALISE EDUCATION TRAINING & RESEARCH** *To ensure the revitalisation of the production of a health workforce with the skills mix and competencies, education and training, to meet health service demand.*
STRATEGIC PRIORITY 5 STRATEGIC OBJECTIVE 5	**ACADEMIC TRAINING AND SERVICE PLATFORM INTERFACES** *To strengthen Academic Health Complexes and nursing colleges to strategically manage both health care and academic resources and provide an integrated platform for service, clinical, research and education functions.*
STRATEGIC PRIORITY 6 STRATEGIC OBJECTIVE 6	**PROFESSIONAL HUMAN RESOURCE MANAGEMENT** *To effectively manage human resources in a manner that attracts, retains and motivates the health workforce to both the public and private sectors in an appropriate balance.*
STRATEGIC PRIORITY 7 STRATEGIC OBJECTIVE 7	**QUALITY PROFESSIONAL CARE** *To develop a health workforce that delivers an evidenced based quality service, with competence, care and compassion.*
STRATEGIC PRIORITY 8 STRATEGIC OBJECTIVE 8	**ACCESS IN RURAL AND REMOTE AREAS** *To promote access to health professionals in rural and remote areas.*

STRATEGIC PRIORITY 1 : Leadership and Governance

Leadership, consultation and accountability

The NDoH is committed to playing a consistent leadership role in workforce planning. It will provide information, direction and oversight for Human Resource for Health, enable provincial planning and ensure capacity and alignment with national priorities and outcomes. NDoH will provide the enabling framework to ensure the structures and processes for transparency, consultation and accountability, in HRH.

Joint planning

The NDoH Health Workforce Secretariat will lead the national HRH workforce planning process. The Health Workforce Secretariat will have task teams and forums which are aligned to the strategic priorities of the HRH SA Strategy. The aim is to establish joint planning mechanisms to engage key stakeholders, especially professional associations and organisations, Faculties of Health Sciences and the academic community, the Department of Higher Education and relevant government departments, labour organisations, and others. Through joint planning it will be possible to overcome fragmentation, set policies, shape priorities, track change and harmonise supply and demand of health professionals. A National HRH Forum will be held annually of all task teams, Forums, and stakeholders. Task Teams will need to be finalised in consultation. Initial proposals are as follows.

HRH Workforce Planning Committee (a numbers committee)

This committee will comprise leaders of Provincial Health Workforce Committees, provincial service and staffing planners, task groups on re-engineering Primary Health Care, and others. The task of the committee will be to bring all the figures and staffing proposals together, interrogate forecasting models, and develop short, medium and long term scenarios for health professional and staffing development.

Health Professional Education and Development Forum

This Forum will comprise the health professional associations and organisations, private sector providers and associations, Statutory Councils, universities and research organisations. The Forum will have Forums that report to it such as the Nursing Profession Forum, the Medical and Dental Forum. The main Forum will meet twice a year and the other Forums such as the Nursing Profession Forum will meet quarterly. The aim of the Forum will be consultation and action on the development of the professions to meet service and health need.

Task Team on Managing Human Resources and the Working Environment

This task team will comprise HR managers and HRM leaders from provincial departments of health, facility representation, the private sector, trainers and HEIs specialising in Human Resources Management for the health sector and the NDoH (this forum already exists in a form but requires expansion). The Task Team will audit the work environment and monitor the professionalisation of the HR function, and improvement in HR management. The Task Team will not have an employer/ employee role but will rather provide a forum and process for HR management improvement, work environment improvement, development of recruitment and retention strategies, incentivisation and employee wellness. The development and discussion of HR plans will form part of the agenda of the Task Team.

Ministerial Advisory Committee on Academic Health Complexes

This committee will be appointed by the Minister to advise on Academic Health Complexes.

Task Team on the HRH Rural and Remote Strategy

This task team will comprise stakeholders involved with the development and implementation of the HRH Rural and Remote Strategy.

National Committee for Recruitment and Retention

A National Committee on Recruitment and Retention will be formed. This committee will develop strategies on recruitment and retention, manage foreign recruitment, and monitor recruitment, migration and retention of HRH. The committee will be tasked with redrafting the policy on foreign recruitment. The committee will initiate a drive for international recruitment to attract South African health professionals abroad to return to South Africa, recruit academic clinicians for the short term, recruit foreign doctors for rural areas for the short term and manage migration of foreign health professionals.

National Finance Committee on HRH

This Committee will analyse and advise on health expenditure on health personnel and on the financing of health professional development.

Institute of Leadership and Management in Health Care

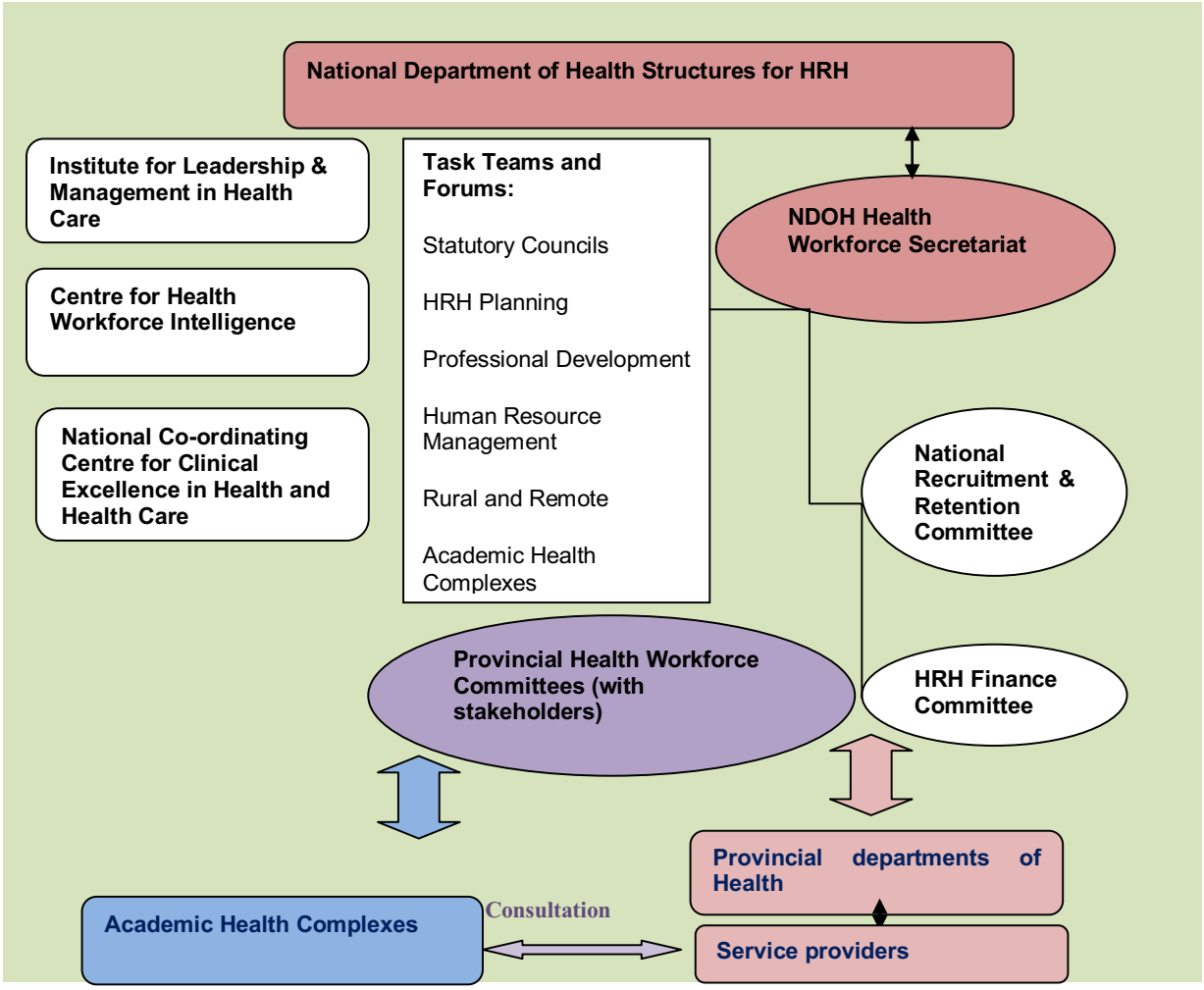
Leadership and management are required across the health workforce and at all levels of the health sector. NDoH is required to provide direction and oversight, whilst facility managers and clinicians are also required to lead and manage at service levels. The development of an NDoH Institute of Leadership and Management in Health Care is proposed. The Institute will be accountable to the DG and will:

- Detail competency frameworks for leadership and management in the health sector at all levels
- Define the management qualification framework for job specifications
- Design and commission courses for in-service training
- Design and commission courses for career development offered in Higher Education Institutions
- Collaborate with international institutional offerings in leadership and management in health care.

International collaboration on HRH

Leadership requires keeping abreast of developments. The WHO, Global Health Workforce Alliance, and many countries have methodologies and lessons which need to be applied in the South African context. South Africa should become part of the WHO African Health Workforce Observatory, which is a link to Health Workforce Observatories in many major parts of the world.

Figure 9: NDoH: National organisational structures for planning and managing HRH



STRATEGIC PRIORITY 1 LEADERSHIP AND GOVERNANCE **Strategic objective 1:** ***To provide proactive leadership and an enabling framework to achieve the objectives of the NDoH HRH Strategy for the health sector: HRH SA***	
Objective 1.1.	**Establish leadership and governance structures for resourcing, planning production and management of human resources at national and provincial levels**
Activity 1.1.1.	Appoint an NDoH Workforce Secretariat for planning production and management of the health workforce.
Activity 1.1.2.	Draft and apply national, provincial municipal and district roles and functions for planning, production and management for HRH SA Strategy; and ensure capacity for these levels for their functions.
Activity 1.1.3.	Establish Task Teams and Forums on HRH Planning, Professional Development, Human Resource Management, Academic Health Complexes, and Rural and Remote Strategy.
Activity 1.1.4.	Establish two additional Forums which fall under the Professional Development Forum: Forum on The Nursing Profession and Forum on Medical and Dental Professionals.
Activity 1.1.5.	Hold an Annual NDoH HRH Forum of all stakeholders, Task Teams and Forums.
Objective 1.2.	**Ensure implementation of the national HRH Strategy: HRH SA**
Activity 1.2.1.	Appoint and empower an HRH Strategy implementation project leader and project implementation project.
Activity 1.2.2.	Develop and execute a HRH communication strategy.
Activity 1.2.3.	Develop and manage the process for ongoing stakeholder engagement.
Activity 1.2.4. .	Manage the HRH strategy document annual reporting, review and revision.
Objective 1.3.	**Establish an *Institute For Leadership And Management In Health Care* to ensure a South African health service with world class leadership and management**
Activity 1.3.1.	Appoint a short term Project leader and team to define the concept of the Institute, organisational framework and financing. This task will be undertaken in consultation with stakeholders.
Activity 1.3.2.	The Institute will: • Develop a national management and leadership competence framework for the

	health sector based on a needs analysis; • Undertake a competency assessment of key post holders (using existing assessments such as DBSA) and develop a 'gap analysis' for leadership and management development and strategy to address weaknesses; • Develop an inventory of health leadership and management training capacity within and outside the health sector; • Define training and development interventions/ programme requirements for leadership and management for the health sector, for in-service training and HEI professional/career training; • Accredit providers and commission providers which can offer training in management and leadership for the health sector (these should include HEI's, private institutions and organisations, international HEI's and organisations); • Ensure competency requirements are implemented for appointments to leadership and management positions in the health sector; and • Monitor the outcome and impact of commissioned in-service training and career programmes offered through HEI's and other training service providers
Activity 1.3.4. .	The Institute will: • Market leadership and management development in the health sector; • Develop a Quarterly Bulletin 'Leadership in Health Care for HRH SA which reports on and informs of developments and initiatives; • Contribute to the SAMJ and other local and international journals; and • Hold an annual conference on Leadership and Management in Health Care.
Objective 1.4	**Establish a National Recruitment and Retention Unit to ensure and oversee recruitment, retention and equitable distribution of professionals for the health sector**
Activity 1.4.1.	Develop a recruitment and retention strategy which uses the OSD and other incentive mechanisms to attract and retain health professionals and improve equity of access;
Activity 1.4.2.	Engage with stakeholders, especially provincial departments of health, to identify, develop and implement recruitment and retention interventions;
Activity 1.4.3.	Develop an attractive web-based facility to enable 'Recruitment for HRH SA' which is used to market and recruit, and provide information, and to track professional migration;
Activity 1.4.4.	Develop a database which will track graduates, provide planning information for recruitment and on migration;
Activity 1.4.5.	Review management procedures and ensure effective management of foreign health professionals;
Activity 1.4.6.	Establish and coordinate a national process to support recruitment of South African doctors for the public sector; and

Activity 1.4.7. Activity 1.4.8.	Initiate as a priority a recruitment drive to attract South African health professionals abroad 'back home' and ensure the process is effectively and efficiently managed Nurture Community Service (CS) professionals: • Provide information on the web site *'Recruitment for HRH SA'* on where Community Service professionals work, and feedback from CS professionals; • Monitor appointments in consultation with HPCSA; • Develop an accreditation framework and ensure HPCSA accredits sites where CS professionals are sent; • Provide support to sites where CS professionals work: accommodation, transport, and professional outreach for professional development; and • Offer a career guidance service and management process to CS professionals during and on completion of their Community Service.
Objective 1.5	**Establish a Financing Committee on HRH to plan and monitor HRH resource use and ensure the financial resources for production of the health workforce**
Activity 1.5.1. Activity 1.5.2. Activity 1.5.3. Activity 1.5.4. Activity 1.5.5.	Establish the IT facility and reporting mechanism to be able to track and analyse expenditure on health personnel nationally, by province, by facilities, levels of care, and by types of health professionals and health care workers. Monitor and evaluate the expenditure on the health workforce, and identify resourcing requirements. Refine and improve the efficacy of costing and financing frameworks of funding streams for health professional development. Ensure adequate resources for education and training of the health workforce to meet HRH requirements of the national health system and monitor effectiveness and efficiency of expenditure (identified training resource requirements should include training by HEI's and nursing and ambulance colleges and use of Clinical Training Grant of DHET). Investigate and develop collaborative financing and resourcing arrangements with private sector health organisations, and other local and international organisations, for the financing health professional development.
Objective 1.6	**Develop international links and collaboration initiatives which enhance the South African role and relationships with international HRH developments**
Activity 1.6.1. Activity 1.6.2. Activity 1.6.3.	Keep up to date of developments in HRH internationally. Inform NDoH Workforce Secretariat of international developments in HRH and apply international lessons to the SA context. Disseminate information about international developments in HRH to stakeholders and the Annual NDoH Forum.
Objective 1.7	**Develop and implement a communication strategy on HRH**
Activity 1.7.1	The Minister and DG to design and implement an ongoing communication strategy on the HRH and the value of health professionals to the health system and the country.

STRATEGIC PRIORITY 2 : Intelligence and Planning

Data and planning systems

All data referred to in this HRH SA Strategy is gathered as a 'once off' exercise from various sources, for various years. A significant impediment to current oversight and planning of health professionals for the health system and the anticipated National Health Insurance system is the absence of an electronic database on health professionals.

Health workforce planning

Health workforce planning is essential to ensuring Human Resources for Health and impacting on health outcomes. Health workforce planning is however a challenge. The aspiration is to match supply, demand and need. In health care this is technically very difficult due to the lag time for training health professionals, especially doctors (15 years to train a specialist), and because of the dynamic and complex nature of clinical care and health care delivery. For example, changing models of health care can reduce reliance on particular types of skills or staff, while demographic change, new health pandemics, and new treatments can drive up demand. There are inherent limitations and no country gets it spot-on right. However, it is necessary to have a system of planning which monitors trends and risks, and develops flexible and accountable plans which improve clinical care and health service delivery.[31] Long term predictive precision is not expected, but medium term plans (15 years) which take obvious variables into account, assess risks, and develop flexible responses, are most certainly necessary. It is important to note that even in countries which do health professional workforce planning, many of the problems which do arise in terms of outcome and this is often due can be due to unrealistic expectations.[32]

Health workforce planning is also about much more than supply and the numbers. It must encompass skills development of current employees, employment law and policy, careers, development of posts and career structures, pay and pay structures, working patterns, productivity, appointment of staff, immigration

[31] Candace Imison et al, NHS Workforce Planning, Limitations and Possibilities, The Kings Fund,2009, page vi and vii.
[32] ibid

and emigration, working conditions, collaboration between the professions, and the integration of health professional planning with health & health care planning.

In South Africa the numbers of health professionals in the system relative to population growth will continue to decline and stagnate if no planning action is taken, and this will lead to reduced critical mass and the sustainability of health services. This process is happening and has been documented since 1997 [33] [34]. Most important, population health care needs go unaddressed and health outcomes are poor.

Productivity is an issue which is key to health workforce planning. South Africa may have 9,765 specialists. But if one third only work 50% to 75% of available working time, the numbers of doctors and service is available is less than that which 9,765 specialist would provide. The information on where health professionals work and for how much of their time is critical to knowing what services are and can be provided. In the UK this data is gathered in an annual survey. The impact of increased women doctors in the health service is another variable that needs to be monitored under productivity. Women prefer flexible work times and need to take time off to have children. This has an impact on the total workforce available in terms of time, and availability for specialisation in certain specialities such as surgery. At present women medical students have risen to 50 – 60% of the total. Workforce productivity needs to be increased but this cannot be done if we have no understanding of the detail of the factors affecting productivity and if we do not have the information.

Health professional workforce planning is challenging and involves a wide range of activities which require a high level of skill. The box below shows some of the key components of health professional workforce planning.

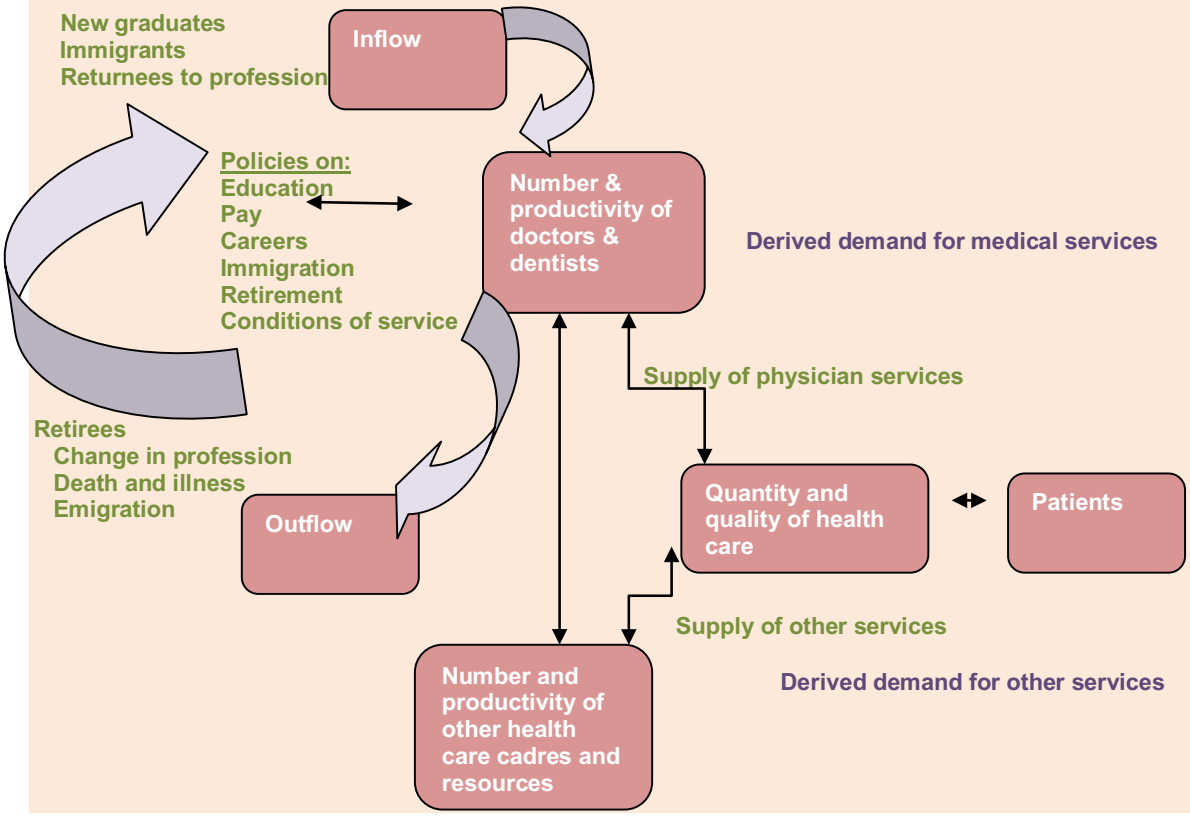
Figure 10 shows the many dimensions of health workforce planning. The diagram shows the links between factors that influence inflow and outflow of health professionals, the link to policy, and the interaction between derived demand and supply.

[33] Benatar S.R. (1997). Health care reform in the new South Africa.
N Engl J Med. 336: 891-95.
[34] Benatar S R. (2004) Health care reform and the crisis of HIV and AIDS in South Africa N Engl J Med; 351: 81-92.

Key components of health professional workforce planning

- The ongoing provision of data and information on a range of subjects, including numbers of health professionals, staffing numbers, training requirements, relevant policy developments;
- Analysis of future supply and demand, looking at how many and what type of staff are likely to be required in the future, and how many and what type of staff are available;
- The creation of service plans which detail staffing requirements and the link to what staff are available and how the staffing need should be addressed;
- Decisions about the level of funding and skills available to support health professional workforce planning and how it should be planned and implemented;
- The commissioning of training and education across all professional categories employed in the health sector;
- A wide range of health professional development activities including the introduction of new and extended clinical roles, redistribution of staff responsibilities (task sharing and shifting), increasing productivity and efficiency, quality of patient professional interaction; and
- Negotiation of contracts, including employment and service contracts.

Figure 10: Factors influencing health professional workforce supply and demand



NDoH Centre for Health Workforce Intelligence

Developing the information, processes, systems and capacity for health workforce planning is a priority for NDoH. A reliable and live information capacity is necessary to inform health workforce planning and management. The development of a Centre for Health Workforce Intelligence in NDoH is proposed. The Centre will provide intelligence on the health workforce which informs evidenced based workforce planning and development; and empowers leaders to make meaningful and practical decisions with regard to the health workforce, to achieve improved health outcomes.

National and Provincial Health Workforce Committees

The NDoH Health Workforce Secretariat will be serviced by the Centre. The Health Workforce Secretariat will develop Provincial Health Workforce Committees and ensure capacity in health workforce planning, and integration of national workforce planning initiatives, and information to manage HR.

Leadership skills for workforce planning

Workforce planning requires leadership skills to implement changes as well as technical skills to identify the requirements for change. Leadership skills therefore need to be developed within the provincial Health Workforce Committees, and within the HR functions at facility, district and provincial levels.

Integration of service, workforce and financial planning

Future planning needs to involve integration of service, financial and staffing plans, and integration of plans of professional associations and for health care interventions. Health workforce planning must be strategic and integrate all factors that affect the workforce. Heath workforce planning is not simply a 'number crunching' modelling exercise.

Planning with a long term focus

Workforce planning requires short, medium and long term interventions. The long term perspective is especially important because of the complexity of the workforce and the long training periods for some health care professions. Education and training long term objectives do not always sit easily with the short term imperative of provincial health budgets. Hence the need for Provincial Heath Workforce Committees to undertake workforce planning with long term perspective, and with appropriate stakeholder integration.

STRATEGIC PRIORITY 2 INTELLIGENCE AND PLANNING

Strategic objective 2: ***Establish a Centre for Health Workforce Intelligence which will provide health workforce information and ensure oversight on health workforce planning across the health care system***

Objective 2.1	**Ensure a reliable electronic database on the health workforce**
Activity 2.1.1.	Establish an electronic database on the health workforce in the public & private sectors
Activity 2.1.2.	Develop a methodology for data gathering and management which has scientific rigour and which is long term.
Activity 2.1.3.	Develop the appropriate information architecture and software solution for health workforce data gathering, management and planning.
Activity 2.1.4.	Undertake a health workforce surveys on health workforce details and productivity.
Activity 2.1.5.	Define and implement the requirements for health professional reporting on Persal, by the HPCSA & statutory bodies and the Council for Medical Schemes (CMS).
Objective 2.2	**To provide data analysis, regular reporting and commentary on health workforce information**
Activity 2.2.1.	Develop annual analyses on the health workforce data from the new database source.
Activity 2.2.2.	Identify reports that should be provided on a regular and occasional basis on the health workforce and provide the reports.
Activity 2.2.3.	Develop HRH monitoring and evaluation framework compliant with WHO reporting and international compatibility.
Activity 2.2.4.	Develop the NDoH Workforce Planning Model (see Section 6) to meet needs of NHI and service planning needs (for the public & private sectors) and undertake various scenario analyses on health workforce planning for South Africa for 3,10, 15 and 20 year time frames.
Activity 2.2.5.	Undertake horizon scanning on environmental issues which affect policy on the health workforce (such as budget trends, health care trends, health trends, health technology trends, Presidential policy, NHI policy and financial planning etc.).
Activity 2.2.6.	Enable the leadership in the health sector to be well informed about health workforce issues by providing reports, especially to the National Department of Health, the Director General and the Minister.

Objective 2.3	**To provide information for oversight and leadership on workforce planning across the health system in the public and private sectors**
Activity 2.3.1.	Co-operate with the provincial departments of health to collate health workforce needs for service plans (STPs), align these to HR Plans, and link these needs to planned supply of health professionals.
Activity 2.3.2.	Identify the critical number of posts that should be in place so as to ensure a critical mass in all hospitals at all levels of the system, how to address the gap, and the financial implications (see Objective 3).
Activity 2.3.3.	Identify priority public sector posts that should be opened in order to absorb new graduates, develop career paths, improve access to health care, and to link this to the financial implications.
Activity 2.3.4.	Provide information on private sector service providers which can provide services on a contractual basis in the public sector.
Activity 2.3.5.	Provide information on private sector provider needs for health professionals.
Objective 2.4	**To monitor health professional development information in Academic Health Complexes**
Activity 2.4.1.	To collaborate with DHET and other public and private sector training institutions to ensure monitoring by the Centre for Health Workforce Intelligence of health professional training outputs and throughput.
Activity 2.4.2.	To monitor registrar posts, filled and unfilled; and ensure financial allocation of MTEF 2012/13 – 2014/15 to fill unfilled registrar training posts.
Activity 2.4.3.	To monitor academic clinical posts which are filled by academic clinicians responsible for training the health professions.
Activity 2.4.4.	To monitor and track graduates and their employment after Community Service and registrar training.
Objective 2.5	**To ensure capacity at appropriate levels for information analysis and health workforce planning**
Activity 2.5.1.	To have an annual workshop which share approaches of the Centre to health workforce planning and information gathering.
Activity 2.5.2.	The NDoH Health Workforce Secretariat and Provincial Health Workforce Committees will provide supportive activities in health workforce planning for provincial, district and municipal health service and staffing planners.

Activity 2.5.3.	To use the NDoH Workforce Planning model (in a developed capacity) to plan with the health professions and associations and develop reports for each profession.
Activity 2.5.2.	To develop international collaborative initiatives and implement workforce planning and development methodologies that enhances the capacity of the Centre.
Objective 2.6	**Organisational development of the Centre for Health Workforce Intelligence**
Activity 2.6.1.	To plan and implement the Centre as an organisational structure of NDoH (mission, staff, organisational location, building and infrastructure, budget).
Activity 2.6.2.	Develop a strategic plan for the Centre.
Activity 2.6.3.	Develop a communication strategy which ensures promotion and understanding of the role of the Centre, and include the development of a website which is accessed through a portal on the NDoH website.
Activity 2.6.4.	To develop a stakeholder engagement plan on the new Centre and implement it.

STRATEGIC PRIORITY 3 : A Workforce for New Service Strategies Ensuring Value for Money

The policy priority of the Minister of Health for Re-engineered Primary Health Care

As stated in Section 3, the priority of the Minister of Health is the re-engineering of the Primary Health Care system and the overhaul of the health system. The policy is that the PHC re-engineering will be according to three main streams to consolidate PHC as the primary mode of health care delivery focussing on prevention of disease and the promotion of health. The PHC system will be located in a district-based service delivery model focusing especially on maternal and child mortality. The three streams of the re-engineered Primary Health Care system are:

a. The District Clinical Specialist Team Model (DCST)*:* The DCS teams will strengthen clinical governance of district-based maternal and child health services at hospitals, community and primary health care and home-based levels in order to promote the wellbeing of the population within the geographical catchment area of a regional hospital. The DCS teams will consist of four experienced medical specialists (Paediatrician, Family Physician, Obstetrician & Gynaecologist and Anaesthetist), and three advanced nursing professionals (Advanced Midwife, Advanced PHC nurse and Advanced Paediatric Nurse). Key performance areas of the DCS team will include the following:

- Clinical services
- Clinical training
- Monitoring, evaluation and improving clinical services
- Supporting district level organisational activities
- Supporting health systems and logistics
- Collaboration, communication and reporting and
- Teaching and research activities.

b. School Health Services*:* This programme aims to address basic health issues amongst school going children such as eye care, dental and hearing problems, as well as immunisation programmes in schools. Contraceptive health rights, teenage pregnancy, HIV and AIDS programmes, and issues of drugs and alcohol in school will be part of this initiative. The school health programme for each identified group of schools will be led by a Professional Nurse.

c. Municipal Ward-Based Primary Health Care Agents: The PHC Team is municipal ward based and will involve about 7 PHC workers or PHC agents per ward comprised of 6 community health workers

and a specialist PHC nurse. Each community health worker will be responsible for 270 families. Each PHC outreach team will be responsible for an average of 7,660 persons or 1,619 households. Each PHC outreach team will offer an integrated health service to the households and individuals within its catchment. The core components of the integrated service are:

- Promote health (child, adolescent and women's health)
- Prevent ill health
- Ante-natal and post-natal community based support and interventions that reduce maternal mortality
- Provide information and education
- Offer psychosocial support
- Early detection and screening
- Adherence to treatment
- Treatment of minor ailments and
- Basic first aid and emergency interventions.

Training, regulatory and employment implications

To implement the re-engineered PHC model it will be necessary to review and define roles and scopes of practice, task shifting and sharing, new professional categories and new cadres, new team relationships and new health interventions. Reorientation and re-skilling of existing staff will be required as well as training of new categories of staff. Current post structures at district level will need to be reviewed and new post structures created.

The role of Public Health specialists and Public Health professionals

Public Health specialists are trained to assess the health needs of a community and recommend interventions, determine causes of ill health and disease, strengthen diseases surveillance and disease prevention, develop health strategies and set priorities, evaluate effectiveness of health care interventions and translate evidence into action, manage resources and provide leadership in community health, monitor and evaluate services, monitor and evaluate the health of the population. Public health professionals with non medical training are trained in these functions as well. Public Health specialists and professionals have an important role to play in ensuring the re-engineered PHC model is implemented as planned and achieves improved health outcomes. Public Health Units are proposed at district and provincial level. Most important is the appointment of Public Health specialists at senior management level in provincial departments of health, and the development of public health skills and knowledge for many public health sector managers charged with managing the population's health.

Strengthening of the hospital sector and the 5 Flagship Academic Central Hospitals

Strengthening the hospital sector is also identified by the Minister as an area for attention. Strengthening hospital management and infrastructure is part of this process, as well as ensuring appropriate staffing. The Minister of Health has initiated a process to develop five Flagship Academic Central Hospitals which will enhance the tertiary and training sectors of the health system. Academic clinicians and a range of health professionals will be required to strengthen the staffing of these institutions.

Meeting the workforce needs for National Health Insurance

The service delivery model for National Health Insurance is in the process of being conceptualised. The first step is the re-engineered PHC model. However the detail of the service delivery model will only unfold in a process of stakeholder consultation in the short term and following the strengthening of the hospital sector. The HRH Strategy project team will need to work closely with the Minister's NHI Advisory Committee to detail HRH requirements as the NHI service model is formulated in detail. Clinical and non clinical professionals will be required in greater number and with different skills and competencies. Essential will be professionals skilled with the management of resources, finance, health economics and clinical information who will be responsible for facilitating the financing and contracting arrangements required for NHI.

Contracting with private health professionals and private sector health care providers

The development of an NHI service delivery model is a process which gradually involves all service providers in the public and private sectors. There are significant numbers of health professionals working in the private sector, especially at primary care level and in rehabilitative care, who can be contracted to offer services in the public sector. The shortage of health professionals in South Africa is in significant part due to maldistribution between the public and private sectors. Contracting arrangements should be developed between for example General Practitioners from the private sector and public sector service providers. There are many districts in South Africa which have no dental services. Private sector dentists need to be contracted to build up service access to public sector dental care for the currently uninsured population.

Workforce planning for staffing all levels of the health system for NHI

Detailed workforce plans are required for all levels of the health system so that a minimum staffing level is built up and critical posts filled. Sectors posts need to be planned and financed in order to build a balanced health care system which can provide a service delivery framework for NHI.

Seven foundations of the HRH SA Model

There are seven foundations to the HRH SA model. In essence all professional categories require strengthening.

1. **Community Health Workers at community level**

- There will be a large community based workforce with preventive and promotive competencies

- **Enhance nursing skills and capacity**

- It is necessary to identify appropriate categories of nurses for re-engineered PHC

- There is the need for revised scope of work, increased clinical competencies and numbers of Professional Nurses, with an emphasis on midwifery

- Specialist nurses need to be developed for PHC and hospital services

3. **Introduce and expand mid-level workers**

- The new cadre of Clinical Associates will be increased

- Others mid level worker categories will be developed

4. **Expand general medical doctors and general health professionals**

- There is a need for more general medical doctors at both PHC and hospital levels and other generalist health professionals – pharmacists, physiotherapists, dieticians etc..

5. **Expand selected specialist doctors and other specialist professionals**

- The challenge of maternal and infant mortality requires an intervention to improve the numbers of selected specialists in teams and in districts to take the lead in clinical governance

- Further it is necessary to ensure balanced specialist growth for clinical leadership and service development

6. **Public Health Specialist leaders**

- More Public Health Specialists and public health professionals are needed and their role clarified

7. **Develop academic clinicians in all disciplines**

- The development of academic clinicians is required to ensure a platform for health professional development.

STRATEGIC PRIORITY 3: A WORKFORCE FOR NEW SERVICE STRATEGIES ENSURING VALUE FOR MONEY

Strategic objective 3: ***To meet workforce requirements of new and emerging service strategies and thereby ensure a health service which promotes health and provides value for money***

Objective 3.1	**Implement the re-engineered PHC model through creating the new structures and ensuring the health cadres are skilled and employed as required (Community Outreach teams, District Clinical Specialist teams, school health nurse teams)**
Activity 3.1.1.	Implement the District Clinical Specialist Team model – develop job descriptions, advertise posts, facilitate appointments and financing, detail scope of practice and competency requirements, training requirements, monitor placement and progress.
Activity 3.1.2.	Implement the School Health programme – detail the job description, detail skills, competencies and training requirements, train nurses, appoint nurses and implement the programme, monitor progress.
Activity 3.1.3.	Implement the Community Outreach Team model – enable implementation of the Provincial Guidelines for training and appointment of Community Health Workers, train the first 5,000 CHWs by December 2011, enable appointment of nurses for leading the Community Outreach teams, ensure appointment of Outreach teams and monitor progress.
Activity 3.1.4.	Remodel provincial district health staffing structures to fit the re-engineered PHC model: • Develop policies and interventions on task-shifting and task sharing • Develop policies and interventions on multi disciplinary working and a referral system for the re-engineered PHC system health cadres • Identify up skilling/broadening of skills training required for health cadres in employment who will become part of the re-engineered PHC system and commission the training • Establish a process for all health professional associations and councils to review their scopes of work to promote task-shifting for re-engineered PHC system • Develop and institutionalise job profiles, person specifications, competence frameworks, terms and conditions and registration requirements for new and realigned jobs/cadres • Based on policy directives, quantify the numerical (competent people) and financial (remuneration, goods and support services) need for district outreach teams, school health nurses, CHWs, specialist teams, and other district staff and oversee the plan for securing finance and implementation.

Objective 3.2	**Establish and sustain Public Health units at district and provincial levels**
Activity 3.2.1.	Define the job description and career path for Public Health specialists and public health professionals in an NHI service delivery framework.
Activity 3.2.2	Establish an NDoH Public Health Unit and Public Health Units in provinces, and facilitate appointments of public health specialists.
Activity 3.2.3.	The provincial Public Health Unit leaders will develop public health strategies for each province and work with district health managers to develop district health strategies.
Activity 3.2.4.	The provincial Public Health Unit leaders will develop a monitoring and evaluation framework evaluating the outcomes of the three stream re-engineered PHC model.
Objective 3.3	**Develop staffing norms for tertiary hospitals, regional and district hospitals to ensure a balanced health system**
Activity 3.3.1.	Develop the service model for hospital services and the staffing norms (informed by the Modernisation of Tertiary Services Model and other work on staffing norms for hospital services).
Activity 3.3.2.	Develop adjusted norms for service sites which serve as a training platform for health professionals.
Activity 3.3.3.	Collaborate with relevant role players in the development of staffing norms for hospital services (Five Flagship Hospitals Project, provincial departments of health etc.).
Activity 3.3.4.	Detail the HRH requirement implications of the proposed staffing norms for hospitals and evaluate the financial affordability of staffing model options.
Objective 3.4	**Formulate public/ private sector contracting arrangements for primary care**
Activity 3.4.1	Develop policies and interventions on private sector role and engagement in the public health system at primary care level starting with pilot projects for General Practitioner, rehabilitative, mental and dental services.
Objective 3.5	**Detail the HRH requirements for the NHI service delivery model**
Activity 3.5.1.	Work with the NHI Ministerial Advisory Committee to determine HRH requirements for the NHI service delivery model as the model is formulated.
Objective 3.6	**Develop health workforce plans to staff health services which align to HR and Service Transformation Plans and provide a basis for MTEF budgeting for 2012/13 – 2016/17**
Activity 3.6.1.	Develop detailed staffing requirements for minimum staffing in all services, and submit MTEF requirements for strengthened staffing establishments.
Activity 3.6.2.	Ensure planned funded posts for health professional graduates within affordability parameters.

STRATEGIC PRIORITY 4 : Upscale and Revitalise EducationTraining & Research

Planned expansion of the health workforce to be accompanied by retention

The health workforce in many facilities is overworked due to service demand and staff shortages. The NDoH is committed to expansion of the numbers of doctors, nurses and other health professionals. Alongside expansion, review of existing practice is proposed, where appropriate, to change the ways staff work and productivity, to enhance skills and ensure retention of health professionals. The strategy is to realise the potential of the existing workforce, and expand where it is necessary. Expansion and recruitment must be carefully planned to avoid the 'boom and bust' scenario. A concurrent activity to expansion is to ensure a meaningful working environment and the funds for employing professionals on graduation.

Recruitment of foreign trained health professionals

In the short term to medium term, the next five years, it will be necessary to selectively recruit health professionals, especially doctors from abroad, especially South African doctors. The strategy must be carefully targeted and ensure transfer of skills and benefit to the South Africa health system and South Africa health professionals. Priority will be given to recruiting academic health professionals who will train, transfer skills, and develop innovative service and health care interventions; and health professionals willing to work in rural areas. This process will need to be undertaken in consultation with the Higher Education Institutions involved in training health professionals and provincial departments of health.

Expansion projections and improved career pathways

Expansion of most categories of the health professions and health cadres is required. Initial modelling on expansion has been undertaken as part of the HRH Strategy development process. Proposals on expansion for each profession on a 14-year time frame are reported in Section 6 on 'Forecasting and Modelling the Health Professions'. Higher Education Institutions and the professions will be encouraged to review these initial proposals and be part of a process of more refined forecast modelling based on information informed by service plans and current status of the professions. Improved career pathways for the professions will need to accompany the expansion and development process.

The transformative role of education and development of 'change agents'

To have a positive influence on the functioning of health systems and effect a transformative role on the health outcomes of patients and populations, educational institutions have to be 'designed to generate an optimal instructional process' which the Lancet special edition on 'Education of Health Professionals for the 21st Century' [35]defines as the four C's. The four C's are:

i. *Criteria for admission* which include both achievement variables, such as previous academic performance , and adscription variables such as social origin, race or ethnic origin, sex and nationality;
ii. *Competencies* as they are defined in the curriculum, which must meet future health and service needs;
iii. *Channels of instruction* by which is meant the teaching and training technologies, methodologies, modalities and communication media;
iv. *And career pathways,* which are options graduates have on completion of their professional studies, as a result of the knowledge and skills they have attained, the process of professional socialization to which they have been exposed as students, and their perceptions of opportunities in local and global labour markets.

Different configurations of how the educational institutions are led, governed and financed, and 'instructional design' will lead to varying education outcomes. Making the desired results explicit is necessary in order to ensure the desired outcomes. Necessary to ensuring a desired outcome is the interdependence of the education system and the health system, the recognized transformative role of the education system, and 'the harnessing of the power of global pools and flows on knowledge and other resources'. The transformative role of health professional education in the 21st Century is about developing leadership attributes and producing enlightened and professionally capable change agents. [36] In this way education becomes a crucial component of the building of the future health system.

The requirements of health professional education for the future are challenging

Health professional education needs to address primary health care priorities, ageing, changing patient populations, cultural diversity, chronic diseases, care-seeking behavior and heightened public expectations. In addition to professional specific education and training, the competencies developed by

[35] The Lancet, Health Professionals for a New Century, Transforming Education to Strengthen Health Systems in an Interdependent World, A Global Independent Commission, December 2010,p13.

[36] The Lancet, Health Professionals for a New Century, Transforming Education to Strengthen Health Systems in an Interdependent World, A Global Independent Commission, December 2010.p53.

all professionals need to include patient-centered care, interdisciplinary teams, evidenced-based practice, continuous quality improvement, use of new informatics, and integration of public health. Research skills should be taught and a culture of critical inquiry developed. Competencies in policy, law, health economics, management and leadership should also be part of health professional education as it affects the particular professions. Undergraduate education should prepare graduates for lifelong learning. This is the vision of the Lancet on health professional education and it poses challenges to HEIs to ensure the development of graduates who are change agents and can meet health challenges of the future.

The training environment

Professional education is deeply affected by the available environment for clinical training. Academic systems must not only expose trainees to specialized professional care in tertiary centres but also to have a broader exposure to the range of practice environments at community level and in areas of health care need. This has been policy of the NDoH and Faculties of Health Sciences in the past fifteen years. However implementation of this approach requires resources and the appropriate funding streams have not been available for implementing new training sites. Primary health care training should be seamlessly integrated into the academic system. Academic systems must provide a balanced environment for the education of health professionals through engagement with local communities, to proactively address population based prevention, anticipate future health threats, and to lead in the design and management of the health system.

Teamwork, inter-professional education and task shifting

Teamwork has grown in importance with the transformation of health systems. New disease patterns and care patterns require new ways of working together as teams. Patient care is a series of transitions from home to hospital and rehabilitative facilities engaging with a host of multidisciplinary professionals in the process. Team based learning can prepare students for effective and collaborative working relationships.

Inter-professional education can involve the students of two or more professions working together. This approach is now being proposed internationally as an instructional tool for health professional education. Although a simple concept, inter-professional education is difficult to implement and requires resources in the form of educators with new skills and an appropriate training environment.

Task sharing and task shifting, definition of new scopes of practice and competencies, new professional categories and new training programmes all need to be defined in a dynamic process to ensure health professionals which meet the needs of the future.

STRATEGIC PRIORITY 4: UPSCALE AND REVITLISE EDUCATION, TRAINING AND RESEARCH

Strategic objective 4: ***To ensure the revitalisation of the production of a health workforce with the skills mix and competencies, education and training, to meet health service demand***

Objective 4.1	**Review HRH SA strategy scenarios and develop proposals for scaling up graduate output in line with projected service requirements and based on review of the professions and new categories**
Activity 4.1.1	NDoH, in consultation with the Forum on Health Professional Education and Development, to develop reports for future growth on each professional category within the following broad professional groups. The reports should detail the burden of disease, service requirements, and training requirements for: • Medical practitioners, dental practitioners and specialists • Nurses including priority new categories and specialist nurses • Allied health professionals • Public Health professionals • Clinical support professionals/ Mid Level Workers • Management, IT, scientific and finance/economics professionals • Scarce skills • The technical, logistic and procurement support workforce.
Objective 4.2	**NDoH with HEIs and DHET to plan faculty and campus growth for 2030**
Activity 4.2.1.	HEIs to implement the plan for the Minister of Health on the expansion of MBChB students.
Activity 4.2.2.	HEIs to engage with the proposals for expansion of the health professions (produced in Objective 4.1) and to develop planned expansion in education and training for the medium term (next 5 years).
Activity 4.2.3.	HEIs to detail plans for rural campuses and peri-urban training sites in areas of health need.
Activity 4.2.4.	HEIs to detail education and research bursary strategies for the development of specific health sector professions (clinical and non-clinical) and certain student groups (rural and disadvantaged).
Objective 4.3	**Implement an integrated strategy to strengthen the nursing profession**
Activity 4.3.1.	A Task Team appointed by the DG will ensure the elaboration and implementation of the outcome of the Nursing Summit.
Activity 4.3.2.	The Forum on the Nursing Profession will develop a strategy for the nursing profession. The strategy will include the following: • Ensure that the scope of practice and level of competence of nurses is

	adequate for the delivery of quality and effective PHC & hospital services • Develop a strategy to promote and maintain professionalism in nursing • Develop national and sector-specific plans (private and public) for requirements for all key categories nurses to meet the health service needs • Finalise the location of nursing education in the higher education training framework • Strengthen the capacity of nursing education institutions to increase production and improve the quality of graduates in accordance with the human resource plan for nursing • Ensure implementation of recommendations of the Nursing Summit 2011.
Activity 4.3.3.	NDoH will implement an effective regulatory framework for nursing practice and education and training in accordance with the requirements of the Nursing Act, 2005.
Activity 4.3.4.	NDoH in consultation with HEIs and provincial departments of health, will expand the training of nurses, especially the development of the new staff nurse and specialist nurses as a matter of urgency.
Objective 4.4	**Plan the development and institutionalised training of Mid Level Workers**
Activity 4.4.1.	Undertake an audit of MLW's.
Activity 4.4.2.	In consultation with provincial departments of health and HEIs develop a plan for growth of specified categories and their competencies and scope.
Activity 4.4.3.	Develop the service plan needs for MLWs.
Activity 4.4.4.	Identify the training platform for planned MLW's and ensure funding of training.
Activity 4.4.5.	Ensure Clinical Associate training is funded, expands to meet district hospital needs, and that posts are opened in the public sector for new CA graduates.
Activity 4.4.6.	Assess national capacity to increase Advanced Pharmaceutical Assistant training and facilitate additional student intake according to modelled demand for re-engineered PHC.
Objective 4.5	**Revitalise clinical research and innovation capacity in HEI's**
Activity 4.4.1.	Collaborate with the HEIs, Academy of Science and the NDoH Committee on Clinical Research to implement nationally prioritised clinical research programmes to improve research skills and develop service and clinical interventions.
Activity 4.4.2.	Support the National Clinical Scholars Programme to produce 10 PhDs and appoint 30 research 'Chairs' in 10 years.
Activity 4.4.3.	Enable funding for clinical research.

Objective 4.6	**Ensure the effective public sector financing of health professional training and development**
Activity 4.6.1.	Review and make recommendations of the financing of health professional development, taking into consideration proposals in Strategic Priority 5 on the financing of Academic Health Complexes.
Activity 4.6.2.	In cooperation with DHET to ensure the planned expansion of the Clinical training Grant and for inclusion of all relevant professional programmes which have a clinical training requirement.
Activity 4.6.3.	Develop a reporting framework for 'ring fenced' funding of registrars posts in consultation with the Project Team responsible for Strategic Priority 5.
Activity 4.6.4.	Effectively implement revised/new professional education and training funding mechanisms.
Objective 4.7	**Planned training of health professionals outside of South Africa**
Activity 4.7.1.	Evaluate existing training programmes outside of South Africa.
Activity 4.7.2.	Identify appropriate postgraduate training outside of South Africa for medical and other health professionals and develop the appropriate bursaries.
Objective 4.8	**Planned growth of academic clinicians in HEI's**
Activity 4.8.1.	HEIs to develop proposals and plans for requirements and posts for academic clinicians linked to scaling up of output of health professionals.
Activity 4.8.2	HEIs to be encouraged to develop collaborative initiatives between South African HEI's, and institutions recognised for excellence internationally, to strengthen South Africa academic training capacity in the health professions for implementation of the NDoH HRH Strategy: HRH SA.
Objective 4.9	**To Identify and elaborate additional sources for financing and for resources for the education and development of health professionals**
Activity 4.8.1.	To identify additional sources of finance for the education and training of professionals locally and internationally.
Activity 4.8.2.	To identify relevant clinical training sites to enhance exposure and resource clinical training of health professionals.

STRATEGIC PRIORITY 5 : Academic Training and Service Platform Interfaces

The role of Academic Health Complexes and training colleges

Academic Health Complexes (AHCs) and academic medicine have a critical role to play in the health system. The development of strong AHCs is central to the development of the health system financed through National Health Insurance. Other training platforms such as Nursing Colleges, Ambulance Colleges and provincial training colleges also are also critical to the development of health professionals and the health system. Strengthening the health service training platforms is a priority for the HRH SA Strategy.

The legislation on Academic Health Complexes

The Health Act 2003 provides the legal framework for the development of AHCs:

> ***"Establishment of academic health complexes***
>
> ***51.*** *The Minister may, in consultation with the Minister of Education, establish*
> *(a) Academic health complexes, which may consist of one or more health establishments at all levels of the national health system, including peripheral facilities, and one or more educational institutions working together to educate and train health care personnel and to conduct research in health services; and*
> *(b) any co-ordinating committees that may be necessary in order to perform such functions as may be prescribed*." Page 58.

Consultation with the national Minister of Education is required as according Schedule 4 (Part A) of the Constitution higher education is specified as being an exclusive national competence. An organisational arrangement is therefore required which integrates the education, service and research functions of the mission of Academic Health Complexes.

Academic medicine

Academic medicine is a complex endeavour at the heart of the health system. Academic Health Complexes are the organisational home of academic medicine and need to provide the appropriate governance, financing mechanisms and work environment to ensure the objectives of academic medicine can be achieved. A definition of academic medicine is as follows:

> *"Academic medicine encompasses looking for better ways of promoting health, preventing disease, understanding health and disease processes, making a diagnosis, and improving patient care by basic and applied research and by using evidence based medicine and rational policies. It also includes conducting research into psychosocial and societal aspects of health and disease,*

looking for a better understanding of patient and community needs; studying bioethics and ensuring that the fruits of all of these studies are translated into policy and practice. Academic medicine demands that the efficacy of all new processes is carefully assessed and that all knowledge gained through the preceding processes is widely disseminated via teaching, refresher courses, publication and presenting work at congresses".[37]

A process to strengthen Academic Health Complexes

To enable the up scaling of the development of health professionals, a strengthening of the environment in which they are trained is necessary, specifically Academic Health Complexes. The 2010 Report of the Colleges of Medicine of South Africa, which reflected work done over two years by the CMSA Governance Task Team,[38] proposed elements of a process for strengthening Academic Health Complexes. This included refining the definition of AHCs, accreditation, organisational arrangements and financing arrangements.

Definition of an Academic Health Complex

The CMSA proposed a draft definition of the South African concept of an Academic Health Complex which could be considered by stakeholders:

Academic Health Complexes:

- may consist of one or more health establishments at all levels of the national health system, including peripheral facilities;
- may take different organisational forms;
- may include one or more educational institutions working together to educate and train health care professionals at under- and postgraduate level in health promotion, disease prevention, and curative and rehabilitative medicine at primary, secondary and tertiary levels;
- have integrated governance and leadership structures that have assumed the role of strategically and operationally managing both healthcare and relevant academic resources;
- undertake educational and research activities which increase knowledge and understanding of health and disease;
- use knowledge and evidenced based research as the basis for treating illness and improving health;
- design and test new models for improved clinical care, service delivery and improvement of population health;
- advise government on population health and health care.

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[37] The late Kirsch R.E., A New Vision for Academic Medicine, page 2, Presentation to the CMSA Project on The Strengthening of Academic Medicine and Specialist Training: Governance Group Meeting 21st February 2009

[38] The Colleges of Medicine of South Africa Report: Project on Strengthening Academic Medicine and Specialist Training, Section 2.2: Strengthening Academic Health Complexes: An Issue of for the Future of Academic Medicine, 2010.

Criteria for being accredited with Academic Health Complex Status

In order to ensure standards for the training environment, an accreditation process is proposed for Academic Health Complexes. Criteria for the 'accreditation' of Academic Health Complexes in South Africa could include strategic and operational criteria. Strategic and operational criteria are proposed below.

Possible criteria for Academic Health Complex status in South Africa:

Strategic Criteria:

- Integrated governance for the clinical and academic missions (this could range from delegated authority, to affiliations and through to full mergers);
- National recognised excellence in research and clinical practice;
- International recognised excellence in research and clinical practice;
- External research funds comprise 30% or more of the academic budget;
- Integrated leadership and career paths in clinical and academic medicine;
- Joint programmes which combine research and clinical work;
- Benefits to the South African economy and health sector.

Operational Criteria:

- Board (s) reflecting required Academic Health Complex governance structure;
- Information system, data collection and analysis which conforms to agreed national standard for Central Hospitals and has the capacity for case mix analysis and integration of clinical and financial information;
- Conformance to hospital quality accreditation standards by national accrediting authority ;
- Growth and development in the output of health professionals;
- Growth in research output.

Organisational structure

There can be various organisational options for achieving strengthened governance and management of a joint mission of education, training, research and patient care. Two options are detailed: the status quo and a new scenario which can have variations.

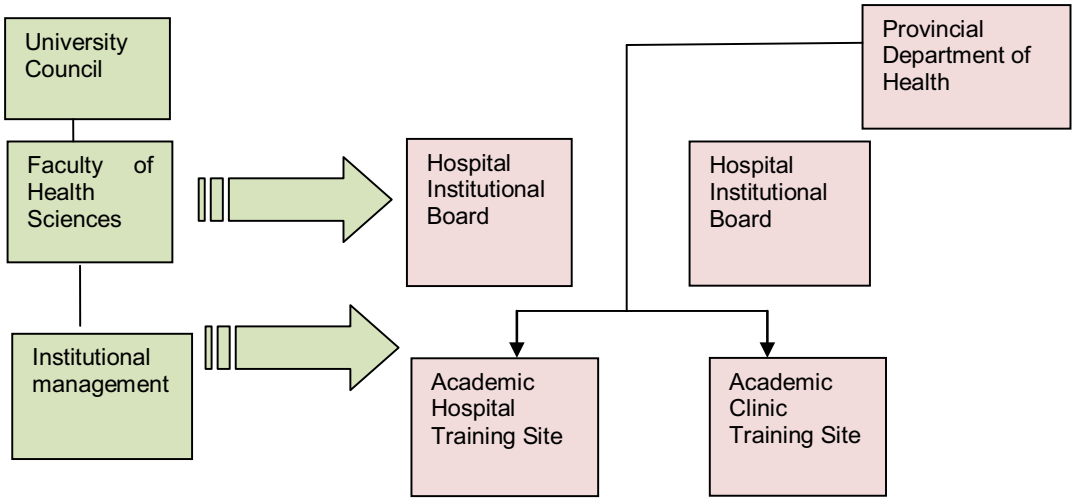
i. University Affiliation Model (The SA Status Quo)

This is probably closest to what exists in South Africa at present in the relationships between Faculties of Heath Sciences, Academic (Central) Hospitals, and other academic training service sites. In this model affiliation agreements between a university, a hospital and other members potentially create an Academic Health Complex as a voluntary association where members agree on purposes

in common. This model depends on good will, mutual respect and a desire to collaborate. This attitude is also required for model ii below but it is more structured.

The disadvantage of this model is that there is not a necessary alignment in the clinical and academic missions of affiliated parties, and therefore related resources and organisational performance outcomes. The Board does not play an influential role, and the Provincial Department of Health is the main authority overseeing the financing, planning and staffing of the institutions which serve as accredited academic training sites. 'Joint agreements' exist for some of the provinces between the provincial department of health and the Faculties of Health Sciences. For some provinces the 'Joint Agreements' are not finalised and a source of dispute. There is no national policy which provides a guideline for 'Joint Agreements' on the relationship between provincial departments of health, Academic (Central) hospitals, other training service sites, and the Faculties of Health Sciences.

Figure 11: University affiliation model (The SA Status Quo)

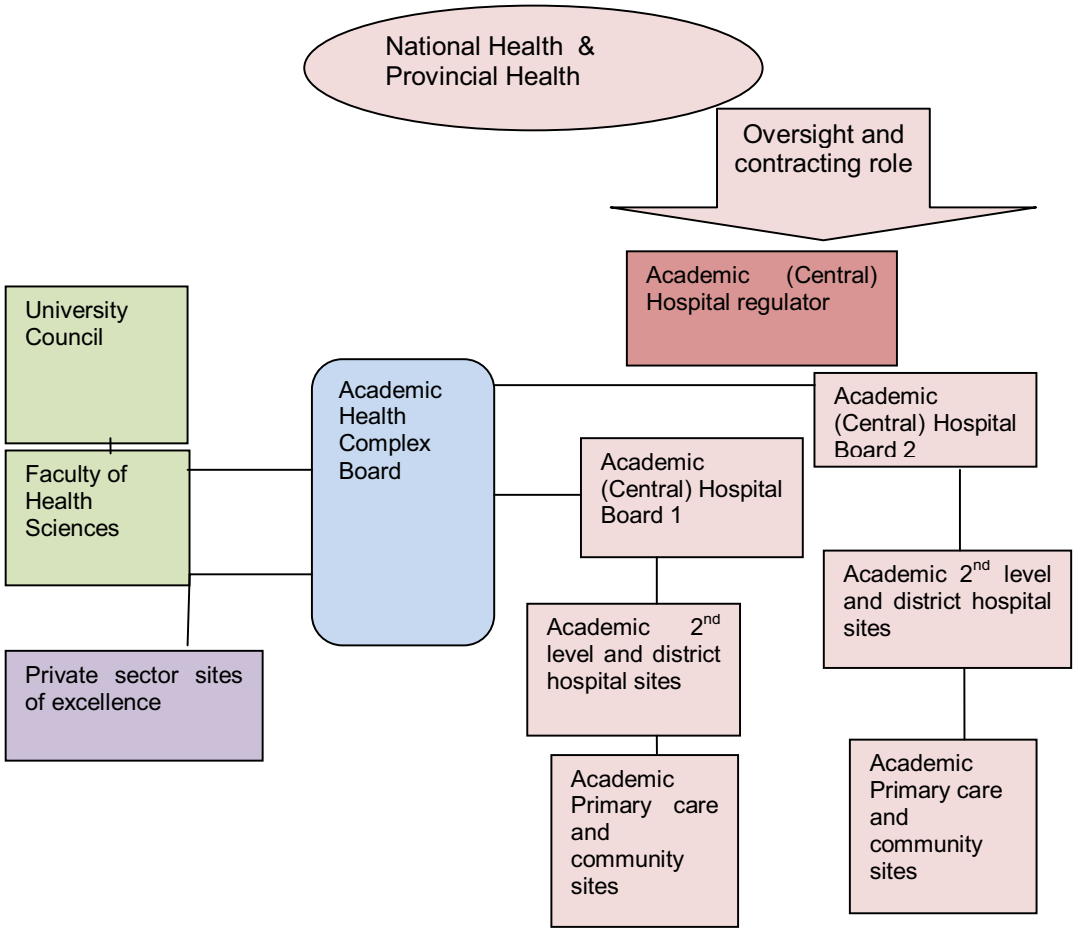


ii. *Consortium, Network or Joint Partnership Board Model*

In this model the institutions of the Academic Health Complex form a board as a vehicle for strengthening collaboration between partners while maintaining separate funding and accountability mechanisms for the academic and clinical missions. Some autonomy is ceded to the common body, in which the participants share in decision-making, but authority remains with the individual institution's board of governors.

Any new governance model requires the alignment of the academic and clinical missions of the university and academic hospitals and other training sites. This idea must have the support of the political leaders, specifically support of the Ministers of Higher Education and Training, and Health.

Figure 12: Consortium, network or joint partnership board model



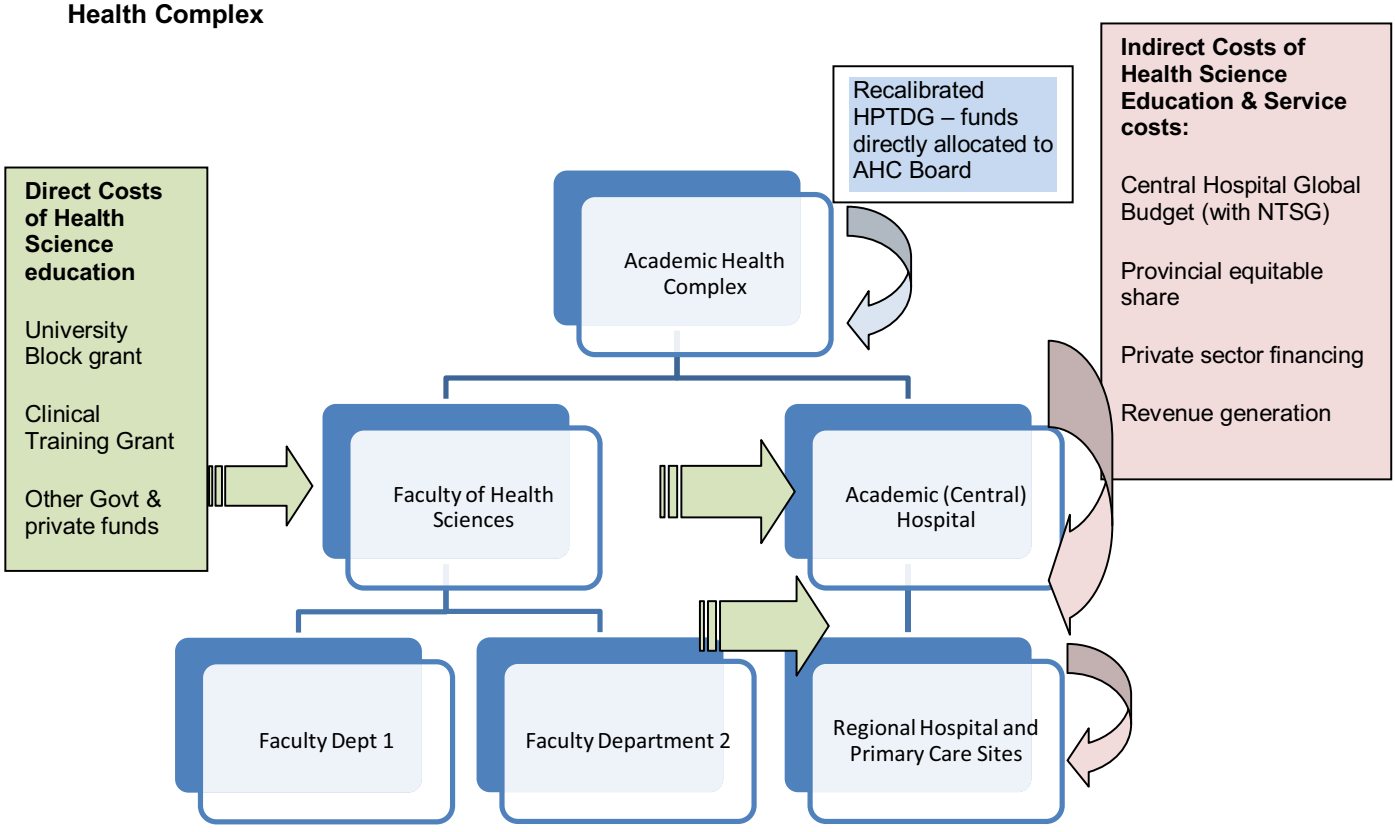
Financing Flows

The financing of Academic (Central) Hospitals, Academic Health Complexes and health professional education and development needs to be improved for effectiveness and efficiency. Current financing for health professional development occurs through a number of funding streams, primarily:

- The Clinical Training Grant and the Block Grant from DHET
- The Health Science Programme of provincial health budgets
- The Health Professions Teaching and Development Grant (HPTDG) and the National Tertiary Services Grant (NTSG), which are allocated to provinces from the NDoH budget.

The model in the Figure below identifies existing funding flows for Academic Health Complexes. Grants which are currently under review are the HPTDG and the NTSG. Figure 13 shows a possible suggestion for consideration where the HPTDG could be allocated to AHC boards for the funding of specific aspects of the extra service costs of health professional development and training. The extra service cost of training are significant and have to be separately budgeted for.

Figure 13: Model for financing of academic medicine, the Health Sciences and the Academic Health Complex



STRATEGIC PRIORITY 5: ACADEMIC TRAINING AND SERVICE PLATFORM INTERFACES

Strategic objective 5: ***To strengthen Academic Health Complexes and other training platforms to strategically manage both health care and academic resources and provide an integrated platform for service, clinical, research and education functions***

Objective 5.1	**Elaborate activities for strengthening of AHCs based on an organisational model which integrates governance and leadership structures to strategically and operationally manage both health care and relevant academic resources**
Activity 5.1.1.	The Minister of Health will appoint a Project Team to lead the development of proposals on the organisational strengthening of Academic Health Complexes. The Academy of Science is proposed as a key organisation in the Project Team.
Activity 5.1.2.	The Project Team will elaborate proposals in line with the Health Act Para 51, on the definition of Academic Health Complexes, and define the organisation and financing flows and sources of funds for Academic Health Complexes.
Activity 5.1.3.	The Project Team will define and implement a stakeholder consultation process for the development of a process of strengthening Academic Health Complexes.
Activity 5.1.4.	The Project Team will collaborate with the Academic Advisory Panel appointed by the Minister of Health to provide advice on the development of the five Flagship Academic (Central) Hospitals.
Objective 5.2.	**Develop strategic activities on how to strengthen the management infrastructure of Academic Health Complexes**
Activity 5.2.1.	The Project Team will develop activities to strengthen the management infrastructure of AHCs specifically on: • National conditions of service for academic clinicians employed in AHCs and Academic Central Hospitals; • Information technology to standardise ITC in Academic Central Hospitals to enable financing, case mix analysis, revenue generation, grant monitoring for education and specialist services, service and performance management, monitoring of training; • Development of the service planning model incorporating staffing guidelines and adjustment for the training and research environment; • Elaboration of national tertiary and highly specialised service needs and planned units/centres of excellence integrated with specialist and sub specialist training; • Identification of other issues on which action is required for the strengthening of management infrastructure.

Activity 5.3	**Develop national structures for the oversight, planning and governance of Academic Health Complexes**
Activity 5.3.1.	Establish a National Advisory Committee for the Minister of Health on Academic Health Complexes.
Activity 5.3.2.	Establish a Secretariat to resource the National Advisory Committee of the Minister.
Activity 5.3.3.	Establish an Association of Academic Health Complexes to provide peer support for the growth of AHC's and a forum for consultation and capacity development.
Activity 5.3.4.	Establish a Finance Committee on Academic Health Complexes as a Sub Committee of the NDoH Financing Committee on HRH to develop and monitor costing, financing and budgeting of AHCs and Academic Central Hospitals.
Activity 5.3.5.	Develop an accreditation framework for Academic Central Hospitals and Academic Health Complexes and define the implementation process of accreditation.
Objective 5.4.	**Develop and commission the academic service platforms of the five flagship Academic Central Hospitals**
Activity 5.4.1.	Advertise and adjudicate bids, award and manage contracts for the five flagship Academic Central Hospitals in cooperation with DBSA (the contract and PPP managers).
Activity 5.4.2.	Define the financing requirements, plan and identify future sources of finance for the Five Flagship Academic Central Hospitals.
Activity 5.4.3.	Ensure the Project Team appointed by the Minister of Health to develop policy on organisation and financing of AHCs and Academic Central Hospitals (Objective 5.1) collaborates with the Academic Advisor panel appointed by the Minister to advise on the integrated academic training and service dimensions of the DBSA/NDoH Project on Five Flagship Academic Central Hospitals.
Activity 5.4.4.	Develop a phased plan for expansion of training on the Flagship Project academic service platforms in consultation with the Academic Advisor panel appointed by the Minister to advise on the academic training and service dimensions of the DBSA/NDoH Project on Five Flagship Academic Central Hospitals.
Objective 5.5.	**Review nursing college capacity, & develop and commission nursing colleges**
Activity 5.5.1.	Agree the training model for nursing education and training, the standards and facility equipment for the nursing colleges.
Activity 5.5.2.	Ensure development of business plans on nursing college refurbishment are developed and submitted to National Treasury, and ensure the implementation of the nursing college projects.

Activity 5.5.3.	Develop phasing-in plans for teaching and training in the new/ refurbished nursing colleges.
Objective 5.6	**Identify needs and develop plans for the training platforms required for MLWs and other categories of provincial health cadres**
Activity 5.6.1.	Detail requirements and implement plans for training platforms required for MLWs and other categories of provincial health cadres.

STRATEGIC PRIORITY 6 : Professional Human Resource Management

Enhancing the professional role of the Human Resource Management function

The working environment is key to the quality of care that health professionals can and are willing to offer. The Human Resource Management function has an important role to play in creating and enabling environment for health care delivery. Human Resource Management in health care facilities is often undertaken by the clinical line manager. A tricky relationship often exists between the Human Resource Management department and clinical and service line managers. To improve the working environment it is necessary to improve the professional capacity of the Human Resource Management to provide support and improve working conditions for line management and the health care professionals.

The role of the HR Departments in the context of the HRH Strategy

The broader organisational strategy of any organisation predetermines the HR strategy. The HR strategy, in turn, predetermines the strategy of the HR department. These distinctions are important: the HR strategy cannot succeed if it is left to the HR department to implement. This is because, increasingly, in global Best Practice organisations, the central role in the management of the organisation's HR has to be played by line managers. The role of the HR department is to act as a professional, internal consultant and to support line management in their HR responsibilities. It is important to differentiate between the HRH strategy of the Health Sector and the strategy to be pursued by the HR department in its support. The Director-General is responsible for ensuring that the Human Resources Management function is integrated and supports the HRH Strategy and the overall NDoH Strategy for the Health Sector.

Developing strengthened and integrated Human Resource Management (HRM) strategies

Provincial departments of health are responsible for the development of Human Resource Management strategies and the development of HR Plans, which also must comply with the Department of Public Service requirements. A process of strengthening HRM strategies is proposed as well as an alignment of the DPSA HR Plan format with health sector specific requirements. Provincial departments of health have undertaken extensive work in the development of HR Plans. Provinces are encouraged where appropriate to strengthen the HRM function in order to address work environment issues that affect the recruitment, retention and careers of health professionals.

The following methodologies can be used to gain a better understanding of the workforce and therefore contribute to HRM strategy development:

An audit of the workforce: An annual audit and analysis of the workforce can assist with identifying human resource issues, trends and gaps.

HR structures, policies and procedures: An audit of HR policies and procedures can assist with the identification of policies and practices that act as barriers to the appointment, development, promotion and retention of critical talent or that lead to direct or indirect discrimination.

An audit of attitudes and perceptions: Various audits of attitudes and perceptions can be undertaken. These provide insights into how various constituencies in the organisation perceive it as performing with respect to levels of engagement, productivity and the retention of staff.

The three types of audit commonly used in this context are:

- An audit of attitudes and perceptions of current employees towards the conduciveness of the current environment to retention and high performance. This audit also identifies barriers to the retention and engagement of talent;
- A Turn-over and Retention Survey. This audit involves interviews (often telephonic) with employees who have left the organisation in the last year to gain insight into the real reasons for their resignation; and
- Propensity to Stay. This audit generally involves on-line surveys of critical talent to assess their level of engagement with the organisation and their Propensity to Stay.

These audits can be supplemented by in-depth interviews with key personnel, document analysis and analysis of exit interview records.

Formulating an Integrated Human Resources Management Strategy

On the basis of the investigations recommended above, existing Human Resource Management strategies can then be strengthened. Key elements of such strategies would include the following:

- A practical workforce planning process
- A practical career and succession planning process
- Functional or departmental HRM action plans
- Training, coaching or leadership development processes to ensure the competence of all of those in leadership and Human Resource Management roles

- The integration of objectives for Human Resource Management into the performance contracts of managers
- The performance management of managers in terms of their Human Resource Management role
- Regular reviews of progress and adaptation of the Human Resource Management strategy to changing needs.

Competitiveness in terms of people

A key factor contributing to the success of the health sector will be its ability to recruit, retain and develop critical talent, thereby becoming an Employer of Choice.

The HR department and Human Resource Management strategies need to ensure they will support line management in:-

- Recruiting the right people
- Ensuring performance is evaluated as objectively as possible
- Ensuring performance is rewarded appropriately
- Analysing reasons for resignation and reporting its findings to line management
- Ensuring fairness and equity
- Ensuring that training and development opportunities are matched with individual strengths and weaknesses
- Ensuring the organisation provides a total employment offering in line with employee expectations e.g. in terms of:
  - ✓ Financial and career achievement
  - ✓ Benefits; work-life balance; flexibility
  - ✓ Challenging work
  - ✓ Social environment (e.g. networking opportunities; two-way communication and consultation; employee recognition)
  - ✓ Stability (e.g. clear strategy; mature leadership; job security)
  - ✓ Inclusion and support (e.g. professional Human Resources Management; access to resources and equipment; training, mentoring and coaching; career development plans and supportive diversity culture)
  - ✓ Creating a sense of adding value (e.g. listening to employees suggestions; providing stretch goals and allowing accountability and appropriate decision-making opportunities.

STRATEGIC PRIORITY 6: PROFESSIONAL HUMAN RESOURCES MANAGEMENT

Strategic objective 6: ***To effectively manage human resources in a manner that attracts, retains and motivates the health workforce to both the public and private sectors in an appropriate balance***

Objective 6.1	**Undertake an audit of the health workforce in each province**
Activity 6.1.1	Undertake an annual audit of the health workforce and identify relevant issues including health workforce requirements.
Activity 6.1.2	Undertake an audit of HR structures, policies and procedures to identify policies and practices that act as barriers to the appointment, development, promotion and retention of health professionals or that lead to direct or indirect discrimination.
Activity 6.1.3.	Undertake an audit to develop strategies for retention by auditing attitudes and perceptions using three methodologies: • An audit of attitudes and perceptions of current employees towards the conduciveness of the current environment to retention and high performance • A turnover and retention survey which interviews employees who have left and asks why they have left • A propensity to stay survey which interviews existing employees on their propensity to stay. Provincial departments of health could identify differing methodologies to achieve the same objective.
Activity 6.1.4.	Integrate the results of the audits into the HR Strategic plan for 2012/13 – 2016/17, proposed in Objective 6.2.
Objective 6.2	**Formulate integrated HR strategic plans with an emphasis on recruitment and retention of health professionals**
Activity 6.2.1	To formulate HR Strategic plans for 2012/13 – 2016/17. The HR Strategic Plans should meet DPSA requirements and use DPSA format, but also address issues of the health sector. The HRH Task Team should discuss the following in the process of developing the HR Strategic Plans: • Agree guiding principles for an HRM strategy which integrate health sector transformation objectives • Agree appropriate governance structures and practices to ensure the HRM strategy is achieved and enhanced • Agree HRM delivery method in terms of strategic partnering; competitiveness in terms of attracting, recruiting, motivating and retaining critical talent; assistance in building a high performance culture and functional excellence. • Agree how the performance of the HR Department will be measured against key strategic objectives.

	The HR Strategic Plans should cover the following areas: • Strategic Partnering • Strategic alignment with NDoH goals • Scanning the environment to predict workforce challenges • Ensuring competitiveness in the war for talent and recruitment of health professionals • Managing people for high performance • Functional excellence
Activity 6.2.2.	Ensure that the information in the HR strategic plans links to Service Transformation Plans, annual plans and MTEF.
Objective 6.3	**Clarify roles and responsibilities of HRM function and line managers**
Activity 6.3.1.	To strengthen HRM function the roles and responsibilities of HR and line mangers should be agreed or refined. This will involve undertaking the following: • Define roles, responsibilities and competences required of HRM function and line managers in relation to HR; • Decentralise more HRM functions to district and facility level; • Clarify job descriptions, job objectives and key performance indicators in relation to roles and responsibilities of HR managers; • Communicate roles and responsibilities and performance measures to line managers and the HRM function personnel; • Assess competence of HRM function personnel and line managers in relation to roles and responsibilities; • Provide training and coaching to up skill relevant personnel in their roles and responsibilities; • Engage with Persal unit of National Treasury to assess ways of improving functionality and objectivity of Persal; • Provide continuous Persal user training for all HRM practitioners.
Objective 6.4	**Implement a performance management framework in the public health sector and stop abuse of RWOPS and moonlighting**
Activity 6.4.1.	Customise DPSA performance management tools and processes to the requirements of the health workforce and implement performance management though line management in health care facilities (where this is not already the case).
Activity 6.4.2.	Eliminate the abuse of RWOPS and moonlighting by the relevant executive authority applying the provisions of the PSA (Public Service Act).
Objective 6.5	**Review and implement the changes for the Occupation Specific Dispensation**
Activity 6.5.1.	Commission a review of the OSD and ensure the recommendations enhance retention and attraction of health professionals.
Activity 6.5.2.	Ensure the OSD addressed retention and attraction of health professionals in rural areas.
Activity 6.5.3.	Implement the revised OSD

STRATEGIC PRIORITY 7 : Quality Professional Care

Ensuring quality professional care is an ongoing process which requires:

- Strong Statutory Council oversight over professional training and practice;
- Ensuring quality of the clinical training environment for undergraduate and postgraduate health professions;
- Ensuring ongoing professional development linked to health priorities, the development of new technologies and new clinical interventions;
- Ensuring the working environment in which health professionals practice is conducive to quality health care;
- Oversight and firm action on professional malpractice;
- Guidance and protocols on clinical best practice and evaluation of new clinical interventions for National Health Insurance;
- High level ongoing interaction between NDoH and the Statutory Councils;
- Resourcing of the Statutory Councils for their functions.

Statutory Council oversight

The Statutory Councils are required to define the regulations for scopes or practice and competency, oversee the clinical training environment, and protection of the public from malpractice, as well as register health professionals and meet member needs. It is recommended that the two primary roles are separated and separately financed.

Firstly, member registration and meeting member needs is an important role and should continue to be financed from membership fees. Secondly, the oversight role of ensuring professional quality care in practice and protection of the public should be separately financed, and defined resources made available for this purpose. Professionals who generate costs through oversight investigations should also cover the costs where appropriate.

Forum of Statutory Councils

A Forum of Statutory Councils will be established in order to enable collaboration in areas of common interest which requires resources and cooperation. For example, information technology capacity for reporting on health professional numbers, defining and setting standards for staffing and infrastructure on the academic service platform, professional oversight of the re-engineered PHC health system etc.. Cooperation would enhance oversight rather only engaging with the health system in professional silos.

NDoH interaction with the Statutory Councils

The interaction and engagement between the National Department of Health and the Statutory Councils must be strengthened so that it is consistent and regular. The level of engagement will be at DDG level so that decisions can be taken at joint NDoH/ Statutory Council meetings.

Improving quality of clinical training

The academic quality of higher education qualifications is overseen by the Council for Higher Education(CHE) and the Higher Education Quality Council. HPCSA has a history and responsibility for ensuring standards of professional practice. The HPCSA has the responsibility of accrediting clinical training sites where the clinical training of health professionals takes place, namely the environment of clinical training component of academic health professional qualifications.

Both the CHE and HPCSA are therefore responsible for overseeing the quality of professional development and training. Yet there are big differences in the outcome of health professionals from different Higher Education Institutions. There is variation in the quality of the clinical training environment, despite the HPCSA accreditation. No standards or requirements are set for academic clinicians trainers. A recent review of one of the Faculties of Health Sciences noted with concern the lack of qualified senior academic clinical staff.

To improve the quality of clinical training the following activities will be undertaken:

- The criteria for HPCSA review of clinical training sites must be tightened and address the quality the training environment and academic capacity
- Where an academic site is not in compliance, a firm course of corrective action must be taken
- All health professional programmes which have a requirement for clinical training must have site accreditation for all levels of the health system.

Continuing Professional Development

Continuing Professional Development is necessary to ensure professional quality care. The system is reported to not be working effectively. Health professionals are reregistered annually without the relevant

Council checking that the required CPD courses have been undertaken. The Councils' information systems need to ensure up-to-date linked information on CPD and the professional member. Further CPD courses must be linked directly to professional development and updating of skills and knowledge relevant to the individual's professional practice. It is recommended that all Statutory Councils ensure information systems that can report on members and their CPD, and that members are not reregistered if they have not complied. An example of relevant generic CPD training is resuscitation and emergency life support. A minimum number of Ethics points are required for registration of medical professionals, yet a skill which is life saving is not taught and required across the professions. The requirements of CPD by profession and the implementation of CPD must be strengthened.

Licensing of health professional practices

Health professionals can set up a health care practice and see patients without a license. A practice number is required for medical aid purposes, but not for professional purposes. It is recommended that all health professionals must be licensed to practice, re-registration with the relevant Council being a relevant criterion. Health professionals should only be allowed to practice in the clinical area for which they are professionally qualified and no other areas of clinical practice. In addition the physical facility of the practice must be licensed for the professional and service functions to be performed. More licensing requirements exist for opening a restaurant than for opening a health care practice.

Council oversight of malpractice and confidential peer reporting

Council oversight on malpractice must ensure reported issues are speedily dealt with and responded to. The turn-around time for investigations should be publicly reported. Health care professionals have requested that a confidential reporting mechanism be set up to report on peers who are practicing in an unacceptable manner. One of the reasons health professionals tend not to report on a colleague is that no confidential channel is available, and yet they, more than the public see professional behavior that should not be allowed to continue.

National Coordinating Centre for Clinical Excellence in Health and Health Care

The development of a health system financed by National Health Insurance and setting the objective of providing universal coverage and access to care requires that a similar standard of care should be offered to all of the population. Currently national guidelines exist for priority programs such as HIV and Aids and TB for example. All the professional associations have guidelines and standards for care for their particular area of care or discipline. In an academic training setting protocols and standards will be locally set. But these approaches need to become part of national guidelines for best practice. For NHI national protocols and guidelines will be required for the NHI services and health care interventions. In many cases this will mean coordinating with existing associations and professional groups. But resources will

be required to develop guidelines, protocols, provide evidenced based recommendations, and standards for quality clinical care.

An NDoH *National Coordinating Centre for Clinical Excellence in Health and Health Care* will be established. The operations of the Centre will be located in various sites: academic sites of excellence, the MRC, and in the NDoH. However the central office would provide a coordinating function. It will bring together associations, professional groups, provincial departments of health and the academic community to define and oversee clinical quality professional health care. Associations and academic departments or disciplines would be able to access resources from the Centre in order to undertake relevant work on excellence and cost effectiveness in clinical care. A priority for the Centre in the short term would be to coordinate the development of the clinical and health care standards, guidelines and protocols for re-engineered primary health care.

The Centre will:

- Provide guidance on new and existing medicines, treatments and procedures; and treating and caring for people with specific diseases and conditions;
- Make recommendations to the NDoH, provincial departments of health, municipalities and other organisations in the public, private, voluntary and community sectors on how to improve people's health and prevent illness and disease;
- Advise on cost and effectiveness of medicines, procedures and interventions that will be offered in an NHI healthcare environment;
- Provide evidence for health care interventions and practice;
- Develop and define the clinical standards of health care that people can expect to receive from services which are part of the NHI package of health care delivery;
- Provide guidance on standards for clinical treatment (or set of clinical procedures) and indicate if they are considered highly effective, cost effective and safe, as well as being viewed as a positive experience by patients;
- Develop quality and outcomes framework for primary care practitioners and primary health care NHI practice.

STRATEGIC PRIORITY 7: QUALITY PROFESSIONAL CARE

Strategic objective 7: ***To develop a health workforce that delivers an evidenced based quality service, with competence, care and compassion***

Objective 7.1	**Strengthen the role of the Statutory Councils and ensure the Statutory Councils are financed for their mandate and functions**
Activity 7.1.1.	Strengthen the NDoH relationship with Statutory Councils.
Activity 7.1.2.	Develop a Forum of Statutory Councils which meets annually and shares common issues and develops common capacities (for example in information technology) consistent with the provisions of the National Health Act.
Activity 7.1.3.	Review Statutory Council functions and define how to strengthen oversight of professional behavior and protection of the public.
Activity 7.1.4.	Review Statutory Council functions and activities for members and define how to strengthen their membership support function, for which members pay fees (this should include a survey of members of what they would require).
Activity 7.1.5.	Cost and ensure financing for Statutory Council mandates and functions which require additional financing and should not be paid from member fees.
Objective 7.2	**Improve oversight of clinical training for all professions**
Activity 7.2.1.	Review and refine standards for inspection for accreditation of clinical training sites for all professions.
Activity 7.2.2.	Strengthen compliance mechanism and corrective action where standards on clinical training sites are not met.
Objective 7.3	**Implement Continuing Professional Development**
Activity 7.3.1.	Develop the information technology capacity for linking members to their reported CPD and ensure up to date reporting on member's CPD status.
Activity 7.3.2.	Link professional re-registration to member CPD status (professionals should not be re-registered if their CPD status is not up to date).
Objective 7.4	**Implement licensing of professional health care practices**
Activity 7.4.1.	Develop the licensing requirements, framework and process for licensing professional health care practices.
Activity 7.4.2.	Detail the required organizational capacity and financial requirements to implement licensing of health care practices.
Activity 7.4.3.	Develop and implement a phased implementation plan to license professional health care practices.

Objective 7.5	**Ensure timely response to malpractice and a develop confidential reporting process**
Activity 7.5.1.	Ensure timely response to patients who report malpractice and timely processing of the cases.
Activity 7.5.2.	Define and implement an approach for confidential reporting on professional malpractice.
Objective 7.6	**Develop a National Coordinating Centre for Clinical Excellence in Health and Health Care**
Activity 7.6.1.	Appoint a short-term project team with a chairperson appointed by the Minister to develop the concept of a National Coordinating Centre for Clinical Excellence in Health and Health Care in order to deliver excellent professional clinical care for National Health Insurance.
Activity 7.6.2.	The project team will develop and implement a stakeholder consultation process for the development of the Coordinating Centre (stakeholders include professional associations, the private sector administrators and managed care companies, the Council for Medical Schemes, the MRC, the academic community, Faculties of Health Sciences, the Academy of Science, provincial departments of health, the Colleges of Medicine, NDoH health programme heads etc)
Activity 7.6.3.	The project team will develop the concept of the Coordinating Centre and a draft Strategic Plan.
Activity 7.6.4.	The project team will propose the location, staffing and financing sources and requirements for the Coordinating Centre.
Activity 7.6.5.	The project team, in consultation with the Minister, will appoint the CEO of the Coordinating and Centre and the staff and ensure that the Coordinating Centre is operational by the end of 2012.

STRATEGIC PRIORITY 8 : Access in Rural and Remote areas

A special strategy for HRH for rural and remote areas

Specific issues that indicate the need for a special strategy on access to health professionals in rural and remote areas are;

- There has not been a substantial change in access to health professionals in rural and remote areas in the past fifteen years, and health outcomes in rural areas have become worse;
- There is no history or culture in South Africa of incorporating rural areas into mainstream health professional training, which is essential in making these sites attractive to future professionals;
- Most health services do not consider the provision of facilities for students and there are no faculties which are yet running mainstream, longer-term rural health placements for students;
- There is little understanding on the part of administrative staff of the approaches required to recruit and retain health professionals, and even sometimes of their value to the health service, as a scarce skill;
- About 34% of deliveries in urban areas are attended by a doctor compared to 13% in non-urban areas, one of the primary reasons for high maternal mortality in rural areas.

Special financing mechanisms, staffing norms and other adjustments are required

The environment for rural health care is very different to the environment for urban health care. This impacts on strategies and interventions to improve access to HRH in rural areas. Some of the factors which need to be taken into account are:

- Access to health care is generally more difficult;
- Rural communities face additional economic cost in accessing the health care system;
- Indirect costs, including transport, are higher for the rural poor;
- The consequences for individuals of a failing in the poorly resourced health system are more costly to rectify in the rural areas than amongst the urban poor;
- How the human resources (inputs) are used to achieve desired outcomes (improved health outcomes) are different due to the different circumstances and may require higher staffing ratios with special skills;

- People living in rural areas are often poor and the health status of rural communities in South Africa is generally poorer than communities in urban areas.

Strategies to overcome these inequities in rural health care need to be customised and resourced appropriately. This may include a disproportionately high allocation of budget to attract, recruit and retain human resources in the health care sector. The development of facilities and staffing will also be more costly due to adjustments for lack of infrastructure and a general under resourced environment.

Rural Health Advocacy Project proposed critical performance indicators to impact on access to health professional in rural areas:

i. Appoint a rural HRH strategy task team (working group) under the National Health Council, to develop the details of the Rural HRH Strategy and to support the NDoH in implementing them;

ii. Adopt a national Human Resources for Rural Health strategy, as part of a broader rural health services strategy;

iii. Agree on a definition of 'rurality and remoteness' which can inform policies on OSD, rural allowances and related issues, as well as assist in 'rural proofing' other health policies;

iv. Negotiate with HEI's on curriculum and admission policies;

v. Increase the proportion of rural students in health professional courses in South Africa;

vi. Increase proportion of training of health professionals that occurs in rural areas;

vii. Increase uptake of suitably qualified foreign health workers;

viii. Provide support and incentives for professionals in rural areas.

STRATEGIC PRIORITY 8: ACCESS IN RURAL AND REMOTE AREAS

Strategic objective 8: ***To promote access to health professionals in rural and remote areas***

Objective 8.1	**Implement short-term strategies on access to professionals in rural and remote areas**
Activity 8.1.1	Appoint a Rural HRH Strategy task team under the National Health Council, to develop the details of the Rural HRH Strategy and to support the Department in implementing them.
Activity 8.1.2	Ensure that allocation of Community Service health professionals is focussed on underserved and rural areas, with limited placement in central hospitals, and that these professionals are supported and nurtured, and incentivised to stay on in rural sites.
Activity 8.1.3.	Ensure that provinces do not freeze critical health professional posts in underserved and rural areas as part of hiring moratoria resulting from overspending, through the development of norms for minimum numbers of health professionals for district facilities.
Activity 8.1.4	Revise foreign and local recruitment and retention policies and processes and ensure that appropriately skilled persons are tasked with the implementation of the policy and doing the recruitment.
Objective 8.2	**Design and Implement an educational strategy based on WHO guidelines for rural and remote areas (in consultation with Faculties of Health Sciences)**
Activity 8.21.	Consult with Faculties of Health Sciences on the development of targeted admission policies, with Faculties being required to admit a minimum number of students from rural areas, and provision of funding for rural student cohorts.
Activity 8.2.2.	Provide funding for each Faculty of Health Sciences faculty to have at least one rural campus and to locate clinical training opportunities outside of major urban centres.
Activity 8.2.3.	Regulate clinical training, at both undergraduate and postgraduate level, to ensure that rural clinical exposure is included in all training.
Activity 8.2.4.	Develop funding formulae to reward faculties that produce health professionals for public service and rural areas.
Activity 8.2.5.	Ensure that health sciences curricula address priority health needs in the country, including rural health needs.
Activity 8.2.6.	Establish a system to support continuing professional development programmes in each rural district.

Objective 8.3	**Develop regulatory strategies to improve access to health professionals in rural and remote areas and quality of care**
Activity 8.31.	Determine the optimum range of skills required for rural hospitals.
Activity 8.3.2.	Develop Mid-level Workers (MLWs) with specific scope of practice to meet these skills needs.
Activity 8.3.3.	Enhance the development and placement of Clinical Associates, including establishing posts in all district hospitals and development of training positions in rural districts.
Activity 8.3.4.	Allow for enhanced scopes of practice for health professionals in rural areas in district hospitals, ensuring flexibility in these scopes, to address the skills needed.
Activity 8.3.5.	Provide rural-bonded scholarship schemes managed at a district level in partnership with Faculties of Health Sciences and local communities, in order to encourage return of service.
Objective 8.4	**Develop financial incentives to attract health professionals to work in rural areas**
Activity 8.4.1	Develop, use and evaluate financial incentives to attract rural health care professionals, including: - revision of the OSD; - a more focused and targeted rural allowance; - sabbatical leave for rural health professionals; - opportunities for postgraduate training.
Objective 8.5	**Provide personal and professional support to health professionals working and training health professionals in rural areas**
Activity 8.51.	Provide personal and professional support to health professionals working in rural areas, specifically: outreach support from referral hospitals, improved living conditions including accommodation (where that is not easily available locally) , a safe and supportive working environment, opportunities for career development and CPD programmes.
Activity 8.5.2.	Provide training to health service managers to enable them to provide appropriate support for and discipline of health professionals in rural areas.

HRH SA

6 PROFESSIONS FORECAST MODELLING

6.1 MODELLING ASSUMPTIONS

The NDoH Workforce Model developed in 2008 was used for developing initial indicative modelled requirements for the health professions. The figures and scenarios produced are a start and further work is required in the future and has been identified for action in the Strategic Priorities in Section 5. Further work is also required on the model to make sure it is useful as a tool for planning for National Health Insurance staffing requirements. This work is underway.

Models are intended to provide a clearer picture from a wide range of interrelated and interactive data. Of necessity they use assumptions and variables to drive formulae and calculate numerical outputs. Forecast modelling does not substitute for critical analysis and detailed planning.

The accuracy and predictability of the model is dependent on the validity of the baseline data, the assumptions made and the mathematics of the model. Various scenarios were modelled and Scenario 3 which plans over a 14 year time frame was selected as an indicative departure point.

The model that has been used to generate numerical expectations for health care professionals is built on previous work done in 2008 by NDoH. The model does generate financial implications, specifically costs for training and employing professional numbers detailed in the model. The costings have not been included in the results provided in this HRH Strategy as they require further work.

6.1.1 Baselines used for modelling

Baseline data used is detailed below. Baseline data will need verification with professional groups for future modelling. The baseline on the professions was calculated by taking the public sector numbers of health professionals and adding 17% for the private sector to produce a ratio for the whole population. Further work is required on the model to visibly separate public and private sector data and integrated projections. This work is underway and will be incorporated in the unabridged HRH SA Strategy finalised in October.

Modelling assumptions re:

- **Population** data is adjusted mid-year estimates, and the last census was 5 years ago
- The source of data on existing **professionals** varies in accuracy and a best estimate was used, based on various data sources.
- **Retention, retirement, death, etc** figures are averages based on research

6.1.2 Benchmarking

For setting targets for the professions a range of benchmarks can be used:

- International Benchmarks
- Official and unofficial service planning benchmarks
- Professionals associations – for example mental health

Ideally the targets should be set from a South African model that determines HRH requirements based on well researched and assessed service staffing needs for a National Health Insurance service delivery model. This type of refined SA model to guide HRH requirements does not exist as yet. As a proxy guide various local norms were used. Service Transformation Plans (STP) norms were reviewed as one source based on the Integrated Health Planning Framework, [39] Work done by a MRC/W Cape/NDoH team was reviewed and is described in the table below as the SA S*ervice Model ratio.* [40]. In this latter model, staffing requirements are indicated for both PHC as well as acute hospital services. The staffing requirements for the SA *Service Model* are below the SA current staffing ratios, and the IHPF which is only for public sector staffing norms. A summary of staffing benchmarks for some of the categories of health professionals is given in the table below, for the six peer countries, STPs and the 'SA Service Model'. The current figures for South Africa are also shown.

Finally, these requirements are placed within the context of the budget constraint, which may mean that some key health personnel categories are prioritised, in order to deliver the maximum impact on health outcomes possible. For the development of Scenario 3, international and all SA benchmark data was taken into account, but no one benchmark was used for all HRH categories. Target decisions were made for each profession based on a variety of data sources. These target decisions need to be refined in consultation with provincial departments of health, academics, the professions and care groups and

[39] Sourced from the IHPF v108.
[40] *SA Service Model* developed by C Hongoro, W Van Rooyen & Moremi Nkosi

associations. The targets and output numbers will change as data is refined and the NDoH Workforce Model developed. However, the broad direction will be consistent.

Table 18: Summary of staffing benchmarks, ratios per 10,000 population

Staff category	Brazil	Chile	Costa Rica	Colombia	Thailand	Argentina	STPs*/ IHPF	Service Model	SA current
Medical practitioners		5.91	8.59	11.74	2.43		3.21	2.60	3.63
Medical specialists		4.90[41]	4.65[42]	2.57	2.93[43]		0.52	2.53	1.96
Physicians	17.31	10.81	13.24	14.30	5.36	31.96		5.13	
Medical assistants			2.53		0.43		0.7		
Professional nurse							13.93	10.49	18.61
Staff nurse							5.63	5.44	6.28
Nursing assistant							9.62	9.01	11.21
Nursing personnel	65.42	6.27	9.24	5.83	27.16	3.77			36.10
Midwifery personnel	0.17	4.18	0.06		0.25	1.10			
Personal care			12.90		5.80				
Dentists	11.56	4.23	3.73	8.26	1.17	9.28	0.26		1.07
Dental tech/ assts	2.13	3.21	1.11		0.56				
Dental specialist							0.05		
Pharmacists	5.48	1.62	2.91		2.10	5.08	1.52	0.78	2.29
Pharmaceutical technicians/ assts	0.33	2.10	2.43		0.82			0.98	
Other health workers	1.98	29.44	16.24		1.84	20.73			
Environment and public health workers	9.59	0.26	3.22		0.35				0.63
Laboratory scientists	0.80					5.12			
Laboratory tech assts	4.35								
Health management & support workers	48.19		46.82		18.83				
Allied health prof & technical staff							4.54		
Managers, admin, logistics							29.48		

**Public sector only*

Sources: World Health Organisation and other sources, Northern Cape STP IHPF V108, Hongoro et.al, Econex calculations

[41] http://www.ncbi.nlm.nih.gov/pubmed/17130996
[42] http://www.nacion.com/2010-11-15/ElPais/NotasSecundarias/ElPais2577856.aspx
[43] http://www.thaivisa.com/forum/topic/416153-severe-shortage-of-medical-specialists-in-thailand/

6.1.3 Targets

The important consideration is that the target number, skills set mix and range of competencies must be based on service demands and epidemiological priorities and not on other countries exclusively.

The targets chosen from modelling against these priorities and the economic and other environmental realities discussed in this document all present significant challenges. The interventions need deliberate sequencing across and within professional categories. The lead times for some interventions are long and they need immediate intervention to produce desired outcomes in the long term. Others have the potential to be implemented immediately but may have political (labour, professional or macro-political) constraints, etc.

It is critical that long-term output/impact decisions are not forgotten after implementation and that the capacity to absorb the professionals in training product is properly planned to coincide with the end of the training process. For instance increase in production of specialist paediatricians, or clinical associates will take several years to yield graduates and it is necessary in the intervening period to create posts, create career paths and to fund the vacancies into which to employ them.

6.1.4 Realistic scenarios

It is proposed that the SA HRH design to improve health outcomes will have seven key foundations:

- CHW at community level;
- Enhanced nurse capacity;
- Planning of mid-level workers;
- Expansion of general health professionals;
- Expansion selected specialist health professionals;
- Planning of public health specialists;
- Development of academic clinicians.

Based on this expected high-level policy, and a mass of variables, a set of prioritised realistic scenarios are presented. They contain timelines for action, short, medium and long term outcome and impact expectations and sequencing proposals to address financial constraints. It must be noted that only Scenario 3 is presented in this HRH Strategy document for further consultation. The NDoH Workforce Planning Model with the other scenarios is available for review.

The model provides projections for over 100 registered health professions and is designed to be interactive, with the option to adjust baseline data and several assumptions for each profession. What is presented in this document is a suggested preferred scenario based on the following assumptions.

6.2 MODEL OUTPUTS

The scenario assumptions show that at a constant GDP growth rate, with concerted investment for the next five years (3% to 5% annual growth rate in personnel spending), it is possible to close the gap in the realistic numbers in a fifteen- to twenty-five year time frame. Operational implications of the targets need to be examined and evaluated.

6.2.1 Model refinements

Because the models are large and are fed by a large data set it has not been possible to examine every possible detail in the HRH arena. The start has been at a single consolidated macro (national) level. However there is room to improve the model to split the results into levels of care, professional group, and to look separately at regions of the country or provinces. In particular adjustments need to be made for staffing ratios for rural areas The new categories proposed so far as part of the HRH Strategy have been incorporated (CHWs, new Staff Nurse, Clinical Associate) and old categories phased out e.g. enrolled nurse. These details can be built into subsequent versions of the model and used to refine decisions in the future. Non-clinical professionals essential to the health sector, such as health economists, medical physicists, clinical engineers, clinical data analysts – have not yet been able to be incorporated into the NDoH Workforce model, but will be in the future.

6.2.2 Routine data from source

The modelling tool is intended to have skilled personnel trained to improve data sets, to examine the outputs very cautiously and to follow up on implementation with monitoring and evaluation of impact. On line data on professional in the public and private sector is necessary for future use of the NDOH Health Workforce model. Developing a reliable data base on the health workforce for the public and private sectors is short term urgent priority. The modelling scenarios proposed are only as good as the data on which they are based.

6.3 RECOMMENDATIONS

The targets that have been estimated are based on a range of peer countries, South Africa ratios, and on a set of identified priority professionals for fast-tracking.

The costs of the proposed model have been estimated and a scenario set in the model that appears to be reasonably economically viable.

It is recommended that:

i. Stakeholders engage with the methodology, assumptions and targets within the context and challenges and issues outlined (NDoH to facilitate consultation with stakeholder groups);
ii. Once the assumptions are agreed in principle the modelling can be adjusted to establish the impact on numbers and cost;
iii. The targets generated by the STP's should be interpreted with caution and used mainly to provide another, 'distributive', target between provinces, which each have different service environments;
iv. Staffing norms should be used with caution as they undermine productivity, new decisions and staffing options as well as local variability;
v. Vacancies in the public sector should be ignored for targeting and planning purposes and only used to establish whether the posts exists on the personnel administration system (a requirement for filling a post);
vi. Improving existing establishment at all levels of the system is a separate management exercise which should be correlated with the short, medium long-term strategic plan.

The numbers are indicative of the size of the challenge but are only a part of the challenge. The rest of the challenge is implementing the myriad of challenges, most importantly changes in roles, categories and scopes of practice, to achieve the staffing levels calculated to be feasible.

The following tables summarise the results of Scenario 3 developed to date on the NDoH Health Workforce Model.

Figure 14: Scenario 3 resultant narrowing of identified 'gap'

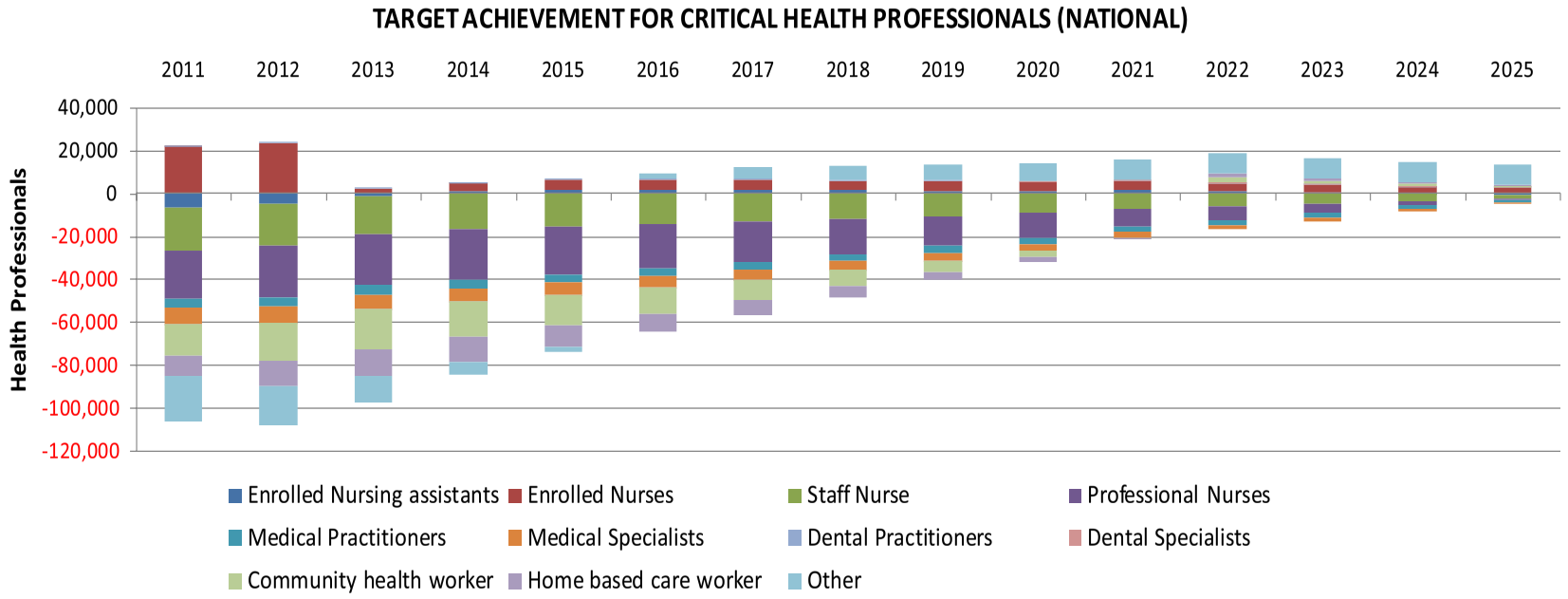


Table 19: Scenario 3 Summary of gap for all health professionals, 2011-2025

	GAP IN CRITICAL HEALTH PROFESSIONALS					
StaffName	base year	2011	2012	2015	2020	2025
Audiologists	-142	-21	89	221	79	112
Biokineticists	-33	-41	-48	-26	7	4
Environmental assistants	-88	-108	-127	-52	56	58
Environmental health practitioners	-900	137	1,076	1,299	219	720
EMS practitioners	-3,753	-4,914	-5,986	-3,650	583	254
Nutritionists/Dieticians	-181	-33	101	268	98	139
Occupational Therapists	-297	-95	89	349	127	179
Optometrists	-142	8	142	280	76	114
Medical Orthotist/Prosthetist	-47	-36	-25	12	13	16
Pharmacists	-778	-557	-360	254	307	378
Physiotherapists	-345	-58	201	515	160	231
Podiatrists	-7	8	21	5	23	23
Psychologists	-71	239	519	99	631	625
Clinical Psychologists	-21	-39	-55	6	-27	-29
Radiographers	-270	-137	-19	135	329	326
Social Workers	-1,777	-407	832	2,426	801	1,145
Speech Therapists	-23	-40	-54	12	-2	-0
Dental assistants	-59	76	199	-67	55	104
Oral Hygienists	-23	5	30	9	44	52
Dental practitioners	0	168	320	480	603	519
Dental Technicians	0	3	5	17	73	103
Dental therapists	0	8	15	24	45	52
Medical practitioners	-4,145	-4,294	-4,447	-3,800	-2,109	-525
Enrolled Nursing assistants	-8,381	-6,434	-4,707	1,993	1,304	-723
Enrolled Nurses	21,010	22,471	23,792	4,470	4,061	3,046
Professional Nurses	-14,932	-16,675	-18,319	-17,131	-8,752	-913
Professional Nurses: PHC	-4,146	-4,270	-4,392	-4,128	-2,404	-16
Professional Nurses: Adv. midwife	-1,658	-1,407	-1,183	-863	-371	32
Staff Nurse	-20,138	-19,805	-19,522	-15,380	-8,990	-1,357
Medical Physicist	-9	-18	-25	-27	1	-5
Anaesthesiology	-1,312	-1,299	-1,289	-1,006	-578	-99
Cardiology	-68	-69	-70	-57	-36	-7
Community Health	-122	-108	-95	-52	-20	-3
Critical Care	-154	-158	-163	-137	-83	-15
Dermatology	-139	-136	-133	-100	-57	-10
Endocrinology	-31	-33	-36	-33	-21	-3
Gastroenterology	-21	-22	-23	-20	-12	-3
Genetics: Human	-10	-9	-8	-6	-4	-0
Genetics: Medical	-17	-18	-19	-16	-10	-1
Haematology: Clinical	-17	-13	-9	-1	1	-1
Medicine	-488	-405	-331	-121	0	4
Medicine: Emergency	-87	-80	-74	-49	-25	-3
Medicine: Family	-888	-853	-822	-593	-314	-52
Medicine: Geriatric	-87	-88	-90	-74	-44	-8
Neonatology	-4	-5	-7	-8	-5	-2
Nephrology	-3	-6	-8	-11	-9	-2
Neurology	-16	-13	-10	-3	4	1
Nuclear Medicine	-8	-3	3	14	13	3
Obstetrics and Gynaecology	-409	-416	-424	-350	-199	-33
Occupational Health	-107	-82	-59	-3	21	5
Oncology: Medical	-33	-36	-39	-36	-20	-3
Oncology: Radiation	-33	-27	-22	-7	2	1
Ophthalmology	-86	-83	-82	-61	-29	-5
Orthopaedics	-525	-528	-533	-432	-261	-54
Otorhinolaryngology	-453	-456	-459	-372	-229	-47
Paediatrics	-234	-284	-331	-351	-225	-48

Paediatrics: Cardiology	-5	-7	-8	-9	-6	-0
Paediatrics: Developmental	-5	-1	3	8	8	1
Paediatrics: Neurology	-5	-6	-7	-7	-4	-1
Paediatrics: Surgery	-2	-1	-1	1	3	2
Pathology: Anatomical	-98	-96	-93	-69	-35	-6
Pathology: Chemical	-50	-48	-47	-34	-18	-2
Pathology: Clinical	-13	-13	-13	-10	-5	-2
Pathology: Forensic	-136	-147	-158	-144	-88	-15
Pathology: Haematology	-64	-62	-60	-44	-22	-4
Pathology: Microbiology	-64	-59	-54	-35	-15	-3
Pathology: Virological	-19	-18	-16	-11	-6	-2
Psychiatry	-168	-164	-162	-122	-58	-8
Psychiatry: Child	-10	-8	-6	-3	0	1
Pulmonology	-10	-6	-2	6	9	3
Radiology: Diagnostic	-502	-496	-490	-377	-214	-38
Rheumatology	-1	-0	0	2	2	1
Surgery	-718	-730	-743	-615	-372	-77
Surgery: Cardiothoracic	-31	-36	-41	-42	-25	-6
Surgery: Neurosurgery	-209	-212	-215	-177	-109	-23
Surgery: Plastic	-93	-94	-94	-76	-47	-10
Surgery: Vascular	-6	-5	-5	-2	-0	-1
Urology	-28	-31	-33	-31	-17	-4
Surgery: Maxillo Facial	-10	-11	-12	-11	-2	2
Orthodontics	-3	-3	-2	-0	2	3
Oral Pathology	-3	-4	-5	-5	-0	3
Periodontics	-3	-3	-3	-2	1	3
Prosthodontics	-3	-3	-3	-2	1	3
Clinical associates	-188	-184	-181	-45	55	61
Medical technicians	-236	-245	-254	-90	54	57
Medical technologists	-4,738	-3,984	-3,306	83	1,026	1,274
Optical dispensers	-131	-97	-65	30	28	37
Orthopaedic footwear technicians	-46	-26	-7	22	5	12
Medical Orthotist assistant	-131	-121	-111	-20	36	41
Occupational Therapy assistants	-140	-130	-122	-23	37	44
Pharmacy assistants	-1,254	-1,365	-1,468	-552	429	443
Physiotherapy assistants	-117	-105	-94	-12	30	35
Psychology assistant	-131	-121	-111	-20	36	41
Radiography assistants	-206	-203	-200	-53	60	67
Speech Therapy assistants	-118	-106	-96	-12	30	36
Pharmacy assistants: post basic	-7,503	-8,288	-9,017	-3,513	2,609	2,666
Community health worker	-11,689	-14,651	-17,392	-14,279	-3,006	152
Home based care worker	-7,360	-9,655	-11,772	-9,874	-2,079	197
TOTAL	**-82,962**	**-83,043**	**-83,439**	**-66,305**	**-16,764**	**9,256**

Enrolled Nursing assistants	-8,381	-6,434	-4,707	1,993	1,304	-723
Enrolled Nurses	21,010	22,471	23,792	4,470	4,061	3,046
Staff Nurse	-20,138	-19,805	-19,522	-15,380	-8,990	-1,357
Professional Nurses	-20,736	-22,352	-23,894	-22,121	-11,527	-898
Medical Practitioners	-4,145	-4,294	-4,447	-3,800	-2,109	-525
Medical Specialists	-7,590	-7,471	-7,379	-5,677	-3,158	-583
Dental Practitioners	0	168	320	480	603	519
Dental Specialists	-22	-24	-26	-21	2	13
Community health worker	-11,689	-14,651	-17,392	-14,279	-3,006	152
Home based care worker	-7,360	-9,655	-11,772	-9,874	-2,079	197
Other	-23,911	-20,995	-18,413	-2,096	8,135	9,414
Total	**-82,962**	**-83,043**	**-83,439**	**-66,305**	**-16,764**	**9,256**
% of total	***n/a***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

Table 20: Summary Plans for Major Categories

Staff category:	**Medical practitioners**

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	13,817	13,829	13,840	14,156	14,502	19,894
Professionals: end of year	13,829	13,840	14,156	14,502	14,855	21,508
annual growth: start of year	n/a	n/a	***0.1%***	***2.3%***	***2.4%***	***4.9%***
Gap in relation to the target	-4,145	-4,294	**-4,447**	**-4,295**	**-4,115**	**-1,213**
Positions at start of year: target	17,962	18,124	18,287	18,451	18,617	21,107
Pop per professional: actual (per 10,000)	2.82	2.82	2.93	2.97	3.01	3.74
Pop per professional: target (per 10,000)	3.66	3.66	3.66	3.66	3.66	3.66
Intake from training	1,394	1,394	1,394	1,419	1,445	1,843
Intake - other (full period)	0	0	8,289			
TOTAL ENTRANTS	1,394	1,394	**1,701**	**1,761**	**1,803**	**3,603**
Exit - other (require plan)	553	553	554	566	580	796
Exit - Retire at 65 (expected)	553	553	554	566	580	796
Exit - death/invalidity/etc (expected)	276	277	277	283	290	398
TOTAL EXITS	1,382	1,383	**1,385**	**1,415**	**1,450**	**1,990**
TOTAL ENTRANTS LESS EXITS	12	11	***316***	***346***	***353***	***1,613***
New student intake	1,394	1,394	1,557	1,594	1,630	2,199
Continuing students	6,970	6,970	6,956	7,079	7,211	9,193
Total enrolment at start of year	8,364	8,364	8,513	8,672	8,841	11,392
Required annual increase in enrolments	n/a	n/a	11.7%	2.3%	2.3%	4.6%
Graduates	1,394	1,394	1,419	1,445	1,474	1,899
Pre-service training loss	14	14	16	16	16	22
Continuing students	6,956	6,956	7,079	7,211	7,351	9,471
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

Staff category:	Medical Specialists

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	6,361	6,597	6,809	7,537	8,237	15,818
Professionals: end of year	6,597	6,809	7,537	8,237	8,896	17,069
annual growth: start of year	n/a	n/a	***3.2%***	***10.7%***	***9.3%***	***6.1%***
Gap in relation to the target	-7,599	-7,489	**-7,404**	**-6,804**	**-6,233**	**-588**
Positions at start of year: target	13,961	14,086	14,213	14,341	14,470	16,405
Pop per professional: actual (per 10,000)	1.30	1.30	1.44	1.58	1.71	2.98
Pop per professional: target (per 10,000)	2.85	2.85	2.85	2.85	2.85	2.85
Intake from training	872	872	872	881	912	1,642
Intake - other (full period)	0	0	9,202			
TOTAL ENTRANTS	872	872	**1,408**	**1,453**	**1,482**	**2,838**
Exit - other (require plan)	254	264	272	301	329	633
Exit - Retire at 65 (expected)	257	267	273	302	331	636
Exit - death/invalidity/etc (expected)	124	129	135	149	163	318
TOTAL EXITS	635	660	**680**	**752**	**823**	**1,587**
TOTAL ENTRANTS LESS EXITS	236	212	***727***	***701***	***659***	***1,251***
New student intake	872	872	954	1,048	1,133	2,063
Continuing students	2,776	2,776	2,759	2,813	2,928	5,387
Total enrolment at start of year	3,648	3,648	3,713	3,861	4,061	7,449
Required annual increase in enrolments	n/a	n/a	9.5%	9.8%	8.1%	5.7%
Graduates	872	872	881	912	956	1,729
Pre-service training loss	17	17	19	21	23	41
Continuing students	2,759	2,759	2,813	2,928	3,083	5,679
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

Staff category:	Dental practitioners

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	981	1,158	1,319	1,297	1,418	1,672
Professionals: end of year	1,158	1,319	1,297	1,418	1,506	1,669
annual growth: start of year	n/a	n/a	***13.9%***	***-1.6%***	***9.3%***	***-0.3%***
Gap in relation to the target	0	168	**320**	**289**	**401**	**519**
Positions at start of year: target	981	990	999	1,008	1,017	1,153
Pop per professional: actual (per 10,000)	0.20	0.20	0.28	0.27	0.29	0.31
Pop per professional: target (per 10,000)	0.20	0.20	0.20	0.20	0.20	0.20
Intake from training	265	265	265	238	216	147
Intake - other (full period)	0	0	-168			
TOTAL ENTRANTS	265	265	**97**	**238**	**216**	**147**
Exit - other (require plan)	39	46	53	52	57	67
Exit - Retire at 65 (expected)	29	35	40	39	43	50
Exit - death/invalidity/etc (expected)	20	23	26	26	28	33
TOTAL EXITS	88	104	**119**	**117**	**128**	**150**
TOTAL ENTRANTS LESS EXITS	177	161	***-22***	***121***	***88***	***-3***
New student intake	265	265	130	131	132	150
Continuing students	1,061	1,061	1,058	949	863	585
Total enrolment at start of year	1,326	1,326	1,188	1,080	995	735
Required annual increase in enrolments	n/a	n/a	-51.1%	0.9%	0.9%	1.8%
Graduates	265	265	238	216	199	147
Pre-service training loss	3	3	1	1	1	1
Continuing students	1,058	1,058	949	863	795	586
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

Staff category:	Dental specialists

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	160	160	159	162	165	227
Professionals: end of year	160	159	162	165	170	233
annual growth: start of year	n/a	n/a	***-0.1%***	***1.4%***	***2.3%***	***2.3%***
Gap in relation to the target	-22	-24	**-26**	**-26**	**-24**	**13**
Positions at start of year: target	182	184	186	187	189	214
Pop per professional: actual (per 10,000)	0.03	0.03	0.03	0.03	0.03	0.04
Pop per professional: target (per 10,000)	0.04	0.04	0.04	0.04	0.04	0.04
Intake from training	16	16	16	17	18	26
Intake - other (full period)	0	0	23			
TOTAL ENTRANTS	16	16	**19**	**20**	**21**	**26**
Exit - other (require plan)	6	6	6	6	7	9
Exit - Retire at 65 (expected)	5	5	5	5	5	6
Exit - death/invalidity/etc (expected)	5	5	5	5	5	5
TOTAL EXITS	16	16	**16**	**16**	**17**	**20**
TOTAL ENTRANTS LESS EXITS	-0	-0	***2***	***4***	***5***	***5***
New student intake	16	16	21	21	22	28
Continuing students	51	51	51	54	57	82
Total enrolment at start of year	67	67	72	76	79	110
Required annual increase in enrolments	n/a	n/a	28.4%	0.9%	0.9%	1.8%
Graduates	16	16	17	18	19	26
Pre-service training loss	0	0	0	0	0	0
Continuing students	51	51	54	57	60	83
Population (000)	49,029	49,470	49,916	50,365	50,818	57,615

Staff category:	Dental other

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	1,795	1,985	2,160	2,279	2,218	2,516
Professionals: end of year	1,985	2,160	2,279	2,218	1,945	2,564
annual growth: start of year	n/a	n/a	***8.8%***	***5.5%***	***-2.7%***	***1.9%***
Gap in relation to the target	-82	92	**249**	**351**	**273**	**310**
Positions at start of year: target	1,877	1,894	1,911	1,928	1,945	2,206
Pop per professional: actual (per 10,000)	0.37	0.37	0.46	0.48	0.46	0.47
Pop per professional: target (per 10,000)	0.38	0.38	0.38	0.38	0.38	0.38
Intake from training	353	353	353	259	262	274
Intake - other (full period)	0	0	-488			
TOTAL ENTRANTS	353	353	**315**	**144**	**-74**	**274**
Exit - other (require plan)	72	79	86	91	89	101
Exit - Retire at 65 (expected)	54	60	65	68	66	75
Exit - death/invalidity/etc (expected)	36	39	44	46	44	50
TOTAL EXITS	162	178	**195**	**205**	**199**	**226**
TOTAL ENTRANTS LESS EXITS	191	174	***119***	***-61***	***-273***	***48***
New student intake	353	353	268	272	269	287
Continuing students	337	337	336	344	353	414
Total enrolment at start of year	690	690	604	616	622	701
Required annual increase in enrolments	n/a	n/a	3.9%	0.9%	0.9%	1.8%
Graduates	353	353	259	262	259	278
Pre-service training loss	4	4	3	3	3	3
Continuing students	336	336	344	353	361	421
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

Staff category:	Nurses

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	139,808	144,709	149,167	136,308	143,063	203,700
Professionals: end of year	144,709	149,167	136,308	143,063	148,360	211,196
annual growth: start of year	n/a	n/a	***3.1%***	***-8.6%***	***5.0%***	***3.0%***
Gap in relation to the target	-33,462	-30,120	**-27,236**	**-41,682**	**-36,529**	**89**
Positions at start of year: target	173,270	174,829	176,403	177,990	179,592	203,612
Pop per professional: actual (per 10,000)	28.52	28.52	31.53	28.56	29.71	38.33
Pop per professional: target (per 10,000)	35.34	35.34	35.34	35.34	35.34	35.34
Intake from training	17,482	17,482	17,482	12,989	13,430	20,174
Intake - other (full period)	0	0	43,943			
TOTAL ENTRANTS	17,482	17,482	**567**	**19,024**	**18,173**	**25,828**
Exit - other (require plan)	5,592	5,788	5,967	5,452	5,723	8,148
Exit - Retire at 65 (expected)	4,194	4,341	4,477	4,091	4,293	6,111
Exit - death/invalidity/etc (expected)	2,794	2,894	2,982	2,726	2,861	4,073
TOTAL EXITS	12,580	13,023	**13,426**	**12,269**	**12,877**	**18,332**
TOTAL ENTRANTS LESS EXITS	4,901	4,458	***-12,859***	***6,755***	***5,297***	***7,496***
New student intake	17,482	17,482	15,504	16,370	16,865	24,424
Continuing students	18,447	18,447	17,542	19,201	21,240	41,833
Total enrolment at start of year	35,928	35,928	33,046	35,571	38,105	66,257
Required annual increase in enrolments	n/a	n/a	70.4%	1.3%	2.5%	1.8%
Graduates	17,482	17,482	12,989	13,430	13,951	20,932
Pre-service training loss	1,399	1,399	1,240	1,310	1,349	1,954
Continuing students	17,542	17,542	19,201	21,240	23,227	43,843
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

Staff category:	Allied

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	35,753	38,939	41,833	45,687	47,960	56,741
Professionals: end of year	38,939	41,833	45,687	47,960	48,829	57,581
annual growth: start of year	n/a	n/a	***7.4%***	***9.2%***	***5.0%***	***1.5%***
Gap in relation to the target	-8,878	-6,093	**-3,604**	**-160**	**1,701**	**4,295**
Positions at start of year: target	44,631	45,032	45,438	45,847	46,259	52,446
Pop per professional: actual (per 10,000)	7.29	7.29	8.84	9.57	9.96	10.68
Pop per professional: target (per 10,000)	9.10	9.10	9.10	9.10	9.10	9.10
Intake from training	6,401	6,401	6,401	5,584	5,628	5,944
Intake - other (full period)	0	0	-782			
TOTAL ENTRANTS	6,401	6,401	**7,615**	**6,383**	**5,184**	**5,944**
Exit - other (require plan)	1,430	1,558	1,673	1,827	1,918	2,270
Exit - Retire at 65 (expected)	1,071	1,170	1,254	1,369	1,437	1,701
Exit - death/invalidity/etc (expected)	713	779	834	913	959	1,134
TOTAL EXITS	3,214	3,507	**3,761**	**4,109**	**4,314**	**5,105**
TOTAL ENTRANTS LESS EXITS	3,186	2,894	***3,854***	***2,273***	***869***	***839***
New student intake	6,401	6,401	5,525	5,920	6,154	6,818
Continuing students	15,043	15,043	14,552	14,022	13,813	14,592
Total enrolment at start of year	21,443	21,443	20,076	19,942	19,967	21,410
Required annual increase in enrolments	n/a	n/a	9.3%	2.7%	2.6%	1.8%
Graduates	6,401	6,401	5,584	5,628	5,642	6,030
Pre-service training loss	640	640	552	592	615	682
Continuing students	14,552	14,552	14,022	13,813	13,800	14,781
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

Staff category:	Clinical support

Year	Default	2011	2012	2013	2014	2025
Professionals: start of year	78,437	74,157	70,265	72,147	80,449	137,278
Professionals: end of year	74,157	70,265	72,147	80,449	89,220	138,631
annual growth: start of year	n/a	n/a	***-5.2%***	***2.7%***	***11.5%***	***0.9%***
Gap in relation to the target	-33,991	-39,282	**-44,196**	**-43,343**	**-36,081**	**5,163**
Positions at start of year: target	112,428	113,439	114,460	115,491	116,530	132,115
Pop per professional: actual (per 10,000)	16.00	16.00	14.85	15.12	16.71	25.83
Pop per professional: target (per 10,000)	22.93	22.93	22.93	22.93	22.93	22.93
Intake from training	2,782	2,782	2,782	7,797	8,071	13,703
Intake - other (full period)	0	0	58,932			
TOTAL ENTRANTS	2,782	2,782	**8,208**	**14,795**	**16,013**	**13,703**
Exit - other (require plan)	3,137	2,966	2,811	2,886	3,218	5,491
Exit - Retire at 65 (expected)	2,354	2,225	2,109	2,164	2,414	4,116
Exit - death/invalidity/etc (expected)	1,570	1,483	1,405	1,444	1,610	2,743
TOTAL EXITS	7,061	6,674	**6,325**	**6,494**	**7,242**	**12,350**
TOTAL ENTRANTS LESS EXITS	-4,280	-3,893	***1,883***	***8,301***	***8,771***	***1,353***
New student intake	2,782	2,782	5,281	5,661	6,261	9,415
Continuing students	2,313	2,313	2,834	3,089	3,390	5,367
Total enrolment at start of year	5,095	5,095	8,116	8,750	9,651	14,782
Required annual increase in enrolments	n/a	n/a	48.6%	0.1%	1.2%	1.8%
Graduates	2,782	2,782	7,797	8,071	8,796	13,947
Pre-service training loss	139	139	264	283	313	471
Continuing students	2,834	2,834	3,089	3,390	3,736	5,457
Population (000)	**49,029**	**49,470**	**49,916**	**50,365**	**50,818**	**57,615**

ANNEXURE A:

Data on HRH

List of Tables

Table 1: Summary of 27 clinical professions in SA, total (public & private) and ratio per 10,000 population, by province, 2010

	Eastern Cape		Free State		Gauteng		KwaZulu-Natal		Limpopo	
	Total	Total per 10 000 population	Total	Total per 10 000 population	Total	Total per 10 000 population	Total	Total per 10 000 population	Total	Total per 10 000 population
Medical Practitioners	1846	2.53	904	3.04	5147	5.23	4076	4.05	1170	2.06
Medical specialists	533	0.73	612	2.06	3781	3.85	1456	1.45	182	0.32
Pharmacologists, pathologists and related professionals*	3	0.00	3	0.01	2	0.00	0	0.00	1	0.00
Nursing Assistants	7522	10.30	2937	9.88	12730	12.94	9538	9.47	7698	13.52
Professional Nurses	13069	17.89	4578	15.40	20504	20.85	21274	21.11	10353	18.18
Staff nurses and pupil nurses	3142	4.30	683	2.30	7645	7.77	11198	11.11	3535	6.21
Dental practitioners	337	0.46	210	0.70	2075	2.11	702	0.70	228	0.40
Dental specialists*	0	0.00	0	0.00	58	0.06	7	0.01	1	0.00
Dental technicians*	0	0.00	0	0.00	21	0.02	0	0.00	0	0.00
Dental therapists	59	0.08	17	0.06	163	0.17	181	0.18	92	0.16
Emergency medical services*	2004	2.74	1220	4.10	1117	1.14	2771	2.75	1957	3.44
Pharmaceutical assistants*	27	0.04	2	0.01	5	0.01	699	0.69	186	0.33
Pharmacists	1054	1.44	535	1.80	3660	3.72	1913	1.90	624	1.10
Radiographers	785	1.07	531	1.79	2360	2.40	1429	1.42	244	0.43
Supplementary diagnostic radiographers*	49	0.07	29	0.10	13	0.01	14	0.01	33	0.06
Community development workers*	4	0.01	29	0.10	26	0.03	1	0.00	18	0.03
Dieticians and nutritionists*	81	0.11	58	0.20	164	0.17	107	0.11	136	0.24
Environmental health practitioners	327	0.45	186	0.63	698	0.71	662	0.66	337	0.59
Health science professionals*	881	1.21	1994	6.71	1189	1.21	876	0.87	218	0.38
Medical researchers and related professionals*	0	0.00	7	0.02	16	0.02	11	0.01	3	0.01
Medical technicians/ technologists*	21	0.03	29	0.10	92	0.09	69	0.07	8	0.01
Occupational therapists	209	0.29	288	0.97	1227	1.25	458	0.45	211	0.37
Optometrists and opticians*	2	0.00	5	0.02	19	0.02	19	0.02	74	0.13

Oral hygienists*	22	0.03	5	0.02	38	0.04	27	0.03	52	0.09
Physiotherapists	330	0.45	327	1.10	1969	2.00	940	0.93	236	0.41
Psychologists and vocational councillors	411	0.56	262	0.88	3240	3.29	757	0.75	154	0.27
Speech therapy and audiology*	33	0.05	15	0.05	112	0.11	88	0.09	49	0.09
TOTAL	**32751**	**44.83**	**15467**	**52.01**	**68069**	**69.21**	**59274**	**58.83**	**27801**	**48.83**

**Public sector data only*

Table 1 (continued)

	Mpumalanga		North-West		Northern Cape		Western Cape		South Africa	
	Total	Total per 10 000 population	Total	Total per 10 000 population	Total	Total per 10 000 population	Total	Total per 10 000 population	Total	Total per 10 000 population
Medical Practitioners	972	2.77	906	2.32	387	4.13	2739	5.67	**18147**	**3.70**
Medical specialists	167	0.48	217	0.56	61	0.65	2626	5.44	**9637**	**1.96**
Pharmacologists, pathologists and related professionals*	37	0.11	0	0.00	0	0.00	1	0.00	**47**	**0.01**
Nursing Assistants	3203	9.14	4305	11.04	1336	14.29	6769	14.01	**56039**	**11.42**
Professional Nurses	5856	16.70	4179	10.71	1700	18.18	9323	19.30	**93049**	**18.97**
Staff nurses and pupil nurses	1641	4.68	746	1.91	213	2.27	2593	5.37	**31395**	**6.40**
Dental practitioners	416	1.19	130	0.33	90	0.96	1157	2.40	**5345**	**1.09**
Dental specialists*	31	0.09	0	0.00	0	0.00	30	0.06	**127**	**0.03**
Dental technicians*	0	0.00	0	0.00	0	0.00	12	0.02	**33**	**0.01**
Dental therapists	82	0.23	33	0.08	17	0.18	6	0.01	**648**	**0.13**
Emergency medical services*	787	2.24	838	2.15	568	6.07	1527	3.16	**12789**	**2.61**
Pharmaceutical assistants*	4	0.01	109	0.28	26	0.28	1	0.00	**1059**	**0.22**
Pharmacists	723	2.06	564	1.44	226	2.42	2126	4.40	**11425**	**2.33**
Radiographers	400	1.14	173	0.44	141	1.51	1437	2.98	**7500**	**1.53**
Supplementary diagnostic radiographers*	11	0.03	19	0.05	3	0.03	0	0.00	**170**	**0.03**
Community development workers*	13	0.04	7	0.02	2	0.02	1	0.00	**101**	**0.02**
Dieticians and nutritionists*	65	0.19	41	0.11	30	0.32	81	0.17	**763**	**0.16**
Environmental health practitioners	365	1.04	90	0.23	88	0.94	419	0.87	**3172**	**0.65**
Health science professionals*	153	0.44	118	0.30	19	0.20	882	1.83	**6330**	**1.29**
Medical researchers and related professionals*	1	0.00	1	0.00	1	0.01	35	0.07	**75**	**0.02**
Medical technicians/ technologists*	19	0.05	30	0.08	5	0.05	124	0.26	**397**	**0.08**
Occupational therapists	265	0.76	82	0.21	83	0.89	957	1.98	**3779**	**0.77**

Optometrists and opticians*	4	0.01	0	0.00	3	0.03	0	0.00	**126**	**0.03**
Oral hygienists*	14	0.04	5	0.01	4	0.04	27	0.06	**194**	**0.04**
Physiotherapists	361	1.03	119	0.30	123	1.31	1447	3.00	**5850**	**1.19**
Psychologists and vocational councillors	246	0.70	172	0.44	50	0.53	1426	2.95	**6718**	**1.37**
Speech therapy and audiology*	27	0.08	14	0.04	18	0.19	40	0.08	**396**	**0.08**
TOTAL	**15863**	**45.24**	**12896**	**33.06**	**5193**	**55.53**	**35786**	**74.08**	**273098**	**55.67**

*Public sector data only

Table 2: Public sector vacancies and cost of filling for 14 clinical professions, per province, 2010

	Average cost per worker	Eastern Cape		Free State		Gauteng		KwaZulu-Natal		Limpopo	
		Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies
Medical Practitioners	R 796,822	806	R 642,238,532	427	R 340,242,994	1118	R 890,846,996	1811	R 1,443,044,642	5053	R 4,026,341,566
Medical specialists	R 1,052,236	418	R 439,834,648	287	R 301,991,732	533	R 560,841,788	1078	R 1,134,310,408	656	R 690,266,816
Nursing Assistants	R 127,939	4585	R 586,600,315	2679	R 342,748,581	582	R 74,460,498	1875	R 239,885,625	8022	R 1,026,326,658
Professional Nurses	R 393,591	16683	R 6,566,278,653	1684	R 662,807,244	1720	R 676,976,520	4381	R 1,724,322,171	15605	R 6,141,987,555
Staff nurses and pupil nurses	R 166,925	3480	R 580,899,000	301	R 50,244,425	575	R 95,981,875	2648	R 442,017,400	6776	R 1,131,083,800
Dental practitioners	R 538,904	162	R 87,302,448	31	R 16,706,024	59	R 31,795,336	46	R 24,789,584	507	R 273,224,328
Dental specialists	R 1,052,236	27	R 28,410,372		R 0	37	R 38,932,732	2	R 2,104,472	57	R 59,977,452
Dental therapists	R 284,592	85	R 24,190,320	6	R 1,707,552	6	R 1,707,552	55	R 15,652,560	72	R 20,490,624
Pharmacists	R 411,516	373	R 153,495,468	115	R 47,324,340	263	R 108,228,708	1312	R 539,908,992	1191	R 490,115,556
Radiographers	R 126,316	293	R 37,010,588	84	R 10,610,544	145	R 18,315,820	437	R 55,200,092	378	R 47,747,448
Environmental health practitioners	R 284,592	24	R 6,830,208	23	R 6,545,616	31	R 8,822,352	93	R 26,467,056	160	R 45,534,720
Occupational therapists	R 284,592	123	R 35,004,816	41	R 11,668,272	101	R 28,743,792	184	R 52,364,928	612	R 174,170,304
Physio-therapists	R 284,592	102	R 29,028,384	63	R 17,929,296	86	R 24,474,912	325	R 92,492,400	295	R 83,954,640
Psychologists and vocational councillors	R 284,592	106	R 30,166,752	20	R 5,691,840	77	R 21,913,584	109	R 31,020,528	258	R 73,424,736
TOTAL		**27267**	**R 9,247,290,504**	**5763**	**R 1,816,218,460**	**5340**	**R 2,582,042,465**	**14359**	**R 5,823,580,858**	**39653**	**R 14,284,646,203**

Source: Econex calculations from PERSAL and National Treasury data

Table 2 (continued)

	Average cost per worker	Mpumalanga		North-West		Northern Cape		Western Cape		South Africa	
		Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies	Public sector vacancies	Cost of filling vacancies
Medical Practitioners	R 796,822	535	R 426,299,770	157	R 125,101,054	408	R 325,103,376	545	R 434,267,990	**10860**	**R 8,653,486,920**
Medical specialists	R 1,052,236	88	R 92,596,768	16	R 16,835,776	18	R 18,940,248	397	R 417,737,692	**3491**	**R 3,673,355,876**
Nursing Assistants	R 127,939	1381	R 176,683,759	173	R 22,133,447	393	R 50,280,027	1253	R 160,307,567	**20943**	**R 2,679,426,477**
Professional Nurses	R 393,591	1354	R 532,922,214	443	R 174,360,813	638	R 251,111,058	2272	R 894,238,752	**44780**	**R 17,625,004,980**
Staff nurses and pupil nurses	R 166,925	1141	R 190,461,425	131	R 21,867,175	223	R 37,224,275	927	R 154,739,475	**16202**	**R 2,704,518,850**
Dental practitioners	R 538,904	30	R 16,167,120	11	R 5,927,944	42	R 22,633,968	33	R 17,783,832	**921**	**R 496,330,584**
Dental specialists	R 1,052,236	2	R 2,104,472		R 0		R 0	30	R 31,567,080	**155**	**R 163,096,580**
Dental therapists	R 284,592	27	R 7,683,984	4	R 1,138,368	10	R 2,845,920	22	R 6,261,024	**287**	**R 81,677,904**
Pharmacists	R 411,516	109	R 44,855,244	48	R 19,752,768	105	R 43,209,180	229	R 94,237,164	**3745**	**R 1,541,127,420**
Radiographers	R 126,316	121	R 15,284,236	17	R 2,147,372	50	R 6,315,800	96	R 12,126,336	**1621**	**R 204,758,236**
Environmental health practitioners	R 284,592	50	R 14,229,600	9	R 2,561,328	52	R 14,798,784	1	R 284,592	**443**	**R 126,074,256**
Occupational therapists	R 284,592	53	R 15,083,376	13	R 3,699,696	25	R 7,114,800	108	R 30,735,936	**1260**	**R 358,585,920**
Physio-therapists	R 284,592	63	R 17,929,296	10	R 2,845,920	47	R 13,375,824	83	R 23,621,136	**1074**	**R 305,651,808**
Psychologists and vocational councillors	R 284,592	17	R 4,838,064	11	R 3,130,512	11	R 3,130,512	90	R 25,613,280	**699**	**R 198,929,808**
TOTAL		**4972**	**R 1,557,139,328**	**1043**	**R 401,502,173**	**2024**	**R 796,083,772**	**6097**	**R 2,303,521,856**	**106518**	**R 38,812,025,619**

Source: Econex calculations from PERSAL and National Treasury data

Table 3: All foreign medical practitioners registered with the HPCSA by nationality, June 2011

Nationality	Total	Nationality	Total	Nationality	Total
American	23	Egyptian	18	Pakistani	82
Angolan	4	Eritrean	1	Palestinian	1
Arabian	19	Ethiopian	15	Polish	57
Argentina	4	French	4	Portuguese	4
Austrialian	15	German	73	Republic Of Congo	13
Austrian	10	Ghana	31	Romanian	7
Bangladeshi	66	Greek	4	Russian	20
Belarussian	1	Hungarian	1	Rwandese	32
Belgian	59	Indian	124	Sierra Leona	1
Botswana	16	Iranian	32	Spanish	2
British	265	Irish	26	Sri Lankan	3
Bulgarian	18	Israeli	4	Sudan	16
Burmanese	8	Italian	13	Swaziland	12
Burundi	1	Japanese	2	Swedish	12
Cameronian	17	Kenyan	65	Swiss	8
Canadian	25	Lesotho	20	Tanzanian	32
Chinese	7	Liberian	32	Tunisian	83
Congolese	11	Malawian	45	Ugandan	83
Cuban	194	Mauritius	20	Uruguayan	1
Czechoslovakian	2	Namibian	21	Zaire	199
Democratic Republic Of The Congo	264	Netherlands	36	Zambian	35
Denmark	3	Nigerian	551	Zimbabwean	84
Dutch	39	Norwegian	8		
GRAND TOTAL					**3,004**

Table 4: All specialists by specialty per province, public and private, 2008

	EC	FS	GA	KZ	LI	MP	NC	NW	WC	TOTALS
Anaesthetists	**56**	**66**	**499**	**177**	**13**	**22**	**8**	**28**	**330**	**1199**
Public	*23*	*39*	*132*	*60*	*6*	*3*	*1*	*3*	*138*	*405*
Private	*33*	*27*	*367*	*117*	*7*	*19*	*7*	*25*	*192*	*794*
Cardio Thoracic Surgeons	**7**	**9**	**55**	**18**	**0**	**1**	**1**	**1**	**28**	**120**
Public	*2*	*6*	*21*	*12*	*0*	*0*	*1*	*1*	*13*	*56*
Private	*5*	*3*	*34*	*6*	*0*	*1*	*0*	*0*	*15*	*64*
Dermatologists	**10**	**8**	**73**	**24**	**1**	**3**	**2**	**3**	**39**	**186**
Public	*2*	*4*	*17*	*6*	*0*	*0*	*0*	*0*	*6*	*55*
Private	*8*	*4*	*56*	*18*	*0*	*2*	*2*	*2*	*39*	*131*
Emergency Medicine	**0**	**0**	**15**	**5**	**1**	**2**	**0**	**0**	**11**	**34**
Public	*0*	*0*	*4*	*2*	*1*	*3*	*0*	*0*	*7*	*17*
Private	*0*	*0*	*11*	*3*	*0*	*0*	*0*	*0*	*4*	*18*
Family Physicians	**82**	**56**	**246**	**123**	**30**	**51**	**16**	**32**	**154**	**790**
Public	*68*	*40*	*150*	*78*	*26*	*30*	*12*	*21*	*96*	*521*
Private	*14*	*16*	*96*	*45*	*4*	*21*	*4*	*11*	*58*	*269*
Forensic Pathologists	**3**	**6**	**14**	**5**	**2**	**0**	**1**	**1**	**13**	**45**
Public	*3*	*5*	*14*	*4*	*2*	*0*	*1*	*1*	*12*	*42*
Private	*0*	*1*	*0*	*1*	*0*	*0*	*0*	*0*	*1*	*3*
Maxillo Facial & Oral Surgeons	**4**	**3**	**57**	**14**	**2**	**1**	**1**	**2**	**27**	**111**
Public	*0*	*2*	*21*	*0*	*1*	*0*	*0*	*1*	*8*	*33*
Private	*5*	*2*	*40*	*14*	*0*	*1*	*1*	*1*	*21*	*85*
Neurologists	**4**	**8**	**61**	**17**	**1**	**0**	**0**	**0**	**32**	**123**
Public	*1*	*4*	*22*	*7*	*0*	*0*	*0*	*0*	*13*	*47*
Private	*3*	*4*	*39*	*10*	*1*	*0*	*0*	*0*	*19*	*76*
Neurosurgeons	**7**	**8**	**63**	**17**	**1**	**3**	**1**	**4**	**31**	**135**

Public	*3*	*1*	*11*	*3*	*1*	*1*	*0*	*1*	*10*	*31*
Private	*4*	*8*	*52*	*14*	*0*	*2*	*1*	*3*	*21*	*105*
Nuclear Physicians	**2**	**3**	**26**	**1**	**2**	**0**	**0**	**0**	**11**	**45**
Public	*1*	*1*	*10*	*1*	*2*	*0*	*0*	*0*	*6*	*21*
Private	*1*	*2*	*16*	*0*	*0*	*0*	*0*	*0*	*5*	*24*
Obstetricians and Gynaecologists	**56**	**38**	**350**	**170**	**21**	**23**	**5**	**24**	**201**	**888**
Public	*23*	*14*	*75*	*75*	*5*	*5*	*1*	*0*	*65*	*263*
Private	*33*	*24*	*275*	*95*	*16*	*18*	*4*	*24*	*136*	*625*
Ophthalmologists	**22**	**12**	**110**	**33**	**4**	**7**	**6**	**10**	**69**	**273**
Public	*8*	*5*	*22*	*9*	*3*	*5*	*1*	*4*	*12*	*69*
Private	*14*	*7*	*88*	*24*	*1*	*2*	*5*	*6*	*57*	*204*
Oral Pathologists	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**2**	**6**	**14**
Public	*0*	*0*	*5*	*0*	*0*	*0*	*0*	*2*	*6*	*13*
Private	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*1*
Orthodontists	**6**	**4**	**69**	**13**	**0**	**3**	**0**	**3**	**30**	**128**
Public	*0*	*0*	*35*	*0*	*0*	*0*	*0*	*2*	*8*	*45*
Private	*6*	*4*	*34*	*13*	*0*	*3*	*0*	*1*	*22*	*83*
Orthopaedics	**33**	**33**	**261**	**83**	**10**	**13**	**5**	**13**	**154**	**605**
Public	*12*	*18*	*80*	*13*	*4*	*2*	*0*	*1*	*54*	*184*
Private	*21*	*15*	*181*	*70*	*6*	*11*	*5*	*12*	*100*	*421*
ENT	**14**	**14**	**121**	**51**	**5**	**6**	**2**	**6**	**73**	**292**
Public	*3*	*8*	*30*	*18*	*2*	*1*	*1*	*1*	*27*	*91*
Private	*11*	*6*	*91*	*33*	*3*	*5*	*1*	*5*	*46*	*201*
Paediatricians	**41**	**32**	**274**	**106**	**14**	**13**	**4**	**15**	**181**	**680**
Public	*21*	*17*	*119*	*49*	*8*	*1*	*1*	*0*	*106*	*322*
Private	*20*	*15*	*155*	*57*	*6*	*12*	*3*	*15*	*75*	*358*
Pathologists	Data not available									

Public										
Private										
Periodontists	**2**	**1**	**32**	**6**	**1**	**1**	**1**	**2**	**8**	**54**
Public	*0*	*1*	*15*	*2*	*1*	*0*	*1*	*1*	*2*	*23*
Private	*2*	*0*	*17*	*4*	*0*	*1*	*0*	*1*	*6*	*31*
Physicians	**38**	**41**	**259**	**89**	**9**	**11**	**6**	**19**	**169**	**641**
Public	*15*	*25*	*111*	*48*	*5*	*1*	*3*	*3*	*91*	*302*
Private	*23*	*16*	*148*	*41*	*4*	*10*	*3*	*16*	*78*	*339*
Plastic Surgeons	**8**	**6**	**68**	**18**	**1**	**2**	**0**	**0**	**54**	**157**
Public	*2*	*4*	*17*	*6*	*1*	*1*	*0*	*0*	*19*	*50*
Private	*6*	*2*	*51*	*12*	*0*	*1*	*0*	*0*	*35*	*107*
Prosthodontists	**1**	**1**	**51**	**3**	**0**	**0**	**0**	**0**	**16**	**72**
Public	*0*	*0*	*26*	*0*	*0*	*0*	*0*	*0*	*6*	*32*
Private	*1*	*1*	*25*	*3*	*0*	*0*	*0*	*0*	*10*	*40*
Psychiatrists	**38**	**41**	**259**	**89**	**9**	**11**	**6**	**19**	**169**	**641**
Public	*15*	*25*	*111*	*48*	*5*	*1*	*3*	*3*	*91*	*302*
Private	*23*	*16*	*148*	*41*	*4*	*10*	*3*	*16*	*78*	*339*
Public Health Medicine	**7**	**6**	**36**	**23**	**1**	**1**	**0**	**3**	**26**	**103**
Public	*3*	*4*	*23*	*13*	*1*	*0*	*0*	*0*	*16*	*60*
Private	*4*	*2*	*13*	*10*	*0*	*1*	*0*	*3*	*10*	*43*
Occupational Medicine	**0**	**0**	**9**	**2**	**0**	**0**	**0**	**0**	**11**	**22**
Public	*0*	*0*	*5*	*2*	*0*	*0*	*0*	*0*	*5*	*12*
Private	*0*	*0*	*4*	*0*	*0*	*0*	*0*	*0*	*6*	*10*
Radiation Oncologists	**12**	**13**	**40**	**24**	**4**	**2**	**2**	**3**	**53**	**153**
Public	*3*	*9*	*21*	*7*	*3*	*0*	*1*	*0*	*27*	*71*
Private	*9*	*4*	*19*	*17*	*1*	*2*	*1*	*3*	*26*	*82*
Radiologists	**37**	**26**	**329**	**110**	**7**	**10**	**2**	**15**	**177**	**713**
Public	*12*	*13*	*139*	*53*	*3*	*0*	*1*	*4*	*95*	*320*

Private	*25*	*13*	*190*	*57*	*4*	*10*	*1*	*11*	*82*	*393*
Surgeons	**45**	**29**	**221**	**132**	**12**	**18**	**3**	**15**	**160**	**635**
Public	*24*	*14*	*88*	*76*	*7*	*6*	*0*	*1*	*87*	*303*
Private	*21*	*15*	*133*	*56*	*5*	*12*	*3*	*14*	*73*	*332*
Urologists	**11**	**11**	**95**	**40**	**2**	**2**	**2**	**8**	**51**	**222**
Public	*5*	*6*	*46*	*14*	*0*	*0*	*0*	*2*	*19*	*92*
Private	*6*	*5*	*49*	*26*	*2*	*2*	*2*	*6*	*32*	*130*
GRAND TOTAL	**546**	**475**	**3,699**	**1,393**	**153**	**206**	**74**	**228**	**2,284**	**9,081**

Source: Results of the Survey of the Presidents of the Constituent Colleges of the CMSA, 31st August 2009

Table 5: All nurses by province, gender and qualification, 2010

Province	Gender / Total	Population	Nursing Manpower as at 2010/12/31			
			Registered	Enrolled	Auxiliaries	Total
Limpopo	- Females	2827900	8074	3736	7423	19233
	- Males	2611700	951	434	908	2293
	- Total	5439600	9025	4170	8331	21526
North West	- Females	1635500	6936	2305	4152	13393
	- Males	1565400	839	244	580	1663
	- Total	3200900	7775	2549	4732	15056
Mpumalanga	- Females	1853300	5211	2099	3403	10713
	- Males	1764300	503	177	329	1009
	- Total	3617600	5714	2276	3732	11722
Gauteng	- Females	5597000	28494	12112	15571	56177
	- Males	5594700	1569	894	1096	3559
	- Total	11191700	30063	13006	16667	59736
Free State	- Females	1464300	6711	1586	2606	10903
	- Males	1360200	839	260	345	1444
	- Total	2824500	7550	1846	2951	12347
KwaZulu Natal	- Females	5512600	22754	17053	10433	50240
	- Males	5132800	1606	1842	1056	4504
	- Total	10645400	24360	18895	11489	54744
Northern Cape	- Females	561200	1971	422	1192	3585
	- Males	542700	175	39	119	333
	- Total	1103900	2146	461	1311	3918
Western Cape	- Females	2709000	13909	5299	7616	26824
	- Males	2514900	717	302	519	1538
	- Total	5223900	14626	5601	8135	28362
Eastern Cape	- Females	3501500	12969	3218	5317	21504
	- Males	3242300	1016	348	807	2171
	- Total	6743800	13985	3566	6124	23675
TOTAL	**- Females**	**25662300**	**107029**	**47830**	**57713**	**212572**
	- Males	**24329000**	**8215**	**4540**	**5759**	**18514**
	- Total	**49991300**	**115244**	**52370**	**63472**	**231086**

Source: SANC, 2010

Table 6: Graduate output of higher education institutions by programme, 2008

Institution	MBChB	Dentistry	Pharmacy	Physiotherapy	Occup. Therapy	SLP & Audiol.	Dietetics	EMS	Biomedical Tech.	Clinical Tech.	Radiography	Optometry	All Professions
UP	200	49		38	27	28					25		367
WSU	103												103
UCT	164			54	46	28							292
US	157			38		19	16						230
UFS	109			37	31		24					25	226
UKZN	223		61	33	25	25						28	395
Wits	189	35	40	38	35	30							367
Limpopo	153	39	94	40	18	27	24				26		421
UWC		91	60	48	21		9						229
Rhodes			74										74
NW			76								32		108
CPUT								5	22		11		38
CUoT								10	21	16	20		67
DUoT								11	12	26	34		83
UJ								11	5			60	76
Mangosuthu									25				25
NMMU									7		26		33
TUT									18	15	6		39
All Institutions	1298	214	405	326	203	157	73	37	110	57	180	113	3173

Table 7: Headcount enrolments by clinical programme and province, 2008

Qualification	Academic year of study	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	Northern Cape	North West	Western Cape	NHLS	Total
MBChB	4 or 3	89	131	583	191	0	0	0	0	360	0	**1354**
	5 or 4	93	111	546	214	8	0	0	0	350	0	**1322**
	6 or 5	107	116	594	263	27	6	0	5	351	0	**1469**
BDS	3	0	0	151	0	0	0	0	0	87	0	**238**
	4	0	0	132	0	0	0	0	0	108	0	**240**
	5	0	0	119	0	0	0	0	0	97	0	**216**
Physiotherapy	3	0	39	142	39	0	0	0	0	137	0	**357**
	4	0	36	107	35	6	0	0	7	143	0	**334**
Occupational therapy	3	0	35	126	16	0	0	0	2	107	0	**286**
	4	0	30	81	21	8	0	0	1	106	0	**247**
Speech & hearing	3	0	0	86	23	0	1	0	0	51	0	**161**
	4	0	0	86	24	3	0	0	0	53	0	**166**
Pharmacy	4	131	0	80	59	84	0	0	100	95	0	**549**
Dental therapy	2	0	0	2	21	0	0	0	0	0	0	**23**
	3	0	0	14	20	0	0	0	0	0	0	**34**
Dietetics	4	0	24	42	32	6	0	0	19	36	0	**159**
MMed	1-4	64	169	1037	591	0	14	18	15	794	180	**2882**
MMed (Fam Med)	1-4	9	45	0	0	0	0	0	16	0	0	**70**
MDent	1-4	0	0	81	0	0	0	0	0	15	1	**97**
M Fam Med	1-4	0	0	27	52	0	0	0	0	5	0	**84**
Nursing	1	255	60	236	181	136	0	0	76	364	0	**1308**
	2	208	61	192	87	88	0	0	58	303	0	**997**
	3	186	52	194	85	80	0	0	52	195	0	**844**
	4/BTech	154	48	138	118	92	0	0	88	222	0	**860**
Biomedical Technology	1	39	40	105	73	0	0	0	0	178	0	**435**
	2	29	31	171	113	0	0	0	0	128	0	**472**
	3	18	28	229	67	0	0	0	0	144	0	**486**
	BTech	0	16	74	27	0	0	0	0	0	0	**117**
Clinical Technology	1	0	30	18	43	0	0	0	0	0	0	**91**
	2	0	21	26	50	0	0	0	0	0	0	**97**
	3	0	34	25	31	0	0	0	0	0	0	**90**
	BTech	0	24	39	49	0	0	0	0	0	0	**112**
Emergency Medical Care	1	0	22	37	40	0	0	0	0	51	0	**150**
	2	0	23	17	34	0	0	0	0	37	0	**111**
	3	0	13	19	48	0	0	0	0	45	0	**125**
	BTech	0	0	21	35	0	0	0	0	28	0	**84**
Radiography	1	39	48	179	61	4	0	0	0	98	0	**429**
	2	21	44	151	56	5	0	0	0	78	0	**355**
	3	23	34	140	49	5	0	0	0	54	0	**305**
	4/BTech	0	44	69	57	0	0	0	0	101	0	**271**
TOTAL		**1465**	**1409**	**6116**	**2905**	**552**	**21**	**18**	**439**	**4921**	**181**	**18027**

Table 8: Headcounts and full time equivalent (FTE) of students in clinical training

Provinces	FTEs Clinical Training 2010/2011		
	Institution	Headcounts 2008	FTE's
W Cape	UCT	1,216	241
	UWC	1,658	289
	CPUT	942	60
	SU	1,105	223
	Sub Total	***4,921***	***813***
E Cape	NMMU	520	73
	UFH	226	46
	WSU	649	129
	Rhodes	70	9
	UCT	-	-
	SU	-	-
	Sub Total	***1,465***	***256***
N West	NWU	393	71
	UL	15	2
	Wits	31	10
	Sub Total	***439***	***82***
Free State	UFS	993	189
	CUT	416	29
	Sub Total	***1,409***	***218***
N Cape	UFS	18	6
	Sub Total	***18***	***6***
Gauteng	UP	1,569	290
	UJ	670	74
	Wits	1,656	345
	VUT	278	16
	TUT	551	60
	UL	1,392	250
	Sub Total	***6,116***	***1,035***
UKZN	UKZN	1,874	400
	DUT	707	53
	Zululand	198	41
	MUT	126	5
	Sub Total	***2,905***	***499***
Limpopo	UL	352	62
	Venda	200	38
	Sub Total	***552***	***101***
Mpumalanga	UP	14	4
	UL	7	2
	Sub Total	***21***	***6***
NHLS	NHLS	181	56
	Sub Total	***181***	***56***
	TOTAL	**18,027**	**3,072**