

Occupational health

Vol 23 No 2 MARCH/APRIL 2017

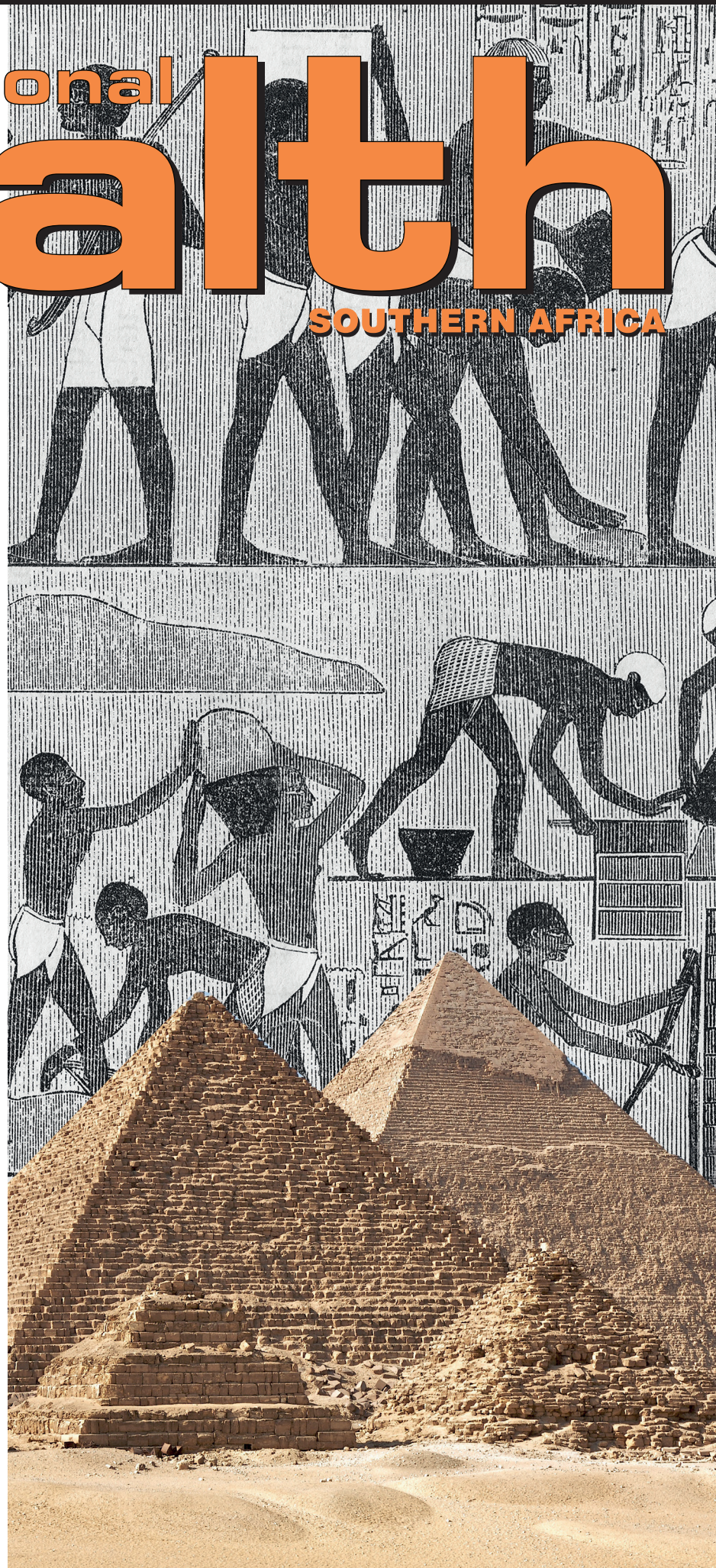
SOUTHERN AFRICA

Governance of occupational healthcare services in South Africa: Cohesion or conflict?

Occupational health litigation and the development of occupational hygiene: Slavery – Part 1: From ancient times

Barriers to and enablers of return to work after stroke: survivor and employer perceptions

Reflections on forum developments – accommodating formal and informal referral models



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From the Editor . . .



**Gill Nelson,
Editor-in-Chief**

Welcome to the second, autumn issue of *Occupational Health Southern Africa* of 2017. We have a mix of original research and opinion articles, as well as some interesting up-to-date occupational health news.

Karen Michel and Laetitia Rispel, in their paper on governance of occupational healthcare services in South Africa, report that these services "occupy a relatively low priority on the health reform agenda". In mid-2016, Myers et al. published a letter to the editor in the South

African Medical Journal, calling for the incorporation of occupational (and environmental) health in the National Public Health Institute of South Africa (NAPHISA) Bill.¹ The letter also listed the ideal functions of a National Public Health Institute delivering occupational health and safety services. The draft Bill was published in November 2015, and we eagerly await the revised Bill which we believe now incorporates occupational health. We hope that this will go a long way to focusing attention on occupational health services going forward.

Mortality statistics released by Statistics South Africa at the end of February this year showed that over half (55.5%) of deaths in 2015 were attributed to non-communicable diseases. While tuberculosis remained the leading cause of death in 2015 (accounting for more than 7% of all deaths), deaths due to non-communicable diseases were not far behind: diabetes mellitus accounted for 5.4% of deaths, closely followed by cerebrovascular diseases (such as stroke) at 5.0% of deaths. Despite this, many people survive strokes which "often strike down the victim in their productive years of life, removing the breadwinner from families".³ Hence, the paper by Veronica Ntsiea and Helen van Aswegen on enablers of, and barriers to, returning to work for stroke victims, is particularly important. The novelty of this paper lies in the fact that perspectives of employers were sought, in addition to stroke victims themselves.

A decade ago, the UN General Assembly declared 25 March the International Day of Remembrance of the Victims of Slavery and the Transatlantic Slave Trade (Resolution 62/122 of 17 December 2007). It is therefore fitting that we are publishing the first of David Stanton's papers on slavery in this issue. There will be several papers following this one.

Chris van Selm has written his second opinion article, this time on formal and informal referral processes; the first article, on conflict resolution, appeared in the previous issue of the Journal. We were pleased to hear that Dr van Selm received lots of positive feedback from his occupational health colleagues in Swaziland. We hope that they will be encouraged to read future issues of the Journal, and submit papers of their own.

The letter to the editor, which draws our attention to South Africa's stance on supporting the listing of chrysotile asbestos as a hazardous



Anti-asbestos lobbying in New York. Photo: Gill Nelson

chemical in terms of the Rotterdam Convention, will surely elicit comment from some of our readers.

As usual, the Societies have news aplenty – both past and future. For planned events, please refer to the Events pages. There are some exciting conferences coming up – both locally and internationally. Unfortunately, the MMPA was unable to submit a page for this issue. We appeal to all MMPA members to support their Association; membership numbers are dwindling. The MMPA, which was originally the Mine Medical Officers' Association (MMOA) is the oldest of the four societies, and needs our support.

Please continue to support your students in their research and encourage them to publish, so that we can grow the next generation of occupational health researchers. For those of you who are students, please take advantage of the support systems that are available, and ask for assistance when you need it.

A handwritten signature in black ink, likely belonging to Gill Nelson.

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Letter to the Editor

South Africa and the Rotterdam Convention

Asbestos is well-recognised as a cause of considerable morbidity and mortality, and is a substance that is persistent in the environment. The latest estimate of its global toll is 194 000 occupationally-related deaths annually.¹ Consistent with Section 24 of the South African Bill of Rights² which emphasises the right to an environment that is not harmful to health or wellbeing, and which protects the environment for the benefit of present and future generations through reasonable legislative and other measures that prevent pollution, South Africa has chosen to ban all forms of production and distribution of asbestos.³

The Rotterdam Convention is a multilateral United Nations environmental agreement whose primary purpose is to protect human health and the environment by regulating trade of certain hazardous chemicals.⁴ The Convention is science-based and was specifically created to help end the double standard under which known hazardous substances that are banned and regulated in Western countries are being exported to countries in the global South without warnings or protective measures. The Convention thus provides a basic human right and empowers countries in the global South to refuse or set conditions over import of hazardous substances into their countries. The primary tool of the Convention is the listing of harmful chemicals in what is known as Annex III, so that there is enforced transparency when countries export such chemicals. The treaty requires exporting countries to obtain Prior Informed Consent from countries to which they wish to export a substance listed in Annex III. Some substances regulated under the Convention are notorious pollutants, e.g. polychlorinated biphenyls (PCBs), dieldrin, dichlorodiphenyltrichloroethane (DDT), and asbestos but excluding chrysotile asbestos.

This exclusion of chrysotile asbestos is a major flaw in the Convention, because chrysotile accounts for 95% of all the asbestos sold in the past century and is the only form of asbestos currently exported. Countries that have an interest in continuing its production, such as Russia, Kazakhstan and Zimbabwe, are driving efforts to keep chrysotile unregulated. The current rules require that decisions to list hazardous substances need consensus. A recent initiative by a group of 12 African countries has now proposed an amendment – that decisions be taken by a majority vote when consensus proves impossible. This amendment would end the current effective veto-by-one. It is surprising that South Africa, having banned asbestos in 2008, has rejected this proposed change.

At the first two conferences under the Convention,

asbestos interests succeeded in keeping the listing of chrysotile asbestos off the agenda. In 2005, the Chemical Review Committee, which is charged with investigating and making recommendations to the Conference of the Parties for the listing of chemicals in Annex III, recommended that chrysotile be included. However, at every meeting since 2006, a handful of countries has succeeded in preventing the listing of chrysotile asbestos by refusing consensus. No other chemical has been subjected to this continued blocking. Consequently, this hardy and biopersistent toxin has repeatedly escaped international regulation, despite its ongoing associated death toll.

The African countries proposing the amendment are Botswana, Cameroon, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Swaziland, Tanzania and Zambia. The amendment can be passed at the next conference with a 75% vote.

In the face of this initiative, Zimbabwe has opposed the motion. It used to be a major producer of chrysotile asbestos and has repeatedly defended the product in international forums, despite ample evidence that chrysotile asbestos is as dangerous as any other form of asbestos – the International Agency for Research on Cancer specifically lists 'all forms' of asbestos as carcinogenic to humans.⁵ Zimbabwe also clings to the vain hope that it can resuscitate asbestos mining in the south of the country, despite recent reports saying that this would cost in the region of one billion US dollars.⁶ What is surprising is that South Africa has joined Zimbabwe in refusing to support this amendment, even though people living in South Africa enjoy the safety benefits of having trade in all forms of asbestos banned.

Seemingly, South Africa's foreign policy is not dictated by any substantive health or environmental considerations. Allowing Zimbabwe's asbestos industry a further tenuous extension of life will permit it to continue to cause lung, laryngeal and ovarian cancers, mesothelioma, and asbestosis in workers and those exposed to its products. These diseases would occur locally and internationally for the remainder of this century at least.

Why the double standards? Is the South African government returning prior favours? Is it vainly trying to save the Zimbabwean economy? Or is this just plain stubbornness on the part of the South African foreign affairs officials? This duplicity is a violation of the Constitution and regulatory system.

The Rotterdam Convention is intended to end the unsafe trade in hazardous products by elevating levels of transparency and empowering countries to protect their

borders regarding the trade of listed products. Yet, South Africa is helping to keep this trade alive, and it behoves us in occupational health to change this for the health of workers and the environment.

The eighth conference on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade – the formal name for the Rotterdam Convention – is due to take place soon, in Geneva in April-May 2017. It is our sincere hope that South Africa will conduct itself ethically during these deliberations.

A shorter version of this article appeared in GroundUp (<http://www.groundup.org.za/article/south-africa-not-supporting-initiative-restrict-deadly-asbestos-trade/>) and the Huffington Post (<http://www.huffingtonpost.co.za/2017/03/14/south-africa-refuses-to-support-initiative-to-restrict-deadly-as/>).

Jim teWaterNaude, Leslie London and Kathleen Ruff

Jim teWaterNaude is a Board member of the International Mesothelioma Interest Group.

Leslie London is Chair of Public Health Medicine in the

School of Public Health and Family Medicine.

Kathleen Ruff is the Founder and Co-Coordinator of the Rotterdam Convention Alliance (ROCA).

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Upcoming events



NATIONAL MEETINGS

DATE	MEETING	PLACE	MORE INFORMATION
4 May 2017	SASOHN Academic Day	Aviator Hotel, Kempton Park	E-mail: office@sasohn.co.za Website: www.sasohn.co.za
18 May 2017	SASOHN Academic Day (with SCOHN presenter)	The Townhouse Hotel, Cape Town	E-mail: office@sasohn.co.za Website: www.sasohn.co.za
30 - 31 May 2017	A-OSH Expo 2017	Gallagher Estate, Sandton, Gauteng	E-mail: leighm@specialised.com Website: www.aosh.co.za
9 - 10 Jun 2017	SASOM Annual Congress: Challenges in occupational health: doing right, at the right time	Protea Hotel by Marriott, OR Tambo International Airport, Kempton Park, Johannesburg	E-mail: info@sasom.org
17 Jul 2017	Seminar with Prof Tom Fuller, Occupational Hygienist	Wits School of Public Health, Parktown, Johannesburg	E-mail: info@saioh.co.za
30 - 31 Aug 2017	MINESAFE 2017	Emperors Palace, Johannesburg	E-mail: raymond@saimm.co.za Website: http://www.saimm.co.za
25 - 27 Oct 2017	SAIOH AGM	Gauteng	E-mail: info@saioh.co.za
1 - 3 Nov 2017	SASOHN Annual Conference & AGM: Pure Joy – Pure Jozi	Sandton, Johannesburg	E-mail: office@sasohn.co.za Website: www.sasohn.co.za
25 Nov 2017	SASOM National AGM	Durban, KZN	E-mail: info@sasom.org

HEALTH AWARENESS DAYS, WEEKS AND MONTHS

MARCH

TB Awareness Month

3	World Hearing Day
8	International Women's Day
16-22	World Salt Awareness Week
10	World Kidney Day
20	World Head Injury Awareness Day
21	Human Rights Day
24	World TB Day

APRIL

Health Awareness Month

7	World Health Day
24-30	Global/African Vaccination Week
25	World Malaria Day

Upcoming events

INTERNATIONAL MEETINGS

DATE	PLACE	MEETING	MORE INFORMATION
24 - 27 Apr 2017	Harrogate, UK	BOHS Annual Conference – OH2017	E-mail: conferences@bohs.org Website: http://www.oh-2017.com/
3 - 5 May 2017	Varese, Italy	7th ICOH Cardiovascular Diseases and work Environment International Conference	E-mail: convegna@biomedia.net Website: http://www.icoh-cvd2017varese.it/
19 - 21 Jun 2017	Gothenburg, Sweden	6th International Conference on Whole Body Vibration	E-mail: ann-sofie.liljenskog.hill@amm.gu.se Website: http://medicine.gu.se/WBV2017
19 - 23 Jun 2017	Northern Territory, Australia	23rd Symposium on Shiftwork and Working Time	E-mail: lesley@themeetingpeople.com.au Website: http://www.themeetingpeople.com.au
22 - 25 Aug 2017	Odense, Denmark	International Scientific Conference and Workshop on Occupational Health and Safety in Formal and Informal Mining	E-mail: erik.joers@rsyd.com Website: http://niva.org/conference/mining/
28 - 31 Aug 2017	Edinburgh, Scotland	EPICOH 2017 Conference: Eliminating Occupational Risk: Translating Research into Action	E-mail: Grant.Law@iom-world.org Website: http://www.epicoh2017.org
29 Aug - 1 Sep 2017	Mexico City, Mexico	6th International Congress of the ICOH Scientific Committee on Work Organization and Psychosocial Factors (ICOH-WOPS) – 2017	E-mail: wops2017@gmail.com Website: http://condor.zaragoza.unam.mx/wops/
3 - 6 Sep 2017	Singapore	XXI World Congress on Safety and Health at Work 2017	E-mail: secretariat@safety2017singapore.com Website: www.safety2017singapore.com
4 - 6 Sep 2017	Milan, Italy	2nd International Nursing and Primary Healthcare Conference: Enlightening inspiring thoughts on research, education, training and technology related nursing and healthcare sciences	E-mail: nursingevent@conferencesus.com Website: http://nursing.conferencesus.com/
14 - 15 Sep 2017	Vienna, Austria	45th International Medicchem Congress	E-mail: medicchem@austropa.at Website: http://medicchem2017.eu
1 - 4 Oct 2017	Naples, Italy	10th International Symposium on Biological Monitoring in Occupational and Environmental health (ISBM -10)	E-mail: info@centercongressi.com Website: http://www.centercongressi.com/isbm2017
28 - 30 Nov 2017	Khon Kaen, Thailand	10th International Joint Conference on Occupational Health for Healthcare Workers: Health & wellbeing in the health care sector	E-mail: naesinee@kku.ac.th E-mail: cnaesi@gmail.com Website: www.ohhcw2017.org
29 Apr - 4 May 2018	Dublin, Ireland	32nd International Congress on Occupational Health - ICOH 2018	E-mail: icoh2018@conferencepartners.ie Website: http://icoh2018.org/wp/

Governance of occupational healthcare services in South Africa: Cohesion or conflict?

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Karen Michell is a SASOHN member.

ABSTRACT

Background: Effective governance of healthcare services is essential for achieving national health objectives and safe quality care. The governance of occupational healthcare services has received scant scholarly attention both globally and in South Africa. This paper uses ILO Convention 155 as a conceptual framework for the review of the governance of occupational healthcare services in South Africa.

Objectives: To investigate the nature and extent of involvement of legislated bodies in the governance of occupational healthcare services in South Africa and explore stakeholders' perceptions of occupational healthcare services governance.

Methods: There were three components to the study: a review of relevant legislation and policy documents; 12 key informant interviews; and 11 focus group discussions in three South African provinces. The data were analysed using thematic content analysis.

Results: Occupational healthcare services occupy a relatively low priority on the health reform agenda and are delivered in a fragmented and complex legislative framework with multiple government departments tasked with various occupational health functions. The results suggest that there are gaps in governance because of conflicting or overlapping relationships, and poor cohesion among the statutory departments. These, in turn, contribute to poor quality control of occupational healthcare service delivery and insufficient accountability.

Conclusion: The improvement of occupational healthcare services governance requires intersectoral collaboration, enforcement of existing legislation, and involvement of all relevant stakeholders.

Keywords: enforcement, legislation, statutory structures, perceptions, fragmentation

INTRODUCTION

Globally, health systems governance has received increased attention^{1,2} as it influences the core goals of good health outcomes, responsiveness to community expectations, and fair financial contribution.³⁻⁵ The World Health Organization (WHO) has proposed six building blocks of a health system (Box 1) that are essential to achieve these goals,⁶ with leadership and governance as the most important building block.^{5,7} The 2015 sustainable development goals have underscored the importance of governance in achieving health and development objectives.⁸ Numerous definitions of health systems governance have been proposed.^{1,5,9} King has proposed that effectiveness and ethical leadership constitute the most important characteristics of organisational governance.¹⁰ This paper uses the WHO definition which states that health systems governance is a national function that requires the existence of strategic frameworks 'combined with effective oversight, coalition-building, the provision of appropriate regulations and incentives, and accountability'.⁴

In South Africa, many government policies emphasise leadership and governance as critical success factors for the achievement of health, social and economic development goals.¹¹⁻¹³ However, numerous scholars have highlighted weaknesses in relation to: the stewardship of both the public¹⁴ and private health sector,¹⁵ achievement of health outcomes,¹⁶ financial management, and the prevention of corruption¹⁷ of the entire health system.^{18,19} Notwithstanding the increasing global focus on health

Box 1. The WHO six building blocks for a health system⁶

1. Service delivery
2. Health workforce
3. Health information systems
4. Access to essential medicine
5. Financing
6. Leadership/governance

governance, there has been insufficient scholarly focus on the governance of occupational healthcare services (OHS) both at an international level^{20,21} and in South Africa.²² The reasons for this relatively low priority accorded to OHS are multi-factorial, and include inadequate understanding of the nature and benefits of OHS, financial and human resource constraints, and insufficient technical capacity.²¹

The International Labour Organization (ILO) Convention 161 defines OHS as 'services entrusted with essentially preventive functions and responsible for advising the employer, the workers and their representatives on matters relevant to establishing a healthy and safe working environment.'²³ OHS are regarded as specialised healthcare services, of which one of the goals is to monitor and protect workers' health in their place of employment.^{20,24} OHS governance is critical as ineffective governance contributes to financial losses through work-related ill-health, injuries and sickness absenteeism,²⁵ and the large burden of occupational disease and injury.^{26,27} Evidence also shows that poorly-regulated health services lead to distortions in the type, quantity, distribution, quality and price of services,^{3,28} a concern that has been raised in the occupational health (OH) sector.^{29,30}

South Africa is a member state of the ILO ratified International Convention 155,^{31,32} known as the Occupational Safety and Health Convention. In consort with the WHO building blocks for a health system (Table 1),⁶ this Convention requires that member states develop a national policy for health and safety with objectives; indicate the roles, functions and responsibilities of stakeholders; apply a system of inspection with adequate penalties to enforce the laws and regulations; provide guidance to employers and stakeholders on compliance with legal obligations; and, through consultation, ensure necessary co-ordination between stakeholders to give effect to Convention 155. The Convention also recommends the establishment of a central, oversight body.

The objectives of Convention 155 were endorsed at the 13th Joint ILO/WHO Committee on Occupational Health, which recommends that basic occupational health services (BOHS) should be available to all workers.^{21,33} The objective of BOHS is the provision of OHS to all workplaces that either do not have such services or have services that do not meet the current OH needs. It is estimated that 10% to 15% of the global working population have access to some form of OHS,³³ and that coverage is required in all sectors of the economy, including formal, informal and self-employed, regardless of occupation, size of workforce,

geographical location or mode of employment. The BOHS model proposes four levels of service delivery, ranging from services to employees where there are no on-site OH services to comprehensive OHS delivered through multi-disciplinary teams,³³ creating a diverse system of service delivery.

The legislative framework within which OH is practiced in South Africa is complex, with several government departments having a legislative responsibility. Two government departments administer OH activities in the workplace, i.e. the Department of Mineral Resources (DMR) through the Mine Health and Safety Act (MHSA)³⁴ which administers OH in mines and quarries, and the Department of Labour (DoL) through the Occupational Health and Safety Act (OHSA)³⁵ which administers OH in all other sectors. In addition, all healthcare establishments are administered by the Department of Health (DoH) through the National Health Act (NHA).³⁶ The activities and scope of practice of OH professionals is regulated by their autonomous professional councils and Acts, i.e. the Health Professions Council of South Africa (HPCSA), through the Health Professions Act,³⁷ regulates the practice of doctors, and the South African Nursing Council (SANC), through the Nursing Act, regulates the practice of nurses.³⁸

We could not find empirical studies on the governance of OHS in South Africa. In the light of this knowledge gap, we argue that a critical discussion on OHS governance is an important component of achieving universal health coverage in South Africa because of the 15 million workers in formal sector employment³⁹ and the recognised burden of occupational diseases in the country.^{26,27}

METHODS

There were three components to the data collection: review of legislation and policy documents, key informant interviews, and focus group discussions. This research used the principles of ILO Convention 155 as a conceptual framework; data from 12 key informant interviews (KIIs) and 11 focus group discussions (FGDs); and thematic content analysis of legislation and policy documents to explore governance of OHS.

Review of legislation and policy documents

From July 2013 to July 2014, a review was conducted of the South African legislation and policy documents governing OH, OHS and occupational healthcare establishments. Reviewed data sources included the websites of the ILO, WHO, South African National Government, Department of Health, Department

Table 1. Comparison between the objectives of the WHO Building Blocks for Health Systems and ILO Convention 155

WHO Building Blocks objectives	ILO Convention 155 objectives
Develop a framework to monitor and improve a country's health system	Protection of workers' health in the workplace arising from safety and hygiene concerns
Maintain and implement policy direction for health services	Develop a national policy for health and safety with objectives
Detect and control undesirable trends in service delivery	Apply a system of inspection with penalties to enforce laws and regulations
Regulate the behaviour of role players	Indicate the roles, functions and responsibilities of stakeholders
Establish mechanisms of accountability	Ensure necessary coordination between stakeholders Create central body to achieve the objectives

of Labour, Department of Mineral Resources, and Sabinet. Key words in the document review included: occupational health, occupational healthcare services, occupational health legislation, and governance of occupational health. The specific laws reviewed were the South African Constitution, OHSA, MHSA, NHA, Civil Aviation Act, Merchant Shipping Act, Health Professions Act, and the Nursing Act.

Key informant interviews

The purpose of the KIIs was to explore the complexities and nuances of the governance of OHS from the perspective of major stakeholders. Interviews were conducted from June to November 2014. Participants were purposively selected, based on the location of the relevant OH authorities, location of the national health authorities, and the participant's being active in the occupational healthcare sector.

Semi-structured recorded interviews were conducted with the key informants, using an interview guide developed for the study. The questions covered government departments' involvement in OH, the current controls for establishment of OHS, and factors that influence the governance of OHS. The interview schedule was pre-tested with an OH expert to test clarity of questions. All interviews were conducted in English. Probes were used to clarify responses and obtain more detailed information.

Each key informant interview lasted approximately one hour. Interviews were digitally recorded, and detailed notes were taken. The recorded interviews were transcribed verbatim. Data cleaning consisted of an iterative process of checking the transcribed interviews against the original recordings, correcting the text, checking the recordings again, and making final corrections. Prior to analysis, each key informant was allocated a code to ensure confidentiality.

Focus group discussions

FGDs were conducted from June to August 2014 in Gauteng, KwaZulu-Natal and Western Cape provinces by one researcher (KM). These provinces were selected based on the concentration of industries, and the availability of and researchers' access to stakeholder interest groups. FGD participants were recruited through the South African Society of Occupational Health Nurses (SASOHN), the South African Society of Occupational Medicine (SASOM), recognised OH service provider companies, tertiary institutions offering OH qualifications, and employers who engage OHS. Only OH nurses or doctors currently practicing OH, or service providers offering – or employers engaging OHS – were included in the FGDs. The FGDs sought to explore a range of perspectives from diverse OH interest groups that differed in terms of industry, geographic location, model of service delivery (e.g. company or service provider), and sector of service delivery. Some groups were homogenous, based on characteristics such as employer representation and professional registration. FGDs comprised four to 14 participants.

The principal investigator (KM) facilitated the FGDs and used a FGD guide for discussion. The questions focused on the current

controls for establishment of OHS, government involvement in the control of these services, and the perceived strengths and weaknesses of these controls. Each FGD lasted one to two hours and was audio recorded.

The recorded FGDs were transcribed verbatim. Data cleaning consisted of an iterative process of checking the transcribed FGDs against the original recordings, correcting the text, checking the recordings again, and making final corrections. Prior to analysis, each FGD was allocated a code to ensure confidentiality of information.

Data analysis

The data were analysed using thematic content analysis. First, the words and phrases of the participants in the KIIs and FGDs were examined without preconceived notions or classification. Two researchers with OH experience were given the same two transcripts to code independently from the first researcher, to ensure reliability. The coded transcripts were reviewed to ensure the same coding had been applied. Where there was inconsistency in coding, these differences were discussed until agreement was reached, and a code book was developed based on the recurring themes. All KII and FGD transcripts were analysed using the code book and employing MAXQDA version 11; all identifying statements were removed prior to publication of the results.

Ethical approval

The University of the Witwatersrand Human Research Ethics Committee (Medical) granted approval for the study (clearance certificate no. M140442). All participants received a study information sheet and were required to sign informed consent, including consent to be audio recorded where appropriate, prior to data collection.

RESULTS

Profile of FGD and KII participants

Eleven FGDs (n=69) and 12 KIIs were conducted (Table 2) with participation from private quality assurance providers, the DoL, the Office of Health Standards Compliance (OHSC), a professional council, a professional non-profit association, the National Institute for Occupational Health (NIOH), service providers, employers, OH practitioners, and academia. Study participants included the public and private sectors as well as OH service providers in rural and urban settings.

Fragmentation of governance structures

The analysis of legislation and policy documents revealed a complex, fragmented structure and framework with numerous government departments tasked with different responsibilities in OH, summarised in Tables 3 and 4.

Two government departments, i.e. the DoL and DMR, legislate the provision of a healthy and safe work environment, as well as the need for medical surveillance and medical examinations to determine fitness for work. Neither the OHSA nor the MHSA prescribe how these activities should be performed, nor do

Table 2. Stakeholders and sectors included in the focus group discussions and key informant interviews

Key Informant Interviews n = 12	Focus Group Discussions n = 11
Department of Labour	Occupational health nurses
Department of Health – Office of Standards Compliance	Occupational health doctors
National Institute for Occupational Health	Employers
Professional councils	Service providers
Professional organisations	Professional organisations
Academia	Academia
Voluntary accreditation body	

Table 3. Statutory bodies governing occupational health services in South Africa

Governing Body	Legislation	Scope
Constitutional Court	South African Constitution	Makes strong provision for the rights to health and basic health services. Provides for the right to a safe and healthy work environment.
Department of Health and Office of Health Standards Compliance (OHSC)	National Health Act No. 61 of 2003	OHSC is a regulated body under this Act. Requires all healthcare establishments to comply with quality requirements and national core standards for health establishments. OH services have not been included at this time.
Department of Labour	Occupational Health and Safety Act No. 85 of 1993	To provide for the health and safety of persons at work and of persons in connection with the use of plant and machinery; . . . to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.
Department of Mineral Resources	Mines Health and Safety Act No. 29 of 1996	To safeguard the health and safety of mine employees and communities affected by mining operations.
Department of Civil Aviation	Civil Aviation Act No. 74 of 1962, as amended (Part 67)	Regulates the medical examinations required for persons employed in this sector.
Department of Maritime Affairs	Merchant Shipping Act No. 57 of 1951, as amended	Regulates the medical examinations required for persons employed in this sector.
Health Professions Council South Africa	Health Professions Amendment Act No. 29 of 2007	The Act entitles the Council to oversee doctors' training in order to maintain standards, describe the scope of practice, and register professionals who have met the prescribed training requirements.
South African Nursing Council	Nursing Act No. 33 of 2005	The Act entitles the Council to oversee nurses training in order to maintain standards, describe scope of practice and register professionals who meet the prescribed training requirements. Includes training as an occupational health nurse.
National Institute for Occupational Health	Department of Health	Responsible for supporting occupational health at all levels, promoting occupational health services, and fulfilling statutory obligations.
Medical Bureau for Occupational Diseases	Department of Health	Responsible for discharging duties in terms of, and administering, the Occupational Diseases in Mines and Works Act of 1973, as amended.

Table 4. Role players in the governance of OHS

State	Service Providers	Client
Department of Health	Private	Employers
Department of Labour	Public	Employees
Department of Mineral Resources	Occupational Health Nurses	
South African Nursing Council	Occupational Medical Practitioners	
Health Professions Council of South Africa		
Department of Aviation		
Department of Maritime Affairs		
National Institute for Occupational Health		
Medical Bureau for Occupational Diseases		

they provide guidelines on the establishment of OHS that stem from this legislation, a critical omission from the legislation. The Departments of Aviation and Maritime require medical examinations to be conducted on workers by service providers approved and registered for the purpose, but do not stipulate that this should be done by an OH practitioner. The Department of Health, through the NHA and, more specifically, the recently established Office of Health Standards Compliance, is concerned with the quality of

healthcare in all healthcare establishments; by implication, this should include occupational healthcare establishments /services. The two professional councils (Nursing and Health Professions) are concerned with the training of OH as a specialisation and the practice of nurses and doctors, respectively, with no further role in service delivery or establishment.

The document analysis found that, although South Africa has ratified two conventions, viz. ILO convention C155 – the

“The perception was that the only control over OHS is through the DoH with the inspection of premises for the issuing of dispensing licences, which is not applicable to all OHS, resulting in many practices never being inspected. This was highlighted by doctors and nurses . . .”

Occupational Health and Safety Convention, 1981, which requires member states to formulate and implement a national policy on occupational health and safety in the workplace; and C176 – Safety and Health in Mines, 1995, which addresses health and safety in the mining sector, there is no national policy on occupational health and safety.

The study participants identified the statutory structures responsible for the governance of OHS in South Africa, namely three government departments (Labour, Health and Mineral Resources), and two professional councils (Nursing and Health Professions). The roles of the Departments of Aviation and Maritime were recognised by only one focus group participant and by both DoL key informants. FGD participants identified two voluntary professional organisations, i.e. SASOHN and SASOM, as promoting the development of OHS but with no statutory authority. They were of the opinion that these organisations should be given more authority for OHS in South Africa.

FGD participants indicated that the poor inter-sectoral collaboration among the DoH, DoL and DMR around OHS delivery has created a fragmented approach, contributing to poor quality of service delivery. This is exacerbated by the lack of national standards for the establishment of OHS. In those instances, where codes of OH practice have been published by the DMR, they are only applicable in sectors governed by this department.

Perceptions of OHS governance

The main themes that emerged from the FGDs and the KIIs were: the low prioritisation of OH by the Department of Health, insufficient control over OHS delivery, inadequate understanding of what OHS delivery involves, insufficient resources to steer OHS, and the lack of a national policy and guidelines for occupational health and safety in South Africa.

Low prioritisation of OHS

Study participants were of the opinion that there was low prioritisation of OHS on the government's agenda, and that the concern for improvements in governance came primarily from voluntary OH organisations and service providers. An OHN stated:

“We are currently sitting with a system where the authoritative structures don't support it [OHS].” (FGD 2, OHN, 100)

This statement was supported by key informants who stated:

“It [OHS] is not on the list of the most important services that needs to be put in place in terms of the government's policy around national health.” (KII 8, OHSC)

“I know that there are an awful lot of other things on his [Minister of Health] plate and he may not feel that it [referring to OHS] is addressing the needs of a sufficiently large trunk of the population to warrant his attention . . . I think that his track record would give me faith that if it was successfully placed on his agenda, then I think he would step up to the plate, and he would achieve.” (KII 7, COHSASA)

Participants were of the opinion that the relevant government departments have different priorities. They reported that the DoH focuses primarily on the quadruple burden of disease which includes HIV and AIDS and other communicable diseases, maternal and child conditions, non-communicable diseases, and violence and injuries; the DoL focuses primarily on the safety of workers with limited focus on OH (FGD 6 and KII 2 and 3); and the DMR is believed to be losing its focus on OH as its attention has shifted to tuberculosis prevention and HIV programmes (FGD 8). Although workers are also affected by these conditions, a dedicated OH focus is missing. Furthermore, the DoH's mandate is to govern all healthcare establishments, but it pays insufficient attention to the OH clinics and the quality of OHS delivery.

Study participants were of the opinion that there is insufficient accountability from service providers. This creates gaps in governance because of different focus areas, conflicting or overlapping functions and relationships, and poor cohesion among the statutory departments. These, in turn, contribute to poor quality control of OH service delivery and insufficient accountability. Although the professional councils register OH qualifications and provide professionals with a licence to practice within their areas of specialisation, they do not play a central role in OHS governance.

Insufficient oversight over OHS

Despite both the OHSA and the MHSA legislated requirement for employers to conduct medical surveillance and medical examinations, participants believed that few or no controls exist to manage the establishment of OHS. As stated by key informants from two state structures and a service provider:

“From us [DoL] as a regulator there is nothing [referring to control] . . . and I know from the health side that there is nothing and any person can be a [OH] service provider.” (KII 2, DoL)

“I don't think we have controls that are governing us in OH . . . As long as you can get the practice number from SANC, then that's it, you can do whatever you like.” (FGD 2, OHN)

“In South Africa . . . everybody can open an OH service . . . it's still a free for all.” (KII 10, NIOH)

The perception was that the only control over OHS is through the DoH with the inspection of premises for the issuing of dispensing licences, which is not applicable to all OHS, resulting in many practices never being inspected. This was highlighted by doctors and nurses who stated:

“Ever since we started [offering OH services] there is nothing [referring to controls]. There is absolutely nothing, the only thing

that you need to have is when you need to dispense medication, you need to have a dispensing licence.” (FGD 8, OMP)

“The controls that we have . . . it depends on the services you are going to deliver. If you dispense [medication] then you find that there is control because you have to meet those requirements . . . but for OH there is nothing.” (FGD 2, OHN)

The DMR has qualified health inspectors inspecting OHS at mines and quarries governed by the MHS Act, and both discussants and informants believe the control over DMR-regulated services is better than that of the DoL, but remains sub-optimal. The majority of OHS are provided to workers outside the public health sector in unregistered facilities and are often provided by non-medical personnel. Although the Health Professions and Nursing Acts prohibit the provision of healthcare services by non-medical persons, in practice, the legislation is poorly enforced. As stated by an OMP:

“ . . . that’s one of the big arguments . . . around the whole notion of companies that are non-registered entities performing health services, which is an illegal practice. So the only control . . . is a breach of health services and health professions law. But whether it is policed or not, or whether there are means to address it, is apparently very problematic.” (FGD 11, OMP)

Lack of understanding of OHS delivery

The power of the DoL and DMR is seen to lie in penalties imposed for non-compliance with legislation but the perception is that these penalties are applied with insufficient insight and understanding of health issues as opposed to issues of safety. Respondents believe that the situation is exacerbated by insufficient expertise in OH as opposed to safety within the DoL. As stated by a discussant:

“At the moment, the DoL is like a scarecrow. You just scare people with the DoL but you never see them anywhere . . . So, if the DoL was functioning as a DoL, I think it would have been different. But at the moment I think it is just the lack of resources, the staff, the competence in the DoL, it is not there.” (FGD 4, OMP)

A lack of understanding of what OHS delivery involves was expressed by a discussant who stated:

“I have encountered the DoH and they have absolutely no understanding of OH, to the point of being obstructive.” (FGD 11, OMP)

This statement was supported by the OHSC representative (KII 11) and consultant (KII 8) who stated that OH services/clinics established outside a healthcare setting, e.g. a hospital or primary health clinic, are not classified as healthcare establishments (HCE) as defined in the NHA. However, after reviewing the definition, it was agreed that these services meet the criteria to be defined as HCE. This lack of understanding of what OHS delivery involves contributes to the low prioritisation of OHS on the government agenda.

Insufficient resources within government departments

Study respondents raised concerns about the poor implementation of inspections for the issuing of dispensing licences, insufficient

resources within the DoH, and the apparent inability of the DoH to cope with its existing work load. The majority of KIIs and FGD participants were unfamiliar with the OHSC, established in 2014.

The absence of a national policy with guidelines for establishing OHS was viewed as a contributing factor to suboptimal governance. Although the NIOH is a national OH resource financed by the DoH, study participants considered the involvement of the NIOH in OH policy development as insufficient, a situation exacerbated by inadequate human and financial resources. Resource constraints also hinder the DoL’s ability to enforce basic OHS safety requirements, and discussants were not confident that the DoL would cope with inspection and enforcement of the additional health component. The fact that health is not seen as a DoL core function and the Department’s lack of skill and knowledge in health, exacerbate this concern. As stated by one discussant when describing where the statutory control of OHS should lie:

“Well . . . I suppose to me it will be a toss-up between the DOL and the DOH but from the point of view of looking at what can go wrong in OH, I think for the DOL probably health would not be on their agenda. They would acknowledge that it’s important but that’s not their core business, so they would be distracted into the things that are their core business and I think that it is more likely that they would overlook the health aspect.” (FGD 4, OMP)

Study participants indicated that the DoL appears motivated to address these concerns and improved governance could result from intersectoral collaboration among all statutory and voluntary professional organisations, which will enable the sharing of knowledge, skills and expertise.

DISCUSSION

The governance of OHS globally and in South Africa has received scant attention.^{20, 22} This study found a lack of cohesion and, at times, conflict, in the governance of OHS, despite policy pronouncements on the importance of these services in both the 1997 White Paper for the Transformation of the Health System⁴⁰ and ILO Convention 155.³¹ The study participants’ perceptions of the low prioritisation of OHS are supported by the South African health sector reform proposals that are silent on the governance and integration of OHS into the healthcare system.^{41,42} The study found that there are multiple statutory stakeholders in OH, but no one structure takes the lead responsibility for governance of the OHS. In addition, OH legislation tends to be governed by the Departments of Labour⁴³ and Mineral Resources³⁴ and not the Department of Health, creating role confusion with regard to accountability for the OHS offered by nurses and doctors.

Leadership and governance are important building blocks of a health system⁶ as emphasised in many South African policies.^{10,11,12} Furthermore, South Africa has strong OH legislation.^{34,35} However, this study found that leadership and governance in OHS are sub-optimal. This complex and fragmented framework within which OHS are delivered, with multiply stakeholders assuming varied authority, has created gaps in governance in terms of directing and overseeing the services established to protect workers’ health. The low prioritisation of OHS within the DoH, accompanied by

a perceived lack of OH expertise, the historical inability of the government departments to form collaborative inter-sectoral partnerships,¹⁶ and insufficient resources, are important issues to address.

Greater cooperation and cohesion are required between the statutory authorities to improve the governance of OHS, an approach that would align OHS governance to the objectives of both ILO Convention 155³¹ and the WHO Building Blocks for Health Systems.⁶ The various departments would be required to develop a national strategic framework that clearly defines the roles and responsibilities of each of the departments in the governance of OHS, with one body assuming overall responsibility for the coordination of this strategy. The strategy would also require attention to the monitoring of quality of OHS delivery through reporting and inspections, and a combination of incentives and penalties to ensure legislative compliance.

Governance is a key responsibility of the state but achieving sound governance requires stakeholder collaboration.³ In OH there are multiple stakeholders,²⁴ each with differing objectives,²⁴ creating a complex environment within which OHS are delivered, a situation similar to that in other countries. At the same time, this complex environment creates an opportunity where engaging and utilising the skills and knowledge within the diverse stakeholder groups could present a solution to the limited availability of resources within government structures.⁴⁴ Both SASOHN and SASOM, as voluntary professional organisations and stakeholders in OH, have the required skills, knowledge and motivation to collaborate with government structures to intensify and support the development and implementation of a system of sound governance. These are resources that can be used to effectively augment the capacity of the statutory bodies.

The impact of poor health sector regulation has been described, and includes a rapid expansion of unregistered clinics, poor inspection of facilities, and unregistered persons providing healthcare.^{14,45} In the broader PhD study of which this paper is a part, stakeholders²⁹ have identified similar concerns in OHS delivery and have recommended that service providers are held accountable for their acts and omissions through a system of inspection and enforcement. A strong legislated framework is in place for healthcare in South Africa⁴⁶ but with limited control over the behaviour of service providers in the private sector²⁸ where governance is perceived as voluntary.²⁹ This situation is exacerbated by gaps in governance in terms of confusion or conflict in the roles and responsibilities of the statutory bodies. Evidence suggests that self-regulation is successful under conditions of effective governance.^{3,28} Given the gaps in governance in the occupational healthcare sector, it follows that quality of care and service delivery should not be reliant on self-regulation. In accordance with Convention 155,³¹ regulation of service provider behaviour should be managed through a system of laws and regulations enforced through inspection which will require cohesion, power sharing and collaboration between the government departments. Historically, this inter sectoral collaboration has been difficult to achieve⁴⁴ but in the current political environment, where improving governance is a priority, this cohesion among the statutory authorities is critical to success.

Workplace exposures have the potential to cause debilitating ill-health in workers⁴⁷⁻⁴⁹ with a resultant financial burden on both the individual and society, which could be ameliorated through quality OHS.⁵⁰⁻⁵² A significant burden of occupational disease has been described in South Africa^{26,27} and the sub-optimal governance of these services, with resultant poor enforcement and compliance, might be contributing factors. Study participants were of the opinion that OHS are low on the DoH policy agenda as they serve a relatively small sector of the population. However, statistics estimate that, of the 51 million population in South Africa, more than 15 million are employed³⁹ – a significant proportion and one worthy of greater policy attention. In a country with limited resources, the effective and efficient use of these resources is imperative. OHS need to become a priority item on the government policy agenda in order to improve governance and service delivery.

A key recommendation of the study is that the Departments of Labour, Health and Mineral Resources, in consultation with stakeholders, need to develop a strategic framework to improve workers' health and OH service delivery, with an outline of roles and responsibilities, as well as a robust system of OHS governance.

Limitations

Despite attempts to include representation from the Department of Mineral Resources and trade unions, this study does not include the views of these stakeholders. Further research is required to explore client (employer and employee) perceptions of governance. The study was conducted at one point in time and is influenced by context, and the perceptions and characteristics of the key informants and focus group discussants.

CONCLUSION

This is one of the first studies to explore stakeholders' perceptions of the governance of OHS in South Africa. Notwithstanding policy pronouncements and recognition of the importance of effective OHS governance, this is hindered by a complex and fragmented legislative environment, perceptions of low prioritisation, insufficient control over OHS delivery, inadequate understanding of what OHS delivery involves, insufficient resources, and the lack of a national policy and guidelines for OH in South Africa. The findings of the study suggest that there are gaps in governance because of conflicting or overlapping relationships, and poor cohesion among the statutory departments. These in turn, contribute to poor quality control of OH service delivery and insufficient accountability. South Africa has ratified ILO Conventions 155 and 161, and is obliged to achieve the objectives outlined in these Conventions, which include developing a national policy for OHS, indicating responsibilities of stakeholders, enforcing laws and regulations through inspection and, through consultation, ensuring the coordination between stakeholders. The improvement of OHS governance requires intersectoral collaboration, enforcement of existing legislation, and involvement of all relevant stakeholders.

DECLARATION

The authors declare that they have no conflicts of interest.

LESSONS LEARNT

1. Globally and in South Africa, the governance of OHS has received insufficient scholarly focus
2. The identified obstacles to governance include the fragmented and complex legislated framework, low prioritisation of OHS by the DoH, and insufficient resources
3. The improvement of OHS governance requires intersectoral collaboration, enforcement of existing legislation, and involvement of all relevant stakeholders

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Occupational health litigation and the development of occupational hygiene: Slavery – Part 1: From ancient times

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*"At the extremity of Egypt and in the contiguous territory of both Arabia and Ethiopia there lies a region which contains many large gold mines, where the gold is secured in great quantities with much suffering and at great expense. For the earth is naturally black and contains seams and veins of a marble which is unusually white and in brilliancy surpasses everything else which shines brightly by its nature, and here the overseers of the labour in the mines work recover the gold with the aid of a multitude of workers."*¹

Diodorus Siculus, Greek historian 1st century BC, provides information on working conditions for slaves in Nubian gold mines and mentions the association of gold with quartz (referred to as white marble) and much suffering.

BACKGROUND TO THIS SERIES OF PAPERS

As discussed in the Introductory paper to this series,^{2,3} the silicosis litigation class actions against gold mining companies in South Africa in the 21st century influenced *Occupational Health Southern Africa* to include a series of papers covering occupational health litigation. This, the second paper in the series, deals with 'Slavery' because of the appalling working conditions that black and white miners endured at the end of the 19th and the start of the 20th century on the Transvaal gold mines;^{4,5} the slave traffic utilised for the recruitment of black Africans for the gold mines;⁶⁻⁹ and the impact of slavery on racism which became an integral part of the culture of South Africa^{8,9} with the most inhumane conditions of service for black workers on the mines. Inadequate attention to their health and safety continued through the 20th and into the 21st century.¹⁰⁻²¹

The eminent social historian, Luli Callinicos, addressed the origins of racism in South Africa.⁸ In summary, a number of European countries became rich through the slave trade, in particular through the shipment of millions of African slaves to the Americas to work in the sugar and cotton plantations, and through the exploitation of mineral wealth. South Africa's colonial history gave rise to a racist society, and mine owners felt justified in providing poor working and living conditions, and paying low wages, to black mine workers.^{8,9,22}

The exploration of slavery and working conditions in mining, and the impact of the exploitation of mineral wealth on South Africa, has resulted in Paper 2 on *Slavery* being split into six parts. Part 1 – *From Ancient Times* – covers the period when most miners were slaves, by birth, capture in warfare, or judicial condemnation. Part 2 – *Gold and the North Atlantic Slave Trade* – is split into further sub-parts, starting in west Africa and moving to the Caribbean and the mainland of the Americas where Spanish and

Portuguese mines produced huge quantities of precious metal while also consuming countless lives of the native Indians and Africans compelled to work in them. Gold as the driving force for initial expeditions and colonisation of the territory of what is now the United States of America is covered in Part 3 – *Gold and the US*. Part 4 – *The Colliers of Scotland and Coal Mining in the US* covers how the courts enslaved the colliers of Scotland and, in the US, African Americans for the convict coal mines. Part 5 addresses *The Welsh Slate Industry* which was initially funded by the profits from slavery. Part 6 provides information on slavery in *Southern Africa and Gold Mining on the Witwatersrand* and draws on information from Parts 1 to 5 to show the part played by gold and slavery in the loss of land by indigenous people, poor working conditions and how this ultimately played a part in the current silicosis litigation in South Africa.

SLAVERY FROM ANCIENT TIMES

Slavery and the slave-trade are older than the records of human society and have spanned the globe.²³ Labour in ancient civilisations was primarily slave labour and slaves underpinned scores of cultures in the Ancient World – in Mesopotamia, Egypt, Greece, Rome, North Africa and south of the Sahara.²⁴ In 6800 BC the world's first city-state emerged in Mesopotamia where enemies were captured and forced to work as slaves. By 2575 BC Egyptian temple art celebrated the capture of slaves in battle.²⁵ Henry Ernest Sigerist,²⁶ Swiss medical historian, states in a 1936 lecture: The pyramids of ancient Egypt were built by state slaves whose lives had no value whatever, whom every war would replace. The ancient physicians were not actually interested in the health of the manual labourers; they devoted their attention almost exclusively to the upper class. Medical care was also given to those who served to entertain the people – the gladiators.

Slavery became an important part of the economy and society only after the establishment of cities.²⁷ It is estimated that the majority of citizens in ancient Athens owned at least one slave. Slaves worked in the fields, factories or small workshops; those who could read or write were often teachers or accountants. A smaller number worked as enslaved servants in the houses of their owners.²⁸ In Athens, and Italy when the Roman Empire was at its most powerful, 30–35% of the population was enslaved.²⁹

SLAVERY IN MINING

Those slaves in ancient times who were worst off included mine workers due to appallingly bad working conditions; legal writers record that condemnation to the mines was a fate worse than death.³⁰ Vast numbers of slaves were used in the mines and a lucrative and constant revenue was gained by those who hired out slaves.²⁹ Not all slaves spent their working time in the dark and badly ventilated galleries as many were needed to perform skilled and unskilled tasks outside the pits.³¹

Most of the gold in biblical times was mined in Nubia (now encompassed by Egypt and Sudan), where production might have amounted to 30 kilograms a year.³² To build their immense wealth, the Egyptian pharaohs established a system of gold mining that sacrificed tens of thousands of war captives, prisoners, dissidents, and slave labourers.³³ Diodorus Siculus (c. 90-30 BC), provides information on working conditions for slaves in mining. Continuing from the quotation for Nubian gold mines at the start of this paper:¹

“For the kings of Egypt gather together and condemn to the mining of the gold such as have been found guilty of some crime and captives of war, as well as those who have been accused unjustly and thrown into prison because of their anger, and not only such persons but occasionally all their relatives as well, by this means not only inflicting punishment upon those found guilty but also securing at the same time great revenues from their labours. And those who have been condemned in this way – and they are a great multitude and are all bound in chains – work at their task unceasingly both by day and throughout the entire night, enjoying no respite and being carefully cut off from any means of escape . . . And since no opportunity is afforded any of them to care for his body and they have no garment to cover their shame, no man can look upon unfortunate wretches without feeling pity for them because of the exceeding hardships they suffer. For no leniency or respite of any kind is given to any man who is sick, or maimed, or aged, or in the case of a woman for her weakness, but all without exception are compelled by blows to persevere in their labours, until through ill-treatment they die in the midst of their tortures.”

The gold-bearing regions of Egypt and Nubia³⁴ made Egypt a wealthy nation as gold became the recognised standard medium of exchange for international trade.³⁵ Bisharee or the Great Nubian Desert, was once the centre of the greatest gold-mining works known to the ancient world. Del Mar considered that the Nubian mines might have been as prolific as have been those of Italy, Spain, Brazil, Russia, Australia or California.⁶ Despite the

legendary wealth of gold in Pharaonic Egypt, Dietrich Klemm and co-workers, in a paper published in 2001, estimated that, during the entire 6000 years of gold production in Egyptian history, less than the monthly gold output of South Africa was achieved.³⁶

The second major war between Carthage and the Roman Republic, *The Second Punic War*, lasted from 218 to 201 BC; a major outcome was Roman control of the rich gold and silver mines of Spain. Under the Romans a system was instituted whereby mines were granted to private individuals for a limited period. Wealthy nobles residing in Rome hired overseers to exploit the mines to maximum capacity. Thousands of Spanish natives and Carthaginians were confined to the mines, driven to death and exhaustion by profit-seeking Romans.³³ Diodorus¹ writes about the conditions in the Spanish silver mines where some 40 000 slaves were said to have worked:^{37,38}

“ . . . the slaves who are engaged in the working of them [the mines] produce for their masters revenues in sums defying belief, but they themselves wear out their bodies both by day and by night in the diggings under the earth, dying in large numbers because of the exceptional hardships they endure.”

Two bronze tablets discovered in 1876 and 1906 provide information on Roman labour and economic regulations that existed for mining at the time of Hadrian Augustus (117-138 AD). As the tablets were found near the Roman copper mining district of Vipasca in the vicinity of present day Aljustrel, Portugal, they are referred to as the *bronzes of Vipasca* or the *Aljustrel bronzes*. The first tablet, christened *Vipasca I*, deals with concessions for cobblers, barbers, and teachers at the mines and various regulations for the bath-house lessee as bathing was very important for the Romans. The baths had to be well maintained, kept open within certain hours, and a proper supply of running water was required for the heated rooms. Baths were free for miners and soldiers, imperial freedmen and for slaves in the service of the procurator of the mines or on his payroll. The second tablet, *Vipasca II* or the new *Aljustrel tablet*, includes safety standards with regard to mine props and the ditch for water drainage. The theft of ores, the sabotage of the mining infrastructure, and the breach of safety regulations were punished severely – slaves were whipped at the discretion of the procurator, kept perpetually in chains, and had to be sold outside of the mining district. Those of a higher status lost their property to the fiscus and were evicted from the mining district.^{39,40}

Rio Tinto in southwestern Spain, one of the largest known mining complexes in the ancient world, has provided mineral wealth (copper, silver and gold) for some 5 000 years. Information on the typical working day in Roman times for free miners and slaves is provided by Delgado Domínguez of the Riotinto Museum.⁴⁰ Slaves in surface tasks such as smelting or teaching were paid for their work. Those condemned to the mines would be woken early in the morning and fed a strong posca to hydrate them and make them slightly drunk, so they would not be so conscious of their situation. *“They would also be fed some bread and they would probably not get anything else until the following day. They would feed them enough to be able to go through a working day, but not enough to put up resistance.”* Chained at the neck, their working day would

be determined by how long their oil lamp lasted – about 11 hours. Human bones in slag piles show that enslaved miners were not entitled to burials; instead, they were thrown out with the slag and the garbage. A popular image of a Roman soldier leading collared slaves is given below.



Roman collared slaves – Marble relief, from Smyrna (Izmir, Turkey), 200 AD, featured at a collection of the Ashmolean Museum, Oxford, England. Source: Wikimedia Commons

Gaius Plinius Secundus (Pliny the Elder c. AD 23-79)⁴¹ discussed the health and safety hazards of mining in Roman times, mentioning miners being crushed to death from underground rock falls, the galleries filled with suffocating vapours and smoke, and the cloud of dust, of a density quite incredible. Like Diodorus, he mentions the association of gold with quartz: “*The gold that is extracted from shafts . . . it is found adhering to the gritty crust of marble,*” and, “*it is seen interlaced with the molecules of the marble.*” He commented that the exhalations in silver mines were dangerous, and on the presence of some fatal substances in deep-sunk wells that could be guarded against by letting down a lighted lamp, and ascertaining whether the flame was extinguished.

The natural noxious or flammable gases in mine galleries were supplemented by the gases and smoke from fires set to heat the rock and prepare it for splitting with liquid. To overcome the problems of increasing heat with depth, smoke and toxic gases, the Romans created additional air movement through convection, so that warmer air from the mine rose and was replaced by cooler air from outside. This could be done by cutting additional shafts in parallel as was done at Rio Tinto.⁴² Inadequate ventilation brought many miners a slow and insidious death through exposure to poisonous fumes, suffocation, or silicosis. The need to constantly replace even the cheapest slaves ultimately affected the profit of a mine operator.⁴³

TREATMENT OF SLAVES

Marcus Tullius Cicero, a Roman philosopher, politician and lawyer,⁴⁴ wrote in 44 BC with regard to justice toward slaves:

“But let us remember that we must have regard for justice even towards the humblest. Now the humblest station and the poorest fortune are those of slaves; and they give us no bad rule who bid us treat our slaves as we should our employees: they must be required to work; they must be given their dues.”

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On good faith in the performance of contracts he wrote:

“It is not only in the case of real estate transfers that the civil law, based upon a natural feeling for the right, punishes trickery and deception, but also in the sale of slaves every form of deception on the vendor’s part is disallowed. For by the aediles’ ruling [magistrates of the Roman Republic] the vendor is answerable for any deficiency in the slave he sells, for he is supposed to know if his slave is sound, or if he is a runaway, or a thief. The case of those who have just come into the possession of slaves by inheritance is different.”

The slave markets of Rome were filled with persons of various nations and colours often captured in warfare. Prisoners were paraded naked, with placards around their necks describing their best and worst qualities. If information on the placards was later found to be untrue, the buyer could take the seller to court.⁴⁵ Slaves who managed to escape were guilty of theft (they had stolen their master’s property) and, if caught, would suffer terrible tortures as a means to frighten other slaves. The customary cruelty to slaves of Roman masters³⁸ is also shown in gladiatorial shows, where slaves were publicly killed for the pleasure of the free; and in the law and the practice that all the slaves living in the house of a master killed by one of his own slaves were tortured and executed.

Between 135 and 70 BC, there were three major slave rebellions in Sicily and Italy, which were apparently fostered by the concentration and neglect of thousands of the newly enslaved. The slaves’ initial success against Roman legions was not maintained; eventually the slave armies were defeated and ruthlessly crushed. Crucifixion was the capital punishment meted out specifically to slaves, traitors, and bandits. The road from Capua to Rome was lined with 6 000 crucified slaves captured from the remnants of Spartacus rebellion.^{24,38,45}

One of the most approved modes of obtaining evidence at courts of law in Rome and Athens was the torture of slaves. Forsyth⁴⁶ commented “*We find the Grecian orators constantly appealing to this test, as the most infallible they can offer of the truth of their assertions. It seems to have been deliberately preferred to any other.*” The evidence of slaves could be trusted only if it was exacted under torture, based on the belief that slaves in a position to be privy to their masters’ affairs would be too virtuously loyal to reveal damaging evidence unless coerced.

Slavery existed on a vast scale in the Roman world for more than eight centuries. Over time, as the slave supply dried up, greater reliance was placed on homebred slaves. With this decline, the attitude towards, and treatment of, slaves became steadily more humane. The emperor Augustus and his successors passed laws that protected slaves against the more brutal forms of abuse. For example, although the testimony of slaves could be taken only under torture, various restrictions, such as exemptions for women and children, were gradually applied. Claudius removed the power from slave-owners to kill or abandon sick slaves and, if a slave was abandoned by his master, he became free. Legal protection of slaves continued to grow as the empire expanded.^{24,29} Some Romans would pay a small allowance into a fund for their slaves; when there was enough money in the fund, a slave could buy his or her freedom.⁴⁵

SERFDOM AND THE DEVELOPMENT OF 'FREE' MINERS

When Rome collapsed in the early 5th century, slavery in Europe declined. Although it revived occasionally, there were few equivalent opportunities for a dominant military power to seize and enslave defeated enemies.²⁴ Shaft sinking and mining activity also decreased substantially and the social chaos and general instability in Western Europe persisted until the 11th century. From 1100 to 1500 AD the status of the miner was changed from Roman times. Mining became a respected profession. With growing stability in the 12th to 16th century, shaft sinking and mining activity increased.⁴⁷ In an extensive historical health and safety review of mining, Martinson³⁰ considered that the origins of a major revival of metal mining in Saxony, Austria and Bohemia dates back to the 11th century:

"Early in the revival mines were worked by serf labour owing allegiance to the feudal overlord within whose domain the mine lay, but the system was inefficient and gradually miners became emancipated and this enabled them to form associations of 'free' miners which would lease a mine from an overlord and work it for the joint benefit of the association's members. Later, as mines increased in depth, associations were obliged to admit wealth non-working partners to obtain development capital, and in the 15th and 16th centuries mining developed into a fully capitalistic industry in which mineworkers were reduced to the status of wage earners."

The institution of serfdom was not abolished in Britain until 1381. Under serfdom or domestic slavery, serfs were bought and sold with the estate on which they had to work for a fixed number of days a year without payment; they could not marry without the lord's consent, could not leave the estate, and had few legal rights. As they could not be easily replaced, they were not as physically abused as African slaves a few centuries later in the *North Atlantic Slave Trade*. There, the slaves had no legal rights, were not regarded as human, were often worked to death, were not allowed to marry, and couples and their children were sold off separately.⁴⁸

MOVE TO DEEPER MINES

A detailed review of mine ventilation through the ages was provided by Campbell-Pitt in 1949.⁴⁹ Roman mines were deeper than those of their Greek predecessors. The deeper the mines, the greater the danger for the miner, including increased problems of drainage and ventilation. With the growth of commercial enterprise in the 15th and 16th centuries, there was an increased demand for gold and silver as currency and capital, and mines in Central Europe were deepened. Rosen commented that the necessity for deeper mines affected the health of miners, and the appearance of the first books concerned with accidents and diseases of miners reflects these circumstances.⁵⁰ This included a pamphlet on the occupational hazards of goldsmiths by Ulrich Ellenbog in 1524, the first great textbook on mining, *De Re Metallica*,⁵¹ written by Georgius Agricola (1494-1555) and published after his death in 1556 and, despite scattered references in the literature of antiquity, the first monograph devoted exclusively to the occupational diseases of mine and smelter workers in 1567 by Paracelsus (1493-1541).⁵⁰ Book VI by Agricola covers mine ventilation and the maladies of miners.^{49,51} Paracelsus, unlike Agricola, did not pay any special attention to dust as a causative factor in miners' diseases although it is possible that some of his references to vapours in his treatise may be allusions to dust.⁵²

RESURGENCE OF EUROPEAN SLAVERY IN MINING

Agricola commented that there are those who speak abusively of mining because of the previous use of slaves *"But to-day the miners receive pay, and are engaged like other workmen in the common trades."*⁵¹ By the 15th century ancient slavery was dead in England, and moribund on the continent of Europe.⁵³ However, a half century before the birth of Agricola, 10 African slaves, men and women, were taken by sea from the west coast of Africa to Portugal in 1442.⁵⁴ At the birth of Agricola, Columbus had just returned from his great discovery. These two events, viz. the European transport by sea of slaves from the west coast of Africa, and the 'discovery' of the Americas, would lead to slavery again becoming an important part of European commerce, with slaves being hunted, captured and sold where there was a demand for cheap labour. The European greed for gold^{6,55-58} would lead to the deaths of tens of millions of native Indians through fighting the European invaders, massacres, genocide, mistreatment, torture, famine, suicides, forced work on mines, farms and plantations, and European diseases. Millions of Africans would also suffer an early death during capture, transport, or subsequent work on the mines or plantations of the New World of the Americas.

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Barriers to and enablers of return to work after stroke: survivor and employer perceptions

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ABSTRACT

Background: Stroke often affects people who are still within the working age and impacts a survivor's ability to participate in community activities, such as returning to work. Determining potential successful return to work (RTW) requires identification of possible barriers and enablers of RTW, and the employee's work potential.

Objectives: To establish stroke survivors' and employers' perceived barriers to and enablers of RTW.

Methods: Twelve employers and 24 stroke survivors were interviewed. Purposeful sampling was used to include participants in blue and white collar occupations.

Results: The most commonly perceived enablers of RTW were ability of the employer to provide reasonable accommodation (change in the work environment or the way a job is performed that enables a person to cope in the workplace), and good interpersonal working relationships between stroke survivors, employers and co-workers. The most commonly perceived barriers of RTW were cognitive and speech impairments, fatigue and the inability to work at the required pace. Employers also identified reasonable accommodation and unsafe working environments, while stroke survivors highlighted the inability to meet the demands of the job, challenges regarding transport, and fear of losing employment.

Conclusion: Regular and early communication between the stroke survivor, employer and therapist is necessary to make well-informed decisions about the RTW process, and to explore possibilities of reasonable accommodation at the workplace where possible.

Keywords: reasonable accommodation, communication, transport, accessibility, disability

INTRODUCTION

Stroke often affects people who are of working age,^{1,2} and impacts a survivor's ability to participate in community activities.³ Stroke survivors of working age need complex and cognitively demanding activities during rehabilitation to prepare them for return to demanding workplace activities.⁴

The prevalence of stroke is increasing, with most of the burden in developing countries.⁵ Most people survive their stroke because of improved health services.⁶ Young stroke survivors are likely to live longer, and need to continue working for financial sustainability and to have a sense of purpose. However, there are limited vocational rehabilitation services available in South Africa.⁷

Return to work (RTW) helps to reduce the devastating consequences of unemployment which are linked to financial hardship and the inability of stroke survivors to meet their basic needs,⁸ and to improve their life satisfaction, wellbeing and social identity.^{8,9} An independent income is more financially beneficial than relying on social welfare.¹⁰ It is therefore important to focus rehabilitation programmes on the resumption of work¹¹ as well as restoring body functionality.^{9,12}

Stroke survivors are sometimes forced into early retirement because of the perception of employers that they are unable to perform their duties.¹³ The right of persons with disabilities to work on an equal basis with others is expressed in the United Nations Convention on the Rights of Persons with Disabilities.¹⁴ This is

also enshrined in the Constitution of South Africa¹⁵ which provides protection against discrimination against people with disabilities.

The rate of RTW for stroke survivors in the Gauteng province, the most populous province of South Africa,¹⁶ is 34% two years after stroke.⁸ This is almost half of that reported in a national Danish study, viz. 62% two years after stroke.¹⁷ It is difficult to compare RTW studies due to differences in follow-up periods and worker definitions. In addition, differences in RTW between countries might reflect varying economic conditions, unemployment rates, and cultural factors, such as availability of help from family members and disability compensation structures.

The rate of RTW might differ by income level. Higher income is associated with a higher probability of RTW after stroke.¹⁷ Stroke survivors might have participation limitations because of their socioeconomic status. A study in the Western Cape established that 80.7% of the stroke survivors had an income below R1000 per month and were therefore likely to rely on public transport to participate in community activities.¹⁸ Thus, on returning to work, these stroke survivors would encounter transport challenges, e.g. having to walk to catch public transport or hire vehicles which is more costly.

Most RTW research has been conducted in developed countries and might have limited application in other settings. One of the few studies in developing countries was conducted in South Africa and explored the perceptions of physiotherapists

and occupational therapists about the barriers to and enablers of RTW in stroke survivors.¹⁹ Variations in socioeconomic and labour legislation among countries might influence such perceptions because of differences in work accommodation programmes and disability compensation structures. These variations and paucity of information in developing countries provided the basis for our study which sought to establish stroke survivors' and employers' perceived barriers to and enablers of RTW in a South African context. The study was conducted in Gauteng province as it has the largest number of stroke rehabilitation facilities, workplaces and therapists in the country.¹⁶

METHODS

We defined RTW as part- or full-time work done for payment, without limitations on the number of hours worked.²⁰ Housewives and students were not included as they are not catered for under the South African labour law; thus, factors that affect their RTW are likely to be different to those of people who work for economic provision and are protected by labour laws.

A qualitative study method was used. Stroke survivors who were employed at the time of stroke, and their employers, were recruited from 2010 to 2012. The survivors were recruited from stroke clinics at two academic hospitals and one private stroke rehabilitation unit in Gauteng province, and their employers were contacted after obtaining consent from the survivors. These clinical sites were chosen for convenience: two are attached to the University of the Witwatersrand teaching hospitals which have stroke clinics, and the private unit was selected because it has a stroke rehabilitation unit.

Purposeful sampling was used to include participants in both blue and white collar occupations. The study population comprised six employers in white and six in blue collar occupations, and 12 stroke survivors in white and 12 in blue collar occupations. White collar occupations were those that were performed in an office environment, related to customer interaction, entertainment and sales. Blue collar occupations referred to those that involved skilled or unskilled manual labour, e.g. mining, construction, mechanical, maintenance, and technical installation. The minimum of six participant interviews per category was considered sufficient as the groups were homogenous with respect to type of occupation (blue or white collar), as recommended by Kuzel.²¹

Stroke survivors were included if they were aged 18 to 60 years and employed at the time of the stroke. They were excluded if they had a Barthel Index score of less than 60% (to exclude those with severe functional limitations who would not be considered for RTW) or did not want the researcher to interview their employers.

Age, gender, side of stroke and functional level (measured as activities of daily living using the Barthel Index; mobility using the modified Rivermead mobility index; and basic cognitive function using the Montreal cognitive assessment) were recorded for all stroke survivors. Interview questions were developed based on schedules developed by Medin and co-workers¹⁰ with input from stroke rehabilitation therapists who reviewed the questions for clarity of language and logical flow of information. The revised

interview schedule was finalised by the project development team.

Therapists at the research sites identified potential participants and the researcher confirmed if they met the inclusion criteria. Employers of stroke survivors who met the inclusion criteria were contacted telephonically by the researcher. The research assistant (an occupational therapist with experience in qualitative research) interviewed stroke survivors whose employers also agreed to participate in the study. The stroke survivors were interviewed at the clinics. The research assistant then visited the workplace where the employer was interviewed.

The interviews were semi-structured and voice recorded. Interview notes were taken for those who refused to be recorded. The questions covered the following: expectations of the stroke survivor/employer, ability to work, enablers of and barriers to RTW, and challenges encountered in RTW and how these were addressed.

The interviews were voice-recorded, transcribed and manually coded. Interviews were conducted until saturation was reached (no new information was forthcoming). Categories were developed using words, phrases and statements that reflected common phenomena. Similar items were coded and categorised separately by the researcher, and one therapist with experience in research who was impartial to the views of the study, until no new explanations and perspectives were identified. The researcher and therapist codes and categories were compared and similarity was established before formulation and interpretation of themes.

Credibility was ensured by capturing detailed descriptions of the perceived RTW barriers and enablers, and transcribing voice recordings verbatim to capture each narrative. Transferability was ensured by providing a thick description of the study methods and findings. Each process and decision trail of the study was reported in detail for dependability. The researcher's biases and assumptions were dealt with through peer evaluation of the codes and categories to ensure confirmability.

Ethical clearance was granted by the University of the Witwatersrand Human Research Ethics Committee (Medical): clearance certificate number M081132.

RESULTS

The results are presented as four themes of RTW: stroke survivors' perceived enablers, employers' perceived enablers, stroke survivors' perceived barriers, and employers' perceived barriers. Within each theme are several categories which are presented separately.

“The rate of RTW for stroke survivors in the Gauteng province, the most populous province of South Africa, is 34% two years after stroke. This is almost half of that reported in a national Danish study, viz. 62% two years after stroke.”

Table 1. Characteristics of stroke survivors (N = 24)

Characteristic		n	%
Gender	male	12	50.0
	female	12	50.0
Side of hemiplegia	left	13	54.2
	right	11	45.8
Financial role	principal breadwinner	15	62.5
	contributes to household income	9	37.5
Characteristic		Mean	Range
Age (years)		46	31 – 60
Time in current job (years)		13	2 – 34
MoCA score/30		25	6 – 30
MRMI score/40		40	40 – 40*
BI score/20		20	17 – 20

MoCA: Montreal cognitive assessment; MRMI: modified Rivermead mobility index

BI: Barthel activities of daily living index

*by the time interviews were done, all stroke survivors had full mobility scores

Table 2. Stroke survivors' occupations and reasons for RTW or no RTW

Type of work		RTW	Reason
White collar Stroke survivor			
P01	Finance manager	Yes	Financial
P02	Accounting clerk	Yes	Personal development
P04	Sales consultant	Yes	Bored at home
P11	Cashier and bookkeeper	Yes	Bored at home
P17	Secretary	Yes	Bored at home
P24	Secretary	Yes	Bored at home; needed contact with colleagues
P06	Receptionist and secretary	No	Attention and memory problems
P07	Cashier	No	Speech problems
P09	Bank teller	No	Poor cognition
P10	Teacher	No	Poor vision
P15	Teacher	No	Fatigue
P16	Teacher	No	Expressive aphasia
Blue collar Stroke survivor			
P03	Security	Yes	Finance
P05	Police (crime prevention)	Yes	Bored at home
P14	Clothing merchandiser	Yes	Motivated by family
P18	Fork lift driver	Yes	RTW as store shelf packer; financial
P20	Operations administrator	Yes	Financial
P21	Immigration officer	Yes	Bored at home
P23	Motorbike driver: delivery	Yes	Back doing admin – filing (light duty); financial
P08	Machine operator	No	Fatigue
P12	Electrician	No	Old employer would not rehire
P13	Paper scanner	No	Can't access transport
P19	Domestic worker	No	Old employer would not rehire
P22	Van canopy fitter	No	Old employer would not rehire

Characteristics of stroke survivors are shown in Table 1. Most of the stroke survivors (n = 15; 62.5%) were principal breadwinners. Stroke survivors' occupations and RTW information is presented in Table 2. The number of blue and white collar stroke survivors who returned to work was similar (6 and 7 out of 12, respectively).

The most common reason for white collar workers not returning to work was physical sequelae; for blue collar workers, it was that the employer would not rehire (no reasonable accommodation). The most common reason for white collar workers returning to work was boredom, while for blue collar workers it was financial necessity.

Stroke survivors' perceived enablers of return to work

Eleven enablers of RTW were identified and grouped into three categories: personal enablers, employer and co-worker support, and communication (Table 3).

Personal enablers

Good balance and upper limb function, i.e. the ability to balance when walking, climbing stairs or even climbing a ladder at work was identified as an important factor for RTW, especially for survivors working in labour intensive occupations.

Psychological wellbeing was emphasised as being important by stroke survivors who highlighted the challenges of dealing with stroke and work:

"I need them to help me with psychological support . . . I don't know how I will manage with me getting stress from my disease and having to worry about work stress" (P03).

Ability to work fast and accurately was perceived as an enabler by survivors in both blue and white collar occupations:

"I will need to have good time keeping and accuracy in doing my work because they (employers) don't allow mistakes which will mean that the company will lose money" (P13).

Stroke survivors indicated that, if good interpersonal relationships could be developed with their supervisors and colleagues, then RTW would be enabled:

"I will have to work hand in hand with my supervisor so that we can communicate and know what is going on with me. I should not have secrets. I will also not take myself to be better off than my colleagues by wanting my supervisor to always focus on me" (P13).

Employer and co-worker support

Some stroke survivors indicated that their employers focused a lot on production and did not give an allowance for therapy time during

working hours. Ability to RTW was perceived to be highly dependent on the employers' willingness to have stroke survivors RTW even if it meant performing only those duties with which they could cope while recovering:

"Availability of the line manager to discuss my situation and let me show them that I am able to do the job or alternative job within the company will be helpful" (P08).

Workplace accessibility was considered an enabler, and some survivors felt that, if physical modifications were made in the workplace, they would be able to RTW:

"What will help is building of ramps in areas where there are stairs on the ground floor as I still struggle with climbing of stairs even with tripod . . . But I still believe that we need ramps even if I get better because my situation has helped me to see that if we have somebody like me who wants to come to our company or one of our co-workers gets sick, it means they will struggle to walk in our company yard" (P15).

Employers' knowledge of the medical condition was suggested to facilitate RTW:

"They (employer) have to talk about my disease . . . We (stroke survivor and therapist) have to keep talking with them (employer) and they must know how I am doing . . ." (P20).

Supportive co-workers were believed to help keep the work flowing smoothly while one was on sick leave and even when back at work:

"It helps to have supportive colleagues who don't always complain to the manager about doing things to help me while I recover. We should all help each other. I have always helped them" (P24).

The following is an example where co-worker assistance helped with RTW:

"I could not lift heavy meeting documents: this has been handled by asking others to lift and bring the documents to meetings. I still continue doing all my work except the lifting for now" (P17).

Table 3. Enablers of RTW after stroke: stroke survivors' and employers' perspectives

Category	Factor
Stroke survivor perspective	
Personal enablers	Good balance and upper limb function Psychological wellbeing Ability to work fast and accurately Good interpersonal working relationships
Employer and co-worker support	Allowance of time for rehabilitation Employer willingness to reasonably accommodate for impairments and activity limitations Workplace accessibility Employer's knowledge of the medical condition Supportive co-workers
Communication	Communication between employer and therapist Communication between stroke survivor and employer
Employer perspective	
Stroke survivor-related enablers	Willingness to work Less severe stroke Psychological wellbeing
Work environment	Accessible work environments Safe work environments
Employer and co-worker support	Ability to provide reasonable accommodation Ability to help the stroke survivor without compromising the organisation Moral support from co-workers Communication between stroke survivor and employer Advice from therapists with regard to RTW

Communication

Stroke survivors felt that, if there was communication between the employer and the therapist, the survivors would be more inclined to want to RTW. One survivor shared:

"What will help is talking to human resource and my supervisor to help them find out if I am coping about my situation and to also make them understand my situation . . ." (P17).

Being able to communicate openly and honestly with the employer was perceived as a factor that would increase the chances of RTW. One survivor stated:

"I think what will also help is openness between me and employer. They must tell me the honest truth about what they are thinking or planning to do with me. They must not surprise me at the end by telling me that my job is finished" (P14).

Employers' perceived enablers of return to work

Interviews with employers allowed for the identification of 10 enablers of RTW. These were further classified into three categories: stroke survivor related enablers, work environment, and employer and co-worker support (Table 3).

Stroke survivor-related enablers

Willingness to work was indicated as an important enabler of RTW. The employers felt that a person who was willing to RTW would make an effort to do their best when given an opportunity to work, despite having a stroke:

"An employee who is willing to come back to work will do their best when given a chance" (E04).

Less severe stroke was associated with more limitations in ability to do the work, and thus some employers indicated that they would consider taking a stroke survivor back into the workplace only if the stroke was not severe:

"We also need to consider how serious the person's stroke is, because a debilitating stroke would make it impossible for . . . (employee name) . . . to come back to work even if the company wants to take them back" (E04).

Psychological support for both the stroke survivor and co-workers was considered an enabler as indicated by one of the employers:

"I think they will benefit a lot from making use of the psychologist to help them and colleagues deal with their psychological problems" (E03).

Work environment

Employers indicated the importance of an accessible work environment before having the stroke survivor back at work:

"Another thing that can help a person return to work is if the working environment is good. By this I mean if it has ramps for a weak person who cannot climb stairs" (E13).

Employers were concerned about the safety of the work environment and worried that a stroke survivor could get injured in the workplace:

"Willingness of the employee to try the best to do the work but

not to force coming back to work as we don't want them to put their life at risk" (E14).

Employer and co-worker support

Employers felt that reasonable accommodation could be an enabler of RTW:

"They (stroke survivor) should be able to come back to work even if it means doing less workload or light duty. They can even work in the office because doing visits and talks requires more walking and driving. This will all depend on whether they will cope. The question is whether they are also willing to try. We can help with what needs to be done . . ." (E05).

Some employers indicated that they would like to help the stroke survivor without compromising the organisation, indicating that they were worried about the company image:

"Giving the employee an opportunity. . . This should be done without denting the image of the company by letting a person who is sick sit at reception and do the work" (E17).

Moral support from co-workers was considered a RTW enabler, with employers indicating that having supportive co-workers would motivate the stroke survivor to RTW with the knowledge that they would get the help they might require while settling back into the workplace:

"She will also need to get support by other staff members and me (employer). She has to know that we want her to get better and will help with whatever we need to do . . ." (E15).

Employers indicated the need for ongoing communication between them and the stroke survivor in order to develop solutions for challenges faced on a regular basis, instead of letting the stroke survivor struggle and eventually consider giving up:

"They (stroke survivor) should try to work and if they see that they have limitations, they should try to let the supervisor know as soon as possible, to get help. . . If a person cannot communicate, the supervisor will never know when they have a problem" (E24).

The importance of employers receiving advice from therapists with regard to the RTW process was identified as one of the factors that could enable the stroke survivor to RTW:

"This communication is good when it is also done with you people (therapists) because it helps us understand what is going on and what can be done to help. This is very difficult. I mean trying to help a person but not knowing what to do and what is safe to do" (E24).

Stroke survivors' perceived barriers to return to work

Seven barriers to RTW were identified from the interviews with stroke survivors and classified into three categories: personal barriers, employer related barriers, and environmental barriers (Table 4).

Personal barriers

Physical sequelae of stroke survivors, such as cognitive impairments (memory and attention), fatigue and poor vision were considered to be factors that might make it difficult for a stroke survivor to do his or her usual work. The following quotes were shared:

Table 4. Barriers of RTW after stroke: Stroke survivors' and employers' perspectives

Category	Factor
Stroke survivor perspective	
Personal barriers	Physical sequelae: cognitive impairments (memory and attention), fatigue and poor vision Fear of mocking
Employer-related barriers	Employer not giving time off for rehabilitation purposes Employers' unrealistic expectations/increased physical job demands
Environmental barriers	High unemployment rate Poor transport accessibility Inaccessible work environment
Employer perspective	
Stroke survivor-related barriers	Physical sequelae: working slowly, poor cognitive function (memory and attention), speech problems, poor upper limb use Stroke survivors' lack of communication
Employer-related barriers	Costs to company Prolonged sick leave duration
Environmental barriers	Inaccessible work environment Unsafe work environment/conditions

"I need to learn techniques to use to remember things, so that I don't miss meetings and appear incompetent in front of my manager and colleagues" (P01); *"I get tired all the time. I just want to sleep or rest. It becomes impossible to do the usual job all day"* (P04); and *"I can only go back to work if I recover my vision as I cannot read and write . . ."* (P10).

Fear of mocking was considered a barrier to RTW. Some stroke survivors indicated that there was a need to counsel the co-workers to prepare them for their RTW as they were concerned that if co-workers did not understand and accept their medical condition, they might mock them:

"If I struggle, the learners and colleagues will mock me" (P15).

Employer-related barriers

Some stroke survivors thought the employer might not give them time off during the day to attend their therapy sessions. They would therefore rather be on extended sick leave and know that they could go to their therapy sessions without having to continuously ask for permission:

"What will also make it difficult is if my supervisor will stand in my way when I have to go for treatment" (P13).

Employers' unrealistic expectations or increased physical job demands were considered as RTW barriers. The concern raised was that an employer who was not willing to reasonably accommodate the stroke survivor back at work might demand that they continue to perform at the same rate that they did before stroke, without giving them an opportunity to ease slowly into the job:

"The employer might demand that I work at the speed that I used to have. This will not be possible" (P13).

Environmental barriers

The high unemployment rate was considered a barrier to RTW. Some stroke survivors thought that employers would rather hire an unemployed person than let them continue working, and that it would be difficult for them to find another job due to the high unemployment rate. A survivor shared:

"My fear is that I may not be able to find a new . . . job as there are no jobs . . . in South Africa. It will be worse for me because I can't . . . talk properly" (P07).

Some stroke survivors who used public transport indicated that RTW would be difficult because of poor transport accessibility. Some indicated that they had to walk up and down several flights of stairs at the train station and would therefore be tired by the time they reached their workplaces. Some indicated that walking long distances to catch a taxi was also a challenge:

"It was difficult to get public transport because of long distance from home to taxi" (P03).

Inaccessible work environments were considered a barrier to RTW while mobility in the workplace was considered the main deterrent for RTW:

"There are lots of steps around the school and the school is an upstairs (double storey) building. Toilets do not have rails for me to hold onto for balance when I need to use them" (P14).

Employers' perceived barriers of return to work

Six barriers of RTW were identified from the interviews with employers, and classified into three categories: stroke survivor-related barriers, employer-related barriers, and environmental barriers (Table 4).

Stroke survivor-related barriers

Physical sequelae, such as working slowly, cognitive impairments (memory and attention), speech problems, and poor upper limb use were identified as factors that might make it difficult for a stroke survivor to do his or her usual work. Being able to remember job specifications and instructions, and being able to pay attention to avoid making mistakes when doing the work, were considered important aspects in the workplace that would help to prevent mistakes which, in some instances, could be fatal. Some employers indicated that these cognitive abilities would be required before they could consider accepting the stroke survivor back at work. Employers of stroke survivors whose job required that they spoke to customers, e.g. sales people, educators and receptionists, emphasised the need for the stroke survivor to regain speech before RTW.

Some of the employers indicated that, if the stroke survivor could not use both hands at work, it would not be possible for

him or her to cope with the work demands. The following quotes were shared to indicate how they felt about the physical sequelae:

"... (employee name) ... was working slower than other employees" (E03)

"If ... (employee name) ... can recover her memory and be able to pay attention to detail, she can come back to work" (E06)

"She has to talk properly again so that she can come back to work and be able to speak to customers" (E07)

"What will make it difficult for her to cope here at work is if she is not able to use both hands as she is supposed to scan documents and she can't do this with one hand" (E13).

Stroke survivors' lack of communication was considered a barrier to RTW. Some employers felt that a stroke survivor who did not contact the employer to update them of their progress and discuss their plans, would make it difficult for the employer to help them RTW:

"It is difficult to deal with an employee who does not communicate and expects the employer to help them. We can only help if we discuss these things ... (employee name) ... took a very long time away from work without contacting us to let us know what was happening since she had a stroke and it was difficult for us to get hold of her" (E14).

Employer-related barriers

Costs of reasonable accommodation which must be incurred by employers were highlighted as a barrier to RTW. Some employers indicated that they were sympathetic to the issues of RTW for stroke survivors; however, financial constraints did not enable them to facilitate stroke survivor RTW, as they would have to hire another person to cover some of the duties which the stroke survivor was no longer able to do because of his or her disability:

"Our company does not have the financial ability to get an additional staff member" (E07).

Being on prolonged sick leave was considered a barrier for RTW by some employers who indicated that it would be better to have a person go on physical incapacity pension which would take care of his or her salary. They indicated that having a person who did not cope with his or her work was also difficult as reduced production was costly for the company:

"It was difficult for the company as we can't afford to have a staff member who does not complete a shift and who cannot finish their allocated duties. We had to let her go on incapacity pension and get a person who can do the job" (E14).

Environmental barriers

Some employers indicated that, if the environment was not accessible, it would be difficult for the stroke survivor to RTW:

"the work environment is not conducive to accommodate her. We don't have ramps and have lots of stairs around the school ... This can make it difficult for her to walk around the school and to various classes" (E25).

Not having a safe working environment was considered a hazard which could have cost implications in the long term, should the stroke survivor get injured while trying to work:

"If the work environment is not safe, like if a person has to lift heavy things which can hurt them, if they are still weak, this can cost the company a lot of money on insurance" (E22).

Comparison of perceived barriers and enablers of RTW between groups

The employers and stroke survivors generally identified similar enablers of, and barriers to, RTW. Stroke survivors, however, raised more workplace-related barriers to RTW which were within the control of the employer, such as lack of opportunities to be reasonably accommodated. Issues raised by the employers, which the stroke survivors did not mention, were safety in the workplace, willingness of the stroke survivor to RTW, unaffordable costs for reasonable accommodation, and maintaining production while the stroke survivor was on prolonged sick leave.

Stroke survivors in blue collar occupations identified the lack of light duty while regaining physical strength as the main barrier, and having an opportunity to practice job skills within the workplace as the main enabler, of RTW:

"Hard labour, like lifting and moving heavy boxes, standing for too long and walking around a lot. Working long hours. This will make it difficult for me to go back to work unless my employer allows me to do other things (light duty)" (P14).

Those in white collar occupations identified lack of support in the form of motivation and communication from their employers as the main barrier to RTW, and considered good cognitive function and good interpersonal working relationship to be the main enablers:

"I think I would only be able to go back to work if I can remember things, especially to count money as they will never allow me back at work if I can't count money because the company would lose a lot of money if I make mistakes" (P09).

DISCUSSION

Enablers of RTW after stroke

Having an opportunity to be reasonably accommodated after stroke was considered the main RTW enabler by stroke survivors and their employers. Examples of accommodations mentioned by stroke survivors in this study included the need to work reduced hours and do less work per day at the beginning of RTW. This need is not unique as about 66% of stroke survivors in Treger et al.'s Israeli study reduced their working hours on RTW.³ Stroke survivors also identified the need for flexibility in the scheduling of work as some people might require extra time to prepare for work, and to travel to and from work. This enabler was also identified in various studies that established that employer flexibility and allowance for job modifications is one of the factors that enable successful RTW.^{9,13,22} In situations where a stroke survivor cannot RTW, arrangements can be made for transitional work (temporary modified work) which has been shown to facilitate early and sustained RTW.^{23,24}

Some employers in this study indicated that they would not let a stroke survivor RTW if he/she had severe stroke with poor upper limb function. This was reported to have a strong correlation with

decreased RTW rates in other studies.^{1,25-27} Fatigue was mentioned as a possible RTW barrier in this study, supporting findings from a previous study.²⁸ Stroke survivors might have the ability to walk and use their upper limbs but might still suffer from poor endurance, resulting in limited ability to cope in the workplace.

Some stroke survivors and their employers mentioned the importance of having good working relationships which included those with co-workers. This illustrates that, even if the employer is willing to accommodate a person back to work, there is a need to have co-worker support.²⁹ In some cases, advocacy is required to help build an understanding of disability among co-workers³⁰ in order for them to be able to assist where necessary. Good communication between stakeholders helps to enhance understanding of the stroke survivor's capabilities.^{23,31}

Having an accessible work environment was mentioned as a factor that could contribute positively to stroke survivors RTW. Rhoda et al. highlighted the fact that environmental barriers such as lack of ramps could be more limiting for the stroke survivor than the neurological deficits.¹⁸

Barriers of return to work after stroke

Cognitive impairment (memory and attention) which was expressed, by stroke survivors, as the inability to remember job specifications and instructions, and the inability to pay attention and so avoid making mistakes when doing the work, were considered barriers to RTW. Lock et al. identified some stroke survivors who could not RTW due to poor memory and attention span, despite them not suffering from any physical impairment.³² Similar findings were reported by Balasooniya-Smeekens et al.³³ who found that invisible impairments such as memory, personality changes and fatigue might make it difficult for a stroke survivor to stay at work. It is therefore important to identify stroke survivors with cognitive problems, especially attention and memory deficits. Knowledge of stroke survivors' cognitive levels will increase their chances of receiving memory training during the rehabilitation process.³⁴

In the current study, tiredness and the inability to work fast were identified as barriers to RTW. Companies that thrive on production require their employees to work fast to meet production demands. Besides speed, some stroke survivors indicated the need to rest frequently and this affects production. For stroke survivors to cope back in the workplace, employers need to make adaptations, in the form of working hours, work pace or the work environment. However, some employers indicated that some of these adaptations were unaffordable. In South Africa, the costs of workability assessments and making work adaptations are expected to be carried by the employer as stated in the Code of Good Practice on employment of people with disabilities.³⁵ This can be costly for the employers, especially those with small companies.³⁶

Safety in the workplace for stroke survivors was raised as a concern by most of the employers. This is not a unique finding as employers in a study by Kaye et al. were also concerned about the increased possibility of a workplace accident and injury to the

stroke survivor, and the resultant increased insurance costs.³⁷ It is therefore important to ensure that stroke survivors and employers receive education related to safe job performance and injury prevention.³⁸ It is essential to visit the stroke survivors' workplace to conduct a workability assessment as well as to educate employers and stroke survivors (employees) about safety issues.³⁹

A few participants considered the high unemployment rate to be a barrier to RTW. The unemployment rate in South Africa was 26.5% in 2016.⁴⁰ The stroke survivors were worried that, if they lost their current job, it would be difficult to find another. This fear is supported by the World Health Organization Report on Disability⁶ which states that laws that govern employment of people with disabilities seem to be successful in preventing discrimination among people who are already employed, and thus should be relatively easy to enforce when assisting a person with a disability to RTW rather than them finding a new job. However, it must be noted that, in South Africa, employees are protected by the employer Code of Good Practice within the Employment Equity Act No. 55³⁵ which states that an employee should get an objective assessment to establish the extent to which he/she is able to perform work; the extent to which work conditions may be adapted; and the availability of a suitable alternative job before dismissal.

The difficulty in using public transport was identified as a barrier to RTW; similar findings have been reported in other studies.^{3,19} Accessing transport is not only about getting to the taxi rank, bus or train station. It also involves transport costs which can be a barrier to RTW, especially if a person must hire a car to move from one point to another due to challenges in accessing transport. This concurs with the 2002-2004 World Health Survey report that showed that transport costs ranked high as a barrier to community participation for people with disabilities, including RTW.⁴¹ This would make it difficult for a person to RTW, especially if he/she had to use public transport to get to the workplace. It is therefore important to address issues related to accessibility to the workplace as well as impairments and activity limitations.

Recommendations based on the findings of this study are as follows: there is a need for therapists to be involved in the RTW rehabilitation of stroke survivors, to do work ability assessments and to explore possibilities of reasonable job accommodation. Therapists can assist in communicating with employers and advise them about possible job accommodation, including strategies for rethinking job duties and engaging with stroke survivors to understand accommodation needs and ways of achieving job tasks. It is important to identify people with cognitive impairments early after stroke so that efforts can be made to increase awareness of the potential role that cognitive impairments might play in RTW interventions.

Limitations of this study are that a descriptive profile of employers, and the type and size of the companies, were not established; and that stroke survivors who did not want their employers to be contacted were excluded.

CONCLUSION

Employers and stroke survivors identified similar enablers of and barriers to RTW. Barriers that were unique to employers related to reasonable accommodation costs and safety in the workplace. Regular and early communication between the stroke survivor, employer and therapist, regarding RTW, can facilitate the process and increase the possibilities of reasonable accommodation at the workplace.

DECLARATION

The authors declare that they have no conflicts of interest.

ACKNOWLEDGEMENTS

The authors would like to thank the African Doctoral Dissertation Research Fellowship offered by the African Population Health Research Center in partnership with the International Development Research Centre for funding this study.

LESSONS LEARNED

1. The ability of employers to provide reasonable accommodation is dependent on their willingness to do so and not just on sympathising with the stroke survivors
2. Communication between employer, therapist and stroke survivor is necessary to discuss possible work accommodation, including strategies for rethinking job descriptions and creating a platform for informed decision making

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Reflections on forum developments – accommodating formal and informal referral models

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INTRODUCTION

Any person (an employee, employer or anyone in any capacity at a place of work) has a right to confidentiality with regard to health and medically-related issues. Exceptions might include an injury on duty (IOD), an occupationally-related exposure, and/or an illness/disease that requires consultations, discussions and actions that include both employers and employees.

Confidentiality involves complex issues, including those related to financial, moral, cultural and religious concerns. It is also subject to company- or site-specific policies or procedures, and other legal measures that require conformity to 'good behaviour'. Where confidentiality is breached, ensuing actions by authorised persons must take into account appropriate procedural applications, varying from closed or personal discussions to formalised meetings, and more disciplined measures, such as hearings, forms of arrest or restraint, and temporary or permanent dismissal from site.

Absenteeism is often associated with physical, mental or emotional illness which can create concern or frustration in others (most commonly employers) because of reduced productivity or performance at work. The most common reason for absence from work is medical, hence the development of methodologies to manage the situation by applying high ethical and moral standards, as well as being aware of the statutory implications e.g. as described in the Labour Relations Act (Act no. 66 of 1995), the Employment Equity Act (Act no. 75 of 1997), the Basic Conditions of Employment Act (Act no. 55 of 1998), the Compensation of Occupational Injuries and Diseases Act (Act no. 95 of 1990), and the Occupational Health and Safety Act (Act no. 85 of 1993). This, in turn, addresses the question of referral, of which there are two methodologies or processes that have been tested comprehensively by the author.

INFORMAL REFERRAL

Where a person seeks any medical (or emotive) help or guidance from the staff of the occupational health clinic (or any other qualified medical professional), those professionals are committed, by the Medical, Dental and Supplementary Professions Act (Act no. 56 of 1974), to a strict code of confidentiality. As such, any information relevant to the visit may not, under any circumstances, be disclosed to any other person, either directly or indirectly, without written informed consent from the person seeking the help.

FORMAL REFERRAL

This is a process that is related to a formalised policy or procedure, designed to embrace certain criteria that are relevant to the referral. A formal referral therefore has legal implications and precedence that require strict adherence to procedure, with correct approaches to avoid any complications that might arise out of any potential and/or real conflict.

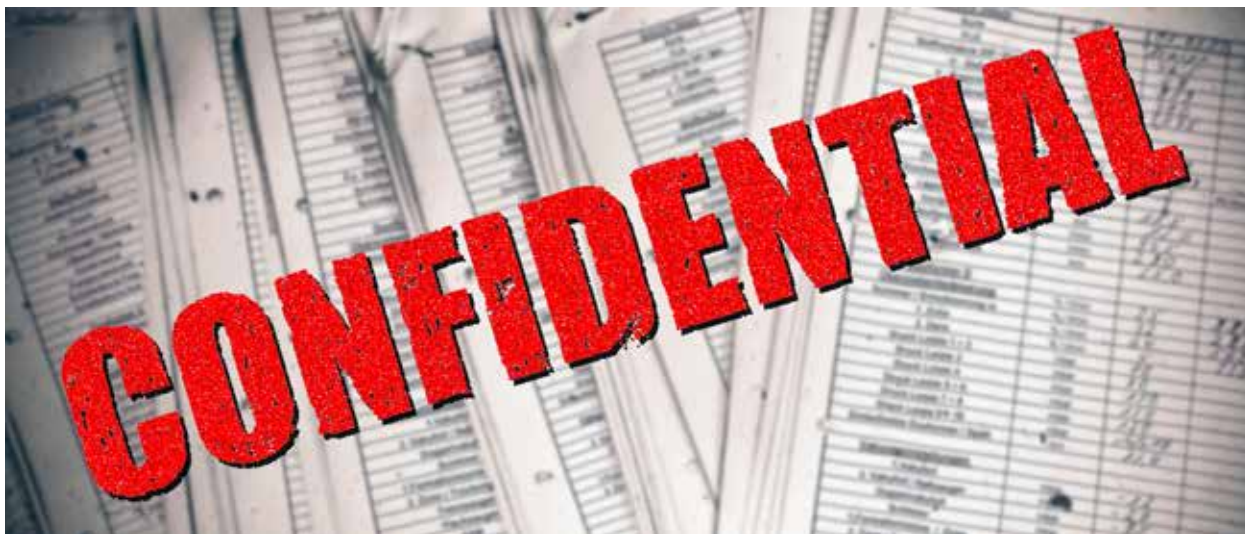
As an example, a person is unable to attend work because of headaches, and his employer feels concerned, or even aggrieved,* by the fact that he is absent from work on numerous occasions. The employer might have reasonable grounds for concern, and might challenge the employee by noting the excessive sick leave in a defined period (e.g. by following procedures stated in the Basic Conditions of Employment Act. In this case, the employer should invite the employee to a meeting to address these concerns, together with any representative(s) of the employee's choice (e.g. a union shop steward, colleague, medical professional, lawyer, or family member) who might contribute to the proceedings in a meaningful way.

Forum formation†

An agenda is then formulated, which a designated discussion can follow. The onus is on all parties to keep the contents of the agenda confidential. An opportune date, time and locality are chosen to comply with all parties' needs. Once the forum is convened, comprehensive discussion can take place, matters can be debated in confidence (respecting allegiance to confidentiality), and all arguments will be noted by an elected scribe. Should one or more of the conclusions identify visits/referrals to the occupational health clinic (OHC) as being appropriate (the most common outcome), or any other site on company premises or elsewhere, and be acceptable to the forum, this will be accommodated. Further visits to on- or off-site localities will also be considered.

* Aggrievement: feeling resentment at having been unfairly treated, troubled or criteria when distressed in spirit, suffering from an infringement or denial of legal rights (source: Merriam Webster Dictionary).

† Forum formation: a structured gathering that provides for matters to be comprehensively discussed, respecting confidentiality and relevance. It is represented by persons each applying expertise and/or competence, with no hierarchical dominance, and a collective desire to facilitate and promote closure.



“Where a person seeks any medical (or emotive) help or guidance from the staff of the occupational health clinic (or any other qualified medical professional), those professionals are committed, by the Medical, Dental and Supplementary Professions Act (Act no. 56 of 1974), to a strict code of confidentiality.”

It is imperative that the formal referral be in writing and that the relevance of the referral be clearly determined. Such terms of reference are essential, and the content should be limited, accordingly (contentious issues that often arise are that medical assessments may require further investigations and/or specialist referral, and consent for this needs to be clearly documented in the referral letters, etc.) On- or off-site visits might have similar considerations.

Once the assessment is finalised, the process of a formal referral allows relevant disclosure to be submitted, in writing, back to the forum for review and reconsideration. A follow-up meeting is then held, comprising the same parties as the first meeting.

The important difference between an informal and a formal referral is that the formal referral allows confidentiality to be breached and relevant disclosure to be made in writing, whereas the informal referral does not.

Disciplinary action might be one of several outcomes that is taken against an employee thereafter, but the aim of a formal referral and forum follow-up is to rekindle opportunity, and to provide relief and/or continuity of work, where possible.

HEALTH ASSESSMENT CRITERIA – A PRACTICAL MODEL

Concerns surrounding health assessments include the following:

1. Definition – the word forum means embracing equal status for all present, and offering equal opportunity to participate

2. The aim of the forum has relevance to its outcome, given that collective responsibility as a measure of successful closure is paramount
3. The protection of rights, respect for confidentiality, and gestures of goodwill should dominate proceedings
4. The procedure follows the referral process, with formality taking precedence
5. Structural assignment of evaluation and clarity of discussion should accommodate, in particular, those very person(s) who are most vulnerable in the forum. In practical terms, this invariably means addressing the concerns of the ill, the compromised, and/or the impaired
6. Associated parameters guiding the approach to proceedings, the manner and attitude in which this is directed, and the collective information relevant to conclude outcomes, should all be accommodated
7. The practical model has additional characteristics to include:
 - Recording of medical history, family, and employment history
 - Confidentiality: each person should sign the agreement
 - Representation for the person to whom the discussion is addressed should be invited, as well as any other person considered relevant to the forum
 - Professional components should include medical personnel with suitable professional standing
 - Input from Human Resource personnel
 - Additional technical and professional support, when and where needed
 - Any other person who might be considered valuable to assist in reaching a conclusion
 - Acceptability of persons present must be acknowledged and approved by all
8. The forum will include a leader as a spokesperson, a strong personality, or any other person whom the forum finds acceptable
9. Procedure is accompanied by a prepared summation of all evidence to be led, with medical and other industrial-related or technical professionals; the detail is aimed at avoiding delays and inconclusive discussions

10. Proceedings should not be prolonged; discussions should be limited to one hour
11. In closure, the proceedings should be summarised, together with the conclusions (even in disagreement), and the minutes signed by all parties
12. Follow-up is arranged by consensus

BUILDING RELATIONSHIPS

Social interdependence

Industry has always played a major part in the lives of people working in South Africa, going back many years. Often, it is found that workers give most of their time to their places of employ. Because of changes in the country since 1994, people are now very mobile, and job opportunities have thus increased.

Legal changes

As the working environment changed, so the paradigms of health and safety became more relevant; occupational health itself became a statutory requirement in 1993 under the Occupational Health and Safety Act, after prolonged and long overdue recommendations were implemented. This was prompted by the findings of the Erasmus Commission in 1976¹ and stimulated by influence from union movements on Parliament.

Department of Labour

Together with the significant changes in statutory requirements, the approach to observe and police the laws relating to health and safety became a reality. Slowly at first, but with increasing momentum, the Department of Labour has directly exercised its rightful place in the monitoring and surveillance of industry in general. This has also been clearly observed in the mining industry and, more recently, in commercial and small to medium enterprises.

Chains of custody

This shift in growing awareness and responsibility inevitably leads to an awareness of 'chains of custody' now being pursued and practiced, with immediate and follow-up care from place of accident/incident to hospitalisation and aftercare.

Centres of excellence

Following the initial responses to injuries, there are 'centres of excellence' that have become dedicated to giving the best medical and related attention. Such centres are usually strongly recommended and supported by industry to facilitate the best of attention, at any given time, to all workers and others involved.

Best attention

The procedural changes that have come about are directed towards such 'best attention' services and centres, with support from all sectors of workers in industry, either directly or indirectly implicated, who share the 'pain' and emotional trauma that surrounds people who are hurt or become ill as a direct result of their work.

Emotional dysfunction

This often leads to very difficult and complex emotional dysfunction, particularly when a colleague, friend or peer is involved. A death is the ultimate disaster emotionally, even if it is not injury-related.

Expectation

To a large extent, this very intense concern and emotional experience is carried over into the community, which also has ties with the industry. The expectation is that industry will respond both timeously and appropriately when a loved one is injured, becomes ill or, worse, is deceased. It is because of this intense emotional experience that communities become part of relationship-building with industry, and also the operational risks that are involved.

Missing this awareness is often a fault of industry in general. While this is often evident in major cities, the more rural the industry, the greater the awareness of the community

Smaller communities know each other better and are closely linked, both emotionally and physically. This becomes even more imperative if the environment is implicated. Current scenarios are compounded by a long-standing history of high-risk perceptions, all of which have a magnified exposure in the lay press, as well as the community at large.

Disability and absenteeism

The concerns that we have established over the years through major involvement in industry have identified various processes of monitoring both absenteeism and disability. This is a particularly important aspect of managing companies, and it is strongly advocated that this be further reviewed in the future. Often neglected, disability management is becoming increasingly complex and, to some extent, confusing because of lack of comprehension of case management.

CONCLUSION

1. The right to confidentiality and privacy is entrenched, particularly in workplaces
2. However, where work places create adverse or complex issues/incidents, the legal interpretations can be compounded, and the complexities become paramount, when contracts of employment or injuries/incidents become evident, leading to challenges requiring specific legal processes and procedures to be implemented
3. Forum formation and methodologies to develop these are aimed at seeking closure
4. Respect for inter-personal relationships in forum sessions can become conflictual, and sensitivities are eminent; allowances should always be accommodated with ultimate direction of closure
5. Open-ended directives towards legal continuation still have a place
6. Commonly, these situations are medical in origin, and involve injuries or incidents/ exposures from an occupational cause
7. The complexities of dealing with this can become delicate in relation to confidentiality and disclosures
8. Documentation of minutes and follow-up are integral in such procedures

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Scientific writing and publication course at the National Institute for Occupational Health

The culmination of the research process is a scientific publication. It is essential to publish the findings of your research so that your colleagues can benefit from the new knowledge that you have gained from your study. Just as we have to learn skills to function effectively in our professions, we have to learn how to write and publish in order to effectively communicate our findings to our fellow professionals. On 15 and 16 March 2017, Prof. Jim Phillips from the National Institute for Occupational Health (NIOH) conducted two courses on scientific writing and publication. They were attended by young scientists from the NIOH, University of Johannesburg and University

of the Witwatersrand. The feedback from the course was excellent and those who attended the course will be invited to attend writing sessions at the NIOH. At these sessions, the young scientists will be encouraged to write up their research, with senior researchers in attendance to assist with the writing process. The NIOH is planning to host the course later in the year for occupational healthcare professionals who wish to hone their scientific writing skills and learn about the publication process. If you are interested in attending the course, please contact the Editor-in-Chief of Occupational Health Southern Africa, Prof. Gill Nelson, e-mail: gill.nelson@wits.ac.za



Prof. Jim Phillips conducting the Scientific Writing and Publishing course at the NIOH, Johannesburg

First WITS Mine Health and Safety Research Group Seminar

The first seminar for Mine Health and Safety Research was hosted by the University of the Witwatersrand's School of Public Health on 22 February 2017. This was a pioneering initiative between the Centre for Sustainability in Mining and Industry (CSMI), the Wits Mining Institute (WMI), and the Wits School of Public Health (WSPH), and proved to be well-received by the approximately 30 attendees.

The morning-long seminar offered a platform for six Wits post-graduate students in the mining and occupational health disciplines, focusing on the causes and effects of health and safety issues facing those involved in the mining industry. Each researcher presented a paper and delegates had an opportunity to discuss and pose questions on the content of the presentations.

PRESENTATIONS

Dr Declan Vogt (Director: Centre for Mechanised Mining Systems, WMI) opened proceedings with a summary of the purpose and aims of the seminar. Zodwa Ndlovu commenced the presentations with her PhD research on Autopsy Data for Occupational Disease Surveillance. Zodwa is a lecturer in the Epidemiology and Biostatistics Division at the WSPH. She previously worked at the National Institute for Occupational Health where she managed the Pathology Automation System (PATHAUT) database and developed her interest in occupational lung diseases (OLDs) and surveillance. Autopsy data are the only source of long-term information on OLD in South African miners. The law allows for the examination of the cardio-respiratory organs of deceased miners, with consent from the next of kin, for compensation purposes. Information emanating from these autopsies is stored on the PATHAUT database. Zodwa put forward key findings gathered from analysing the data from 1975 to 2014, showing the usefulness in providing data for the detection and monitoring of OLDs. The findings have led to improved practices, prompting a review of approaches to mesothelioma diagnosis and providing information for the monitoring of initiatives to control silicosis and tuberculosis (TB). Further successes will depend on institutional commitment and the ability to continue analysing the data.

The second presentation was given by Norman Khoza, Occupational Hygiene Specialist at Transnet, and Occupational Health and Safety Specialist at the University of Johannesburg. He is currently a PhD candidate in the occupational hygiene stream at the WSPH. His research is on 'Efficient Dust Control Measures for Specific Exposure Scenarios along the Life Cycle of Ballast Rocks.' Ballast rock is used to support the rail network – it helps to maintain, provide drainage and control vegetation along the tracks. The primary goal of any silica dust management programme arising from the mining and handling of ballast rock is to prevent the development of not only silicosis, but any other disease associated with crystalline silica. Exposure monitoring

and dust control technologies have been introduced in the South African mining industries, but these efforts have not yet yielded results that match the investments. Such studies on evaluation and control efforts are lacking in the South African railway industry. In both industries, there is a paucity of studies regarding the full characterisation of health-relevant particle sizes given that the smaller the dust particle, the greater the risk of developing silicosis. In spite of controls such as water sprays in the mining industry, the efficiency of dust capture is limited. Submicron dust particles are difficult to capture due to the diameter of the water droplet versus the diameter of the dust, and high water consumption and cost of maintenance also affect efficiencies. The aim of Norman's study is to identify and evaluate foam-based dust control technologies for their efficacy, efficiency and feasibility for implementation in the mining and railway industries. There is an urgent need to control and enhance silica dust management.

Siyanda Mngadi, from the School of Geosciences, is registered for a PhD degree in Geophysics, Seismic Reflection and Mine Seismicity. He presented his research on Integrated Petrographic, Geomechanical and Seismological Studies of Rockmass Behaviour during the Final Phase of Ore Extraction at Cooke 4 Shaft, Westonaria. Seismic events, rockbursts and fault instabilities are prime concerns during the final phase of ore extraction at the deep (>1 km) Cooke 4 shaft. The mine closed in 2001 after 41 years of operation and a shaft pillar was left behind. Mining commenced again in 2010. Siyanda's research aims to understand the seismic and mechanical behaviour of the rock mass during the shaft pillar extraction operations by studying petrography, geomechanics and stress models, and to establish correlations with monitored microseismicity and underground mapping. Four types of rock were found: quartzite, pebbly quartzite, conglomerate and argillaceous quartzite. Laboratory tests were conducted to measure tensile strength, elasticity, uniaxial compressive strength and triaxial compressive strength. Acoustic emissions were also measured. Rim pillar assessment was conducted to assess if the outer rim of the mined area could be safely mined. Large seismic events often result in infrastructure damage and casualties. In conclusion, it was found that microseismicity is largely influenced by structural discontinuities and ore extraction operations, and by rock composition and geomechanical properties in underground conditions. Understanding weaknesses that could contribute to such events will help to manage safety measures during mining operations.

Nancy Coulson presented 'In our own voices: The Activities of Workplace, Health and Safety Representatives on South African Mines'. Nancy has a background in public health and social development and works with the CSMI, where she heads the Centre's mining research programme in social responsibility.

Her research examines stakeholder engagement in the mining/ industrial sector, with specific focus on the relationship between business and communities and tripartism in health and safety practice. She presented the preliminary findings from case study research into worker-elected health and safety representatives (H&S reps), conducted at four gold, platinum and diamond mines over a period of 16 months. Worker-elected H&S reps are a requirement of the Mine Health and Safety Act of 1996 and every mine with 20 or more employees must have a representative. On large-scale underground mines, an H&S rep is appointed at every designated workplace for every shift. Nancy's research methods included workplace interviews, followed up by monthly telephone interviews and in-depth semi-structured interviews in English or indigenous languages. It was found that in all areas of responsibility the H&S reps experienced stress, difficulties in trying to do two jobs, and communication problems with language and age barriers. Instead of being supported, the reps felt marginalised. The four areas of activity for a rep are: risk assessment to support safe production; worker education, communication and compliance; supervision of worker health and wellbeing; and administration and reporting.

The penultimate presentation from Tariq Feroze was delivered via a recorded power-point presentation, as he was unable to attend in person. Tariq is a senior lecturer at the National University of Sciences and Technology in Pakistan and has a PhD in Mechanical and Mechatronics Engineering and Mine Ventilation. He is a member of the Wits Digital Mine Group and is skilled in the use of mechanical designs and Computational Fluid Dynamics (CFD) software. He has developed estimation models to predict ventilation for various mining scenarios. Tariq showed how he used CFD's advanced numerical code ANSYS Fluent to study the effect of a number of system variables associated with the face ventilation systems used in the blind headings. The blind headings in room and pillar mining are known to be the high-risk areas of the coal mine, since this is where the coal production is actually taking place, and hence where the maximum quantity of methane is found. Ventilation using auxiliary ventilation devices may be planned and be the subject of mine standards, but it is not very well understood, and implementation is usually left to the first level of supervisory staff. The study of face ventilation systems can be carried out experimentally but it is difficult and disturbs the mine production cycles. The South African coal mining industry can benefit from the outcomes of Tariq's study, especially the mathematical models, in a number of ways. Ventilation engineers can estimate flow rates; the results of the study can be developed into training aids; and it can be used by academia as part of the curriculum to teach future mining engineers as a basis for improving the working environment for underground mineworkers.

The final presentation of the morning, by Amu Modau, focused on the Burden of Air Pollution from Diesel Exhaust Emission in Underground South African Mines. Amu started her mining career at Goldfields East Driefontein in 2007 as a ventilation graduate trainee. She currently works for Modikwe

Platinum Mine as a SHEQ Manager and has been exposed to both conventional and board/ pillar mining. Amu has a passion for occupational hygiene, safety and ventilation systems. She is currently a PhD candidate on the occupational hygiene stream at WSPH. Diesel exhaust (DE) is the major component of particulate matter in the underground environment. During 2012 the International Agency for Research in Cancer classified diesel exhaust as being carcinogenic by inhalation. The small size of the particulate fraction of DE, called DPM, makes it an excellent medium for absorbing organics, and it is highly respirable and able to reach the deepest parts of the lungs. The exposure to DE for underground workers is of great concern because of the confined spaces in which they operate. The first step in reducing worker exposure is to reduce the DPM from the source. However, the monitoring of vehicle emissions remains a challenge in South African mines in the absence of an Occupational Exposure Limit (OEL) for DPM by the Department of Labour, and there is a need to regulate the exposures and to enforce compliance thereof. Ventilation systems are a major dynamic control in underground mines for the dilution of ambient gases and particulate matter. Leading on from Tariq's studies, Amu's findings suggest that Computational Fluid Dynamics can be an effective way to simulate the airflow patterns for the entire mine which can be used to implement a risk-based monitoring system to manage over-exposure.

WAY FORWARD

Many useful suggestions were raised from the floor. Agreement was reached that the way forward was for further collaboration on research and ideas instead of working in isolated silos. Fred Cawood, Director of the WMI asked if future seminars should be half- or full-day events, and if a keynote speaker from outside the Faculties should be invited. A further suggestion was for a theme-based seminar, such as mine ventilation, although some felt this could be restrictive. However, an event-based theme, for example, the Lily Mine disaster, could prove to be more inclusive of other disciplines such as medical geology. Dudu Magazi, Associate Lecturer at the Wits School of Mining, asked if future seminars should be open to industry as well as academics, and perhaps a case-study from industry could form part of the presentations.

Dr Vogt proposed that seminars be held twice yearly and that half a day be dedicated to presentations from post-graduates followed by a half day theme-based topic, with industry participation.

In conclusion, the inter-faculty collaboration was a great success. The event demonstrated how significant capacity can be mobilised when existing Wits resources collectively target a specific theme or industry problem.

The presentations (except Tariq Feroze's) can be requested from WSP (email dudu.mditshwa@wits.ac.za)

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A-OSH Expo 2017

Calling all industry professionals looking for the latest in occupational health and safety (OHS) product and services – pre-registration is now open to claim your free entrance to *A-OSH Expo 2017*, Africa's leading OSH exhibition. Now in its seventh year and still growing, the show takes place between 30 May and 1 June 2017 at the Gallagher Convention Centre in Midrand, Johannesburg, and is co-located with the industry's top security and fire exhibition, *Securex*.

"By visiting www.aosh.co.za, you'll gain entrance to experience all *A-OSH Expo 2017* has to offer; from protective clothing and training to environmental management, gas detection and first aid," says Joshua Low, event director at Specialised Exhibitions Montgomery. "A-OSH has rightfully earned its title as the foremost African show within the OHS space by consistently shining a spotlight on the sector's most relevant topics, as well as its latest products and services, and providing an opportunity for face-to-face dialogue between industry specialists and best-of-breed solution and services providers."

New features for the 2017 show includes Occu|Fit's Wellness Zone, a company under Health|Insite's Group of Companies, where delegates are able to undergo a full occupational health medical on-site in the hall. South Africa's

leading corporate wellness and occupational health service provider, Health|Insite will be showcasing its mobile unit, providing a full physical exam, in addition to audiometry and spirometry testing and a full visual screening with keystone, to *A-OSH EXPO* attendees – at no cost! Each medical takes between 45 minutes to an hour, and visitors will receive a 'certificate of fitness to work' signed by an Occupational Health Practitioner (OHP), indicating validity for a year.

"A-OSH 2017 delegates will also have access to first-rate educational content and critical advice on pressing issues via the PASMA Working at Height Theatre, FPASA's InFIREs workshop, the Noshebo seminar theatre sponsored by BBF Safety Gear and Saioh's South Africa Health and Safety Conference. They are, furthermore, provided with a platform to connect with more than 80 market-leading companies and the opportunity to network with industry peers," Low explains.

"We're also pleased to share that the 2017 show is extremely well supported by additional relevant industry associations, including the Institute for Work at Height, IOSM, Safety First Association, Master Builders Association, SAIOH, NEBOSH, SAPEMA, SASOHN and the Italian-South African Chamber of Trade and Industries," he concludes.

For more information, or to pre-register for *A-OSH Expo 2017*, please visit www.aosh.co.za



Sonke Gender Justice silicosis update



In the month of February, Sonke engaged in ongoing advocacy to highlight the plight of mineworkers and family members affected by silicosis and put pressure on the gold mining industry to fulfil its obligation to the men and women they have failed to compensate. Timed to coincide with the Investing in African Mining Indaba – a corporate celebration of mining, profit extraction and investment opportunities attended by thousands of mining investors – as well as the State of the Nation (SONA) address, Sonke engaged in intensive print, radio, television and online media work, including in-depth analysis about silicosis and industry resistance to pay what is due to miners and their families.

On Tuesday 7 February 2017, we hosted a press conference at our Cape Town office. Attended by major national media outlets, it gave a platform to Mrs Nobekile Duba and Nomziwonke Jamela, wives of former mineworkers who worked in the gold mines for decades, and Ntate Tshidiso Thulo, a former mineworker employed at various gold mines for 38 years and released in 2009 because of his medical condition, to speak about the devastating effect silicosis has had on their lives. Alice Magala, a 24-year-old daughter of a mineworker, spoke powerfully about being forced to leave school when her father was critically ill. Alice bared witness to the death of her father

from silicosis and the continued impact on her family and schooling. The aim of the press conference was to give the real investors of the mining industry an opportunity to share their lived experience.

The following day, on Wednesday 8 February, Sonke remodelled the Cecil Rhodes statue in the Company Gardens. The statue's base was surrounded with images of affected mineworkers and their families, industry CEOs and parts of the speech Cecil Rhodes gave when he argued for passage of the Glen Grey Act. This act laid the foundation for the migrant labour system in South Africa, which went on to exploit black bodies for decades. The unveiling of the remodelled statue was accompanied by protest action during which Ntate Tshidiso Thulo shared his experience working in the mines at a time when little attention was paid to the health and safety of mineworkers.

Our aim with this creative activism was to tell the full story of the mining industry in South Africa, both its exploitative past and its far-reaching implications that continue to haunt thousands of families today. During this period, Sonke reached 24.5 million people.

For more information, please visit: <http://www.gender-justice.org.za/?s=silicosis>, or contact Julie Staples e-mail: julie@genderjustice.org.za





SAIOH News

Report from the SAIOH President and Council Members

2017 kicked off with a number of activities that have kept the SAIOH Council members busy. The SAIOH Strategy Session 2017 was held at the SAIOH Head Office in Broadacres on 27 January, where the SAIOH five-year strategic plan, mission, vision and values were revisited to ensure that planned and ongoing activities remain aligned with SAIOH key objectives.

The SAIOH key objective for 2016, to 'Build Capacity', speaks to the restructuring of the branches which is still in progress and will be carried over to 2017. SAIOH's mission statement for 2017 is 'To entrench excellence and competence for occupational hygiene professionals', and SAIOH is in the process of developing some offerings for its members in terms of training in various facets of occupational hygiene.

A special Annual General Meeting (AGM) has been scheduled for 7 April 2017, notice of which will be circulated to all members. Both the 2015 and 2016 financial statements will be presented at the AGM, as well as the SAIOH branch restructuring initiative.

The SAIOH President, Kenneth Hlungwane, has accepted an invitation from the South African Society of Occupational Medicine (SASOM) to present at the SASOM Annual Congress in June, thus contributing to the ongoing collaboration amongst the sister organisations in occupational health.

SAIOH representation at the Department of Labour's Occupational Health Forum

The SAIOH President, Kenneth Hlungwane, attended the first meeting of the year of the Department of Labour's (DoL) Occupational Health Forum, held on 15 February 2017, for representatives from the DoL, SAIOH, SASOM and the South African Society of Occupational Health Nursing Practitioners (SASOHN). The Forum endorsed the proposed academic visit of Prof. Thomas Fuller from Illinois State University in the USA. Prof. Fuller is a certified occupational hygienist and safety professional with extensive experience in various fields. He is also a member of the American Industrial Hygiene Association (AIHA) with whom

SAIOH has a Memorandum of Understanding, as well as a member of the International Commission on Occupational Health (ICOH). The Wits School of Public Health has kindly offered to host a seminar for Prof. Fuller on Monday 17 July 2017, with the support and sponsorship of refreshments from both SAIOH and SASOM. An invitation to the seminar will be circulated to occupational health practitioners in due course, once the seminar programme has been finalised in collaboration with Prof. Fuller.

Proposal for SAIOH Continuing Education Units (CEUs) through OHSA Journal questionnaires

At the last meeting in 2016 of the Editorial Board of Occupational Health Southern Africa (OHSA), a proposal was made for the inclusion of SAIOH in the Continuing Educational Units (CEUs) questionnaire that is published as an insert in every issue of OHSA. The questionnaire, which is based on the articles published in the Journal issues, is developed and managed by SASOM and, to date, has been completed by SASOM members.

It is important to note that there are differences in the allocation of CEUs between the various societies, and hence SAIOH is in the process of drafting a proposal for the Journal in terms of the allocation of SAIOH CEUs for the completion of the Journal questionnaire.

The Professional Certification Committee (PCC) of SAIOH had anticipated the benefit for SAIOH members of using articles and related questions or quizzes, and hence has allocated points for this option in the SAIOH system, in the latest version of the Continuing Professional Development (CPD) points table, as indicated below.

SAIOH Refresher – taking a career break from occupational hygiene

As always, the PCC members continue to develop new procedures to ensure that all potential situations are covered, and aim to answer member queries as comprehensively as possible. One question that the PCC regularly receives relates to SAIOH membership and CPD points when one retires or takes a career break. The following procedure is detailed in the SAIOH chapter and guide on CPD points:

Category	Activity	Points	Remarks
11. Participation in SAIOH education tutorials and online quizzes	Submit copies of answers to the PCC administrator; alternatively, automatic points will be added to individual membership for online participation and submissions	Individual point allocation will be documented on each individual tutorial or quiz, with a minimum of 0.2 points per submission	Copies of manual tutorials and work to be filed in members' Personal Learning Portfolio (PLP)

CPD points table

Career Breaks

SAIOH is mindful that members may find themselves out of work for a period of time, may opt to take time out of the occupational hygiene profession, or may retire from full time practice. If SAIOH members, regardless of their designation/certification level, want to pursue interests in another field, plan to take full or semi-retirement, or are unemployed for a period of time, they must formally notify the SAIOH Administration Office of their intent to 'suspend' their membership so that notice is made on their profile. The member can resign his/her registration and remain an unregistered or general SAIOH member, but will need to re-sit the certification assessment later if he/she wants to re-enter the profession. However, if the member wishes to stay registered during this period (not actively practising occupational hygiene on a full-time basis), he/she is required to pay the annual membership fees, thus ensuring that they are not suspended due to outstanding fees.

In terms of CPD points, the following applies: For each designation/certification type, there is a requirement for a certain number of CPD points to be achieved within a five-year period. Hence, if members are not active for a certain period of time, they still have the opportunity, during their active years (within the designated five-year period), to ensure that the 'missing' points are obtained. CPD points can also be achieved by 'stock piling', bearing in mind that there is a maximum number of points that can be achieved each year. Members may still need some points to ensure that they do not lose their professional registration in the coming years. Members would therefore need to participate in occupational hygiene activities to make up the deficit in the total number of CPD points required. Examples of activities are attending local branch

meetings, mentorship support, participating in online quizzes, and writing questions for the assessment database. These activities enable the allocation of a few CPD points towards the total number required in a designated five-year period, for each year of non-practice.

Members are reminded that they are still required to keep their Personal Learning Portfolios (PLPs) up to date.

Members may be absent from occupational hygiene practice for a maximum of two years. If members do not formally advise SAIOH that they have been re-employed in an occupational hygiene role, their professional membership will be revoked and downgraded to general membership. All normal fees will be payable during the non-practice period to retain professional registration status. Non-payment of fees will lead to membership status being revoked.

SAIOH Programme 2017

SAIOH has finalised the dates and times for the Council, Liaison Forum and DoL Liaison meetings for 2017, which are indicated below. Meeting requests will be sent to the SAIOH stakeholders in due course.

Report by:

Kenneth Hlungwane, SAIOH President 2017

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Dates and times for the Council, Liaison Forum and DoL Liaison meetings for 2017

Meeting	Venue	Date and Time
SAIOH-DoL Liaison	DoL Head Office, Pretoria	Monday 5 June, 12h00 -14h00
SAIOH Liaison Forum	SAIOH Head Office, Broadacres	Friday 14 July, 11h00 -14h00
SAIOH-DoL Liaison	DoL Head Office, Pretoria	Friday 22 September, 12h00 -14h00
SAIOH-DoL Liaison	SAIOH Head Office, Broadacres	Friday 1 December, 11h00 -13h00
SAIOH Liaison Forum	SAIOH Head Office, Broadacres	Friday 1 December, 13h30 -15h00
SAIOH Council Meetings	SAIOH Head Office, Broadacres	Friday 31 March Friday 26 May Friday 4 August Friday 30 November 09h00 - 15h00



SASOHN's 12th Academic Day:

Norms and standards in occupational health

Am I still on the right track? We have all asked, or should have asked, this question at some stage. Here is your opportunity to answer at least part of that question within the dynamic and ever-changing landscape of occupational healthcare norms and standards. Evaluation forms, diligently completed at the end of every SASOHN event, have highlighted that members want to learn more about various legal and ethical solutions to the dilemmas encountered amongst vulnerable worker populations in the occupational health setting. The SASOHN Academic Day will endeavour to first, address the same requested topics addressed by at least two regions each year and, second, provide a platform for professional development of occupational health nurses who may not have the means to attend the annual SASOHN Conference.

This year SASOHN has the opportunity to add an international flavour to the programme as the International Commission on Occupational Health (ICOH) Scientific Committee on Occupational Health Nursing (SCOHN) midterm meeting coincides with the Cape Town Academic Day. Both the Johannesburg and the Cape Town programmes have a session on 'Global trends in Occupational Health,' allowing participants to benchmark the development of their services against international service delivery. ICOH speakers will address the audiences at both events this year. Susan Randolph, the SCOHN chairperson from the USA, will address the audience on her PhD research which explored occupational health solutions for vulnerable employees in the agricultural sector.

While performing a management role, the OHNP needs to ensure that he/she or the team is providing an evidence-based service. Presentations from doctoral research projects will provide guidance on the principles and awareness of how to apply Recent Research in OH Practice. In other words, using some of their own recent findings will help to ascertain what this means for the OH team and how OHNPs can facilitate or incorporate these to improve their practice within the recommend norms. The Occupational Health and Safety Act and its regulations are amended regularly. As OHNPs we don't always put aside time to update ourselves on the Changes in the OHS Act, and the intricacy, the motivation and/or the impact that this has on the provision of a legally compliant service.

From our changing legislative framework, standards need to evolve, and the SASOHN regions

have taken on the challenge to address this need through the various monthly regional meetings. At the Academic Day, participants have an opportunity to grapple with some of the questions they raised on the SASOHN chat group and/or those that were received by the SASOHN Executive Committee members, with subject-specific experts. This year the focus is on Understanding of the Spirometry Ranges. For instance, why are we using ECCS reference values recommended by SANS when it is known that a large portion of our worker population requires a 10% adjustment to this 'norm'? Why do some pulmonologists and/or pulmonary technologists want to compare actual values with Quanjer 2012 reference values? Why conduct a spirogram and a chest X-ray? Wouldn't it be more cost effective to conduct one or the other? Calibrating the calibration syringe through America . . . surely there should be a SANS standard so that it can be done in South Africa?

There have also been changes in the mining industry with regard to reporting of occupational diseases, which will be addressed. For example, what is the standard threshold shift from the milestone baseline directive in the mining industry that is being implemented, compared to the SANS 10083:2013 percentage loss of hearing shifts, when determining noise-induced hearing loss? What impact will the guideline have on fatigue management?

An expert from the mining industry will address the latest Reporting on Occupational Health Diseases as required by DMR. The Programme will end with a lively interactive panel debate where participants are invited to engage with a panel of experts, representing the Department of Labour, workers' union, SASOM, SASOHN, SAIOH and the National Institute for Occupational Health (NIOH), regarding the ethics of Achieving Quality Occupational Health Services in South Africa.

We look forward to you joining SASOHN on 4 May in Johannesburg at the Aviator Hotel, or on 18 May in Cape Town at the Townhouse Hotel, where you will also earn CPD points. Registration forms are available from www.sasohn.co.za or by request from the SASOHN Head Office at office@sasohn.co.za.

Report by:

Angie Butkovic

SASOHN National Educational Representative

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SASOM News

SASOM representation at the Department of Labour's Occupational Health Forum

On 15 February 2017, Prof. Daan Kocks, Chair of the South African Society of Occupational Medicine (SASOM), attended the first meeting of the year of the Department of Labour's (DoL) Occupational Health Forum. At the Forum meeting, the DoL requested that SASOM and the South African Society for Occupational Health Nursing Practitioners (SASOHN) jointly develop a document on the requirements for occupational health services as a template for employers, to be used as the norm in industry. The first discussion between the two Societies for the development of the document will be held in March 2017.

SASOM Refresher 1 – registration as Occupational Medicine Practitioner or Specialist

SASOM would like to remind all professionals involved in the field of occupational health that in order to practice as an Occupational Medicine Practitioner or Occupational Medicine Specialist, a medical practitioner must register the applicable additional qualification (Post Graduate Diploma in Occupational Health/Medicine or Fellowship of the College of Public Health Medicine Division of Occupational Medicine of the Colleges of Medicine of South Africa, respectively) with the Medical and Dental Professions Board of the Health Professions Council of South Africa (HPCSA).

The registration of the diploma or specialist qualification should be done by an entry of the additional qualification in the register for medical practitioners. HPCSA application form 19 should be used for this purpose. This entry will be confirmed by the Board issuing a 'Certificate of Registration of Additional Qualification' to the practitioner. The entry is also recorded in the HPCSA i-Register. For diploma registration, the practice field remains 'medical practitioner' and the additional qualification is listed.

A separate application for specialist registration is then made by using HPCSA application form 21. After verification, the specialist registration is entered into the category of 'specialist' as 'occupational medicine'. The entry is also recorded in the HPCSA i-Register: the practice field is indicated as 'specialist'.

The entry into the HPCSA i-Register allows the public to verify that the practitioner is indeed registered and conforms to the legal definitions of occupational medicine/medical practitioner in the Occupational Health and Safety Act No. 85 of 1993, and the Mine Health and Safety Act No. 29 of 1996.

SASOM Refresher 2 – accessing OHSA articles electronically

SASOM members are reminded that their annual membership fee includes subscription to the *Occupational Health Southern Africa (OHSA)* journal (six issues per annum) – in both hard copy and online formats. OHSA is published online at www.occhealth.co.za and members will need to use their

personal log-ins in order to access the journal electronically. Please note that individual personal log-ins are allocated by OHSA, and you will need to contact the journal to request electronic access, even though you may already receive the hard copy version.

Please e-mail lauren@dbn.technews.co.za if you have any queries or require assistance.

Under development – another dimension to sister organisation collaboration

SASOM was the frontrunner in developing Continuing Educational Units (CEUs) for its members, through the CEU questionnaire that SASOM designs for each issue of the OHSA journal. Members are able to obtain CEUs by reading the journal articles, completing the questionnaire, and submitting it to SASOM.

At the last meeting in 2016 of the Editorial Board of OHSA, SAIOH and SASOHN Editorial Board members indicated a keen interest in using the same OHSA questionnaire for their members, for the purposes of obtaining CEUs, and for accreditation with their respective statutory organisations. SAIOH and SASOHN are in the process of developing procedures for the inclusion of their organisations into the OHSA CEU questionnaire system.

SASOM PROGRAMME 2017

SASOM 2017 Annual Congress

SASOM will hold its Annual Congress on 9 and 10 June 2017, at the Protea Hotel by Marriott, OR Tambo International Airport, in Kempton Park, Gauteng. The theme of the Congress is 'Challenges in Occupational Health: Doing right, at the right time'. The preliminary programme and registration form are available on the SASOM website www.sasom.org.za. SASOM is pleased to announce that the Congress will host the meeting of the Regional (African) National Secretaries of the International Commission on Occupational Health (ICOH); ICOH Vice-President, Prof. Seong-Kyu Kang, who is responsible for the ICOH National Secretaries Portfolio, will be the invited international keynote presenter.

SASOM 2017 Annual General Meeting

The KwaZulu-Natal branch of SASOM will host the SASOM Annual General Meeting (AGM) on Saturday 25 November 2017; venue to be advised.

Report by:

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