



Occupational health nursing in South Africa

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This article portrays the development of and future challenges for occupational health nursing in South Africa. It further seeks to provide an understanding that the manner in which the profession is practiced is determined by the prevailing health problems and the availability of health services and occupational health workers.

ABSTRACT

In the last 80 years, occupational health nursing has become well organized under the auspices of the South African Society of Occupational Health Nurses. Educational development has progressed well, with a range of postgraduate studies becoming available. There is a cadre of well-qualified and experienced occupational health nurse practitioners in South Africa, but they are still located in the private sector as this is where most occupational health services are provided. However, the complex legislation, changing demographic profile of workers, changes in technology, types of work, lack of resources, poor levels of general health in workers, the working conditions, especially in the informal sector and small to medium enterprises, and the high prevalence of occupational injury and diseases, all present challenges to the OHNP to provide a comprehensive program for the protection of worker health and safety. Most spend a large proportion of their time providing primary medical care, although they also have wide-ranging responsibilities in terms of occupational health care.

HISTORICAL PERSPECTIVE OF OCCUPATIONAL HEALTH IN SOUTH AFRICA

In order to fully appreciate how occupational health nursing has evolved in South Africa, it is necessary to briefly review the recent history of occupational health care in the country. Research into occupational diseases in South Africa in the 1990s revealed that the situation which existed in this country was no different to that in the USA and the United Kingdom in the 1970s, prior to the introduction of the Occupational Safety and Health Act of 1970 and Health and Safety at Work Act of 1974 respectively. Occupational health care in South Africa had lagged behind other countries as it was developed within the context of a fragmented, racist and conservative legislative framework (Jheebay and Jacobs, 1999). As far back as 1975, concerns about occupationally related health problems led to the establishment of the Erasmus Commission in 1976. This commission investigated the state of occupational health (OH) in South Africa and found that it occupied a secondary position in industry, with

little time, money and organization having been put into it by industry. (Rees and Davies, 1997:192; Kotze, 1997:23). The findings of the Erasmus Commission led to the development and implementation of the Machinery and Occupational Safety (MOS) Act, No. 6 of 1983, with the objective of providing a safe working environment for workers (Department of Manpower, 1983). Although this act was an improvement on the previous Factories Act that focused on engineering safety, it was soon realized that there was little emphasis on protecting workers' health, and providing a healthful working environment for workers, as opposed to 'a safe environment'. Subsequently, the Occupational Health and Safety Act, No. 85 of 1993, was developed and implemented in 1994 to address these shortcomings.

In 1994 South Africa held its first democratic elections and the African National Congress came into power. The Minister of Health appointed a committee to investigate occupational health in South Africa resulting in the Abdullah Report (Department of Health, 1996). Twenty years after the Erasmus commission, this report indicated that occupational health services were still underdeveloped and that a lack of adequately trained personnel to implement such programs persisted. There had been some improvement in

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provision of occupational health and safety management subsequent to the Erasmus report, but this development had not been systematic and was provided on a discretionary basis by employers (Department of Health, 1996:9). Jeebhay and Jacobs (1999:258) later reported that there had been further development in the emphasis of occupational health and safety for workers subsequent to the Erasmus Commission's report. This has occurred as a result of a major overhaul of the legislation and policies that govern occupational health in South Africa, with a number of new pieces of legislation having been introduced.

PROFILE OF HEALTH PROBLEMS

An analysis of the health problems amongst the people of South Africa reveals a mixed pattern, typical of both developed and developing countries. In effect, workers requiring health care in the workplace reflect the same profile. This is characterized by smoking, alcohol and other drug abuse, sexually transmitted diseases, health hazards at work, chronic degenerative diseases and health problems related to poverty, inadequate water, sanitation, housing and nutrition. Therefore, communicable and non-communicable health problems are responsible for significant morbidity and mortality. Chief amongst the former is the threat from HIV/AIDS, as it has been estimated that life expectancy will fall from 68 to 48 years by 2010 and that more than 18% of the workforce will be infected by 2005 (S.A.I.R.R., 1999). Evidence of the accuracy of these predictions is mounting daily. The epidemic affects mostly the younger age groups (15 to 35 years). Tuberculosis infection rates are also high, with 86,6% of reported cases occurring amongst the potentially economically active age group of 20 to 59 years. The case fatality rate is high, being 32 per 100 000 people. This problem is exacerbated by HIV, as indicated by tuberculosis/HIV co-infection rate of 2540 per 100 000 people. (Kironde, 2000.) It is believed that 20 to 30% of miners are HIV positive (SAIRR, 1999). The incidence of malaria is also increasing. Non-communicable conditions of significance include cardio-vascular diseases, cancers, diabetes mellitus, violence and trauma.

EMPLOYMENT AND WORKFORCE TRENDS

There is a high unemployment rate in South Africa, with 37% of economically active people (i.e. between 15 and 65 years of age) being unable to find employment in the formal sector in 1997. The situation was particularly acute amongst rural African women and younger people (57% aged between 15 and 30 were unemployed). Large numbers of people have been laid off or retrenched from the formal sector, as reflected by the decline of private jobs by 20% between 1989 and 1998. The number of unskilled jobs

is also declining (48%), with skilled jobs representing 34% and high-level skill jobs 18% of the total jobs. (S.A.I.R.R., 1999.) There has been continued growth in employment in the community, social and personal services sector, including government jobs (17% in 1999) (Jeebhay and Jacobs, 1999). This is currently the greatest employment sector, mainly comprising education and health workers. By 1998, 65% of jobs were in the formal private sector and nearly a quarter of the total employment was in the informal sector. (S.A.I.R.R., 1999.) All these trends mirror those occurring in other countries. Just as Cox and Williamson (2001) and Rosenstock (2000) noted that workers are tending to become older, comprised of equal numbers of men and women, have widely varying levels of education and more disabilities and working in the informal sector, so too is this the case in South Africa. Men and women are employed in equal numbers in the community, social and personal services sector and manufacturing and wholesale/retail sectors, whilst men predominate in the mining and construction sectors and women in the domestic and agricultural sectors (Jeebhay and Jacobs, 1999). Furthermore, as Facci (2000) observed, workers in developing countries are more vulnerable to adverse health effects from work due to poorer general levels of health because of impoverishment, inadequate living conditions and lack of education. As shown earlier, large numbers of South African workers are similarly affected. More workers are employed in medium to small enterprises (Sikhobi, 2000), and as is the case in developing countries, these workplaces tend to have old buildings and machinery, have lower levels of skill and education amongst managers and other employees making training difficult and have limited financial resources, all of which impact negatively on the safety of working conditions (Facci, 2000). Workers in the informal sector are extremely vulnerable owing to their generally poorer levels of health and a lack of protection from occupational health and safety (OH and S) measures.

New technologies and new work methods are being introduced into South Africa, which have often been designed for developing countries and may not be appropriate for the situation. New health problems are likely to emerge as a result. (Sikhobi, 2000.)

OCCUPATIONAL INJURY AND DISEASE STATISTICS

Despite inconsistencies in the reporting system, it is known that the occupational injury rate is high. In 1993, the accident rate was 33,4 accidents per 1000 workers covered by the Compensation Fund. Of the workplace incidents investigated and finalized by the Department of Labour, 8,3% were fatalities (S.A.I.R.R., 1999). The majority of accidents occur amongst men (80%) and in urban areas (80%).

(Jeebhay and Jacobs, 1999.) However, it is likely that there is significant under-reporting, as more women work in the informal sector and in rural areas and are often not covered by compensation. Occupational diseases are also not consistently reported. The commonest occupational diseases in the non-mining sectors were noise-induced hearing loss (56%), major depression/traumatic stress (13%), dermatitis (12%), tuberculosis (5%), pneumoconiosis (4%) and occupational asthma (3%). Occupational lung diseases were the major diseases in the mining sector, with pulmonary tuberculosis followed by pneumoconiosis being the most significant diseases in 1996/1997 (Department of Health in Jeebhay and Jacobs, 1999). Occupational asthma is a growing problem, occurring most commonly in mining (68%), the asbestos industry (6%), the health care sector (4%) and the pulp and paper industry (2%) (SORDSA, 1999).

OCCUPATIONAL HEALTH SERVICES IN SOUTH AFRICA

The majority of workplace-based OH services are provided for workers in the formal private sector, funded by private employers. An increasing number of these services are being outsourced. A recent study of the South African Society of Occupational Health Nursing Practitioners' members showed that 89% of them are employed in the private sector, whereas 4% are in parastatal organizations and 4% in the public sector (Grainger *et al.*, 2001). There is a marked lack of provision of OH services in the latter sector. In accordance with Department of Health's White Paper on the Transformation of the Health System of South Africa (1997), a national Directorate of Occupational Health and Safety, with sub-directorates at provincial level has been established. Generally, the provincial services are responding to health and safety issues in their own workplaces. Nevertheless, the health care sector in South Africa has received very little attention with regard to its occupational health status (Michell, 2000). It was envisaged that the district health system will provide OH services for the workers who are in the informal sector, small and medium-sized businesses and the unemployed (Ministry of Health, 1997). However, financial constraints and a lack of trained personnel have placed severe restrictions on the delivery of these services. Therefore, these workers are at risk of developing occupational disease because of the uncontrolled conditions that exist.

Disparities between the sectors are largely due to the structure of South Africa's health system, which has a strong dual public and private sector. The government funds health care for people who are unable to afford private health care. This places a heavy burden on the state, due to numerous competing demands for health care as a result of the type of health problems that exist in the country. Attempts to

introduce a national social insurance, with contributions being made by the private sector on a per capita basis per worker have been unsuccessful to date. People have access to privately funded health care if they contribute to a medical insurance or managed care organization, and in many cases organizations in the private sector assist their employees with contributions to such schemes. This was shown in a recent survey of 274 OHNPs in South Africa, in which it was found that 10% of them worked in organizations where all employees belonged to such a scheme and 33% in organizations where most were members (Grainger *et al.*, 2001). Private sector employers have assumed responsibility in varying degrees for the health of their employees, usually due to a growing understanding of the economic implications of their health status for the organization or as a result of legislative requirements.

OCCUPATIONAL SAFETY AND HEALTH LEGISLATION

Unfortunately, there is no overarching OH and S legislative framework or policy in South Africa (Department of Labour in Jeebhay and Jacobs, 1999). There are a number of acts and regulations that relate to OHS, and this has resulted in a complicated and sometimes inconsistent system, especially since the responsibility for OHS is split between the national Departments of Health and Labour. The OHS Act, No. 85 of 1993, which is intended to promote a safe and healthful working environment, has emphasized the need for medical surveillance for workers exposed to occupational risks. The employer is responsible for identifying the occupational hazards, determining the level of risk associated with these hazards, and implementing a planned medical surveillance program. As a result, many organizations have begun to address the issues associated with hazard exposure in the workplace, including empowerment of the worker populations through education and training on the hazards that they are exposed to and an increased awareness of occupational diseases (Jeebhay and Jacobs, 1999:262). Such occupational health programs aim to decrease morbidity and mortality associated with the occupational injuries and diseases, resulting from hazard exposure. It seems likely that the OHS Act of 1993 rather than a desire by employers to protect the health of workers, because penalties for failing to comply with this legislation are harsh, has motivated many of the activities. A company found guilty of an offense in terms of this legislation faces a penalty of approximately \$5000 fine and/or a year imprisonment (OHS Act 1993:Section 33:1). The OHS Act does not apply to mines and quarries, as these fall under the ambit of the Mine, Health and Safety Act, of 1996.

Compensation legislation was also overhauled in the early 1990s, with significantly more occupational diseases

being recognized, and yet under-reporting continues. Compensation legislation is also fragmented. This further complicates the implementation of occupational health services in South Africa. Compensation for occupational injuries and diseases is governed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 (COIDA) and enforced by the Department of Labour. Provision is made for payment of medical expenses, temporary disability leave, compensation for permanent disability and death benefits for employees in all workplaces, except for mines and quarries. Reports of occupational disease are made to the Department of Labour for investigation and remedial actions. Occupational diseases occurring in mines, with the exclusion of some lung diseases, are covered by the Occupational Diseases in Mines and Works Act of 1973 (ODMWA), which is enforced by the Department of Health. The Rand Mutual Company Ltd., operating under license from the Department of Health, insures injuries and some occupational diseases, such as noise induced hearing loss. (Department of Labour, 1993; Mkhwebane-Tshehla, 2002; Smook, 2002).

Claims for occupational diseases constitute only 2% of all compensation claims (Mkhwebane-Tshehla, 2002) due to under-reporting, a major reason for which is the lack of occupational health services and adequately trained personnel. In order to identify such diseases, satisfactory exposure data must be available. However, accurate baseline and periodic measures of worker exposure and environmental monitoring are not routinely carried out in many settings. Non-reporting of symptoms by workers due to fear of job loss or lack of knowledge of their significance and non-reporting by companies to avoid penalties are also contributory factors in the low rate of reporting. (Smook, 2002.) Inefficiencies and a lack of capacity in the Compensation Commissioner's office are also responsible for the inadequacies of the compensation system (Jeebhay *et al.*, 2002).

Despite the introduction of new, more stringent legislation, OHS standards remain low in comparison to most First World countries. Biological hazards have still not been given the recognition they demand and neither have psychological problems associated with work. There is also a marked insufficiency of OHS inspectors. It is within this framework that occupational health nurses are challenged to provide preventive, promotive and curative health services to worker populations.

DEVELOPMENT OF OCCUPATIONAL HEALTH NURSING IN SOUTH AFRICA

Professional development

Occupational health nursing in South Africa is a relatively new specialization, with a history of approximately 80 years. The United Tobacco Company employed the first South

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- Work-related injury and disease management services**
 - On-site Primary Clinical Care
 - Clinical preventative services
 - Health Promotion and Wellness service
 - Preventative management services including
- Clinical Preventative services**
 - Medical surveillance and bio-monitoring
 - Family planning services
 - STD treatment services
 - TB treatment services
 - HIV/AIDS services
 - Vaccination services
 - Clinical screening services
- Health Promotion and Wellness Services**
 - Routine health status assessment
 - Pre-placement
 - Periodic medical
 - Exit medical
 - Executive health program
 - Periodic workplace assessment
 - Health promotion campaigns
 - Opportunistic health promotion
- Disability prevention and management services**
 - Sick-note surveillance
 - Post-illness/injury medicals
 - Incapacity medicals
 - Vocational rehabilitation
 - Disability claims
 - Promotion of employment equity for people with disability



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African OHNP, Matron Herron-Brown, in Cape Town in 1923 (Baker and Coetzee, 1983:15). She was described as an industrial nurse at this time. It was only 43 years after her appointment, in 1966, that industrial nurses began to organize themselves by forming the first regional Discussion Group for Industrial Nurses in the Southern Transvaal, under the auspices of the South African Nursing Association. In 1970, this group became known as the Occupational Health Nurses Discussion Group (Southern Transvaal) as members providing occupational health services in non-industrial settings joined. Other regions also formed groups as time passed. Eventually, it was recognized that a national umbrella body was needed and it was from these humble beginnings that the South African Society of Occupational Health Nursing Practitioners (SASOHN) was founded on 30 April 1980. At this time there were eight Regional Professional Societies active in the country. This has grown and there are currently twelve Regional Professional under the national control of SASOHN. Each Regional Professional Society has one representative, who has voting rights on the National Executive Committee of SASOHN, with the President, Vice-President, Treasurer and Secretary being elected at an annual general meeting. There are presently 1000 paid up members of the professional society. The earlier objectives of this body were to monitor the needs of the OHNP and promote occupational health in industry and commerce. Efforts in the 1980s were concentrated on the training needs of the OHNP. Current objectives are reflective of the increased responsibility and accountability that the OHNP has and include the:

- promotion of the highest possible standards in occupational health practice by encouraging accreditation and upgrading professional qualifications;
- provision of a support network for OHNP working in a business environment and a forum for sharing problems and experiences;
- development of professional capacity and excellence through the presentation of workshops, conferences and training projects including specific efforts to keep members abreast of changes in technology and legislation;
- encouragement of cost effective delivery of quality OH services in the country; and
- promotion and adherence by organizations to the legal requirements set in terms of current and future South African and international legislation.

SASOHN has moved into the new technological age. At present there is a website (www.sasohn.org.za) and a chat line. Both of these services are proving to be invaluable support to the profession and means to achieving its objectives, particularly as South Africa covers a great area and many OH clinics are in remote settings. The distance between the clinics is often so great that OHNPs are isolated

from their peers. The chat line has made it possible for these nurses to source information from peers, that otherwise would not have been available. Although many OHNPs do not have access to computers in the clinic setting, this situation is slowly improving. SASOHN has enhanced the networking and communication between OHNPs by means of regular meetings at regional and national level, an annual conference and publications, including this journal. This is a collaborative venture between OHNPs, occupational medical practitioners and occupational hygienists. It also has affiliations to:

- Association of Societies for Occupational Safety and Health (ASOSH) in South Africa.
- African Regional Association of Occupational Health (ARAOH).
- International Commission on Occupational Health (ICOH).
- American Association of Occupational Health Nurses.

OHNPs are funded through SASOHN to attend and present papers at both national and international conferences.

Educational development

Despite industrial nurses being in practice since 1923 and the formalization of the discussion groups in the 1960s, no specialized training courses existed for these nurses. In 1975, the South African Nursing Association (SANA) and OHNPs from the Discussion Groups recommended to the Erasmus Commission that a training course be established to equip registered, professional nurses with the skills and knowledge necessary to provide an occupational health service. As a result, SANA in association with the regional discussion groups, and senior practicing occupational health nurses and doctors, developed the first certificate course for occupational health nurses. This course was initially offered in 1978 in the Gauteng and KwaZulu-Natal provinces. Thereafter, other provinces followed suit. In 1981, the certificate course was given the statutory recognition that it deserved, when the South African Nursing Council (SANC), the nursing governing body, recognized it as a formal postgraduate specialization. Currently, OHNPs may choose to further their education in the discipline of occupational health through studies at the postgraduate certificate, diploma, Bachelor's degree, Master's degree and Doctoral level. The programs are offered at universities of technology (previously known as technikons) and universities. Furthermore, there is a component of occupational health in the undergraduate nursing programs and the post-basic community nursing diploma. OHNPs also undertake a variety of short courses, such as first aid, HIV/AIDS counseling,

occupational health and safety, spirometry and audiometry.

SASOHN remains actively involved in the development of educational programs for OHNPs by representation on auditing and evaluation bodies and acting in an advisory capacity to ensure that educational needs are being met. Excellence in occupational health is recognized by SASOHN by means of awards for educational achievement and outstanding practice.

THE PROFILE OF OHNPs IN SOUTH AFRICA

A survey was recently conducted on behalf of SASOHN, with a 27,4% sample of members participating (Grainger *et. al.*, 2001). It revealed that of these, most (87%) are permanently employed, women (92,6%), with a postgraduate OH qualification of some type (75%). They also tend to be older (23,6% are between 30 and 39 years, 46,7% between 40 and 49 years and 28% are over 50 years of age), and well experienced in OH nursing (29% have had 6 to 10 year's experience and 24% have had 11 to 15 year's experience). Not surprisingly, a large number (22,5%) are employed in some sort of senior OHNP position. The majority (68,6%) is White, although Blacks (20%) are increasingly being employed in OH services. It would appear that there is a cadre of well-qualified and experienced OHNPs in South Africa, but they are still located in the private sector.

ROLES AND FUNCTIONS OF THE OHNP IN SOUTH AFRICA

During the early years, the role of the industrial nurse was mainly to treat minor ailments, sexually transmitted infections and minor injuries. Often, nurses were required to become involved in tasks that were not even related to the field of health care, e.g., the distribution of donated school books to workers' children (Serfontein, 2001). Very little medical surveillance or biological monitoring was conducted. Hazard exposure monitoring occurred in multinational companies, where the parent company was situated in a country with more stringent legislation than applied in South Africa.

The changing demographic, morbidity and mortality profile of workers, changes in technology, types of work and health needs all present challenges to the occupational health nurse practitioner (OHNP) to provide a comprehensive program for the protection of worker health and safety. Nowadays, a major service provided by OHNPs in South Africa is primary medical care for worker populations. Such services include the health assessments, treatment of minor ailments, and management of chronic health problems within the OHNP's scope of practice. This need arises because many workers are not on any form of medical assistance and are thus dependent on state facilities for these services. Where a worker utilizes the state facilities, he/she may lose a day's income and the company loses production

from the worker due to the patient loads experienced at these facilities. In order to increase productivity and to provide a comprehensive service to the worker, the primary medical care is provided on site. It is also an important focus in view of the health needs of employees relating to communicable and non-communicable conditions, as indicated earlier, which certainly influence the workplace if not addressed. Some OHNPs are also providing this type of service for employees' families.

In general, less time is spent on occupational health care than primary medical care. However, health assessments (preplacement, periodic and exit), medical surveillance, biological monitoring and biological effects monitoring (audiometric tests, lung function tests, vision screening and ECGs) are all part of the OHNPs daily routine. The OHNP is responsible for collecting the data, analyzing it, and making the necessary referrals and recommendations. In addition, the OHNP conducts risk assessments in the workplace, manages work-related injuries and diseases (including compensation aspects), conducts health promotion programs, and manages the clinic. The OHNP also functions as a member of the multidisciplinary team in programs, addressing a variety of issues such as absenteeism, HIV/AIDS in the workplace and safety. There is a growing need for OHNPs to include case management and rehabilitation in their services. The ratio of OHNPs to workers is frequently inadequate for service delivery, for example 1:1000. Often, a medical doctor may only assist for one hour per week in the clinic. South Africa has a shortage of occupational hygienists, and most work as consultants in private practice so that the cost of their services is such that OHNPs are unable to access their assistance on a regular and frequent basis. There is also a severe shortage of disability management and rehabilitation services. Safety expertise is more readily available. Therefore, the OHNP has wide-ranging responsibilities, often without the support of members of the multidisciplinary team.

TRENDS IN OCCUPATIONAL HEALTH NURSING RESEARCH

Research in OH in general, and OHN in particular is in its infancy. Significantly more research is conducted on non-occupational problems than occupational health problems. The report of the Committee on Occupational Health (1996), commissioned by the Department of Health, stated that OH was underutilized and under-researched. Compared with many other countries, little is known about occupational health in South Africa and there is an urgent need to conduct research in this regard. Research is being carried out in many of the universities, but most of this is related to medicine. Relatively little research is being carried out by other members of the multi-disciplinary team, such as OHNPs.

Attempts are being made to develop research capacity within our own borders. In May 2000, Professor Sally Lusk of Michigan University was sponsored by a Fogarty Grant to conduct research workshops in South Africa to promote involvement in research. These were invaluable and it is hoped that more of these workshops will take place in the future. Historically, nurses in South Africa were trained to assume a subservient role in the medical field and did not feel that their opinions were of value. This, together with the lack of availability of funding for research in occupational health has been the background to a culture where nurses are reticent to participate in research and even less likely to publish or present the findings. Over time this has changed and OHN is one of the specializations where nurses come to the fore with regard to their role as independent practitioners. With the increase in the number of OHNPs working towards research-based Masters and Doctoral qualifications there is more involvement in research. The challenge to OHNP leaders is to get colleagues to present these findings. This was in fact achieved at the 2001 National SASOHN Conference in Durban when twelve research-based papers and eight research posters were presented by nurses. The technicians are increasingly collaborating with SASOHN in conducting research projects, and one such project was presented at the ICOH conference in Singapore in 2000 on behalf of SASOHN.

FUTURE DIRECTION IN OHN PRACTICE, EDUCATION AND RESEARCH

The complex legislation, lack of resources, poor levels of general health in workers, the working conditions in the informal sector and small to medium enterprises especially and the high prevalence of occupational injuries and diseases are all challenges that lie before the South African OHNP. Some of the goals for the future are the:

- provision of more occupational services in the public sector to meet the needs of the underserved, particularly the informal sector;
- seeking of innovative ways of delivering OHS services within the health system with the available resources;
- promotion of quality improvement systems, including peer review systems, to establish best practice;
- encouragement of greater commitment from employers to take responsibility for worker health and employees to participate in protective efforts, such as medical surveillance programs;
- effective communication by OHNPs with managers to convince them of the importance and value that occupational health can add to the workplace;
- provision of OH education for more nurses providing general health services in the public sector;
- education of more OHNPs to an OH degree level to ensure

they can function at a management level;

- increased availability of funding to facilitate research into the disciplines of occupational health nursing;
- active involvement of OHNPs in research, presentations at conferences and the publication of findings; and
- conducting of more research to establish the burden of occupational health problems, develop innovative interventions and demonstrate their effectiveness.

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