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Empowering healthy food and beverage choices in the workplace

Perceptions of Central Gauteng occupational health nursing practitioners of their traditional and expanded roles

Official Journal of The SA Society of Occupational Health Nursing Practitioners, The SA Society of Occupational Medicine, The Southern African Institute for Occupational Hygiene and The Mine Medical Professionals' Association.

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From the Editor . . .

Gill Nelson, Editor

Given that more than half of South Africa's adults are overweight, and that the proportion of obese women is not far behind, it is not surprising that our population is at an increased risk for non-communicable diseases.[1] In August, PRICELESS-SA, based at the University of the Witwatersrand, published a paper on the potential impact of increasing the tax on sugar-sweetened beverages.[2] The paper received much media coverage – television, newspaper and radio – and the article in this issue by two of the authors (Aviva Tugendhaft and Karen Hofman) describes how targeted interventions in the workplace can assist us in improving the health of our nation.

The second paper is about Occupational Health Nurse Practitioners' perceptions about their roles with regard to conducting health assessments, providing direct care of job-related emergency and minor illness episodes, assisting with rehabilitation and relocation of disabled workers, managing an occupational health service, and undertaking research-related activities. OHNPs definitely need to become more research-aware and -active. We are very happy to publish this paper, especially as one of the authors is a SASOHN member.

Statistics for the last three years show a disappointing contribution of papers by society members. A quick count indicates that SAIOH members are in the lead with eight papers submitted, followed by SASOHN and SASOM members who submitted six papers each. MMPA members trail behind with four papers. This is your journal and your mouthpiece and we hope to see double figures in the coming months. Remember that we consider all occupational health-related contributions, from letters and commentaries, to original research and reviews.

On a more positive note, both the recent SASOM and MMPA conferences were hugely successful and very enjoyable events. SAIOH continues to provide informative and thought-provoking input for its members and, in this issue, SASOHN presents an electronic health record database from a "futuristic" perspective.

The alarming and increasing incidence of Ebola in West Africa cannot be disregarded as a non-occupational issue, as it affects health workers and migrant workers as well as residents of the affected countries. The economic effects in these countries are severe, and extend into the rest of Africa, even into the area of research funding. The African Grantmakers Network (AGN) 3rd Assembly 2014: Philanthropy in Africa: People, Policy and Practice, that was scheduled to take place on 17-19 November 2014 in Accra, Ghana, has been postponed until the second half of 2015. The Government of Ghana issued a directive for a moratorium on all international conferences from September to November 2014.

Please remember to regularly check the Cochrane Occupational Safety and Health Review Group website (http://osh.cochrane.org/) for the latest systematic reviews, some of which have found that hearing protection does not reduce noise-induced hearing loss sufficiently and that cancer survivors benefit from measures aimed at preventing job loss. One of the most recently published reviews found that there was "low quality evidence that melatonin improves sleep length after a night shift but not other sleep quality parameters".

Happily, summer is back and Johannesburg is starting to look green again. The Jacaranda flowers will soon be out, indicating end-of-year exams. Please will all of you who have submitted research for examination this year consider writing it up for publication in *Occupational Health Southern Africa*. Editorial assistance is available on request!

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Upcoming events

LOCAL MEETINGS

DATE	MEETING	TOPIC	PLACE	MORE INFORMATION
21-24 Oct 2014	12th International Mesothelioma Interest Group Conference	The ongoing quest for cure	Cape Town International Conference Centre	E-mail: jimtewn@mweb.co.za Website: http://imig2014.org/
22 Oct 2014	4th Annual Environmental Conference	Pertinent environmental matters applicable to the SA industry	Intundla Conference venue, Pretoria	E-mail: envirocon@envass.co.za Website: http://www.envass.co.za/envirocon
29-31 Oct 2014	SAIOH Annual Conference	Beyond dust and noise	North-West University, Potchefstroom Campus	E-mail: Johan.DuPlessis@nwu.ac.za Website: http://www.saioh.co.za/Conference2014.aspx
4-6 Nov 2014	3rd Annual Junior Mining and Exploration Conference & Exhibition	Unlocking the potential for growth	The Forum, The Campus, Bryanston, Johannesburg	E-mail: jlues@iir.co.za Website: http://iir.co.za/juniorminingexploration/
7-9 Nov 2014	SASOM Namibia Branch	General Occupational Health Congress	Tsumeb, Namibia	E-mail: info@sasom.org Tel: 012 803 7418
21 Nov 2014	SASOM AGM and Conference	Air, Sea and Land health	The Boathouse, Ballito	E-mail: info@sasom.org Tel: 012 803 7418

HEALTH AWARENESS DAYS, WEEKS AND MONTHS

OCTOBER 2014

10	World Mental Health Day
16	World Spine Day
17	World Trauma Day

NOVEMBER 2014

4 - 8	SADC Malaria Week
14	World Diabetes Day
25	International Day for the Elimination of Violence against Women
25 Nov-10 Dec	16 Days of Activism for No Violence against Women and Children

DECEMBER 2014

1	World AIDS Day
9	World Patient Health Safety
1 Dec - 31 Jan	Skin Cancer Awareness Month(s)

INTERNATIONAL MEETINGS

DATE	PLACE	MEETING	MORE INFORMATION
8-9 Oct 2014	Cork, Ireland	BOHS & OHSI - Exposure Control and Containment Conference	E-mail: conferences@bohs.org Website: http://www.bohs.org/events/exposurecontainmentcontrol/
15-16 Oct 2014	Bologna, Italy	New insights in occupational health surveillance. Joint-meeting of two ICOH Scientific Committees: Occupational Medicine, and Health Services Research and Evaluation in Occupational Health	E-mail: s.mattioli@unibo.it Website: http://www.icohbologna2014.it
24-26 Oct 2014	Taiyuan, China	2nd Annual Global Health Conference	E-mail: belinda@bitcongress.com Website: http://www.bitlifesciences.com/aghc2014/
21-23 Jan 2015	Dubai, UAE	4th ScienceOne International Conference on Environmental Sciences (ICES 2015)	E-mail: ices@thescienceone.com Website: http://thescienceone.com/ices
11-15 Feb 2015	Kolkata, India	14th World Congress on Public Health	E-mail: info@14wcph.org Website: www.14wcph.org
31 May-5 Jun 2015	Seoul, South Korea	31st International Congress on Occupational Health	E-mail: icoh2015@kosha.or.kr Website: http://www.icoh2015.org
6-10 Sep 2015	Denver, USA	16th World Conference on Lung Cancer	E-mail: Pia.Hirsch@iaslc.org Website: https://www.iaslc.org
21-23 Oct 2015	Groningen, The Netherlands	USE2015 - Conference on Understanding Small Enterprises	E-mail: info@useconference.com Website: http://www.useconference.com

Discovery Fund contributes R2m for vital research into non-communicable diseases

On 17 June 2014, Discovery, South Africa's biggest private healthcare funder announced a R2 million donation to the Chronic Diseases Initiative for Africa (CDIA) for vital research into non-communicable diseases (NCDs) in South Africa.

"The CDIA is delighted to receive this significant donation. It allows us to expand vital research into NCDs, which have emerged as major threats to health in South Africa, placing an even heavier burden on our already strained health services," says CDIA Director Professor Naomi Levitt.

Non-communicable diseases like heart disease, stroke, diabetes and some cancers currently contribute to 30% of deaths in South Africa. About 6.3 million South Africans have high blood pressure and three million have type 2 diabetes. In addition, wider access to antiretroviral therapy has transformed HIV/AIDS into a chronic disease and people are now living long enough to be at risk for NCDs. The very high obesity rates, particularly among women, are also expected to increase the rates of hypertension and diabetes.

"It is critical that we pay attention to these statistics now. Nearly half of the deaths caused by cardiovascular disease in South Africa occur before the age of 65 years, four times the rate in the USA. Many of these premature deaths could be prevented," says Levitt.

In the letter confirming the donation, the Discovery Fund trustees stated: "This grant is a contribution towards core funding for the directorate of the CDIA, which will enable CDIA's research network to continue to make a vital contribution to NCD-related research and advocacy work in South Africa."

The CDIA has conducted wide-ranging research, especially among poor communities in the Western Cape, specifically on smoking, nutrition and primary healthcare, and is actively involved with the national Department of Health in contributing to NCD policy development in South Africa.

The CDIA has members from several universities in South Africa, as well as the South African Medical Research Council (MRC) and Harvard University (HU), USA. In 2012, the membership expanded to include members from Malawi, Kenya and Botswana. Negotiations are in place to expand the membership to other universities.

Some of the work the CDIA has been involved with includes developing an assessment tool for the early identification of people at risk of cardiovascular disease, a group diabetes education programme, and the use of mobile technology to deliver SMS support to patients with hypertension to promote adherence to treatment. This innovation is being evaluated in a clinical trial in collaboration with researchers from Oxford University.

Professor Levitt concludes: "It is critical that the current focus on NCDs be strengthened and expanded in order to improve the health of patients with chronic diseases and reduce premature mortality. This donation by Discovery is an opportunity to promote the work of the CDIA network."

Issued by: Rothko PR on behalf of the CDIA
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Mining Qualifications Authority contributes R20m to Wits University

On 14 March 2014, the Mining Qualifications Authority (MQA) handed over a cheque for more than R20 million to the University of the Witwatersrand. The money will go towards support for seven lecturers in mining engineering and bursaries for 236 students in the following disciplines: analytical, chemical, electrical, industrial, mechanical, metallurgical and mining engineering, and geology. Prof Adam Habib, Vice-Chancellor and Principal of Wits, said the bursaries, to be given to disadvantaged students, "would send a powerful message of hope to the poor that talented people have access to one of the best universities in the country", and that the support that would be given to lecturers was "an investment in the creation of a new black professoriate". The CFO of the MQA, Yunus Omar, told student and staff representatives from Wits that the MQA was comprised of people who had been in their shoes. "They know what the students and lecturers are going through," he said.

The full story can be found at:
http://www.wits.ac.za/newsroom/newsitems/201403/23092/news_item_23092.html

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Empowering healthy food and beverage choices in the workplace

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ABSTRACT
The prevalence of obesity in South Africa has risen alongside the growth in consumption of sugar sweetened beverages (SSBs). This escalation in obesity places the population at greater risk for non-communicable diseases, and is increasing employee absenteeism and turnover and decreasing productivity in the workplace. Research shows that reducing SSBs will significantly impact the prevalence of obesity and its related diseases. Fiscal and legislative levers are one way of addressing SSB consumption and obesity. Worksite interventions are a complementary nudge to create healthier social norms for eating.

Keywords: **obesity, non-communicable diseases, sugar sweetened beverages, worksite interventions, South Africa**

BACKGROUND

Obesity in South Africa has grown over the last 30 years and the country is now considered the most obese in sub-Saharan Africa. Over half of the country's adults are now overweight and obese with 42% of women and 13% of men obese.[1]

As a heavier nation, we are at increased risk for non-communicable diseases (NCDs), including cardiovascular disease, type 2 diabetes and cancer, which together account for 27% of all deaths in the country;[2] almost equating to the mortality from HIV/AIDS and TB. Obesity is also associated with joint problems, arthritis and back pain.[3]

NCDs shorten our life spans and affect the quality of our lives from stroke, blindness, amputations and kidney failure, among others. These deaths and disabilities place a major financial strain on individuals, families and employers. In South Africa, even moderate obesity is associated with an 11% increase in healthcare costs, and severe obesity with a 23% increase.[4] Obesity and its associated diseases and ailments are impacting the workplace negatively by increasing turnover, absenteeism and worker compensation claims, and decreasing productivity.[5] In 2012 it was estimated that premature employee deaths related to cardiovascular disease resulted in losses of R15 billion and 132 million workdays per annum in South Africa. In addition, over R20 billion is lost due to absenteeism and lower productivity due to illness and disability.[6] Obese employees are costing their companies 50% more in paid time off work than their non-obese colleagues.[7] Beyond these costs to companies, there are additional negative consequences for employees, including obesity discrimination in the workplace. This can manifest in reduced salary offerings and decreased likelihood of selecting an obese candidate, particularly for women.[8] Furthermore, life insurance companies are increasing their premiums for obese clients, which may impact on both employers and employees of group insurance schemes.[9]

OBESITY AND SUGAR SWEETENED BEVERAGES

One major component of weight gain is excess sugar consumption. The escalating obesity in South Africa has occurred in conjunction with urbanisation and increase in sales of sugar sweetened beverages (SSBs) and high caloric energy dense foods.[10] While SSBs are not the only reason for an increase in adiposity, they have a high sugar content and no nutritional value nor any impact on satiety.[11] Drinking just one SSB a day increases the likelihood of being overweight by 27% for adults and by 55% for children.[12] This is not surprising, considering that one 330 ml serving of a carbonated sweetened drink contains an average of eight teaspoons of sugar and the same size fruit juice contains an average of nine teaspoons of sugar. In some cases, simply consuming more sugar places individuals at greater risk for NCDs, even in the absence of weight gain.

The Minister of Health, Dr Aaron Motsoaledi, has mentioned the need for regulation for foods high in sugar in order to address obesity and its related diseases. One such regulation may include a tax on SSBs, as has already been implemented in other countries.[13-16] The South African National Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-2017 lists taxes on foods high in sugar as one potential "best buy" for addressing diet and obesity.[2]

PRICELESS SA RESEARCH ON 20% TAX ON SSBS

The PRICELESS SA (Priority Cost Effective Lesson for System Strengthening, South Africa) programme at the University of the Witwatersrand School of Public Health is focused on "best buys" for health. One area of research is the economic and health impact of legislative and fiscal policies to improve nutrition in South Africa. In August 2014, PRICELESS published a paper in PLOS ONE entitled *The potential impact of a 20% tax on sugar-sweetened beverages on obesity in South African adults: A mathematical model.*[17] The South African Declaration on the Prevention and Control of NCDs commits to "reducing by 10% the percentage of people who are obese and/or overweight by 2020". A 20% SSB tax would contribute towards achieving this target by 25%, with the number of obese adults decreasing by 220 000 over three years.[17]

OBESITY AND WORKSITE INTERVENTIONS

Another "best buy" identified in the South African NCD Strategic Plan is worksite interventions.[2] Due to the fact that employees spend approximately 60% of their waking hours at the workplace, worksite programmes to address obesity could have a significant impact on the adult population and, by extension, on their families.

Employee wellness programmes (EWPs) have been in existence in South Africa since the 1980s after being instituted by the Chamber of Mines, and have grown over the last three decades.[5] They are now a component of most large businesses but in many small businesses (fewer than 1000 employees) they do not exist. Many of the EWPs incorporate annual body mass index (BMI) and blood sugar screening as well as some type of weight management and nutrition counselling. EWPs that are proactive and focus on prevention provide a greater return on investment. This is realised through decreased absenteeism, healthier and more productive employees, and lower staff turnover.[5] EWPs accompanied by broader worksite interventions can foster a health conscious work environment.

Food and beverage choices are shaped by availability, price and marketing, as well as awareness of the impact of the products. The workplace is a setting in which all these factors can relatively easily be addressed. Examples of specific measures that could complement a potential SSB tax to reduce SSB consumption and encourage healthy lifestyles within the workplace are listed in Box 1.

In addition, the soda industry has some healthy alternatives available which have the potential to replace SSBs, and which are being marketed more heavily in Europe and North America than in South Africa. The freedom to consume sugar in excess will lead to an increase in lifestyle diseases accompanied by higher turnover and absenteeism in the workplace as well an increase in healthcare spending, supported by the South African taxpayer.

It is the responsibility of the government to protect the health of its population through regulations that nudge people to make healthier and more sustainable choices. One of these is an SSB tax which has the potential to prevent obesity-related diseases as one component of a multifaceted strategy. Worksite interventions are a further nudge to create healthier

BOX 1. EXAMPLES OF WORKSITE INTERVENTIONS TO REDUCE SSB CONSUMPTION

1. Provide nutritional information about food and beverages in vending machines and worksite cafeterias.
2. Ensure the availability of healthier and affordable options in vending machines and worksite cafeterias.
3. Provide incentives to encourage healthy food and beverage choices at worksite cafeterias (e.g. two for the price of one).
4. Ensure that safe drinking water is available and served at meetings and events.

social norms around diet and eating patterns. Considering that a large proportion of the day is spent at work and that eating is controlled more by the environment than the individual,[18] the workplace is a crucial setting for obesity- prevention strategies. If designed appropriately, worksite interventions have the potential to contribute significantly to developing an enabling environment for behaviour change, and to creating a society that endorses healthy food and beverage choices.

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CONFLICT OF INTEREST

The authors declare no conflict of interest in the work published here.

AUTHORSHIP

Both authors contributed to the conceptualisation, drafting and editing of this manuscript and have approved final text.

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Perceptions of Central Gauteng occupational health nursing practitioners of their traditional and expanded roles

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ABSTRACT

This paper provides an overview of the findings of a cross-sectional survey conducted in 2011 that investigated the perceptions of Central Gauteng occupational health nursing practitioners of their traditional and expanded roles and role activities, using a self-administered questionnaire. In the traditional role area, high importance was given to the functions of health assessment and providing direct care of job-related emergency and minor illness episodes. The assistance of rehabilitation and relocation of disabled workers was rated low in overall importance. In the expanded role area, the highest importance was given to managing an occupational health service, while the lowest importance was given to research-related activities. The results demonstrate that occupational health nursing practitioners need to engage in research activities and conduct situational analyses of workplaces.

Keywords: **perceptions, traditional role, expanded role, occupational health nursing practitioner**

INTRODUCTION

Occupational health nursing practitioners (OHNPs) play an important role in the creation and maintenance of a healthy and safe work environment, and are expected to engage in a variety of traditional curative activities as well as expanded role activities, focusing on injury prevention, health promotion, wellness, management and research.[1] Role refers to a part that someone or something has in a particular activity or situation: the part that someone has in a family, society, or other group.[2] Role activities relate to the functions performed to enact a specific role. The roles of the OHNP are those of consultant, clinician, educator, researcher and manager/leader. The enactment of the roles and role activities are dependent on the size of the organisation, the nature of the business, and the health risks in the workplace setting.[3] In addition, role activities that are applied in fulfilling the roles are diverse and overlapping.[3] OHNPs are "the largest group of healthcare providers serving the worksite"[4,5] with a variety of workplace roles that are in a constant state of change and expansion.[6]

The traditional role of the OHNP is described in the literature as being largely illness-based, and utilises a disease-oriented, task-based, medical model of practice.[7] The traditional role thus encompasses those elements of nursing that relate to providing curative treatments and rehabilitation, counselling employees regarding health risks, following-up employees for workmen's compensation claims, and conducting health assessments.[1] The expanded role of the OHNP, on the other hand, is based on wellness models of health that are consistent with the public health domain, and includes activities such as health promotion and education, risk reduction through workplace risk assessments and surveillance, environmental health monitoring, and those activities that centre on the increased professionalisation of OHNPs, namely research and its dissemination and utilisation, and management.[1] Role expansion is the extent to which nurses do not merely take on a responsibility for additional tasks, but the extent to which they achieve authority over the nature of their practices.[7] In addition, role expansion is about nurses taking their own initiatives, doing their own thinking, and making their own decisions based on

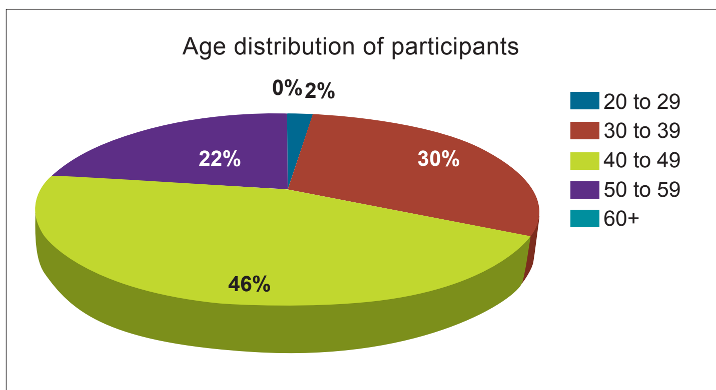

Figure 1. Age groups of the participants (n = 99*)
*3 participants did not respond to the question

their own experiences and education, to improve practice for the benefit of patients and clients.[7]

Studies conducted in the United States of America,[4] Australia,[8] Brazil[9] and Taiwan[10] revealed slight differences in role perceptions among OHNPs. Findings emphasised that, although OHNPs have moved from a healthcare curative perspective (the traditional remit of occupational health) to a new expanding OHN role that encompasses workplace health promotion, injury prevention, management and research, the traditional illness-based models of practice continue to dominate and remain a key task for OHNPs. Nevertheless, the expanded roles are of increasing importance with more time being needed for them in future OHN practice.[1]

The perception of an employee of her/his role is a key determinant of performance, with a misty perception of the role likely to result in underperformance by, and underutilisation of, the potential of the individual.[11] It has been suggested that role perception and actual role content are intrinsic predictors of job satisfaction.[12] Since perceptions are likely to shape the OHNPs' practices and their responses to the expanded role,[13] it is imperative that these perceptions be explored.

There are no studies about the perceptions of OHNPs of their traditional and expanded roles in South Africa. This is the first attempt to identify those perceptions in the country. The purpose of this study was to describe the role perceptions of OHNPs in Central Gauteng.

METHODS

A cross-sectional survey was conducted in 2011. Using the list of names of 640 South African Society of Occupational Health Nursing (SASOHN) Central Gauteng members, 150 potential eligible research participants were selected by means of a systematic random sampling method. It was estimated that a sample size of 114 was needed, using Epi Info 6 Version 3.5.3. However, 150 participants were selected to account for non-responders as some questionnaires were posted.

The Central Gauteng district comprises Johannesburg which accounts for 92% of the district, Edenvale which covers 7.6%, and Carletonville and Soweto which contribute the least coverage at 1.5% each. Participants were restricted to professional nurses registered as OHNPs with the South African Nursing Council, employed in occupational health practices at the time of the study on a full-time, part-time or casual basis, or with an agency within the region. The Central Gauteng SASOHN members represent a significant proportion of OHNPs in South Africa and, as reiterated by Mellor and St John in 2007,[1] belonging to a professional organisation demonstrates a commitment to the continuing development of occupational health nursing (OHN) practice.

The data capture instrument used was an adjusted self-administered, structured questionnaire developed by Mellor and St John[1] who determined the perceptions of Australian OHNPs with regard to their current and future roles. The validity of the instrument was ensured by pre-testing it for layout, clarity, specificity and completeness on 10 postgraduate students in the OHN course at a tertiary education institution, who were not part of the study, as well as through assessment by two occupational health nursing experts. The internal consistency or "homogeneity" of the instrument was demonstrated by calculating the Cronbach's alpha co-efficient on the instrument's items under the eight sub-scales contained in the questionnaire.

The questionnaire consisted of two sections. The first section (Section A) contained questions about demographic information, and the second (Section B) measured eight components of OHNPs' role activities, viz. managing an occupational health service, assessing the work environment, workers' health assessments, health education, health promotion, rehabilitation, managing an illness and injury service, and research. Twenty-seven specific task items that reflected role activities underpinned the eight components. Adjustments were made to the original questionnaire so as to be relevant to the South African context. The revised questionnaire consisted of 16 items in Section A and 27 items in Section B. Participants were asked to indicate the degree to which each activity component rated as important to their current practice. The items were measured on a 5-point Likert scale (ranging from 1 "not important" to 5 "extremely important"). Participants indicated "0" if the activity was "not performed". The participants were also asked to estimate, as a percentage, the amount of time in any given week that they believed they spent in these areas in their current practices.

The study was approved by the Human Research Ethics Committee (Medical) of The University of the Witwatersrand (certificate clearance number M110919).

Data collection

One of the authors (EM) attended one regional monthly meeting of SASOHN's Central Gauteng branch prior to the data collection date and explained the objectives and importance of the research, the sampling procedures, the research instrument that would be used, follow-up procedures, and time commitments required of the participants. The OHNPs were

assured of confidentiality and participation was requested. Identified eligible participants who were at the meeting were handed an unmarked envelope containing the questionnaire and information sheet. Identified participants not at the meeting were contacted via telephone and/or email. The questionnaire packages were then e-mailed, posted or delivered by hand. The completed questionnaires were deposited in sealed envelopes into a drop box at the Edenvale community centre.

Data analysis

Analytical procedures included descriptive and inferential statistics. Data were analysed using STATA 10.0. Descriptive statistical analysis in the form of frequencies, central tendency measurements and variability measurements was used to describe the data. The criteria for perceptions of the importance of role activity interpretation were as follows: a mean rating score for each activity of 0.00 to 1.49 was considered to be the lowest importance, 1.50 to 2.49 was a low importance, 2.50 to 3.49 was a moderate importance, 3.50 to 4.49 was a high importance, and 4.50 to 5.00 was the highest importance of that role activity. This interpretation was based on that used by Ishihara, et al. (2004).[14]

RESULTS

A total of 127 questionnaires were returned, of which only 102 were analysed, representing a response rate of 68.0%.

Table 1. Highest OHN qualification attained by the participants (n = 102)

OHN qualification	n	%
Diploma	36	35.3
Certificate	22	21.6
Bachelor's degree	17	16.7
Higher/Advanced diploma	15	14.7
Honour's degree	4	3.9
Master's degree	3	2.9
None	5	4.9

The other 25 questionnaires were not included in the analysis because of incompleteness.

The average age of the OHNPs was 42.8 years (SD 9.4) with the youngest participant being 28 years old and the oldest 59 years old. Figure 1 illustrates the proportion of respondents in each age category. The majority of the OHNPs (45.5%) were in the age group 40 to 49 years. The age group 20 to 29 years had the fewest participants (2%). Of the 102 participants who responded to the question on gender, 91.2% were female and 8.8% were male.

Table 1 provides an overview of the participants' qualifications in OHN. The majority (n = 36, 35.3%) held a diploma in OHN as their highest post-basic qualification, followed by 22 (21.6%) with a certificate in OHN. Seven (6.9%) had a higher degree whilst five (4.9%) had no OHN qualification at all.

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Table 2. Level of job satisfaction (n= 102)

Current satisfaction with job				
Never	Rarely	Somewhat	Mostly	Always
n (%)	n (%)	n (%)	n (%)	n (%)
7 (6.9)	8 (7.8)	30 (29.4)	42 (41.2)	15 (14.7)

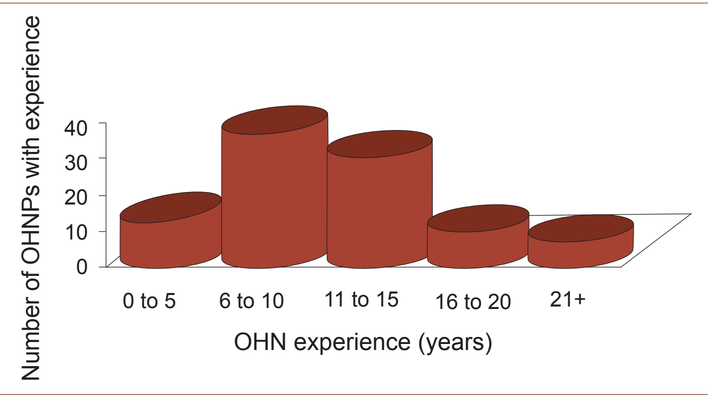


Figure 2. Distribution of OHNPs by years of experience in OHN (n = 102)

Figure 2 shows the distribution of OHNPs by the number of years of experience they had in OHN at the time of the study. Years of experience varied from six months to 30 years. The mean number of years of professional experience in the field was 11.1 (SD 5.9).

Table 2 illustrates the current state of job satisfaction amongst the OHNPs. Only 14.7% of the OHNPs experienced job satisfaction all the time, while 6.9% expressed having no satisfaction with their jobs.

The responses relating to the traditional area of practice are depicted in Table 3. High importance was allocated to the role activities of periodic and pre-placement physical assessments, and to providing and supervising direct care of job-related emergency and minor illness episodes. Moderate importance was assigned to evaluating the ability of absentees to safely return to work, providing direct care and treatment for non-work-related illnesses and injuries, and counselling employees regarding health risks. The assistance of rehabilitation and relocation of disabled workers was rated low on the overall importance scale.

Table 4 reflects the OHNPs ratings of the expanded

Table 3. Ratings of the traditional role activities

Role activity/activities	n	Mean rating	Overall importance rating
Assessing, monitoring and evaluating worker's health			
Perform periodic health assessments	102	4.00	High
Conduct pre-placement physicals	102	3.92	High
Evaluate the ability of absentees to safely return to work	102	2.90	Moderate
Managing an illness and injury treatment service			
Provide and supervise direct care of job-related emergency and minor illness episodes	102	3.78	High
Provide direct care and treatment for non-work related illnesses and injuries	102	3.14	Moderate
Counsel employees regarding health risks	102	3.03	Moderate
Managing the rehabilitation of ill or injured workers			
Assist in the rehabilitation and relocation of disabled workers	102	2.29	Low
Provide follow-up of employees with compensation claims	102	3.28	Moderate

Table 4. Ratings of the role activities in the expanded area of practice

Role activity/activities	n	Mean rating	Overall importance rating
Assessing the work environment			
Conduct a situational analysis of the organisation as a whole	98	2.39	Low
Participate in environmental monitoring	102	2.32	Low
Conduct plant rounds regularly to identify hazards and potential violations	102	2.74	Moderate
Advocate for the implementation of environmental health control measures	102	2.88	Moderate
Applying research methodology to the investigation of occupational health and safety issues			
Use evidence-based practice to promote quality outcomes	102	2.84	Moderate
Generate analyses on trends in health promotion, risk reduction and healthcare trends	102	2.81	Moderate
Conduct independent research to determine cost-effective alternatives for healthcare programmes/services and disseminates results	102	1.53	Low
Providing information, education, training and advice			
Participate in employee safety orientation classes and programmes for high risk areas	102	2.97	Moderate
Plan, develop, implement and evaluate educational programmes related to worker safety, health promotion and risk prevention	102	2.91	Moderate

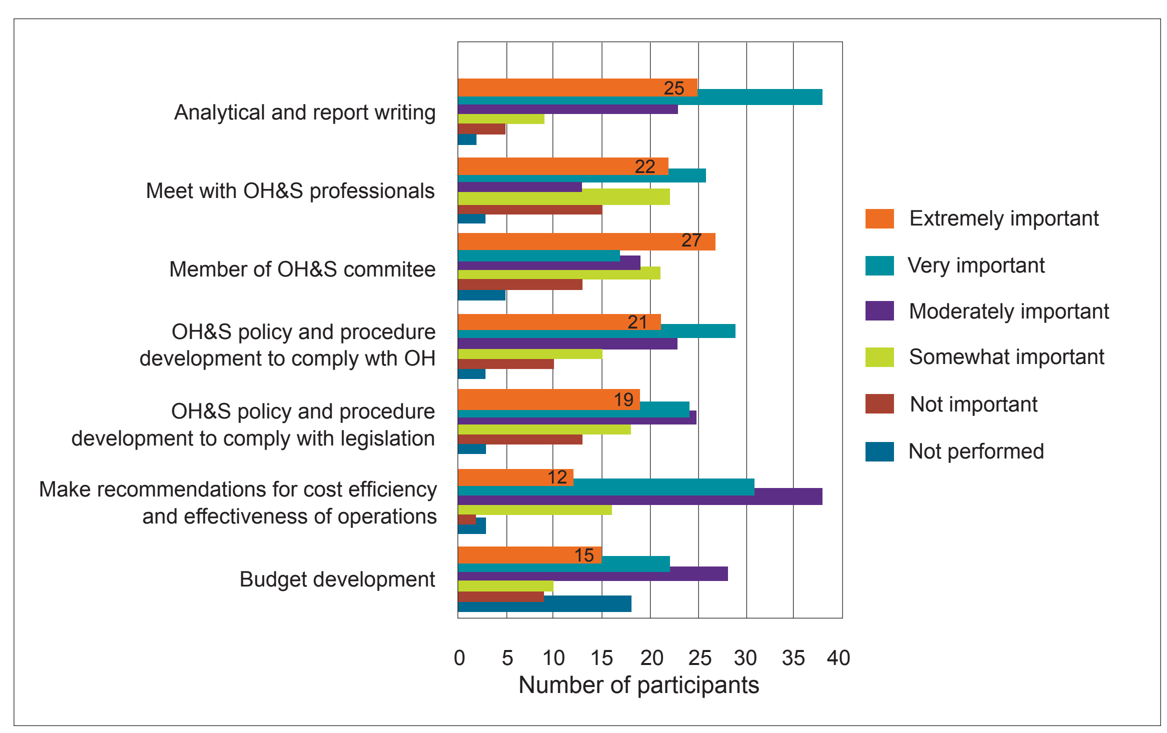
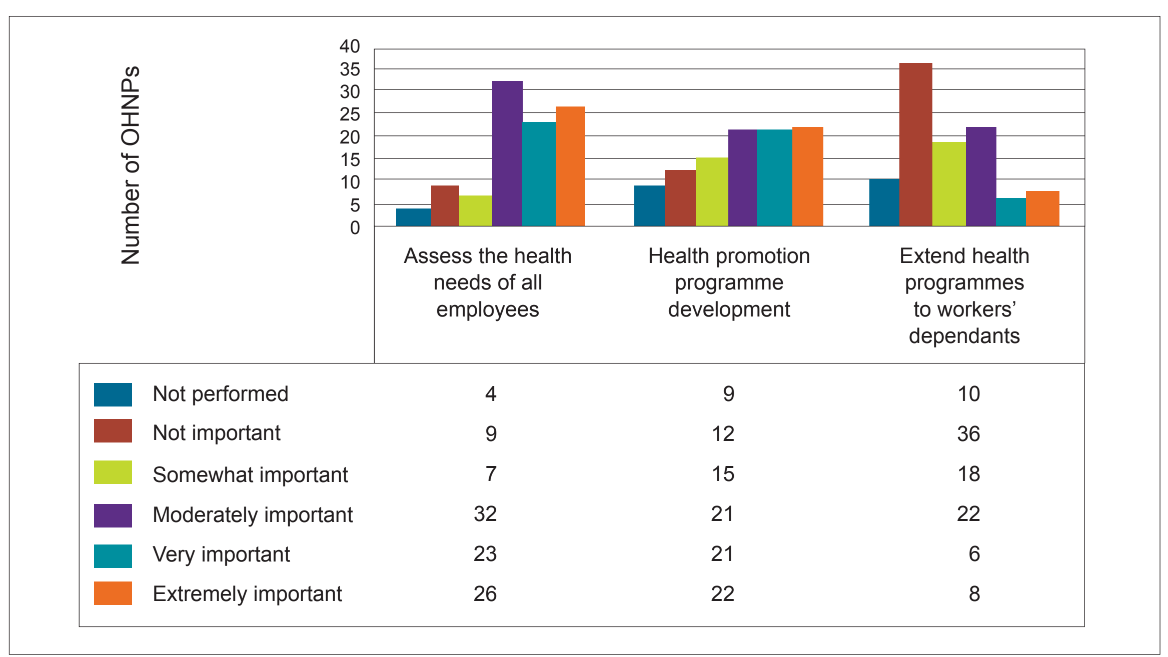


Figure 3. Responses for managing an occupational health service (n = 102)

role activities. The importance of conducting a situational analysis of the organisation was rated by only 98 of the participants. The mean rating was 2.39 (low importance rating). By contrast, conducting regular plant rounds (mean rating = 2.74) and advocating for the implementation of environmental health control measures (mean rating = 2.88) were considered to be moderately important in the OHNPs' current practices. It is evident from Table 4 that none of the activities in the expanded role activities in the three areas of assessing work environment, applying research methodology and providing information, education, training and advice were perceived to be of high importance. Participating in environmental monitoring was also rated as being of low importance.

Perceptions about managing an occupational health service are reflected in Figure 3. The activity that was rated as extremely important by 26.4% of participants was being a member of the occupational health and safety committee. Almost as many participants (24.5%) rated analytic and report writing as an important role activity. Meeting with occupational



	Assess the health needs of all employees	Health promotion programme development	Extend health programmes to workers' dependants
Not performed	4	9	10
Not important	9	12	36
Somewhat important	7	15	18
Moderately important	32	21	22
Very important	23	21	6
Extremely important	26	22	8

Figure 4. Distribution of responses for enhancing the health of workers (n = 102)

health and safety professionals was rated by 14.7% of the participants as not important. Seventeen participants (16.6%) indicated that they did not perform budget development activities but 12.5% rated this activity as very important.

Figure 4 summarises the OHNPs' responses regarding the importance of role activities under the sub-scale: enhancing the health of workers. Of the 101 participants who responded, 3.9% reported that they did not perform the activity, 31.7% indicated that it was moderately important, 22.8% believed it was very important, and 25.7% felt it was an extremely important activity.

In the field of health promotion programme development, only 9% reported not developing, implementing and evaluating educational programmes to address the particular needs of the corporation; 22% thought it was an extremely important activity. A total of 42% thought it was either moderately or very important. Extending health programmes to workers' dependants was thought to be unimportant by 36% of participants.

DISCUSSION

This research provides valuable information on what role activities Central Gauteng OHNPs perform to improve workers' health and safety, as well as their perceptions about the importance of these roles, and should be used as the basis for the development of OHN practice in Central Gauteng and South Africa as a whole. The importance of the study lies in the fact that it is an unexplored field in OHN research in South Africa and informs occupational health nursing practice with regard to role activities that need to be expanded in line with international trends in OHN. OHNPs face competition from other professionals in the field of occupational health and safety, which means that they must be prepared to demonstrate their relevant skills, competencies and value to employers.[15]

Similar age distributions, with the average age of participants in their forties, were reported in Australian[1] and Japanese studies.[14] This may be due to the fact that when nurses finish their basic nursing training, they work as general nurses before they move to specific areas of specialisation.

Only a small number of participants were males. Nursing in South Africa is largely a female-dominated profession. This concurs with the gender ratios of OHNPs in South Africa (92.6% to 7.4%)[16] and other countries, such as Brazil (89% to 11%)[9] and the USA (94.8% to 5.2%).[9]

Most of the OHNPs in the study held diplomas in an OHN qualification, followed by those with a Certificate in OHN. Until the early 1990s, the Certificate in OHN was the only formal postgraduate qualification, which would explain the high number of OHNPs with this qualification. When the South African Nursing Council promulgated Regulation 212, relating to the course leading to registration of an additional qualification in 1993, the Certificate was upgraded to a Diploma. In this study, only 4.9% of the participants did not have an OHN qualification, while 95.1% held varying post-basic qualifications in OHN. The few participants with no post-basic qualification in OHN may be due to the fact that, in South Africa, registered nurses are permitted to work in OHN before completing further education in the field.

The mean number of years of experience in the field of professional OHN demonstrates a substantial amount of experience in the speciality. Length of experience in the USA was reported to be 9.9 to 11.2 years[9] and, in Brazil,[9] 9.9 to 12.7 years,[9] similar to the respondents' experience in our study.

Overall, OHNPs were mostly satisfied with their jobs. According to Lu et al.,[12] job satisfaction is positively correlated to one's perception of one's role and the actual role content reported. Role perceptions, reported times spent in these roles, and their association with job satisfaction were, however, not explored in this research.

In the traditional area of practice, the OHNPs perceived the following as being highly important: performing periodic and pre-placement examinations, performing health assessments, and providing and supervising direct care for work-related illnesses and injuries. Support for these findings is found in a study on occupational health nursing practice, education and research in Taiwan in which OHNPs rated the same role activities highly.[19] This indicates that, although these activities have been a feature of the traditional role activities in OHN practice, they remain an important component of today's holistic OHN

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practice and, as Mellor and St John[8] have observed, will continue to be in the future work of the OHNP.

An interesting finding in this research was that the activity of assisting in the rehabilitation and re-location of disabled workers had the lowest rating, with a majority of the OHNPs reporting that the activity was not important in their practices. Yet, providing follow-up with compensation claims was rated as moderately important. This may be due to certain external and internal influences affecting the enactment of the role activity, such as the fact that OHNPs work with medical practitioners and this has traditionally been the medical practitioners' activity, and that the activity would normally be relegated to either physiotherapists or occupational therapists. In a 2004 study that defined the roles and functions of occupational health nurses in Japan,[14] assessing employees with work restrictions and making appropriate job placement recommendations was one of the most frequently performed tasks amongst the Japanese OHNPs.

Results of the expanded role activities revealed that research activities were perceived to be of low importance in this study. The findings from a previous study that explored the status of occupational health services in South Africa revealed that the expanded role of researcher is lacking and recommended that it be a focal area in future OHN practice, in particular encouraging OHNPs to not only conduct the research but to also disseminate the findings of their research.[16]

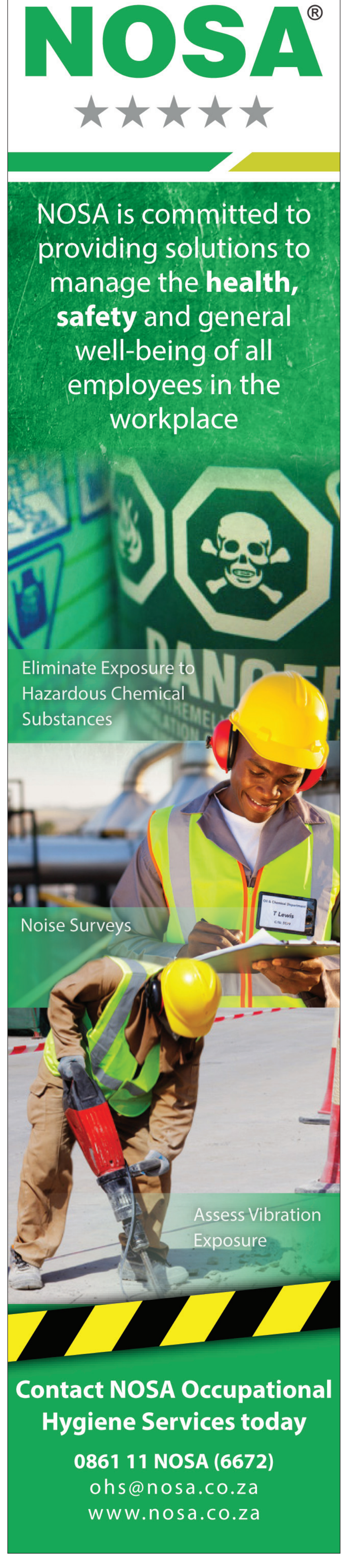
"Workplace health promotion can contribute to protecting and enhancing the health of employees and the OHNP has an important role in this regard".[17] However, this study shows that fewer than half of the participants thought it was either moderately or very important. This finding is supported by a study outlining the roles and functions of OHNPs in Brazil, which found that the primary job responsibility of the OHNP was clinical activities followed by manager, educator, occupational health service coordinator and then health promotion specialist.[9] Findings from an earlier study in Brazil revealed that the actual activities performed by many OHNPs are not compatible with the health promotion model or the prevention of accidents and disease because the employer's focus is primarily on curative measures.[18]

With regard to the management of an occupational health service, the top rated activities included serving as a member of an occupational health and safety committee, and developing analyses for management (through record keeping), whereas developing budgets for the occupational health unit was rated low, a finding consistent with those from the Japanese study.[14]

OHNPs had a lower perception of the role activity related to extending health programmes to workers' dependants, with a majority (36%) indicating that it was not an important function and 10% reporting that they did not perform this role activity. This result can be seen in the context of the geographical area of Gauteng in which many primary healthcare clinics exist for workers' families. This finding could be influenced by the fact that different occupational service delivery models are used in different workplace settings. According to the World Health Organization's Healthy Workplace Framework and Model, to bring about positive changes in the health of workers, which will support organisational success, the health of workers should include non-work-related factors and this includes embracing the workers' families.[20] It is therefore recommended that OHNPs advocate for the inclusion of workers' families in workplace health programmes.

LIMITATIONS

A limitation in this study was that it was restricted to OHNPs in the Central



Gauteng district and the findings are thus not generalisable to the entire country.

Triangulation of research instruments, instead of just utilising the self-report method, might have added further useful insights to the research. For instance, in-depth interviews with the OHNPs through focus group discussions and observations of OHNPs in their natural settings would have yielded qualitative data that could have enriched the quantitative aspect of this research.

CONCLUSIONS AND RECOMMENDATIONS

OHNPs attach importance in varying degrees to traditional and expanded roles and role activities as demonstrated in this study. Some role activities were rated as being of low importance and others of high importance. The findings highlight areas for OHN practice development and, therefore, OHNPs should be encouraged to 1) engage in research activities; 2) conduct situational analyses of the organisations in which they are employed; 3) assist in the rehabilitation and relocation of disabled workers; 4) participate in environmental monitoring; and 5) engage workers' families in health promotion activities. It is also recommended that perceptions of OHNPs with regard to their roles and role activities be investigated in different regions of South Africa, as well as the factors that influence OHNP role perceptions and enactment of role activities.

LESSONS LEARNED

1. OHNPs are vested in their traditional roles, although movement has been demonstrated into the expanded roles and role activities.
2. OHNPs generally undervalue the importance of research, as evident from the low importance attached to this role.
3. OHNPs are eager to participate in assessing, monitoring and evaluating workers' health, but might lack the resources or support systems required for expanding into health promotion role activities.

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Drug abuse in the workplace – a growing problem for South Africa

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Alcohol testing in the workplace has become increasingly common, as the dangers and liabilities in many industries of employees being under the influence of alcohol can be significant. Drug testing, however, is less common, even though the consequences are no less severe and the same legislation governs the usage of both substances. Drug testing has often been seen as challenging to implement from a legal perspective, as well as expensive, an invasion of privacy, and a host of other perceived obstacles that have limited its use. However, given the growing problem of drug abuse in South Africa and the dire consequences on safety, performance and efficiency, such methods have never been more important. Improvements in available technology have made drug testing easier and more affordable than ever and this, combined with appropriate education and drug testing policies, can assist organisations to save lives as well as improve productivity and their bottom lines.

Rhys Evans, Director: ALCO-Safe

Both alcohol and drugs cause impairment of judgement that can constitute a workplace hazard, particularly in environments that involve the operation of machinery. Preventing substance abuse in the workplace is not only generally accepted to be best practice, it is also regulated by the Operational Health and Safety Act (OHSA), which applies not only to dangerous environments but to any business in any industry. OHSA General Safety Regulation 2A states that every employer has a duty to stop persons from entering or remaining at work if they appear to be under the influence of intoxicating liquor or drugs.

In addition to improving safety and decreasing risk, ensuring a drug-free workplace can also help to improve productivity and employee performance, which helps to add value to business. Implementing drug testing alongside alcohol testing is essential for OHSA compliance, comprehensive substance abuse control, and ensuring that workers are performing to the best of their abilities. However, to ensure that drug testing does not become a legal issue, a multi-faceted approach is required. This includes substance abuse policies, employee education, and drug testing.

Substance abuse policies need to include full details of procedures to be followed when doing testing, outlined as a step-by-step process. It is also advisable to involve any appropriate unions in the formulation of drug testing policies to ensure that there is no misunderstanding or misinformation at a later stage. Operators of drug testing equipment need not be medical professionals but they do need to undergo competency training, so this should be included in the formulation of policies. Once these policies have been put into place, the appropriate drug testing equipment can be integrated into the organisation.

When it comes to selecting equipment, there are a number of different solutions available. Urine testing solutions are often cost-effective and are highly portable. They are available as single and multi-panel dip tests, cassette tests where a pipette is used to drop samples for testing onto the tests, and integrated cup tests which incorporate the test panel into the sample cup. However, urine testing is not suitable for all applications, as certain considerations must be taken into account. Due to the need for privacy, females must be tested by females, and males by males. There must also be a private bathroom available to obtain the urine sample. This is not always possible, however, so for applications where urine testing is not possible, saliva testing provides a convenient option.

Saliva testing uses a swab to produce results in a matter of minutes, and can be used to screen for a panel of five common illegal substances, including heroin, cocaine, marijuana and methamphetamines. There are no privacy concerns with such testing, and a male or female tester can test both male and female subjects. However, some saliva testing units can be very large and heavy and are not particularly portable, so organisations need to ensure they select a compact and easy-to-use system. In addition to urine and saliva testing, test kits are available that enable the testing of solid substances for the presence of drugs.

Drugs have the potential to cause as many problems in the workplace as alcohol, and the OHSA governs the control of all intoxicating substances, including drugs. Organisations across industries, particularly those where workers are required to use heavy machinery or dangerous equipment, can benefit enormously from the implementation of drug testing policies and procedures. Not only will this help to ensure the safety of all workers, it will also help to maximise efficiency and productivity. Partnering with an expert service provider who can assist organisations with developing policies and supplying equipment will ensure that this process is uncomplicated and seamless.

Assessing lead levels in occupational health – a mini-review

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ABSTRACT

Lead is a well-established toxin that continues to pose a health risk. Blood lead levels (BLLs) and urinary chelatable lead are the tests of choice for assessing acute and chronic toxicity. We highlight some of the other tests available. As occupational exposure to lead is often accompanied by other toxic heavy metal exposure, measuring whole blood heavy metal levels should be considered for workers with chronically elevated BLLs.

Keywords: **lead, occupational health, toxicity, analysis, blood lead**

INTRODUCTION

Lead, a heavy metal, is a major public health risk because of its deleterious effects, and there continues to be significant exposure to it via occupational and non-occupational routes.[1-2] A blood lead level (BLL) of 10 μg/dL has been identified by the WHO/CDC as a medical action level but research indicates that there is no level below which risk does not exist. Occupational exposure to lead can be significant, with 89% of occupationally-exposed workers in Nairobi having BLL > 10 μg/dL in one study.[3]

The major routes of lead absorption into the body are the GIT and respiratory systems.[4] Most of the body's lead burden is stored in bone, and a small fraction circulates in the blood. Lead can diffuse into most organs and penetrate the blood-brain barrier. The principal route of elimination is via urine.

BLOOD LEAD LEVELS

The half-life of blood lead is ~ 30 days as lead binds the proteins of circulating erythrocytes. Although blood lead is in equilibrium with bone lead, there is also a contribution from recent intake. Therefore, BLL reflects both recent exposure and lead that has been mobilised from tissue stores.[5] A study of 803 workers exposed to lead identified BLL as correlating better with neurobehavioural abnormalities than either bone lead or urine chelatable lead.[6] In addition, the presence of other heavy metals should be considered when testing for lead toxicity as exposure to more than one heavy metal may exist. One of the authors (VS) has noted increased levels of antimony, manganese, chromium, nickel, cadmium, aluminium and zinc in a sample of approximately 100 workers with occupational exposure to lead (unpublished data).

PLASMA LEAD LEVELS

The utility of measuring plasma lead has been investigated as it represents that part of the body's pool that is potentially free to cross various membranes, such as the placenta and blood brain barrier. Either serum or plasma is acceptable.[7] However, plasma lead levels are very low – 1% of whole blood lead – necessitating new techniques, such as inductively coupled plasma mass spectrometry (ICP-MS). Furthermore, measuring heavy metals in plasma is prone to false increases if the sample is haemolysed. Additional research is needed before the measurement of plasma lead in routine clinical practice can be recommended.

BONE LEAD

Lead accumulates in the body when intake exceeds the body's potential to excrete it; thus, bone lead is a marker of cumulative lead exposure and has a half-life of decades. Bone lead levels are difficult to assess outside of a research setting. Alternatively, measuring BLL repeatedly and plotting the value over time can be used to generate a cumulative blood lead index; this correlates well with bone lead.[4]

URINE LEAD AND LEAD MOBILISATION TESTS

Random urine lead levels are not recommended as the values can fluctuate markedly and independently of BLL.[8] Furthermore, there is little prospective research linking urine lead levels with adverse health outcomes. Conversely, lead levels measured in urine collected for a set period following an IV EDTA or oral dimercaptosuccinic acid (DMSA) challenge may be a measure of the body's lead burden. Lee et al. found that the urinary

chelatable lead level in a 4 h urine collection following oral DMSA challenge correlated with symptoms of potential lead toxicity in a dose-dependent manner in patients who were exposed to lead via their occupation.[9] Hoet et al. proposed an upper reference limit of 22 µg lead in 4 h urine following DMSA 1 g orally.[10]

HAIR TESTING

Hair is a sample that is being looked at with increasing interest because of the potential benefits it offers. However, there are a number of confounding factors that have yet to be determined adequately. For example, air pollution may contaminate the hair and result in spuriously elevated hair lead levels.[11] Hair lead is reported using different units in various studies which makes comparison between studies difficult. Further, there are no established medical action limits. However, this technique is used in forensic medicine to determine long term exposure.

OTHER SAMPLES

Lead has been measured in other tissues, including teeth, toenails and even human breast milk.[12-14] Further, lead inhibits a number of enzymes including Δ-amino levulinic acid dehydratase (ALAD). Thus, lead intake results in higher levels of urinary amino levulinic acid (ALA) and reduced ALAD enzyme activity; however, these tests have proved unreliable even in the acute setting.[15] None of these samples can be recommended for use in the occupational health setting.

TREATMENT AND MONITORING

Chelation therapy must be done under controlled conditions and is recommended if baseline BLL exceeds 40 µg/dL chronically. Chelation therapy, such as DMSA 10 mg/kg body weight orally three times daily, is given for a one to two week period, generally. Repeated lead measurements are recommended before and during treatment. During and immediately after treatment, the BLL may fall dramatically and urinary chelated lead levels may rise; there is a rebound phenomenon following cessation of treatment although BLL and urinary chelated lead levels remain substantially lower than before the initiation of chelation.[16]

SUMMARY

Although there are a number of exciting new developments in the field, BLL and urinary chelatable lead remain the tests of choice with the largest evidence base. The possibility that aditional heavy metals may be present should be considered as it is a frequent finding. Close collaboration between the clinician and the laboratory allows for the rational use of laboratory tests in this potentially complex setting.

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Extended worker benefits for domestic workers

On 6 September, Mokgadi Pela, spokesperson for the Department of Labour issued a press release about extended benefits for domestic workers. For the full press release, please go to: http://www.labour.gov.za/DOL/media-desk/media-statements/2014/more-relief-on-the-way-as-domestic-workers-are-extended-worker-benefits-labour-minister-oliphant.

South Africa's domestic workers are closer to being covered by the Compensation for Occupational Injuries and Diseases Act (COIDA). The Unemployment Insurance Act is also being reviewed. Labour Minister Mildred Oliphant said the review would include extending benefits to workers when going on maternity leave, extending the claim period and the benefit's timeframe. Oliphant pleaded with domestic workers to register for UI benefits at Labour Centres. She said these benefits extend to both South African and legal foreign nationals working locally as domestics. The Minister said a number of public hearings were planned on the review of the laws, and appealed to domestic workers to participate.

In terms of the Sectoral Determination that governs the minimum wages of domestic workers and conditions of employment workers in the sector, especially those who work in major metropolitan areas and work for more than 45 hours a week the minimum wage per month is currently fixed at R1877,70 until 30 November 2014. Domestic Workers have a right to annual leave, and paid leave to attend to certain family situations. This requires that employers give domestic workers certain details of their employment in writing.

Oliphant told the consultative forum that South Africa has 663 331 registered domestic workers. However, this is a far cry from the number of domestic workers employed in the country. She challenged the Department's inspectorate to up its game and ensure that domestic workers are registered and afforded worker rights.

PAPERLESS

The Compensation Fund has implemented an Integrated Claims Management System from 4 August 2014 which will result in improved service delivery.

UMEHLUKO System

Benefits of using Umehluko System

- Internet based submission of forms.
- Electronic submission of medical invoices via switching houses.
- Reduction in the submission of paper forms and medical invoices.
- Cost and time savings for everyone.
- Improved turnaround time for claims processing.
- Target-> 80% of claims processed within 30 days.
- Automatic e-mail notifications.
- Immediate feedback as claims status changes.
- Registration of claims.
- Adjudication of claims.
- Approval for payment.

Employer

Employer / Representative registers a WCL2 / WCL1 information on Umehluko Website – *www.labour.gov.za*, go to online services and click on Umehluko (ICM Submission)

→ Interactive messaging whilst claim is being captured i.e. e-mail confirming successful registration.

→ Employer can track claims progress online.

Medical providers

Hospital/Doctor applies treatment to an injured employee.

→ Hospital/Doctors submits medical report/ WCL4 on Umehluko Website.

→ Hospital/Doctors submits medical invoice electronically via Switch Houses.

↓ Hospital/Doctors receives Remittance Advice of payments via email.

← Hospital/Doctors can monitor progress /enquire of submitted invoices on Umehluko Website.

← Hospital/Doctors can conduct an electronic enquiry on a medical invoice on Umehluko Website.

Help desk contact details

ccms @labour.gov.za or 0869 990 090

Opening of Chapel Street Clinic, Woodstock, Cape Town

The official opening ceremony for the newly renovated Chapel Street Clinic in Chapel Street, Woodstock took place on 11 July 2014. The ceremony was hosted by the UCT Lung Institute, the Lewis Group and the City Health Department. Invited guests included the Head of City Health and various dignitaries.

The UCT Lung Institute has been conducting research activities into Tuberculosis at the Chapel Street Clinic since 2007. Connecting with communities has always been central to the UCT Lung Institute's vision and mission. As a result of this productive relationship, the clinic was recently earmarked as the site for a whole scale redesign and refurbishment project. This project was undertaken in 2013 by the UCT Lung Institute with the support and endorsement of City Health. The aim was for businesses and individuals in the local community to contribute materially and, with their unique skills, to uplifting their local clinic facility.

Through the Desmond Tutu Foundation, the UCT Lung Institute secured charitable financial support from the Lewis Group which has been headquartered and involved in the Woodstock community for over 60 years. Other partners came on board, including individuals, corporate entities and academic institutions. One such collaboration saw Cape Peninsula University of Technology's Industrial Design department lend its expertise to solving some of the clinic's challenges as far as staff workflow and user-friendliness were concerned. This aspect of the project went on to be officially endorsed as a World Design Capital 2014 initiative.

Now that the structural work has been completed, a sense of Woodstock's unique spirit and community has been accomplished. The building has a beautiful new face, with a welcoming atmosphere, encouraging members of the local community to make use of the facility. Graphic designers, budding child artists and graffiti artists have all lent a hand in transforming the clinic into a space that is inviting and fresh.

For further information please contact Dr Rod Dawson on 083 2907322 or Ms Wendy Simons on +27 (0)21 404 7770.

Sharing one electronic health record database/system

24th July 2024

This is a futuristic article

It has been a decade since the landmark decision by the mining industry in 2014 to adopt a single integrated electronic occupational health and hygiene record database, the "One Health Record System (OHRS)", for all workers in the mining and related industries.

Looking back, let us take stock of the journey. Prior to the implementation of the OHRS, each company individually employed either in-house or out-sourced occupational health and hygiene providers. These providers would then keep an individual personal occupational health and hygiene paper and/or electronic record for each worker with little, if any, transfer of information between workplaces, health and hygiene providers, and different companies when workers migrated between occupations and places of work. This resulted in unnecessary duplication of medical assessments, tests and records; incomplete medical information at the time of medical decision-making; failure to prevent occupational health consequences for workers; inaccurate reporting; and significant time and resource wastage. These issues resulted in increasingly intolerable risks for workers, mining companies, contracting companies, occupational health and hygiene providers, and regulators alike.

The obvious solution was an affordable and reliable real-time transactional occupational health and hygiene system with a single central database used by all occupational health and hygiene providers in the mining and related industries. Such a system had to be a secure web-based system and had to ensure strict confidentiality and security of medical and company records. It was not surprising that most companies and healthcare providers were outright sceptical that such a system was even possible. The consequences of pursuing with fragmented and inefficient duplicated paper and stand-alone electronic-based systems were, however, more dire than the pessimistic views about a shared solution.

Once the OHRS was implemented and tested early in 2015, it had to endure the hacking attempts of a 19-year-old computer guru from an auditing company to provide assurance around the security and confidentiality of the system. Having passed the latter, the exciting part came when, for the first time in occupational health history, two different mining companies "shared" the OHRS and, following the upload of their workers into the system, found that they already "shared" records for 1567 workers who had intermittently or simultaneously worked at work sites of both companies.

With such an ambitious venture, it is not surprising that there were numerous challenges. It was soon realised that, for real-time healthcare transacting to a central database to happen, users had to be connected to the Internet at speed at all times of transacting. Whilst availability of fibre-based networks rapidly increased to even remote areas by 2015, Wi-Fi via large area hotspots and dual-band 5G surpassed the former and, by 2018, users were truly always connected at speed.

Initially it was thought that workers would be reluctant to use biometric devices for confirmation and identification but when they realised that the occupational health workers used the same system to securely link themselves to workers' health records, it confirmed their trust in the security and confidentiality of the system. This also resolved all issues around protection of personal information, through simple informed biometric consenting. By 2020, combination biometrics was established as the standard for accessing and allowing access to health records.

Probably the biggest impact was on providers and hence the intensified change management support programme that had been adopted since 2016. By 2017 all manual reporting had been replaced completely by accurate real-time electronic pull-reporting.

At the time of writing this review, on 24 July 2024, the Ministers of Health and Mining had just received their new CBD 3i ("crystal ball" devices Version 3 improved) which allow them not only to remotely view all occupational health risks and trends in the mining and health industries, but also the future impact of mining on the health of the population at large.

Future Health Report prepared by Dr Jan Pienaar
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"Future Occupational Healthcare brought to you by theHealthSource (tHS) Today"

The ARAOH/SASOM Congress 1 – 3 August 2014

Two years of planning for an African Regional Association of Occupational Health (ARAOH) Congress to be held in Nairobi, Kenya was thwarted at the eleventh hour by unforeseen security risks, resulting in a decision to relocate the Congress to Johannesburg, South Africa.

The groundwork done by the Kenyan Congress Organising Committee and the abstracts received from experts in many countries are appreciated and were built on to present the ARAOH/SASOM Congress from 1-3 August 2014 at the Emperors Palace in Kempton Park near Johannesburg.

A full programme with 49 presentations from 16h00 on 1 August 2014 through to 16h00 on 3 August 2014 had the delegates enthralled. Presenters from Benin, Cameroon, Italy, Japan, Nigeria, Senegal, South Africa, Uganda and the USA, and delegates from Botswana, Namibia, Nigeria, South Africa, Uganda and Zimbabwe, added an international flavour, and interesting experiences in occupational health were shared.

The President of the International Commission on Occupational Health, Dr Kazutaka Kogi, presented a keynote address on *Promoting good occupational health in small-scale workplaces: experiences from international networking*, which gave food for thought regarding the many small-scale and informal workplaces in Africa.

ICOH track presenters at the ARAOH/SASOM Congress – from the left: Dr K Kogi (President of ICOH), Ms C Nogueira (ICOH Board member), Prof. M Ross (ICOH Board member) and Prof. S Porru from Italy

Prof. Stefano Porru from Italy delivered an excellent paper on health care workers and biohazards, which was followed by a paper on the *Mandate and outcomes of the ICOH working group on occupational infectious agents* by Prof. Mary Ross and Ms Claudina Nogueira. Prof. Lynne Webber gave guidance on the vaccination of workers and Prof. Lucille Blumberg discussed Ebola and haemorrhagic fevers. Both presentations were applicable to occupational health services in the changing environment. Two excellent presentations addressed ethics – the first by Prof. Leslie London who provided an African perspective of ethics, while Dr Frank Fox emphasized ethics in the workplace. Prof. Uwe Reischl from Boise University in the USA discussed a new concept: *Solar stress reduction through innovative clothing design* which is important for construction and agricultural workers exposed to the hot African sun.

A new SASOM Branch was established during the proceedings and we congratulate Dr Dingani Moyo who initiated the action and was elected Chair of the Zimbabwe Branch of SASOM.

The delegates were highly complimentary to the presenters on the evaluation forms which were completed after each session. We thank them for taking the time to put their thoughts on paper.

Members of the ARAOH Board and the SASOM Executive Committee wish to thank everyone who submitted abstracts, all the presenters and the delegates – many of whom travelled long distances and gave much of their precious time – for their tremendous contribution to the success of the Congress. The efforts of the exhibitors to keep us informed of the products and services that can add value to occupational health services were also appreciated.

SASOM ANNUAL GENERAL MEETING AND CONFERENCE 21 NOVEMBER 2014

The next SASOM Conference will be held at The Boathouse in Ballito, Durban, before the SASOM Annual General Meeting which is scheduled to take place at 16h00 on 21 November 2014. Topics include Aviation Emergencies and Disaster Management, Occupational Medicine Advances in the Sugar Industry, Pesticides in Agriculture, and Maritime Medicine.

Contact Jenny Acutt in the SASOM National Office for more information at info@sasom.org or +27 (0)12 803 7418.

Report by Jenny Acutt, SASOM National Office
e-mail: info@sasom.org

Feedback from SANAS STC

The accreditation of occupational hygiene AIAs is well underway and, as at 5 September, seven facilities have been accredited, with a significant additional number being in the final stages of accreditation. All AIAs that have not been accredited by 1 October 2014 will be removed from the Department of Labour (DoL) register by 1 October, thereby losing their approval status. These AIAs will no longer be able to offer services as called for in the Occupational Health and Safety Act, 1993 (Act no. 85 of 1993) to be carried out by an AIA. The implication of this is that all facilities in the process of accreditation will need to reapply to the DoL to be registered as an AIA once accredited. SANAS will continue processing the applications of all AIAs that do not manage to achieve accreditation by 30 September 2014. The DoL stated that verification of results of non-accredited facilities by accredited AIAs will not be allowed. Actions will be taken against both non-accredited facilities and accredited AIAs that engage in such activities.

Kate Smart

ETHICS

Ethics and acting ethically are keys to the sustainability of any profession, with occupational hygiene being no exception. So what does it mean to act ethically? There will always be varying views on this; however, two aspects are key in this regard. First, ensuring accuracy and reliability of results and reporting these truthfully, always. Second, acting in such a manner in all situations so as not to bring the profession into disrepute. This includes refraining from:

- gossiping about fellow professionals
- using one's position for personal and financial gain and to exercise undue influence over others
- threatening others.

SAIOH will be implementing an ethics training module in 2015 in an effort to stimulate thought amongst members on ethics and how these issues relate to occupational hygiene professionals.

COMPENSATION/SALARY SURVEY 2014

The results are available and were presented to the SAIOH council on 5 September. The report shows that occupational hygiene is a profession coming into its own right and one with a young member base with significant growth potential. Feedback to members will be provided at the 2014 conference with a full report being available at the conference and on the website directly after the conference.

LIAISON FEEDBACK

Once per quarter SAIOH meets with its partners in occupational health, including the DoL and the Department of Mineral Resources (DMR). Feedback from this meeting and points to note include:

- The upcoming OHS conference to be hosted by the DoL in the first week of February 2015.
- DoL Technical Committees are busy reviewing various sets of legislation, including the hazardous chemical substances regulations, lead and asbestos regulations, and looking to finalise ergonomics regulations.
- The DMR is busy reviewing its guidelines on thermal stress, cyanide, noise and airborne pollutants.

MOVEMBER

Remember Movember is just more than a month away. I'll be doing my bit again this year for men's health.

BRANCHES

SAIOH re-established itself in the Northern Cape branch (previously Central branch) and held a successful meeting on 25 July 2014 in Kathu. A new committee was elected and comprises:

- Chairperson – Nico Keyser
- Vice Chairperson – Kobus Davel
- Treasurer – Zoe Selenati-Dreyer

Congratulations to all are in order and we thank the newly elected team members for their willingness to participate in building SAIOH and the profession.

ASK THE PRESIDENT

Being part of an organisation as geographically diverse as SAIOH means that one can sometimes feel disconnected and unheard. In an effort to address the needs of our members, we'll be introducing "Ask the President" sessions across the country where myself and my Vice President, Cas Badenhorst, as well as SAIOH councillors, will endeavour to come to branch meetings and listen to the issues on the ground. These visits will slot in with existing branch meetings and exact dates will be communicated accordingly.

WELCOME

I would like to welcome Kate Smart to the SAIOH family. Kate joins us from the Actuarial Society and will be taking over the position left vacant with the departure of Bianca Durand.

COMMENTS AND VIEWS

Please remember to send us comments, views and any other information you may have about the profession, that you believe can add value. You can either e-mail me directly at saiohpresident@saioh.co.za or send an e-mail to admin@saioh.co.za.

Report by PJ (Jakes) Jacobs, SAIOH President,*
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Mine Medical Professionals' Association 17th Annual Congress

The MMPA 17th Annual Congress was held on 5 and 6 September at the Kloofzicht Lodge, situated in Muldersdrift about 30 minutes' drive from both Johannesburg and Pretoria. This beautiful lodge, which is on a 500 ha conservation area bordering the Blaauwbank River, was the ideal venue in which to take time to discuss occupational health issues facing the mining industry, and to network with industry colleagues.

In the welcome address, the MMPA President, Dr Vusumuzi Nhlapho, reminded all delegates that "We are holding this year's Congress at a time when the mining industry in South Africa is under significant strain, with companies and operations being scrutinised as never before. In this context, the way in which business looks after the health and wellbeing of its workers – about which we, in the MMPA, are all passionate – has gained unprecedented prominence as an indicator of companies' commitments to pushing the boundaries of social responsibility and delivering on promises of best-practice health solutions. As political tensions and labour unrest continue to challenge the industry, we, as health and medical professionals, have an important opportunity to offer real and sustainable value to our companies, to our workers and to surrounding communities. With this in mind, the organising committee for this year's MMPA congress has put together a packed and diverse programme that we hope will showcase the contributions of our discipline to the overall industry environment and development – and highlight how impactful health investments can create positive changes in the region's operating environment."

MMPA President, Dr Vusi Nhlapho sharing a light moment with Past Presidents: Drs Deodat Kritzinger, Elton Dorkin, Mel Meltz and Vanessa Govender

The programme opened with the first speaker, independent Labour Analyst, Gavin Hartford. Mr Hartford is an industrial sociologist and the founder of The Esop Shop – an advisory firm specialising in designing, implementing and managing employee ownership and empowerment solutions. Gavin has spent the last three decades of his professional life working for organised labour, business and government as a strategic transformation professional. His paper was entitled 'Reflections on the Transformation Agenda in the Mining Industry' which challenged the delegates to think about the daily struggles that employees face and how these socio-economic issues affect the transformation agenda in the mining industry.

Dr Andre van Jaarsveld, CEO of BSS Africa, addressed the issues of fatigue. The core business of BSS is to establish Fit for Work and Fatigue Management programmes in the workplace. Dr van Jaarsveld' s talk was titled 'An Approach to Managing Fatigue in the Workplace', highlighting the fact that fatigue management requires a multifaceted approach, involving both management and employees.

Prof. Gill Nelson of the School of Public Health, University of Witwatersrand, who has a PhD in occupational health, delivered a paper on Neuropathological Effects of Manganese Exposure in Miners. Dr Tim Laurens, Department of Chemistry at the University of Pretoria, addressed 'Perspectives on Drug Testing in the Workplace: A Review of Policies, Ethics and Challenges of Implementation'. Peter Strasheim from DLM Consulting is a public interest legal advisor and management consultant specialising in the fields of incapacity and disability in the legal fields of labour, equality, insurance, pensions, mental health, employee benefits and pensions. He presented an interesting and relevant paper entitled 'Incapacity, Mental Health and Rehabilitation: What Occupational Medical Practitioners and Employers need to know'.

All the stops were pulled out for the gala dinner on Friday night, from the mouth-watering menu to the entertainer, comedian Tshepo Mogale, to the inspiring and thought-provoking keynote address by Chamber of Mines CEO, Bheki Sibiya. Delegates danced to the rhythmic beats of the Real Signature band and the whole evening was professionally held together by Master of Ceremonies, Buyani Zwane, from Breakthrough Development.

Mr Sibiya began by raising the three challenges that are facing not only the mining industry but the country as a whole.

These are unemployment, poverty and inequality. While acknowledging the contribution that the mining industry has made to the GDP of the country, he also said that integrity and leadership are needed to help change both the industry and South Africa as a whole. Mr Sibiya spoke of the legacy issues of silicosis, tuberculosis and HIV/AIDS. On the issue of silicosis, he believes there is no excuse that this disease should still be affecting workers three decades after they have been exposed and have left the mines. It needs to be resolved immediately and relegated to the past. Mr Sibiya feels that good progress has been made in breaking the back of TB infection and treatment. On the issue of HIV/AIDS, Mr Sibiya has first-hand knowledge of the devastation of this disease. He recounted the almost daily funerals for victims being held at a graveyard near his home in KwaZulu-Natal and spoke out passionately against allowing the loss of so many who may have led useful, productive lives, had they been diagnosed and treated in time. He challenged the Congress delegates to stand firm in influencing those around them to help to break the back of the problems of disease and socio-economic challenges facing us all.

Dr Vusi Nhlapho, MMPA President; Mr Bheki Sibiya, CEO, Chamber of Mines; Dr Vanessa Govender, Past President; and Prof. Gill Nelson, Presenter

Mr Sibiya's address was in line with the broader approach to health issues as highlighted by Dr Vusumuzi Nhlapho. "The successes we have collectively achieved against HIV, and in tackling workplace injuries, have demonstrated how mining companies can work together to take the lead in developing innovative health solutions that go far beyond compliance with regulatory provisions. Now is the time to take stock of what we have learned and ensure that the momentum generated by HIV successes is translated into improvements in all aspects of workplace healthcare. This year's programme – the first in recent years without a specific HIV slot – reflects this goal."

The programme on day two commenced with a talk by Dr Deodat Kritzinger of Rand Mutual Assurance Company. Dr Kritzinger is a Certified Independent Medical Examiner (CIME) and his talk centred around 'Key Observations on Compensation for Occupational Injuries in the Mining Industry'. Ms Daleen Schoombee from AngloGold Ashanti followed with a talk addressing the integration of women into mining operations. Her paper was entitled 'An Approach to Managing Pregnancy in the Mining Industry'. Emergency medicine specialist, Dr Charl van Loggerenburg, from International SOS, then provided fascinating input as he asked, 'Are you Prepared: Medical Emergency and Disaster Response?'

Prof. Lucille Blumberg, Deputy Director of the National Institute for Communicable Diseases (NICD), National Health Laboratory Service, is currently head of the Public Health Surveillance and Response Division at NICD, incorporating outbreak response, travel and international health and surveillance. She spoke on the 'Management of Malaria in the Workplace: What the Mining Industry Must Know'. Prof. David Rees from the National Institute for Occupational Health, National Health Laboratory Service, covered 'Tuberculosis in the Mining Industry: Clinical and Epidemiological Issues'. Prof. Lynne Webber followed with 'Managing the Risk of Travel in the Mining Industry: An Update on Ebola, Meningococcal Meningitis and Other Infections'. Prof. Webber is Head of the Department of Medical Virology at the Faculty of Health Sciences, University of Pretoria.

The last session of the conference, opened with a talk from Dr Lindiwe Ndelu, Division of Occupational Health, Department of Mineral Resources (DMR). She spoke on 'Guidelines on Comprehensive Occupational Health Management in the Mining Industry' in which she outlined the key processes to be followed to take better care of employees in the mining industry. The final paper of the Congress was delivered by Dr Thuthula Balfour-Kaipa from the Department of Health, Chamber of Mines. Dr Balfour-Kaipa is a qualified medical doctor and public health medicine specialist, with management experience of more than 20 years. She has a special interest in HIV/AIDS, TB, and health policy in general. Her paper, entitled 'Occupational Health Milestones and Chamber's Response to Key Health Issues', generated a lot of discussion about the DMR's Occupational Health Milestones and the engagement needed by the entire mining industry to achieve them.

In closing, Dr Nhlapho, expressed his satisfaction that the "Congress was successful in recognising the importance of partnerships. The goal had not just been to identify the best practices in what to do to tackle health challenges but, importantly, also how to implement changes. Amassing the crucial knowledge to achieve this aim was a process that requires reaching out to other partners, including government, academia, development partners, and community organisations, and asking for their support to better understand the ways in which we can work together to achieve our collective goals of healthier workforces and healthier communities."

The MMPA will be hosting a year-end function on 22 November 2014 and members and all colleagues are urged to attend, ending the year in style with a thought-provoking keynote address and exciting entertainment. An announcement will be mailed to all members when arrangements have been finalised.

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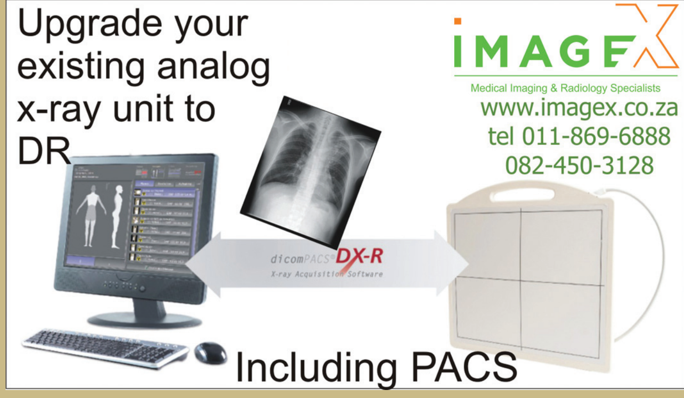

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