



# Chapter 19



## Occupational health services in South Africa

Occupational health services have developed in a fragmented manner and lag behind international developments. There is, however, a renewed effort to attend to the deficiencies in occupational health. This chapter describes the demographic profile of the South African workforce of about 14 million people, including a synopsis of the current dominant employment sectors. An overview is provided of the spectrum of occupational diseases and injuries in the country.

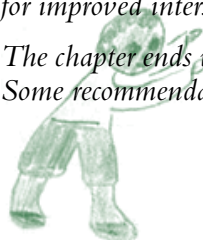
Health and safety legislation is shared between three departments, Health, Labour, and Minerals and Energy. In respect of the health sector, government policies and recent developments are contained in a section in the White Paper on the Transformation of the Health System. This policy states that employers are responsible for providing funding for occupational health services of their employees. Provincial administrations will also be required to establish occupational health capacity in terms of the White Paper. The need for effective interdepartmental co-ordination is recognised in the White Paper as is the need to upgrade and harmonise occupational health legislation with the ILO Conventions.

This chapter urges that there is a need for the link with the hospital infrastructure to be redefined and strengthened.

Within the private industrial sector there are two professional associations that concern themselves with occupational health. The South African Society of Occupational Medicine rejects the proposal for the creation of a Health and Safety Agency (HSA) for the regulation of health and safety. The association proposes that the district health authorities assume this function. There is also no consensus on whether the State should regulate the provision of occupational health services. At present it is only the large companies that are likely to provide services to their workers. Occupational health services are therefore concentrated in the urban areas. This chapter contains some discussion on the services that are being provided in occupational health services of industry.

There are plans to develop the structures to co-ordinate occupational health and safety at provincial level. Presently occupational health services at this level are still under-developed. At the same time there is a need for improved intersectoral collaboration.

The chapter ends with the conclusion that the status of occupational health in South Africa is at a cross-roads. Some recommendations are made as to how to manage the next steps.



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## ***Introduction***

Occupational health services in South Africa are poorly developed and lag behind developments internationally. This is a result of the legacy of fragmented, racist and conservative legislative provisions that have attempted to address the occupational health needs of workers in this country. Recent developments indicate a renewed emphasis on occupational health with a major overhaul in the laws and policies governing health and safety. There is also a renewed emphasis in the Department of Health to ensure adequate provision of occupational health services. In this chapter, we describe the demographic and occupational health status of the South African workforce and the level of occupational health service provision. We also attempt to evaluate progress in the development of occupational health capacity in the public sector with specific focus on the provinces.

Occupational health services in this country have developed in diverse settings. These include the need for health services in remote settings (such as rural and mining industry); inherently dangerous work (mining); the need to reduce absenteeism and thereby increase productivity; certain legal requirements for medical surveillance of workers (notably miners, but also drivers, mariners, radiation and lead workers); the need to screen potential workers for life assurance and pension risk; and in more recent years in response to pressure from trade unions and the new political dispensation.<sup>1,2,3</sup>

## ***Demographic profile of the South African workforce***

The patterns of occupational health service delivery in South Africa are determined by employment patterns, the nature of industrial activity and the hazards associated with these activities. The gender and socio-economic profile of the workforce and their health needs also play a role. A thorough review of the working population for the period up to 1994/95 is described elsewhere.<sup>2</sup> Recent figures from the National Census (Statistics South Africa database, 1996) indicate that 14 million of the adult working population are economically active (EAP) (Table 1). In most provinces, men form a slightly greater proportion of the EAP (55%) except for the Northern Cape where men and women are equally distributed. The rate of males absent from their households (a reflection of migration patterns) has been the highest in the Eastern Cape, Northern Province and KwaZulu-Natal (Human Sciences Research Council Population statistics database, 1991). A proportion of the unemployed male population in these provinces are ex-workers who have been disabled from an injury or disease sustained while working on the mines located in other provinces.



**Table 1: Demographic profile of economically active population in South Africa**

Province	Male No (%) (Thousands)	Female No (%) (Thousands)	Total EAP	EAP as a % of Total EAP
Eastern Cape	792 (51%)	765 (49%)	1 557	11
Free State	570 (56%)	448 (44%)	1 018	7
Gauteng	2 056 (56%)	1 590 (44%)	3 646	26
KwaZulu-Natal	1 412 (54%)	1 216 (46%)	2 628	19
Mpumalanga	531 (57%)	395 (47%)	926	7
Northern Cape	176 (57%)	131 (43%)	307	2
Northern Province	539 (50%)	540 (50%)	1 079	8
North West	669 (56%)	519 (44%)	1 188	8
Western Cape	938 (55%)	760 (45%)	1 698	12
South Africa	7 683 (55%)	6 364 (45%)	14 047	100

Source: The People of South Africa Population Census, 1996. Statistics South Africa database

Note: Economically active population (EAP): person ≥ 15 years old who is employed (formal and informal sector) or unemployed (person wants to work and is seeking work)

Industrial activity in South Africa is highly concentrated in certain provinces. The provinces which employ a large proportion of the national EAP are Gauteng (26%), KwaZulu-Natal (19%), Western Cape (12%) and Eastern Cape (11%) (Table 1). Gauteng (97%) and the Western Cape (88%) have a predominantly urbanised workforce (Table 2), whereas the EAP in the Northern Province is predominantly rural (83%). Increasing urbanisation of the EAP is noticeable in the Eastern Cape, Mpumalanga and KwaZulu-Natal. While most of the EAP is in the formal sector (76%), an increasing number of the EAP are beginning to work in the informal sector (1994: 14.7%; 1997: 24.2%).<sup>4</sup>

**Table 2: Geographical distribution of urbanised economically active population in South Africa**

Province	1994 No (%) (Thousands)	1997 No (%) (Thousands)
Eastern Cape	814 (46%)	865 (56%)
Free State	593 (62%)	681 (67%)
Gauteng	3 344 (96%)	3 535 (97%)
KwaZulu-Natal	1 389 (51%)	1 555 (59%)
Mpumalanga	351 (37%)	440 (48%)
Northern Cape	195 (70%)	205 (67%)
Northern Province	163 (13%)	186 (17%)
North West	485 (41%)	478 (40%)
Western Cape	1 450 (84%)	1 496 (88%)
South Africa	8 788 (61%)	9 441 (67%)

Sources: October Household Survey - 1994, CSS report P0317 (March 1995).

Notes: 1. Total EAP = 14 297 000  
The People of South Africa Population Census, 1996. Statistics South Africa database.  
2. Total EAP = 14 047 000

The community, social and personal services sector continues to be the major employer of workers in the country as a whole (17%). These are mainly workers in the public sector including those in education and health. The two other major employment sectors nationally are manufacturing (12%) and wholesale and retail trade (12%).

Men and women participate almost equally in the community, social and personal services, manufacturing and wholesale/retail sectors. Men predominate in the mining and construction industry, many of the work-places being located outside the metropolitan areas. Women are commonly also employed in domestic services and agriculture. A considerable number of women in the agricultural sector are seasonal workers.<sup>5</sup> While certain hazardous industries such as mining and agriculture may be on the decline, this is increasingly being replaced by the manufacturing sector with its associated hazards.

## ***Spectrum of occupational diseases and injuries among South African workers***

The nature of occupational health service provision is to a large extent determined by the profile of occupational injuries and diseases experienced in a particular province. Comprehensive and recent information in this area is lacking. Information was obtained from officially reported statistics by government departments, surveillance programmes for specific occupational disease groupings, and clinic attendance at major referral centres for occupational diseases. Furthermore, some industries are privately insured (e.g. mining) and other groups e.g. domestic workers are not covered by compensation legislation. The occupational diseases diagnosed at referral centres do not reflect the true incidence of occupational disease in various industries since they represent sentinel cases. Published statistics are also skewed by reporting bias and some figures are quite dated. Despite the limitations, these figures give some insight into the spectrum of occupational diseases encountered by occupational health services. Since no published information on the health of workers in the defence and police services was available to the authors, these occupational categories were not covered.

## ***Occupational injuries***

The pattern of occupational injuries reported is documented in the Compensation Commissioner's annual report as required by the Compensation for Occupational Injuries and Diseases Act (COIDA), which replaced the previous Workmen's Compensation Act.

A total of 242 424 occupational accidents were reported in 1993. This represented an accident rate of 33.4 accidents per 1 000 workers covered by the Compensation Fund.<sup>6</sup> Figures for 1990 indicate that Gauteng (32%), Western Cape (21%) and KwaZulu-Natal (19%) reported a substantial proportion of the accidents.<sup>2</sup> These provinces being the most industrialised accounted for more than 70% of all reported cases. More than 80% of injuries affected men and more than 80% of the cases reported were from urban areas.



Published statistics for 1990 showed that the average national accident frequency rate of accidents for all industries was 7.21 injuries/million person-hours worked and the severity rate was 1.11 days lost/1000 person-hours worked.<sup>7</sup> Figures for 1994 indicate the proportional contribution to total injuries of various sectors in the country to be: manufacturing – non-metallic (29%), manufacturing – metallic (20%), transport (16%), service (13%), construction (9%), agriculture (6%), commerce/trade (6%) and mining (5%). The major sectors contributing to high fatality (severity) rates were transport (39%), agriculture (16%), construction (13%), service (11%), manufacturing – non-metallic (9%), manufacturing – metallic (6%) and commerce (4%).<sup>8</sup> It must be noted that the portion of the mining sector that is privately insured was not included in these figures. These data do not reflect the actual levels experienced by this sector which has historically had one of the worst safety records in the world.<sup>9</sup> Corrected data for 1995 indicate that the mining sector had the highest fatality rates, followed by transport, building and construction and agriculture.<sup>10</sup>

An analysis of frequency of accidents reported for 1993, according to anatomical site, indicated that the most commonly reported part of the body affected was the fingers (24%), legs (15%) and trunk (12%). Injury to the fingers was also documented to be the major cause of permanent disablement (57% of all cases). This has major implications for the rehabilitation of workers in this country since a substantial proportion are manual workers.

### Occupational diseases

The pattern of occupational diseases reported is documented in the Compensation Commissioner's annual report – Department of Labour (as required by COIDA) and the Report of the Medical Bureau for Occupational Diseases (MBOD) – Department of Health (as required by the Occupational Disease in Mines and Works Act).

In 1990 occupational diseases constituted only 0.05% (128) of all compensation claims certified by the Compensation Commissioner in the Department of Labour.<sup>2</sup> Pneumoconiosis (asbestosis and silicosis) comprised 77% of all claims certified. Official data on claim acceptances under COIDA have not been published for the past eight years. More recent figures of compensation claims submitted (not necessarily certified) to the Compensation Commissioner indicate that 5 679 claims for occupational diseases were reported (Table 3).<sup>a</sup> The common occupational diseases outside the mining industry were noise-induced hearing loss (56%), major depression/traumatic stress (13%), dermatitis (12%), tuberculosis (5%), pneumoconioses (4%), and occupational asthma (3%).



a Henry Flint, Compensation Statistics, Compensation Fund, Department of Labour. Personal communication.

**Table 3: Most common occupational diseases reported to the Compensation Commissioner under Compensation for Occupational Injuries and Diseases Act (COIDA) in South Africa**

Disease	Number of claims reported		
	1996	1997	1998
Hearing impairment - noise-induced	1 219	1 903	3 175
Dermatitis	305	388	678
Tuberculosis	205	231	306
"Major depression"/Post traumatic stress	192	605	734
Occupational asthma	141	184	180
Asbestosis	129	149	149
Silicosis	59	93	95
Pneumoconiosis	52	-	4
Mesothelioma	52	54	65
Bronchopulmonary disease	37	58	5
Pleural thickening	29	-	0
Fibrosis of the lung	14	-	1
Byssinosis	16	11	8
Over-straining of muscular tendinous insertions	8	78	32
Brucellosis	9	10	2
Erosion of the oral or nasal cavity (nasal septum perforation)	4	5	24
Chronic obstructive airways disease	0	9	29
Hepatitis	0	3	6
Hand-arm vibration syndrome (Raynaud's phenomenon)	0	2	13
Chemical bronchitis	0	3	70
Tendonitis	0	0	39
Bronchospasm	0	0	35
Total number of all cases reported	2 482	3 795	5 679

Note: Figures are for the period 1 January to 31 December. Actual compensation outcome unknown. Does not include cases reported in the mining sector.

Source: Department of Labour. Compensation Commissioner's occupational disease database (personal communication, H Flint)

The most common occupational disease reported in the mining sector is occupational lung disease. The mining sector contributes more than 90% of the overall occupational lung disease burden experienced by all industries. For the 1996/97 period the number of certifications for occupational lung diseases was 8 261 which is very similar to figures reported in 1992 (Table 4).<sup>11,12</sup> More than half of all cases certified by the MBOD were workers with pulmonary TB. Pneumoconiosis was the second most common diagnosis. Silicosis was by far the most common pneumoconiosis (74%) found on post-mortems of deceased persons. Most of the workers certified were employed in the gold and asbestos mining industries. A more recent study investigating the prevalence of lung diseases among Botswana migrant workers who had worked on South African mines revealed that between 26-31% of workers had radiological pneumoconiosis.<sup>13</sup> Similar figures were found among ex-miners in the Libode district of the Eastern Cape where the prevalence of pneumoconiosis was between 22-36%.<sup>14</sup> A growing number of ex-miners present themselves to TB clinics/hospitals and other health services in the Eastern Cape, Northern Province, Northern Cape and Mpumalanga for health care.

**Table 4: Occupational diseases certified under the Occupational Disease in Mines and Works Act in South Africa**

Disease	Number of claims certified (%)	
	1992	1996-7
Tuberculosis	5 220 (66%)	4 159 (50%)
Pneumoconiosis	2 253 (28%)	3 554 (43%)
Obstructive Airways Disease	429 (5%)	343 (4%)
Obstructive Airways Disease and Pneumoconiosis	-	150 (2%)
Platinum salt sensitivity	28 (0.5%)	44 (1%)
Progressive Systemic Sclerosis	27 (0.5%)	10 (0.1%)
Progressive Systemic Sclerosis and Pneumoconiosis	-	1
Total	7 957 (100%)	8 261 (100%)

Sources: Department of Health. Report of the Medical Bureau for Occupational Diseases, 1992 (Graph 8)  
 Department of Health. Annual Report of the Medical Bureau for Occupational Diseases, 1996/97 (Tables 6,7 & 9)

The most recent figures released by the Surveillance of Work-related and Occupational Respiratory Diseases in South Africa (SORDSA) programme indicate that a total of 3 526 cases were voluntarily reported by nurses and doctors over two years (October 1996-98).<sup>15</sup> The largest proportion of occupational lung diseases was reported from Gauteng (74%), Western Cape (13%) and KwaZulu-Natal (7%). Pneumoconiosis comprised 62% of all cases, followed by pneumoconiosis with pulmonary tuberculosis (8%), occupational asthma (7%) and chronic obstructive airway disease with pneumoconiosis (7%). Although most cases were reported from Gauteng, a large proportion of the workers with pneumoconiosis, reside in the Northern Province. Furthermore, the highest annual incidence of occupational asthma is reported from the Western Cape (29.1 per million employed persons) and KwaZulu-Natal (23.4 per million employed persons).<sup>16</sup> The mining industry was responsible for 68% of all cases, followed by the asbestos industry (6%), health care industry (4%) and paper and pulp industry (2%). The main causative agents identified included mineral dusts viz. silica and asbestos (81%); chemicals viz. sulphur dioxide, chlorine, isocyanates (7%); organic agents viz. *Mycobacterium tuberculosis* (5%); formulated agents viz. latex and welding flux (4%), and metals viz. platinum salts (2%).

The gender profile of patients attending most occupational health referral clinics in the industrialised provinces indicate that mainly men (75%) presented with work-related problems.<sup>17-19</sup> The main hazards identified include mineral dusts (asbestos, silica, coal), vegetable dusts (grain, flour, wood, cotton, latex), gases and fumes (welding, smelting, metallurgy), metals (heavy metals, platinum), chemicals (isocyanates, solvents, plastics), noise, ergonomic stressors, unsafe machinery and psychosocial hazards (poor workplace organisation, shift-work). The common occupational diseases diagnosed were occupational lung diseases (occupational asthma, asbestosis, silicosis, tuberculosis), dermatitis (due to cement, rubber, oils, metals), heavy-metal and solvent toxicity, noise-induced hearing loss and musculoskeletal disability due to the late effects of trauma (affecting mainly the hands and back). Stressful work situations also resulted in increased levels of anxiety and depression being reported particularly by women workers who worked the “double shift”.<sup>5</sup>

# Occupational health service provision in South Africa

## Policy and legislation

### Health and safety legislation

No over-arching national health and safety policy or statutory requirements exist to stipulate the provision of occupational health services.<sup>10</sup> Various laws however exist that have a direct bearing on the delivery of occupational health services by requiring medical surveillance and evaluation of the work environment. The most important of these are the Occupational Health and Safety Act (OHSA) of 1993 and its regulations on hazardous chemical substances and lead; and the Mine Health and Safety Act (MHSA) of 1996. These laws are enforced by the Department of Labour (excluding mines) and Department of Minerals and Energy (mines) respectively (see Table 5).<sup>1</sup> The MHSA also has under its provisions a dedicated medical inspectorate to enforce the required occupational health standards.<sup>9</sup> The South African Medicines and Medical Devices Regulatory Authority Act (1998) requires the occupational health nurse to complete an approved course in pharmacology in order to be licensed to practise. There is uncertainty as to whether the new Act will make it more onerous for occupational health nurses to practice primary clinical care in workplace-based occupational health services.

**Table 5: Legislation pertaining to occupational health services in South Africa**

Act	Function	Enforcement Agency
Occupational Health & Safety Act (OHSA), 1993	Ensures a healthy and safe environment in factories and offices	Dept. of Labour
Compensation for Occupational Injuries & Diseases Act (COIDA), 1993	Provides for medical cover and compensation of occupational injuries or diseases in all work-places	Dept. of Labour
Mine Health & Safety Act (MHSA), in mines/quarries 1996	Ensures a healthy and safe environment	Dept. of Minerals & Energy
Occupational Diseases in Mines & Works Act (ODMWA), 1973	Provides for compensation of occupational lung diseases in mines and quarries	Dept. of Health
Medicines and Related Substances Act, 1965	Provides for an authorisation permit to be issued to a nurse dispense schedule 1-4 substances at workplace health services	Dept. of Health

### Government policies

Rees and Davies first described the occupational health and safety policy initiatives (Report of the Committee on Occupational Health - 1996, Report of the Committee of Enquiry into a National Health and Safety Council in South Africa - 1997) and a framework emerging from the new political dispensation in the 1997 Health Review.<sup>20</sup> Other more recent policy initiatives impacting on occupational health in the public sector are contained in the White Paper on the transformation of the health system.<sup>21</sup> It outlines in greater detail the importance of developing occupational health services and associated human resources at all levels of the public health care system. It notes that employers are primarily responsible for providing and funding occupational health services. In the light of the poor level of occupational health service



provision at workplace level, it calls for an investigation into a specific requirement that all work-places provide occupational health services. It however outlines a special role for the Health Department in providing services to historically neglected sectors such as small and medium-sized enterprises, the public sector, the informal sectors and the unemployed through the district health system. This pertains specifically to those districts where there is substantial industrial activity. These services at district level should be integrated with comprehensive service delivery. At a regional level, a secondary diagnostic and rehabilitative capacity for occupational health must be created at regional hospitals to serve as referral centres for both private (workplace) and public (district) primary level occupational health services. At provincial level, an occupational health unit with occupational medicine and hygiene expertise should be created.

The provincial health administrations are required to establish a sub-directorate for occupational health to develop an occupational health strategy (plan) with the involvement of major stakeholders. At national level, the Health Department has the responsibility to promote occupational health; to manage the National Centre for Occupational Health (NCOH); and to satisfy the statutory obligations under the Occupational Diseases in Mines and Works Act (ODMWA). This act provides for the provision of benefit (compensation) examinations for former mine workers. The Medical Bureau for Occupational Disease is responsible for improving access to historically under-served areas, by identifying and training key practitioners. It is unclear whether these practitioners are in the public or private sector and how their roles relate to regional diagnostic services or the envisaged provincial occupational health units.

The White Paper also calls for effective interdepartmental co-ordination and organisation of the various components of occupational health and safety by proposing a legislative framework to create a national health and safety agency with provincial components. This will provide a forum for policy-making and standard setting involving the major role players such as labour, business, State departments and occupational health and safety specialists. This is in line with the Department of Labour's Committee of Inquiry into a National Health and Safety Council that also recommended the establishment of a statutory National Council to develop an integrated national occupational health and safety policy.<sup>10</sup> This initiative will also form the basis for the harmonisation of South African occupational health and safety standards with standards of the International Labour Organisation (ILO) and the promotion of these standards for the entire Southern African region. A recent audit of Southern African Development Community (SADC) countries indicated that South Africa has not ratified any of the various ILO Conventions that pertain to occupational health and safety.<sup>8</sup> Loewenson does however indicate that South African laws are in compliance with most of the provisions in the ILO Convention 155 (1981), the most central Convention governing health and safety, except for the right to refuse dangerous work (outside the mines).<sup>22</sup> Notably, Article 5 of the Convention 161 (1985) deals specifically with the role and functions of occupational health services.<sup>23</sup> To date no formal audit of South African work-places in compliance with these standards has been conducted. There is a need therefore to ensure that a systematic process is set in place to upgrade occupational health and safety laws in order to harmonise them with major ILO Conventions.

### **Private sector policies**

The two major professional associations that have a role in shaping occupational health service delivery are the South African Society of Occupational Medicine (SASOM) and the South African Society of Occupational Health Nurses (SASOHN). SASOM has also endorsed the formation of a fully integrated health and safety agency (health and safety executive), rationalisation of health and safety legislation into a single Act and enforced by a dedicated inspectorate.<sup>24</sup> The health and safety agency should be funded by general taxation and should function only at national and district level. Both associations advocate the

promotion and development of workplace-based occupational health services to implement primary level general health care services.<sup>b</sup> These services should be staffed by registered practitioners having an appropriate occupational health qualification. SASOM advocates that workplace health services should be nurse-based under supervision of a medical practitioner. Quality of care should be ensured by implementation of guidelines and protocols and by monitoring and audit of providers.<sup>25</sup> SASOM advocates that health services at the workplace level should not be regulated by a health and safety agency but by district health authorities (DHA).<sup>23</sup> It sees the DHA liaising more closely with workplace-based health services with regard to general health service delivery and completing health information statistics. SASOM is of the view that should a National Health Insurance (funded by a dedicated health tax) be instituted, employers who provide primary health care services should be given tax incentives.

No consensus exists as to whether the state should regulate the provision of occupational health services and what the nature of these services should be. Some researchers have suggested that should the state regulate the provision of occupational health services, primary care health services could become more accessible and affordable to a large proportion of workers employed in the formal sector. Promotion and development of workplace-based occupational health services could therefore be used to implement comprehensive primary health care services.<sup>26</sup> However, the findings of other researchers indicate that the workers' provider of choice is the private general practitioner and occupational health services should focus mainly on work-related problems. Workers' utilisation of workplace services was found to be restricted to minor complaints and obligatory occupational health examinations. The independence and objectivity of medical personnel are identified as crucial determinants of worker's perceptions and utilisation of employer-provided occupational health services.<sup>27</sup> This raises another issue, that should the State regulate the provision of occupational health services, who then would employ occupational health personnel to run these services?

### ***Occupational health services in the private sector***

Various studies have shown that the provision of employer provided and funded workplace-based health services (outside the mines) ranges between 11 and 18%.<sup>28,29,30</sup> In general, those companies employing a greater number of workers (>1 000) are more likely to provide a health service staffed by full-time health personnel. No recent data are available on the number of registered workplaces with occupational health services per province. Some indication of the level of occupational health service provision can be obtained from the list of permits (obtained from the National Department of Health) authorising sisters at workplaces to dispense medicines under a doctor's supervision. To date there were 1 321 clinics registered with the Health Ministry, 5% of which are located on the mines.<sup>c</sup> The permits were issued mainly to occupational health services in the urban areas of the major economic provinces of Gauteng (38%), KwaZulu-Natal (25%) and the Western Cape (17%) (Table 6). These clinics, together with the network of mining industry hospitals, constitute the employer provided workplace-based occupational health services. Surveys of health service provision outside the metropolitan area in the Western Cape revealed that only 42.5% (n=68) of seafood processing workplaces along the West Coast<sup>31</sup> and none of 39 randomly surveyed farms in the Stellenbosch area had any "formal" occupational health service.<sup>32</sup> Occupational health services are concentrated in urban areas and in mines employing a large (>200) workforce.

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b Mike Baker (SASOM) and Louwna Pretorius (SASOHN). Personal communication.

c Johan Kruger, Pharmacy Council, Department of Health. Personal communication.

**Table 6: Distribution of workplace-based health services authorised to dispense medication in South Africa**

Province	Number of workplaces with permits (%)	
	1995	1999
Eastern Cape	67 (6.2%)	78 (5.9%)
Free State	42 (3.9%)	43 (3.3%)
Gauteng	440 (41.0%)	502 (38.0%)
KwaZulu-Natal	236 (22.0%)	336 (25.4%)
Mpumalanga	-	33 (2.5%)
Northern Cape	14 (1.3%)	12 (0.9%)
Northern Province	47 (4.3%)	58 (4.4%)
North West	40 (3.7%)	39 (3.0%)
Western Cape	188 (17.5%)	220 (16.6%)
South Africa	1 074 (100%)	1 321 (100%)

Source: Database of permits issued by the National Department of Health in August 1995 & July 1999 (personal communication, J Kruger)

## Activities of occupational health services

Surveys done in 1980's and again in the early 1990's indicate that the pattern of occupational health service provision has not changed substantially.<sup>26-28</sup> Occupational health services are mainly engaged in safety issues and general primary level care. This includes treatment for minor complaints and accidents, contraceptive services, and chronic illnesses e.g. TB and hypertension. Other activities include consultative services to management; health promotion services, some rehabilitation services; and administrative work. Nurses estimate that less than half (44%) of their time is spent on occupational health issues, the remaining time being spent on primary curative service delivery.<sup>2</sup> Most of the doctors employed in these services have no formal qualification in occupational health and provide general medical care on a part-time basis.

## Specialised health services

Aside from employer provided and funded occupational health services, a number of private occupational health agencies have recently sprung up to provide primary level occupational health services and laboratory services. There are also a number of private hospitals in the metropolitan areas staffed by private specialists providing in-patient care to workers injured at the workplace. Most public-sector hospitals act as a conduit for the referral of workers injured at work to be seen by private practitioners. Doctors at these hospitals are contracted to the Compensation Fund through the provincial hospital services. Injured workers presenting at public sector hospitals are in practice usually transferred to private hospitals for further care, especially where capacity in dealing with compensation claims is lacking in public sector hospitals. There is however uneven distribution of service provision between the metropolitan and rural areas, with poor infrastructure in the rural areas. Specific services for vocational rehabilitation have been an extremely neglected area of private sector activity, except for the well-equipped services provided by Rand Mutual hospital in Johannesburg and the Ernest Oppenheimer hospital in Welkom. This is probably a reflection of the lack of emphasis of this aspect by the Compensation Law (COIDA). Since these private providers are not adequately remunerated for such services, there is a poor link between orthopaedic surgeons involved with the acute management of injured workers and physiotherapists/occupational therapists who are involved in the rehabilitation of these workers.

## ***Occupational hygiene and safety services***

The Department of Labour is responsible for certifying privately employed occupational hygienists to conduct occupational hygiene assessments at workplaces (approved inspection authorities). There are also a number of safety practitioners and risk management organisations in the private sector that provide consultancy services to employers. The National Occupational Safety Association (NOSA) also provides support to employer activities eg. training of health and safety officers and conducting audits.

## ***Industry expenditure on occupational health services***

It is estimated that 6% of total expenditure on health care in the private sector can be attributed to industry.<sup>33</sup> Total expenditure by industry on health care for the 1992/93 private sector financial year was estimated between R5.65 and R7 billion. Of this, contribution to medical schemes (mainly for “white collar” workers) constituted 81–85% of total expenditure; workplace-based health care (clinics and hospitals) 6–8% and contributions to the Workers Compensation Fund 8–10%.<sup>34</sup> Total estimates for workplace-based health care facilities for 1992 were R473 million of which R150 million was spent on on-site clinics and the remainder on mine hospitals.<sup>35</sup>

A recent pilot survey conducted by Jeebhay (July 1999, unpublished) among 20 SASOHN members indicated that the average annual per capita expenditure is between R300 – R500 for workers employed in large and medium-sized enterprises of the Western Cape. This figure is substantially lower than those for workers (mainly white collar workers) subscribing to medical aid (R1 667), medical benefit funds (R1 338) and industrial council schemes for blue collar workers (R689),<sup>33</sup> and illustrates the vast disparities in funding for health care of white collar and blue collar workers.

## ***Occupational health services provided by the public sector***

Information on the provision occupational health services in the public sector was obtained through questionnaires completed by the programme managers of occupational health sub-directorates in the provincial health departments (Jacobs, July 1999, unpublished). The main objective of this exercise was to assess progress regarding the implementation of recommendations made in the previous review of occupational health published by the 1997 Health Review as well as the implementation strategies based on the occupational health principles contained in the Department of Health’s White Paper on the Transformation of the Health System in South Africa.<sup>20,21</sup> The authors relied totally on the assessment of the respondents since it was not possible to validate the information through direct personal observations in the various provinces. The key findings are summarised in Table 8. It must be noted that while national structures such as the NCOH and MBOD play an important role in providing specialised support and referral services, the authors focused on the provinces to highlight issues of equity and service delivery.



**Table 7: Indicators for development of public sector occupational health capacity in the various provinces of South Africa**

Indicator	EC	FS	KZN	GT	MP	NC	NP	NW	WC
Dedicated budget for occupational health	N	Y	Y	Y	Y	Y	Y	Y	Y
Provincial health plan for occupational health	Y	Y	Y	Y	Y	Y	Y	Y	Y
Occupational health services for public patients	Y	Y	Y	Y	Y	Y	Y	N	Y
- regional/provincial level	N	Y	Y	Y	Y	Y	Y	N/A	Y
- district level	Y	Y	N	N	Y	Y	N	N/A	Y
Intersectoral collaboration	Y	Y	Y	N	Y	Y	Y	Y	Y
Training of public sector staff in occupational health	Y	Y	Y	Y	Y	Y	Y	Y	Y
Health information system: provincial level	N	Y	N	Y	Y	N	Y	N	N

Source: Questionnaire completed by Occupational Health sub-directorates at provincial level (July 1999)

Note: Mpumalanga does not have regions - occupational health services operate at district level  
North West Province does not have health districts - occupational health services operate at regional level

Key: EC - Eastern Cape; FS - Free State; GT - Gauteng; KZN- KwaZulu-Natal; MP - Mpumalanga; NC - Northern Cape; NP - Northern Province; NW - North West Province; WC - Western Cape; Y - Yes; N - No; N/A - Not applicable

### ***Development of structures to co-ordinate occupational health and safety at provincial level***

Occupational health sub-directorates, usually located in programme development and support directorates of the provinces, exist in most provinces, demonstrating a positive trend towards developing occupational health capacity at provincial level. Most of the provinces except for KwaZulu-Natal have employed at least one full-time person dedicated towards promoting occupational health. There is interaction between the national chief directorate of occupational health and these structures. All provinces have developed occupational health strategies and formulated them into provincial health plans. The budget allocations for occupational health are however totally inadequate to achieve their programme objectives. Budgets for these departments tend to be used mainly to cover personnel costs and general management and administration. Some provinces are able to dedicate a proportion of the budget to programme support at the other levels (10–50%), service provision to members of the public (<30%), training of public sector personnel earmarked for occupational health service provision (3–40%), and research on occupational health service development (<10%). There is ongoing tension within the provinces on the extent to which staff in these structures should be involved in occupational health service delivery or purely provide vertical programme support.



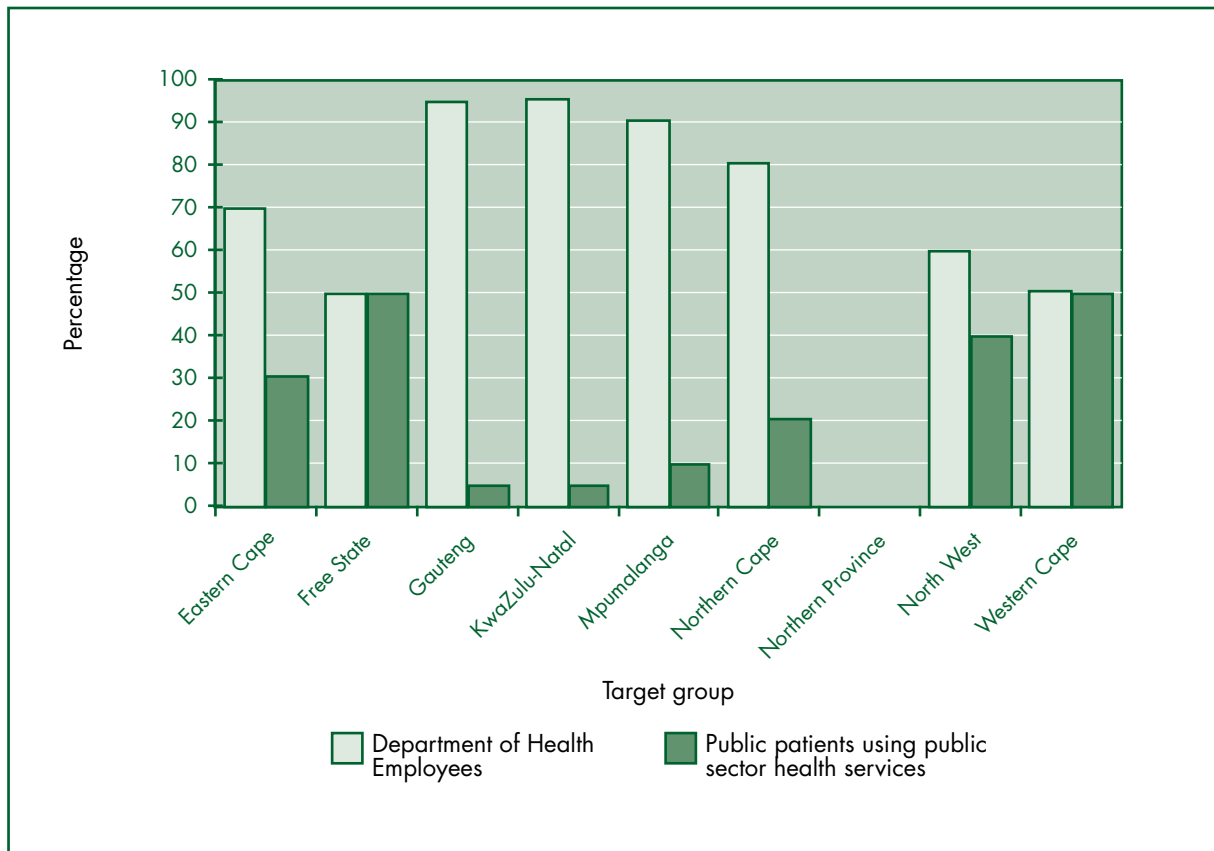
## ***Service delivery at provincial, regional and district levels***

Occupational health services offered by public sector services appear to consist of a variety of elements, and approaches vary between provinces on how best to establish an occupational health unit in a province or region. Indications are that the lack of financial resources and appropriately qualified personnel has also impacted on the poor progress in this regard. There is still lack of clarity of the distinction between dedicated (stand-alone) occupational health services and integrated services (occupational health services delivered as part of comprehensive health services) and the most appropriate level at which they should be delivered. This is despite the explicit policy directives on the nature and role for such a unit contained in Department of Health documents.<sup>2,20,21</sup> While all the provinces provide some form of occupational health service, none of them have fully functional occupational health units (with occupational medicine and hygiene expertise accompanied by compensation advice service) for public sector patients as defined in these documents. Dedicated diagnostic and rehabilitative capabilities have not been established at regional level. There is however evidence of sporadic occupational health activity at district level in some provinces, but this still remains underdeveloped.

There appear to be two main target groups for service provision viz. the employees of the Health Department (health care workers) and members of the public accessing the public sector services. The general trend in most provinces has been to concentrate on the former group (Figure 1). While the main function of the public sector-funded occupational health services is intended to provide services to underserved groups of workers in the community, previous strategies have promoted the provision of services to Health Department employees. This strategy was encouraged in the hope that the provincial administrations were more likely to fund such services (in order to comply with certain provisions in the Occupational Health and Safety Act), thereby injecting new funding and personnel to establish these services. A secondary spin-off would have meant that these services would have been made available for use by public patients. This situation needs to be monitored carefully since it is likely to lead to potentially inequitable allocation of public sector resources in the long-term.



**Figure 1: Proportion of Provincial Occupational Health Sub-Directorate’s time (%) devoted to occupational health service development in the various provinces of South Africa**



Source: Questionnaire completed by Occupational Health sub-directorates at provincial level (July 1999)

Note: No information was provided by the Northern Province

While most provincial health departments and/or local authorities provide a general medical service to their employees, the occupational health component of these services is largely underdeveloped. The main foci of occupational health and safety programmes in the provinces have included education and training activities (nurses and environmental health officers), setting up health and safety committees at regional hospitals, workplace risk assessments and medical surveillance programmes for health workers exposed to infectious agents (TB, Hepatitis, HIV), health promotion and counselling activities, and management of compensation claims. Occupational health programmes for defence personnel are planned nationally through the Occupational Health and Safety Directorate of the South African National Defence Force. Services provided include pre-placement examinations, risk assessment programme (noise, chemicals, radiation, ergonomics), medical surveillance programmes (e.g. audiometry), and education and training. Primary clinical care, injury management and counselling services are provided by the “Medical Services” arm of the SANDEF<sup>d</sup>

<sup>d</sup> Lt Colonel C J Engelbrecht, Occupational Health and Safety, National Office, SANDEF Personal communication.

*Specialist occupational medicine* services for public sector patients have also developed in an *ad hoc* manner and are only present in Gauteng, Western Cape, and KwaZulu-Natal. The workers seen at these clinics are mainly referred by private workplace-based occupational health services and employers (33–36%), private hospitals and practitioners (10–43%), public sector health services (20%), occupational health clinics of NGO's (12%) and through epidemiological surveys (13%).<sup>17,18,19</sup> These occupational medicine clinics are located in the major tertiary hospitals and function mainly as specialist referral centres. Furthermore, the clinics in the provinces mainly rely on the support of specialists or medical officers with other responsibilities (e.g. community health and medicine departments) rather than having as their chief responsibility the development of occupational medicine as a specialist discipline.

In its efforts to increase the access of ex-miners to benefit examinations, the MBOD is in the process of *decentralising benefit (compensation) examinations to the provinces*. However it is unclear how these services will link with occupational medicine services or with future provincial level occupational health units. There is evidence to suggest that more workers are having benefit examinations since the number of cases considered by the certification committee has increased by 88% from 11 248 in the 1995/96 year to 21 169 for the 1996/97 year.<sup>11</sup> However, no provincial-specific data were available to assess the extent to which this reflects increased coverage in historically under-served areas identified in the White Paper.<sup>21</sup> The reason for this increase can be attributed to increased ascertainment of occupational diseases associated with increasing access of workers to benefit examinations and stricter medical surveillance required under the new Mine Health and Safety Act.<sup>9</sup> The Department of Labour also has specific *compensation advice offices* staffed by clerks based at their regional offices who assist workers with submitting claims for compensation under COIDA. These offices also provide administrative support to the Compensation Commissioner's office in the provinces. Most of these offices are located in the metropolitan areas only. The extent to which they are able to assist workers with lodging individual claims or obtaining the results of their compensation claims is questionable.

*Occupational hygiene* capacity has historically been a neglected area of service development. Provincial level hygienists needed to serve small enterprises and informal concerns are almost completely absent. Their training is now receiving some, though insufficient attention.<sup>36</sup> There are however a number (approximately 2 000) of environmental health officers employed by local authorities and the provincial health departments to conduct public health inspections under the Health Act.<sup>2</sup> It has been suggested that these environmental health officers could play an important role in support of the understaffed occupational health and safety inspectorate (in the Department of Labour) by providing advisory and information services and performing basic hazard evaluations.<sup>29</sup> Only the Minister of Labour, empowered under the Occupational Health and Safety Act, is able to grant environmental health officers such powers through specific regulations. This delay is an indication of the lack of coherence of purpose between the departments of Health and Labour.

In general, there are no *specific vocational rehabilitation services* for workers injured at work in most provinces except for two rehabilitation centres in Durban and Benoni which are semi-private and receive financial support from the Compensation Fund. Occupational therapists, physiotherapists and speech therapists engaged in some rehabilitation of work-related disability are to be found in most of the provincially funded and regional hospitals. Specific vocational rehabilitation units are however only present in the major tertiary hospitals of the industrialised provinces. These are usually staffed by occupational therapists and physiotherapists engaged in the assessment of workers for vocational rehabilitation. These units however may not have a specific focus on occupational injuries.

There are *labour-linked non-governmental organisations (NGOs)* that have historically provided support and developed capacity among trade unions in dealing with health and safety issues. These include the Industrial Health Research Group (Cape Town), Industrial Health Unit (Durban), Industrial Health and



Safety Education Project (East London) and the Industrial Aid Society (Johannesburg). Some of these NGOs pioneered the establishment of the first provincially based primary/secondary level occupational health clinics serving workers in the metropolitan areas of the Western Cape and KwaZulu-Natal.<sup>17</sup> The IHRG has also conducted numerous audits of occupational health services and contributed substantially to research and policy development in this field. Recent changes in the policy of foreign donors as a result of the new political dispensation have threatened the long-term viability of the services provided by these NGOs, since they have until recently been totally reliant on foreign funding.

*Occupational health services* offered at the *district level* to members of the public vary widely. Disease recognition and referral as well as disability assessment and rehabilitation take place in an *ad hoc* fashion. Workers employed in the private sector who are injured at work tend to be referred to the private sector. In some provinces such as the Northern Cape and Mpumalanga, benefit exams for mineworkers are conducted at district level. At a district level there have been some initiatives to launch occupational health services in partnership with the private sector. One such case was the Alexandra Worker's Health Outreach programme initiated in the early 1990's in Gauteng.<sup>37</sup> However, the long-term sustainability and success of this project is unknown.

Some of the obstacles identified by provinces in efforts to provide occupational health services include:

- ❖ sparsely distributed working populations in predominantly rural provinces with poor access to health care
- ❖ lack of support for occupational health service delivery at provincial and national health management level
- ❖ lack of financial resources, especially in the context of ongoing rationalisation and downscaling of public sector health services in provinces such as the Western Cape and Gauteng
- ❖ lack of adequate enforcement of health and safety laws and absence of enabling legislation permitting environmental health officers to perform factory visits
- ❖ disparate approaches to occupational health service delivery due to districts being in various stages of development both within and between provinces
- ❖ lack of adequately trained personnel at district level to identify and refer occupational health problems
- ❖ service-overload of health personnel at district level resulting in insufficient time to perform basic occupational health functions e.g. taking detailed work and exposure histories, completing administrative work related to reporting of occupational diseases and filing of compensation claims, and conducting workplace visits.

Service development areas identified for further strengthening of public sector occupational health services include:

- ❖ formation of provincial occupational health units
- ❖ formation of multidisciplinary hazard evaluation teams
- ❖ establishing regional diagnostic and rehabilitation services
- ❖ development of well-equipped and dedicated hospital services to deal with injured workers requiring hospitalisation (since this may be an important source of revenue and cost-saving for the state)
- ❖ provision of specialised investigations (e.g. chest radiographs, lung function tests, audiometry, patch tests and skin prick tests) to under-served workplaces (at subsidised rates).

## ***Intersectoral collaboration***

There is evidence to suggest that intersectoral collaboration between various government departments and among various stakeholders is gaining ground in most provinces. Most of this activity between role-players appears to be at provincial level. This however needs to be viewed in the context of transformation and change that has not yet reached the district level. Collaboration between public sector health services and environmental health officers is being strengthened especially in the rural areas. Co-operation between the *Department of Health (doctors, nurses and environmental health officers)* and *Labour (inspectorate)* has taken the form of joint participation in strategic planning committees, education and awareness programmes, specific programmes targeting farmworkers, mineworkers (asbestos) and small businesses, health risk assessments at workplaces following reports of occupational diseases, law enforcement, and technical information support. There is however ongoing tension as to the extent of this co-operation between officials since occupational health and safety is a national responsibility in the Department of Labour and a provincial function of the Department of Health.

There has also been co-operation between the *tripartite stakeholders* in occupational health and safety viz. state departments, trade unions and employers. Collaboration with trade unions has taken the form of joint planning of projects, information sharing, promotion of occupational health programmes among workers, lobbying employers on important health and safety issues, facilitation of benefit examinations, and assistance with compilation of compensation claims. Contact with employers has been limited to providing advice to employers regarding occupational health hazards and occupational health service provision requirements at workplaces in order to facilitate compliance with OHSA.

In the past five years some provincial health departments have had close working relationships with labour service NGOs. These have been mainly on issues of information sharing, research and policy development, and education and training programmes for public sector health personnel. The Industrial Health Research Group has been involved in a number of training programmes for the past three years in various provinces. These activities were aimed at developing capacity among health personnel at primary level health services to identify and manage occupational health problems. There has also been some collaboration with NOSA on training and audit activities in certain provinces.

Interaction with the *private sector* has been through established links with professional associations such as SASOM and SASOHN. Members of these associations have provided input into planning occupational health programmes and educational activities (e.g. compensation courses). The private sector is the main referral agent of patients to specialist occupational medicine clinics.<sup>19</sup> In the recent pilot survey conducted by Jeebhay (July 1999, unpublished) among 20 SASOHN members in the Western Cape, nurses were more inclined to use specialised occupational health services (100%) in the academic hospitals than district levels health services (36%). The main reasons cited for use of public sector services was for diagnosis of occupational diseases (91%), rehabilitation services (55%), assistance with worker's compensation applications, and advice (55%). Nurses were also more inclined to use specialised diagnostic services and investigations in the public sector since these services were not available in the private sector and some of the investigations were too expensive to be borne by employers. District health services were used mainly for workers (not covered by medical aid) with chronic general medical problems e.g. TB, hypertension, STDs. While the quality of occupational health services at tertiary level was generally rated positively (satisfactory to very good), services at primary level were rated negatively (satisfactory to poor to non-existent). Areas identified for co-operation with public sector health services include:

- ❖ the development of improved communication channels within the referral system
- ❖ ongoing liaison for treatment of patients with chronic general medical problems
- ❖ workplace inspections by district health teams

- ❖ training programmes for community health centre staff to recognise and refer work-related diseases to workplaces
- ❖ sharing of health information statistics on occupational injury and diseases
- ❖ embarking on commonly identified priority programmes.

Some collaboration exists between the *Department of Health, the National Centre for Occupational Health and tertiary educational institutions* with regard to training of public sector personnel, placement of health professionals undergoing training in public sector occupational health services, research and technical support. Opportunities for multidisciplinary teaching is limited since the training of occupational medicine practitioners occurs at universities, while occupational health nurses and environmental health officers (occupational hygiene) occur mainly at technikons. More interaction needs to occur at this level so that educational institutions are more responsive to the training needs in the health and safety field. This will enable institutions to design more advanced training courses for specific occupational health and safety practitioners such as occupational medicine specialists, industrial hygienists, occupational health nurses and occupational safety practitioners.<sup>36</sup> Furthermore, there is a dire need for occupational health to be inserted into the training of general medical practitioners and nurses so that occupational causes of ill-health become a routine part of every clinical examination. In this way more long-term capacity in occupational health can be developed.

### **Human resource development**

Reports from the provinces suggest that capacity development of public sector health personnel in occupational health is a priority. All provinces have undertaken initiatives to promote training of staff belonging to most professional categories viz. doctors, nurses, environmental health officers and hygienists, who have been earmarked to develop future occupational health services in the public sector. Other health workers, mainly nurses, have been trained to fulfil their roles as health and safety representatives under OHSA. These training programmes have been subsidised by the Department of Health through funding received from the WHO. The impact of this investment in training has yet to be evaluated since the objectives remain unclear. While both objectives have desirable outcomes, the former activity is more directly related to delivery of services to the public, while the latter is aimed at empowering workers in exercising their health and safety rights. Preliminary findings in some provinces suggest that many of the staff have left the public sector health services, thereby jeopardising efforts towards improving service delivery. It would therefore be crucial that creative incentives be developed to retain staff within the public sector to make this a viable strategy.



## ***Conclusions and Recommendations***

The status of occupational health in South African workplaces is at a crossroads. Years of historical neglect have resulted in underdeveloped and poorly accessible occupational health services. Recent years have seen the emergence of more progressive occupational health and safety legislation to promote the health of workers. Whilst general consensus exists among most sectors on policies to transform the occupational health and safety dispensation in the country, the pace of transformation has been extremely slow.

The major recommendations identified to fast-track this process, thereby promoting occupational health service delivery within a more equitable framework include:

- ❖ Intersectoral collaboration at national level between the Departments of Health, Labour and Minerals and Energy to formulate a strategic plan to transform the occupational health and safety dispensation in the country
- ❖ Formation of a National Health and Safety Council and a single enforcement agency
- ❖ Rationalisation of the laws governing health and safety and compensation to cover all workers
- ❖ Ratification of the ILO Conventions relating to health and safety (155 and 161)
- ❖ Investigation into specific legislation for workplaces to provide and fund occupational health services
- ❖ Enabling legislation for environmental health officers to conduct workplace hazard evaluations
- ❖ Development of at least one occupational health unit per province (to be integrated with recognition centres and compensation advice offices and staffed by multidisciplinary hazard evaluation teams) before further district development is embarked upon
- ❖ Focus on occupational health service development to serve the needs of workers in the informal sector, small and medium-sized workplaces, ex-miners and the public at large
- ❖ National audit of workplace-based occupational health services to assess compliance with functions listed in ILO convention 161
- ❖ Define strategies to strengthen the capacity of workplace-based health services in dealing with work-related problems while at the same time providing workers with access to primary level health services
- ❖ Separation of strategic plans and funding allocations for services earmarked specifically for public sector workers (Provincial Health Department management function) and for the public at large (public health function)
- ❖ Investigate strategies for public/private mix to strengthen occupational health capacity especially at district level
- ❖ Evaluation of existing training programmes for developing capacity at district and provincial level to refine strategies for future human resource development in occupational health.

