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Front cover photograph
Replacement of hail-damaged asbestos roof sheets with non-asbestos sheeting, Gauteng province, 2014
Photograph: Tebogo Nthoke

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From the Editor . . .

Gill Nelson,
Editor-in-chief

This time last year, we were all blissfully unaware that we were only a few weeks away from real-life science fiction. In the past, only 'doctors' wore masks (sometimes) but shweshwe and Liberty print[1] cloth masks have morphed from PPE to fashion items, for sale in boutiques, the corner shop and on street corners. While we expected increases in sin taxes in 2020, the banning of cigarettes and alcohol was a shock, and having to watch the waves from afar rather than wade in the water put a dampener on our summer holidays. But the science fiction turned into horror as the economy collapsed, together with friends, colleagues and family members – many of whom died. Others entered into self-imposed isolation, and some remain there still. In December 2020, the statistician-general, Risenga Maluleke, described the COVID-19 pandemic as "the biggest disruptor to our lives ever since the Second World War".[2]

We are justifiably fearful and uncertain of the future, not knowing if South Africa will get an effective vaccine any time soon, or if life will ever return to normal. However, the mining industry is geared up for the vaccine roll-out, as reported by Thuthula Balfour on page 32. Please register for the webinar on this topic to find out more.

While COVID-19 has taken world centre stage, we must not forget that there are other issues that need our attention. Focus on the pandemic has resulted in neglect of prevention and treatment of other diseases, such as HIV, tuberculosis and many noncommunicable diseases that affect workers in South Africa;[3-5] as well as mental health.

Of course, mental health was on the occupational health agenda for a long time prior to the COVID-19 pandemic. In this issue, Nonhlanhla Tlotleng and colleagues from the National Institute for Occupational Health write about their study on common mental health disorders (CMDs) in caddies and other golf course workers, concluding that intimidation at work and alcohol use were associated with CMDs in their study population. Many of the study participants also earned below the minimum wage.

In addition to COVID-19, politics continues to dominate South Africa's headlines. One example is the Free State asbestos corruption scandal, which has focused on the fraud of R255 million,[6] while neglecting the issue of the health effects of exposure to asbestos fibres from the removal or repair of asbestos cement roofs. *Occupational Health Southern Africa* has published three research papers on this topic in the past.[7-9] In this issue of the Journal, Brian Gibson and colleagues provide an objective opinion about the related health risks, based on scientific evidence.

Continuing our theme of compensation from the previous two issues of *Occupational Health Southern Africa*, Tim Hughes from the Injured Workers' Action Group (IWAG) has drawn our attention, in a second opinion piece, to the deadline to comment on the Compensation for Occupational Injuries and Diseases Act (COIDA) Amendment Bill by 19 February. If you are interested, please read the amendment at https://www.gov.za/sites/default/files/gcis_document/202008/43658rg11165gon930s.pdf. There are not many days left to submit your comments.

Also related to legislation, please note that, following the promulgation of the Protection of Personal Information Act (POPIA) No 4 of 2013, which came into force on 1 July 2020, the Academy of Science of South Africa (ASSAf) is facilitating the process of developing a Code of Conduct for Research to "ensure certainty, transparency, and clarity in the processing of personal information for research purposes". Please visit https://saspp.co.za/wp-content/uploads/2021/01/Announcement-of-the-POPIA-CoC.pdf for more information.

Finally, I am very pleased to let you know that Prof. Daan Kocks, SASOM president, is in good health after his hospitalisation with COVID-19 last year, as shared in my editorial of Sep/Oct 2020. Please stay safe and protect yourselves by wearing your masks and limiting your physical interactions with others. Let's hope that the vaccine will be available soon, for all. The world is indeed an overwhelming place in 2021.

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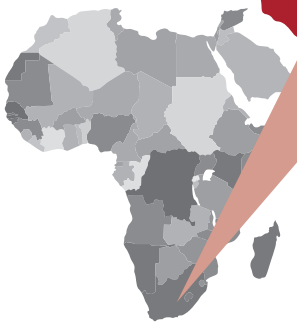

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HOMEMED

Public health, asbestos cement roofs and the Free State audit

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The furore over the controversial Free State 'asbestos audit', where more than R200 million of the R230 million contract fee appears to have been misspent or misappropriated, has been a mixed blessing for public health.

The investigation into state capture by the public protector[1] and the Zondo Commission[2] has heightened public fears about asbestos in general, which is positive. But the media coverage has also created unnecessary fear about the possible health impacts of asbestos cement (AC) roofs in situ. For example, the 4 Oct 2020 *Sunday Times* front page headline read, "We can't breathe".[3]

There is minimal evidence of the pathogenicity of AC roof sheets in place on dwellings.[4] While it is possible to contract pleural plaques (typically inert) and mesothelioma (a fatal disease) from exposure to relatively low levels of respirable asbestos fibres,[5] and we cannot dismiss the potential risk of mesothelioma from this source, the numbers, if they occur, will be small; uncontested evidence of disease occurrence has not yet been published.

The manufacture and sale of asbestos-containing materials was banned in South Africa in 2008.[6] Many hundreds of thousands of homes, factories, offices, and other buildings have AC roofs and other building materials containing asbestos, that remain legal.

Asbestos cement roof sheets were manufactured in South Africa from early in the last century until 2002, when asbestos was replaced as the reinforcing fibre by both organic and inorganic alternative fibres.[7] Asbestos cement roof sheets contain approximately 70% cement, 20% water and 10% asbestos (a mix of crocidolite, amosite and chrysotile until about 1985; and only chrysotile thereafter).[8] During typical use, asbestos fibres stay bound in the high-density cement matrix of the roof sheet.

Weathering can release relatively few fibres from AC roofing sheets, but the amount is probably insufficient to represent a significant exposure risk. The measurement of low levels of respirable asbestos fibre in residential areas is complex, and few studies have focused on fibre release from AC roofs. A study for the Botswana Housing Corporation of five suburbs with predominantly AC roofs showed low levels of environmental asbestos – well below a level that would be considered a risk to human health.[9]

Ferrante et al. (2015) reported an increased risk (odds ratio) of mesothelioma of 2.4 (95% CI 1.4 – 4.2) in participants living in dwellings with asbestos roofs, compared to those living in dwellings without them (importantly, exclusively in people with no report of occupational asbestos exposure.)[10] Potential methodological sources of bias in this study have been suggested.[11] However, the magnitude and the direction of the potential biases impacting on the study's findings are uncertain, and Ferrante and co-authors rebutted some of these assertions.[12]

There have been two systematic reviews of the literature on non-occupational asbestos exposure and mesothelioma.[4,13] Neither identified studies dealing exclusively with mere residence in a home with asbestos construction materials as a risk for cancer. However, this could be because of the paucity of studies on this issue. The second systematic review[13] considered the Ferrante study but did not have a category to specifically analyse the risks of mesothelioma where AC materials in a home were present.

Researchers at the National Institute for Occupational Health (NIOH) in South Africa conducted two studies on asbestos fibres in Soweto, where AC roofs predominate:

- 'Asbestos in and around Soweto dwellings with asbestos cement roofs', published in 2007, concluded that "There appears to be no significant exposure to asbestos in and around houses in Soweto with asbestos cement roofs", but that "caution is advised when carrying out repairs or renovations on the roofs or using the material for other purposes",[14] and
- 'Asbestos in soils around dwellings in Soweto', published in 2009, found that the soil below the rainwater runoff line of asbestos cement roofs at 61 houses in Soweto contained 0.01% to 0.1% asbestos fibres by weight. The report concluded that "The absence of asbestos fibres in the air in Soweto suggests that the asbestos in soils from below roofs does not pose a hazard to residents" (but that) "caution should be exercised when gardening or excavating around dwelling with asbestos cement roofs."[15]

Simply put, it is unlikely that undamaged and undisturbed AC roof sheets will affect the health of occupants.

The 1998 National Asbestos Summit, convened by government, business and labour, submitted an impressive declaration, recommendations and an action plan to the Cabinet of South Africa to deal with South Africa's asbestos legacy.[16] The replacement of AC building materials was not deemed a priority.

In a national policy vacuum, current projects to identify, remove and replace AC roofs are misguided. Public concern and scarce resources should rather be focused on the risk faced by thousands of residents in former asbestos mining areas where high levels of environmental pollution will impact the health of generations to come. The risk to health in such areas is far greater than that from exposure to AC products.[17] In addition, there are numerous other critical public health needs facing South Africans that deserve more attention, including food security, clean water and sanitation services, reliable energy, and control of communicable diseases.

In any event, the cost of replacing AC roofs in South Africa is well beyond the current financial capacity of the State. In 2001, the (then) Department of Housing was advised that the cost of re-roofing a 30 m^2 low-cost home with an AC roof would be, on average, R3 250.[18] The current costs associated with the safe removal and replacement of an AC roof with asbestos-free fibre-cement sheets would be approximately R10 500 for a 30 m^2 housing unit (Craig Cronje, Everite, personal communication, 17 January 2021). The disposal cost of tonnes of discarded AC roofs will be exacerbated by costs of transport to remote hazardous waste sites.

We are not aware of an accurate audit of the number of homes fitted with AC roof sheets in South Africa, but the number will certainly exceed hundreds of thousands. South Africans will continue to live with the legacy of AC roofing for many decades to come. This brings into sharp focus the challenges of safe maintenance. The risk of mesothelioma due to exposure to asbestos during home renovation is of increasing concern in Western Australia.[19] This underlines the urgent need for campaigns to promote the safe handling of domestic asbestos-containing materials. High numbers of respirable asbestos fibres are released by aggressive work practices, such as cutting, sanding and cleaning a roof with a high-pressure water jet. Using force and power tools on asbestos cement is extremely dangerous. These activities are prohibited or strictly controlled by the recent South African Asbestos Abatement Regulations of 2020,[20] but the regulations only apply to the control of the asbestos risk in the workplace. There is no control over the do-it-yourself (DIY) activities of occupants of houses with AC roofs. An Australian study ('Cresting the third wave') sets out the risk of mesothelioma from DIY activities on asbestos-containing products.[21]

Guidelines to assist people to safely manage asbestos cement construction materials in their homes have been developed, for example, by the UK Newham Council.[22] In Western Australia, homeowners have access to a smart phone application that helps them to assess the risk of AC building materials and provides guidance on what to do if the materials are in poor condition. Options include coating or removal.[23]

The generally accepted lifespan of AC roof sheets is about 50 years.[24] Many sheets currently in use are much older, and thousands, if not millions, of AC roof sheets will have to be removed from homes, factories and public buildings at some point when they are no longer functional. The cost and complexity of the removal programme will present all levels of government with extraordinary challenges.

Recommendations

1. The introduction of a mesothelioma register that includes a detailed asbestos exposure history of all cases reported. Although there is no South African evidence that anybody has developed an asbestos-related disease because they lived in a house with an AC roof, more research and documentation is needed.
2. The development, by the Department of Human Settlements, of a sober and sensible public information and behaviour change campaign about the relative health risks of exposure to asbestos fibres, whether they are in former mining areas, occupational settings, or residential areas. A balanced message is key. We must not create unnecessary anxiety for occupants who are powerless to take appropriate action. It would be more productive to reassure people about the safety of these roofs but also urge and support them to take appropriate precautions or employ suitably trained contractors when they remove or work with these materials. Few homeowners can, however, afford to employ asbestos abatement specialists for a simple roof repair or building extension.
3. The development of a methodology and support system to help residents identify AC roof sheets and other AC building materials, such as downpipes or ceiling boards, and to assess their condition and potential to release dangerous levels of asbestos fibres (i.e. extensive damage). This should be compiled by either the Department of Human Settlements or the Department of Environment, Forestry and Fisheries, and made widely available. The methodology should include guidance on DIY maintenance of AC products (e.g. coating) or removal, if necessary. In our experience, a major challenge facing homeowners is the safe and legal disposal of small amounts of AC waste, e.g a broken roof sheet, downpipe or plant container. Approved waste sites operate on an industrial scale and are difficult for the average homeowner to access. Affordable disposal facilities should be made available at a local level.
4. The development, by the State, of a long-term AC roof removal/replacement plan, based on close consultation with occupational, environmental and public health specialists. We were pleased to learn, at the time of writing this opinion piece, that the Land Remediation Section in the Department of Environment, Forestry and Fisheries was active in developing a National Asbestos Management Strategy.[25]
5. A comprehensive review of South Africa's asbestos priorities, including contamination of mining areas, schools with asbestos cement construction materials, and dwellings with AC roofs.

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COIDA amendment will negatively impact access to quality healthcare for injured workers and medical service providers

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BACKGROUND

COIDA and the Compensation Fund – protecting workers injured on duty

The Compensation for Occupational Injuries and Diseases (COID) Act, No. 130 of 1993 "provides for compensation for disablement caused by occupational injuries or diseases sustained or contracted by employees in the course of their employment, or for death resulting from such injuries or diseases".

The Compensation Fund is a critical component of the South African Government's social security framework, which is responsible for the welfare of the country's most vulnerable citizens. In terms of the COID Act, employers must register with the Compensation Fund and pay an annual levy to the Fund (based on a percentage of annual salary and wages paid, and the risks associated with the type of work being done). The COID Act entitles employees who are injured on duty to access necessary specialised private medical care, including private hospitals, doctors, physiotherapists, chiropractors, etc. The medical service provider (MSP) caring for the injured worker is prohibited from claiming from the employer and/or the employee if it is a valid injury on duty (IOD), and may only claim the fee for services rendered from the Compensation Fund (and in accordance with annually Government-gazetted tariffs and regulations).

INCLUSION OF DOMESTIC WORKERS

On 19 November 2020, in a landmark judgment, the Constitutional Court ruled that employees who performed domestic work in the home of their employer and who suffered an injury or occupational disease while on duty would be included as beneficiaries of the Fund. Prior to this judgment, domestic workers were excluded from the provisions and benefits of the Fund. The Amendment Bill includes provisions to give effect to the Court's ruling in respect of domestic workers.

Approximately 400 000 employers in South Africa contribute R8.5 billion annually towards the Fund, which is mandated by law to cover the medical, rehabilitation and disability expenses of the country's IOD workers as well as disability payments, funeral and fatality benefits.

On average, more than 500 workers in South Africa are injured on duty every working day. In addition to these claims, there are claims for total temporary disablement (TTD), which refers to workers who are off sick for more than three days, as well as workers who are permanently disabled (permanent disablement or PD).

Employers can claim 75% of the injured worker's salary/wage, paid while on sick leave, back from the Compensation Fund.

All medical services rendered to injured workers are delivered in good faith by the medical fraternity as most services are delivered in a trauma environment long before a new IOD claim has been registered or accepted by the Compensation Fund. Only after a protracted process of registering an employer on the Compensation Fund's online system, logging a new IOD incident online, waiting for a claim to be registered by the Compensation Fund, and waiting for the claim to be adjudicated (several months later), can an MSP submit his/her invoice(s) to the Compensation Fund for services rendered.

CURRENT STATE OF THE COMPENSATION FUND

While the Compensation Fund has assets of over R60 billion, and more than R26 billion in reserves, both employers and MSPs find it extremely difficult to access the Fund's systems. It is widely recognised that the Fund is dysfunctional. In October 2019, in an effort to simplify and expedite its claims process, the Fund replaced its previous IT system with a new SAP-based IT system called CompEasy, at a cost of R285 million. This is the fifth IT system that the Fund has invested hundreds of millions in over the past 20 years. However, the new system is equally dysfunctional, continuing the delays in the registration and adjudication of claims, and payments to MSPs. The failure of the Fund's new system is such that, in a recent IWAG survey of employers, only 31% were able to successfully report an IOD incident.

THIRD-PARTY ADMINISTRATORS

Not only is its IT system, the backbone of its claims process, unworkable, but if MSPs do manage to successfully lodge a claim, they often wait up to two years for payment. Consequently, MSPs have, for more than 20 years, used the services of third-party administrators to help them navigate the Fund's complex and defective systems to secure payment for medical services rendered to injured workers. These third parties play a critical role in ensuring medical service providers are paid timeously for their invoices, while removing the cumbersome and time-consuming administrative, financial and legal burden on healthcare professionals, so that they are able to focus on their primary role of caring for patients. Third-party administrators also play a critical role in streamlining

the process for the Fund, both by adding a layer of governance through the pre-vetting of claims and alleviating significant administrative burden for the Fund.

Workplace-acquired COVID-19 cases are adding pressure on the Fund. However, even before the advent of COVID-19, the Fund was failing miserably to register and adjudicate claims as well as to process and pay medical invoices. IWAG believes one cannot underestimate the far-reaching devastation that the Fund's failure continues to cause for the lives and livelihoods of the injured, mostly blue-collar workers of this country and their families.

HOW THE CLAIMS PROCESS WORKS

1. An employee is injured while performing his/her duties at work. Given that the employer contributes to the Compensation Fund, the employee is able to access the necessary specialised private medical care, including private hospitals, doctors, physiotherapists, chiropractors, etc.
2. The MSP caring for the injured worker must then claim the fee for services rendered directly from the Compensation Fund. However, because of the substantial administrative burden, complexity of claims, the defective state of the Fund's IT systems, and delayed payments, many MSPs choose to cede their claims to third-party administrators in return for immediate payment. The administrators levy a fee against the invoice in exchange for taking over the administrative duties associated with claims resolution.
3. Once the third-party administrators are satisfied that the claims comply with all the rules and regulations mandated by the Government-gazetted tariffs and regulations applicable at the time of delivering the service, they then settle the MSP's claims immediately. This allows MSPs to sustain the cash flow needed for working capital.
4. Third-party administrators assist many employers or MSPs to register themselves and to report the incident on the Fund's IT system. The Fund then registers the claim and issues a claim number, after which the Fund embarks on an adjudication process to verify the legitimacy and validity of the claim.
5. MSPs are obliged to submit their medical reports in prescribed format to the Fund only after a claim number has been issued.
6. Only after a protracted period are MSPs informed that a claim has been accepted by the Fund and that they can submit their invoices to be evaluated for services rendered months ago in good faith.
7. Then follows a further period of securing reimbursement and, where necessary, pursuing any legal actions that may be required to secure payment from the Fund.

COIDA AMENDMENT BILL

On Sunday 17 January 2021, the Parliamentary Portfolio Committee on Employment and Labour issued a public call for submissions on the proposed Compensation for Occupational Diseases and Injuries Act (COIDA) Amendment Bill [B21-2020]. While it is encouraging that, under the Bill, domestic workers will be included as beneficiaries for the first time, the Bill also contains a proposed Amendment (Section 43) that will have a catastrophic impact on injured workers, and the doctors, surgeons, private hospitals, physiotherapists and other healthcare professionals that provide their treatment.

Specifically, Section 73 of the principal Act is amended by the addition of the following sub-section, which appears as Section 43 (4) of the Amendment Bill: "any provision of any agreement existing at the commencement of this Act, or concluded thereafter, in terms of which a service provider cedes or purports to cede, or relinquishes or purports to relinquish, any rights to medical claim in terms of this Act, shall be void."

Section 43 thus prohibits the cession of medical invoices by MSPs to any financial institutions and third-party administrators as collateral for much-needed working capital, equipment finance or other operation lending. This means that MSPs will no longer be pre-funded by third-party administrators and will, if Section 43 is promulgated, have to wait up to two years for their medical accounts to be settled by the Fund, impacting both cash flow and working capital. For those MSPs not utilising a third-party administrator, it also means that commercial banks will no longer be allowed to accept a medical practice's debtors book as collateral for an overdraft facility to fund cash flow for working capital. This has a significant impact on their ability to sustain their practices, which will have the unintended consequence of disincentivising them from treating IOD patients.

The Injured Workers' Action Group (IWAG) believes it is incomprehensible that the Department of Employment and Labour would seek to remove a key part of the Fund's value chain that is actually working. IWAG spokesperson, Mr Tim Hughes, says, "We cannot see any justification for the introduction of Section 43. Neither the Minister nor the Department of Employment and Labour, much less the Compensation Fund, have provided any reasonable rationale for the amendment. Given that MSPs, who treat IOD patients in good faith, will not be able to cede their invoices to financial institutions or third-party administrators for early payment or access to overdrafts, there is a real risk that their practices will be forced into financial distress or collapse if Section 43 is adopted."

"More concerning is that, because of the financial risk, the introduction of Section 43 will discourage many healthcare providers from treating workers who are injured on duty, thereby significantly reducing the pool of care and placing additional pressure on an already strained public healthcare system. Consequently, IWAG is calling for the removal of Section 43 from the Amendment Bill."

Dr Angelique Coetzee, chairperson of the SA Medical Association, says, "SAMA believes that the amendment should be removed from the Bill. The extent of the pressure and burden faced by our country's MSPs has been exposed over the past year as they battle to save lives and treat the millions of patients infected by COVID-19. Many of these patients have been infected while at work, which means their treatment is covered by the provisions of the COID Act. It's clear that medical service providers have less time than ever to manage the administrative processes required to secure payment from the Fund. Without third-party administrators, MSPs will need to carve out hours in their frantic days in an attempt to submit claims on a system that just doesn't work."

Ms Pinky Mashiane, president of the United Domestic Workers of South Africa Union (UDWOSA), says, "As domestic workers, we have fought for many years for the right to access quality medical care under the Compensation Fund, and are very pleased that Government is introducing legislation that will make this a reality for our vulnerable and often overlooked sector. However, our inclusion will only have value if the system works. If Government removes the areas of the Fund that actually function, they will effectively be undermining the level of care that domestic workers are being promised, and remove the true benefits of being a beneficiary. It is for this reason that we are opposed to the inclusion of Section 43 of the Amendment Bill."

Hughes says, "While Government must be congratulated for including domestic workers as beneficiaries of the Fund, stakeholders are deeply concerned that the dysfunctional state of the Fund will make it impossible for this most vulnerable segment of our society to receive equitable access to quality care. We believe one cannot underestimate the far-reaching devastation that the Fund's failure continues to cause for the lives and livelihoods of the injured, mostly blue-collar workers of this country and their families. We therefore call on all affected parties to raise their concerns in a submission to the Parliamentary Portfolio Committee on Employment and Labour."

It is clear that this amendment will undermine the intention of the Act, which is to provide access to quality healthcare for injured workers, who are some of the most vulnerable citizens in society.

WHY SECTION 43 OF THE COID AMENDMENT BILL IS PROBLEMATIC FOR VULNERABLE WORKERS AND MSPS

No reasonable rationale for amending the Act

- If a government proposes changing a law, it requires a reasonable rationale to do so. Neither the Minister nor the Department of Employment and Labour, much less the Compensation Fund, have provided any reasonable rationale or justification, in any presentation or Memorandum on the Objects to the Act, for the amendment.
- The ban on cessions by MSPs is not addressed in a substantive manner in the Socio-Economic Impact Assessment (SEIA) of the Amendment Bill conducted by Government. IWAG believes this SEIA, which was hastily compiled in two months, contains limited exploration of the unintended consequences of the amendment. Equally concerning is that no stakeholders in the private healthcare sector were canvassed for their input on the proposed Amendment Bill.
- The SEIA contains a vague reference to reducing fraud and corruption by third parties; however, there is no evidence or history of any such activity by third parties. In fact, third parties eliminate the possibility of fraud and corruption in the claims process, evidenced by a 0.04% administrative rejection rate and a 0% fraud rate (statistics as per largest third-party administrator in SA).

A blunt instrument aimed at destroying an element of the Compensation Fund that works

- Intermediaries exist because of the inefficiency and dysfunction of the Fund in carrying out its mandate.
- Third-party cession, debtors as collateral, factoring of invoices, and administration outsourcing are not unique to COID and exist effectively and efficiently within the medical aid industry, private insurance (demarcation products), commercial banks, and private healthcare sub-sectors.
- Instead of eliminating what works for MSPs and IODs, i.e. third-party administrator services, the Department of Employment and Labour should focus on fixing what does not work, i.e. the Fund's claims and administrative capabilities, and its ability to pay claims efficiently and on time.

Section 43 undermines sustainability of MSPs

- Third-party administrators help to alleviate the burden on MSPs of the extremely cumbersome and time-intensive administration claims process. It is not simply a matter of submitting an invoice. The Fund requires a plethora of supporting documentation to establish the legitimacy of a claim. By taking over this process, third-party administrators ensure MSPs have more time to focus on their core mandate of saving lives and providing access to quality healthcare to IOD patients.
- Access to early finance (factoring) and resolution of claims by third-party administrators also supports MSPs' financial sustainability, and their ability to continue to provide treatment to injured workers. MSPs need invoices to be paid timeously to secure the cash flow needed to run their practices, pay staff, and service other overhead costs associated with their practices.
- The dysfunctionality of the Fund means that claimants often need to resort to legal action to resolve payments. By ceding their claims to third-party administrators, MSPs are also relieved of the time consuming, resource intensive and expensive legal process often required to secure payment from the Fund. All engagements, follow-up interventions and legal processes are managed by the third-party administrators once the claim is ceded to them and factored by them.
- The amendments would result in the MSPs' practices being unable to raise capital on the strength of the growing outstanding COID debtors' book, despite an ongoing requirement for working capital to fund operational or other requirements.
- It is important to note that all fees payable by MSPs to third parties, whether for administration or factoring services rendered, does not increase the cost of medical treatment to the Compensation Fund by even one cent, as it is paid out of the normal gazetted tariffs and not over and above the gazetted tariffs.

Amendment will undermine ability of IOD patients to access quality healthcare and treatment

- The transfer of the administrative and financial risk back to MSPs will discourage many healthcare providers from treating IOD patients, thereby significantly reducing the pool of care, and placing additional pressure on an already strained public healthcare system, which is struggling with the additional burden of the COVID-19 pandemic.
- This will impact the care that IOD patients receive, and effectively undermine the purpose and objective of the COID Act, i.e. to get injured workers back to work.
- Ultimately, intermediaries are there to protect vulnerable employees' ability and their right to treatment for injuries sustained at work. This amendment will effectively remove third parties and pass the burden of risk from the Fund to MSPs and, ultimately, to vulnerable workers.

Increase burden on legal system, both for MSPs and the State

- Third-party administrators are able to expedite and minimise the costs of legal claims against the Fund, as they manage numerous claims at once.
- Without them taking on this role, MSPs would be isolated in their claims, having to fight the Fund in court for individual claims, taking up many hours of valuable consulting and treatment time, creating substantial legal bills, and placing greater strain on our already overburdened legal system.

Domestic workers

- The belated but important inclusion of over one million domestic workers as beneficiaries of the Fund is good news, but it is unclear as to how the levy payment, assessment and payments processes will work.

- The current processes and procedures of the Fund are not suitable to manage the domestic sector and employers need the correct information and representation.
- What is clear is that it will increase the pool of IOD patients needing medical care from MSPs.
- If the amendment is promulgated, MSPs, who will have a greater number of IOD patients to treat, will have less time to do so, as their administrative burden will also increase through the prohibition of cessions.
- Given the dysfunctionality of the Fund's administrative, management and technical systems, MSPs treating these patients will inevitably wait many months, if not years, for payment from the Fund. This places significant financial pressure on MSPs, placing their practices at risk.
- It also has the unintended consequence of disincentivising MSPs from treating these patients as the burden of risk increases. Injured workers cannot wait for a claim to be approved before going for medical treatment, nor can the MSPs wait months and years before their invoices are paid.
- Domestic workers injured on duty will have no choice but to continue to use public health services, which, as we know, are struggling.

Is it possible that the real reason for Section 43 is to eliminate a party that holds the Fund to account?

- Over the years, third-party administrators have been forced to take the Fund to court to settle outstanding claims, which the Fund consistently loses. This has contributed to a difficult relationship between the parties.
- Legal challenges are important as they create pressure on the Fund to fulfil its constitutional mandate and legal obligations. Without this pressure, there is a chance that the Fund could become even more dysfunctional, depriving MSPs of funds for services rendered and undermining IOD patients' legal rights to care.

The comment period for the proposed COIDA Amendment Bill is open until 19 February 2021. Submissions should be directed to the Portfolio Committee on Employment and Labour, for the attention of Mr Zolani Sakasa.
Send your submission to zsakasa@parliament.gov.za

ABOUT IWAG

The Injured Workers' Action Group (IWAG) objective is to advocate for the efficient and effective functioning of the Compensation Fund. The Fund is a critical component of the South African Government's social security framework, which is responsible for the welfare of the country's most vulnerable citizens.

Members of IWAG include the SA Medical and Dental Practitioners Association, SA Private Ambulance and Emergency Services Association, Occupational Therapy Association, SA Society of Physiotherapy, the United Domestic Workers of South Africa union (UDWOSA) and entities that facilitate payments by the fund to practitioners and worker bodies.

Facebook: http://bit.ly/39k5FMh
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Prevalence of common mental disorders and associated factors among golf course workers in Johannesburg, South Africa

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ABSTRACT

Background: Poor work environments can lead to poor mental health in workers. Golf course workers are prone to poor health outcomes, including common mental disorders (CMDs) due to work-related stress, poor working conditions, and low socio-economic status.

Objective: To assess the prevalence and factors associated with CMDs among golf course workers in Johannesburg, South Africa.

Methods: In this cross-sectional study, convenience sampling was used to select 375 participants (300 golf caddies and 75 non-caddies) from six golf courses in Johannesburg, South Africa. A sociodemographic questionnaire and the World Health Organization's (WHO's) Self-Reporting Questionnaire (SRQ-20) to assess self-reported CMDs were administered by trained field workers. Logistic regression was used to investigate the association of sociodemographic factors, comorbidities, substance use and work stress-related factors with CMDs.

Results: The prevalence of CMDs was 35.3% in golf caddies and 24.3% in non-caddies. The adjusted odds (AORs) for CMDs among caddies was twice that of non-caddies but the difference was not significant (AOR 2.14, 95% CI 0.89–5.27). The AORs for alcohol use (AOR 3.86; 95% CI 2.19–6.81), intimidation at work (AOR 3.59; 95% CI 2.01–6.43) and existing comorbidities (AOR 2.06; 95% CI 1.05–4.03) were higher in those with CMDs.

Conclusion: A high proportion of golf course workers had self-reported CMDs. This preliminary study suggests that lifestyle factors such as alcohol use, and health- and work-related factors, are associated with CMDs. Further studies are needed to support these findings and provide information to develop intervention strategies, if needed.

INTRODUCTION

Mental health is emerging as a major public and occupational health problem in many countries. Mental disorders are among the most important causes of morbidity and result in disability in low- and middle-income countries (LMICs).[1] In a systematic review that assessed the global prevalence of common mental disorders (CMDs), 29.2% of the global population was identified as having CMDs at some point in their lifetime.[2] The World Health Organization (WHO) predicted that depression would be the leading cause of disability in developing countries by 2020.[3]

Among South Africans, the 12-month prevalence of CMDs is estimated to be 16.5%, based on a nationally-representative study conducted in 2008.[4] According to the Quarterly Labour Force Survey, approximately 2.5 million people in South Africa work in the informal sector, which is approximately 18% of all workers.[5] Psychosocial stress and depression have been associated with poor health in many workers due to job dissatisfaction and other socio-economic factors that may impact overall wellbeing.[6,7] In 2019, the prevalence of CMDs among a group of informal workers (waste pickers) in South Africa was reported to be 37%, which was much higher than the CMD prevalence of 16.5% reported in the general population of South Africa.[8]

There is insufficient information on the association between work and mental health, given that employment status and work conditions are social determinants of mental health.[9] The few studies that have assessed CMDs among formal and informal workers have reported a high prevalence of CMDs and poorer health outcome in informal workers.[10,11] Characteristics of informal work, such as uncertainties about employment, low income, and absence of work benefits and labour rights, can induce psychological stress.[6] In a study conducted in Brazilian female informal workers, the absence of employee protection was significantly associated with an increased risk of poor mental health.[6] Intimidation and discrimination of informal employees were shown to result in CMDs.[6]

Education, income and employment status have been used as proxy measures of socio-economic status when assessing mental health.[12-14] In a review by Patel and Kleinman (2003) of 11 studies in developing countries, positive associations between low income, lack of education, job insecurity and CMDs were reported.[1] There was also evidence for an association between physical illness and CMDs, where mental health problems and physical illness led to increased poverty.[1,14] Job insecurity is one of the major risk factors for mental health disorders in adults.[6] Unemployment has been shown to result in a significantly increased odds of psychological distress, such as depressive disorders, anxiety, and mental illness.[15]

The golf course industry comprises formal and informal workers, both of whom play important roles in the economic development of the industry. A survey conducted on behalf of the Professional Golfers

Association of SA (PGA) in 2009 estimated that golf contributed R58.4 billion to the South African economy.[16] Golf caddies are informal workers and are defined by the PGA as "workers hired to assist a golfer".[17] Their duties include carrying the golfer's bag, replacing divots of damaged turfs, determining the distance of the golf yard during a golf session, and assisting the golfer with flag marking".[17,18] Caddies also provide advice on playing strategies, regarding shot and club selection.[19] Often, the caddie and golfer develop a 'working' relationship; the caddie provides caddying services as well as psychological support to the golfer during the game.[18-20] Golf course maintenance workers are employed to look after golf turfs. They are formally employed, as are security guards and restaurant workers.

There is limited research on the mental health of formal and informal golf course workers. In this study, we aimed to determine the prevalence of CMDs and associated factors among golf course workers in Johannesburg, South Africa, using the validated validated World Health Organization's (WHO's) Self-Reporting Questionnaire (SQR-20) screening tool.

METHODS

We conducted a cross–sectional survey amongst formal and informal workers at six golf courses in Johannesburg. There are 44 golf courses in the greater City of Johannesburg. The Johannesburg municipality is divided into seven regions; the five central regions were chosen for this study. Seventeen golf courses that were not in golf estates were chosen from the five central regions. The 17 golf courses were grouped into three affordability categories based on monthly membership fees: expensive, mid-level and affordable. Two golf courses were randomly selected from each affordability category, using a random number generator. A sample size of 375 was calculated, using a confidence level of 95%. The sample was proportionately distributed by worker type: 80% (n = 300) caddies and 20% (n = 75) non-caddies, as each golf course 'employed' more caddies than non-caddies. Study participants were selected using convenience sampling. We selected only male participants, aged 18 years and older, as there are very few female non-caddies employed, and no female caddies. Data collection was conducted over six weeks.

The study team consisted of trained nurses and field workers who conducted interviews following signing of informed consent, in the participant's home language, including, but not limited to, English, Afrikaans, Zulu and Sesotho. Two questionnaires were used. The first was a structured questionnaire used to collect data on education, socio-economic status (type of housing and income level), lifestyle factors, comorbidities and work-related stress (Table 1).

The second questionnaire was the WHO's SQR-20 for common mental disorders[21] (Table 2). This is a low-cost screening instrument for measuring CMDs that has previously been used in health surveys in developing countries.[21,22] It has been used in South African community settings and has also been validated in low-income communities in Johannesburg (Cronbach alpha, $\alpha = 0.84$).[21] The questionnaire contains 20 questions (items) and was used to identify participants with major depression, anxiety and psychosomatic complaints, which are grouped as CMDs. Each question is answered as 'yes' (score = 1) or 'no' (score = 0). The scores of the 20 items were added and a cut-off point of eight was taken to be indicative of symptoms of CMDs, as commonly applied in low-income urban populations.[23]

Ethical approval was obtained from the University of the Witwatersrand Human Research Ethics Committee (clearance certificate number M180661). Permission to conduct the study was obtained from the golf course managements.

Table 1. Summary of collected data

Type	Data
Demographic and socio-economic information	Age, education, income level, type of housing
Lifestyle factors	Alcohol consumption, smoking status
Comorbidities	Diabetes, hypertension, HIV, tuberculosis, stroke
Work-related stress	Intimidation at work

Table 2. Items in the Self-Reporting Questionnaire (SRQ-20) for common mental disorders*

Item no.	Question*
1	Do you often have headaches?
2	Is your appetite poor?
3	Do you sleep badly?
4	Are you easily frightened?
5	Do your hands shake?
6	Do you feel nervous, tense or worried?
7	Is your digestion poor?
8	Do you have trouble thinking clearly?
9	Do you feel unhappy?
10	Do you cry more than usual?
11	Do you find it difficult to enjoy your daily activities?
12	Do you find it difficult to make decisions?
13	Is your daily work suffering?
14	Are you unable to play a useful part in life?
15	Have you lost interest in things?
16	Do you feel that you are a worthless person?
17	Has the thought of ending your life been on your mind?
18	Do you feel tired all the time?
19	Do you have uncomfortable feelings in your stomach?
20	Are you tired easily?

**The tool is not designed to provide clinical diagnoses*

Source: Beusenberg and Orley (1994) [22]

Data management

Stata version 15 (StataCorp. 2017. Stata Statistical Software: Release15. College Station, TX: StataCorp LP) was used for data cleaning and analysis. Age was categorised as 22–33, 34–44, 45–55, 56–66 and > 67 years. Education was categorised into primary school or lower, and secondary school or higher. Information on existing comorbidities was collected by asking, "Have you been diagnosed with any of the following: TB, diabetes, hypertension or stroke?" Participants were also asked if they had been tested for HIV, and if they were willing to disclose their results by answering 'yes' for self-reported HIV-positive result, 'no' for self-reported HIV-negative result, or 'undisclosed'. Type of housing was coded as '1' for formal housing or backyard/room dwelling in a formal house, and '2' for informal dwelling or backyard/room in an informal house. Lifestyle factors included current smoking status and alcohol use. To collect information on workplace treatment, participants were asked "Have you ever felt, or do you feel, intimidated by the golf players?"

Statistical analysis

Categorical variables were summarised as counts and percentages. The Pearson chi-square test was used to assess associations between categorical variables. Median and 25th–75th interquartile ranges (IQRs) were used to describe the ages of participants. Upon checking the distribution, a non-parametric Mann-Whitney rank-sum test was used to describe differences between caddies and non-caddies. Differences were considered statistically significant at the 5% level.

Univariate and multivariable logistic regression analyses were performed to determine correlates of CMDs. Potential confounders and predictor variables that were considered were age, education, housing, income, chronic illness, education, intimidation at work, smoking status, and alcohol use. Bivariate analysis was conducted to assess the association of CMD with individual variables (unadjusted odds ratio and 95% CI). Stepwise backward selection, using a liberal p-value of 0.20, was used to select variables to include in the multivariable model. The effects were presented as odds ratios with 95% CI. A model-building strategy, using the likelihood ratio test, was used to select variables for the final model. Variables that were significant ($p < 0.05$) were retained. Those that were known to be risk factors for CMDs, based on existing literature, but were not statistically significantly associated with CMDs in the bivariate analysis, were also retained in the final model. Goodness of fit of the final model was assessed, using the Hosmer-Lemeshow goodness-of-fit test.

RESULTS

A total of 375 participants were interviewed in the study. After excluding 52 participants with incomplete information for most of the selected study variables, 323 participants, comprising 74 (22.9%) non-caddies and 249 (77.1%) caddies, were included in the analysis.

A description of the study participants is provided in Table 3. The median age for caddies (49 years, range 42–55 years) was statistically higher than that of non-caddies (39 years, range 31–49 years) ($p < 0.000$). When age was categorised into groups, most of the caddies were in the > 50 years' age group (43.8%); most of the non-caddies were in the younger age groups. Most of the caddies had a secondary school education (70.3%). Education status was available for only four of the non-caddies. Most participants reported living in formal housing (65.3%). The same numbers of non-caddies lived in formal and informal housing. Many participants in both groups reported that they earned less than R4 000 (283 USD) per month (82.7% of caddies and 45.9% of non-caddies).

More caddies than non-caddies reported being intimidated at work (48.9% and 22.9%, respectively). A higher proportion of caddies than non-caddies smoked and/or consumed alcohol ($p < 0.001$). The prevalence of reported CMDs was 35.3% and 24.3% in caddies and non-caddies, respectively.

About a quarter of caddies reported having HIV compared to 13.7% of non-caddies. Among caddies, hypertension (20%) and tuberculosis (19%) were the common chronic diseases reported. Overall, more caddies (24.5%) than non-caddies (18.9%) reported comorbidities.

The unadjusted and adjusted odds ratios from the multivariable logistic regression model are shown in Table 4. In the bivariate analysis, the following variables had p values < 0.20 and were included in the multivariable analysis: type of work, age, housing, smoking, income, chronic diseases and HIV status. Caddies had almost twice the odds of reporting mental disorders than non-caddies (unadjusted OR 1.79, $p = 0.054$). Participants aged 31–40 years had more than double the odds of CMDs than those older than 50 years (unadjusted OR 2.52, $p = 0.004$). Current smokers (unadjusted OR 2.09, $p = 0.004$) and those who consumed alcohol (unadjusted OR 5.01, $p < 0.001$) had increased odds of developing CMDs compared to those who did not use these substances. Those who reported being intimated at work had an almost four-fold odds of CMDs compared to those who did not report intimidation ($p < 0.001$).

The adjusted odds ratio (AOR) for CMDs in caddies was twice that in non-caddies (AOR 2.14), although this was not statistically significant ($p = 0.098$). The odds of CMDs were 2.28 times higher for the group aged ≤ 30 years than for those aged 31–40 years ($p = 0.011$). Informal housing was also associated with CMDs: those living in informal housing had almost twice the odds of CMDs (AOR 1.85, $p = 0.042$) than those living in formal housing. Alcohol use (AOR 3.86, $p < 0.001$) and reported intimidation (AOR 3.59, $p < 0.001$) were both associated with CMDs. Comorbidities also increased the odds of CMDs (AOR 2.06, $p = 0.035$).

DISCUSSION

The prevalence of CMDs among both caddies and non-caddies was high (35.3% and 24.3%, respectively); the difference was not statistically significant. These findings are similar to those reported in other studies that estimated an increased prevalence of CMDs in informal workers compared to formal workers.[8,10] Ludermir and Lewis (2003) calculated a CMD prevalence of 27% in permanent employees compared to 31% in informal workers.[10] A slightly higher prevalence of CMDs (37.5%) was reported in waste pickers in South Africa.[8] From these studies, prevalence of CMDs appears to be higher among informal than formal workers.

While mental disorders in the general population often arise from socio-economic circumstances, certain types of jobs can increase the risk of developing depression and anxiety.[10,24,25] Ludermir and Lewis (2003) showed that informal work may have an adverse effect on the psychological health of workers, which may increase stress and the risk of mental disorders.[10] Caddies are not formally employed and do not receive regular salaries, thus uncertainties surrounding their work may contribute to poor mental health. Additionally, dissatisfaction with a minimal wage can lead to stress and poor mental health in non-caddies.

A number of socio-economic factors have been reported to be associated with mental disorders.[14,24,26] Low level of education, poor housing, and low household income are the main predictors of CMDs.[12,28] In our study, living in informal housing and having a low education level increased the odds of mental disorders among golf course workers. These socio-economic factors have been found to increase vulnerability of individuals to mood disorders and emotional distress.[28,29] After adjusting for other socio-economic factors, income was shown not to be associated with CMDs. Other studies have also reported that income may not be a predicting factor of CMDs when education is taken into account.[13,24]

The prevalence of alcohol consumption, which significantly increased the odds of reported mental disorders among golf course workers, was 42.4%. This may be related to the work that the study participants did, as job stress can increase substance abuse.[11,30] Our findings were similar to those from other informal worker studies, i.e. mental disorders were common among those who consumed alcohol.[31]

Intimidation at work was associated with CMDs in both types of golf course workers; where the odds of reported CMDs for those who

reported being intimidated at work was almost four times higher than for those who did not report intimidation. Caddies, as informal workers, are at a higher risk of being intimidated as they are not protected by golf course policies. In order to protect their jobs and incomes, caddies may not report incidents of bullying to the golf course managers. Intimidation at work may lead to poor quality of life that, in turn, may result in symptoms of depression and anxiety.[32]

In our study participants, chronic illnesses such as hypertension and diabetes were associated with increased odds of CMDs. The prevalence of comorbid conditions was 23.3%. Living with chronic conditions has been shown to increase the risk of mental illness.[33] Unhealthy lifestyle behaviours, such as smoking and alcohol use, are often viewed as coping mechanisms for stress, particularly in individuals with low socio-economic status.[33] These coping strategies, combined

Table 3. Socio-demographic characteristics, comorbidities, and CMDs in golf course workers (N = 323)

Characteristics	Non-caddies n = 74		Caddies n = 249		Total		p value
	n	%	n	%	n	%	
Age (years)							
median (IQR)	39 (31–49)		49 (42–55)		46 (39–54)		< 0.000
Age-group (years)							
≤ 30	18	24.3	7	2.8	25	7.7	< 0.001
31–40	24	32.4	47	18.9	71	22.0	
41–50	18	24.3	86	34.5	104	32.2	
> 50	14	18.9	109	43.8	123	38.1	
Education level							
none	-	-	4	1.6	4	1.2	0.085
primary	3	4.1	53	21.3	56	17.3	
secondary	1	1.4	175	70.3	176	54.5	
tertiary	-	-	17	6.8	17	5.3	
missing	70	94.6	-	-	70	21.7	
Type of housing							
formal	37	50.0	174	69.9	211	65.3	0.002
informal	37	50.0	75	30.1	112	34.7	
Income (Rands)							
0–3999	34	45.9	206	82.7	240	74.3	0.809
≥ 4000	40	54.1	43	17.3	83	25.7	
Current smoking							
yes	30	40.5	158	63.5	188	58.2	< 0.001
no	44	59.5	91	36.5	135	41.8	
Alcohol use							
yes	23	31.1	114	45.8	137	42.4	0.025
no	51	68.9	135	54.2	186	57.6	
Intimidated at work							
yes	17	23.0	124	49.8	141	43.7	< 0.001
no	57	77.0	115	46.2	172	53.3	
missing	-	-	10	4.0	10	3.1	
HIV							
yes	7	9.5	49	19.7	56	17.3	0.165
no	41	55.4	126	50.6	167	51.7	
undisclosed	3	4.1	11	4.4	14	4.3	
missing	23	31.1	63	25.3	86	26.6	
Other chronic diseases*							
yes	14	18.9	61	24.5	75	23.2	0.318
no	60	81.1	188	75.5	248	76.8	
CMDs							
yes	18	24.3	88	35.3	106	32.8	0.052
no	56	75.7	153	61.4	209	64.7	
missing	-	-	8	3.2	8	2.5	

**diabetes, hypertension, stroke, tuberculosis*

with poor living conditions, have been further hypothesised to contribute to the development of physical morbidities and poor mental health.[33,34] Improving the living conditions and working conditions of golf course workers by promoting formal education, and providing coping strategies to deal with stress, may be strategies to improve the mental wellness of these workers. In addition, social support from golf courses management may provide a positive coping mechanism and decrease alcohol abuse.

Limitations

Symptoms of CMDs and comorbidities were self-reported, which may result in recall bias and information bias, leading to under-reporting of comorbidities and/or over-estimation of the prevalence of CMDs. This might also reduce the strength of the association between CMDs and the reported risk factors. In addition to the small sample size, we used convenience sampling to select study participants. Thus, the results may not be generalisable to other golf course workers in South Africa. Nevertheless, these preliminary results are a basis for future longitudinal studies, using larger sample sizes and optimal sampling frames. Cross-sectional studies comprising larger sample sizes, and conducted in other provinces, are needed to further identify and validate associated risk factors for CMDs in golf course workers, and provide information to develop appropriate intervention strategies, if needed.

We did not investigate work-related risk factors, such as workload and managerial support; these should be considered in future studies. Nonetheless, we used the validated SQR-20 questionnaire to collect data on CMDs, allowing for comparisons of the results with other studies that have assessed CMDs in the workplace.

Table 4. Factors associated with CMDs in golf course workers

Characteristic	n	%	OR	95% CI	p value	AOR	95% CI	p value
Type of work								
non-caddies	74	24.3	1.00 (ref)			1.00 (ref)		
caddies	249	35.3	1.79	0.98–3.24	0.054	2.14	0.89–5.27	0.098
Age group (years)								
≤ 30	25	7.7	1.84	0.75–4.49	0.185	2.28	0.70–7.41	0.170
31–40	71	22.0	2.52	1.35–4.69	0.004	2.71	1.25–5.87	0.011
41–50	104	32.2	1.22	0.68-2.19	0.509	0.80	0.40–1.61	0.541
> 50	123	38.1	1.00 (ref)			1.00 (ref)		
Education level								
none	4	1.2	1.12	0.13–9.94	0.916			
primary school	56	17.3	0.81	0.27–2.41	0.703			
secondary school	176	54.5	0.59	0.22–1.60	0.300			
tertiary	17	5.3	1.00 (ref)					
Type of housing								
formal	211	65.3	1.00 (ref)					
informal	112	34.7	1.59	0.99–2.59	0.057	1.85	1.02–3.35	0.042
Income (Rands)								
0–3 999	240	74.3	1.08	0.66–1.79	0.736	0.70	0.36–1.36	0.297
≤ 4 000	83	25.7	1.00 (ref)			1.00 (ref)		
Current smoking								
no	188	58.2	1.00 (ref)			1.00 (ref)		
yes	135	41.8	2.09	1.27–3.44	0.004	1.46	0.79–2.70	0.228
Alcohol use								
no	137	42.4	1.00 (ref)			1.00 (ref)		
yes	186	57.6	5.01	3.02–8.31	< 0.001	3.86	2.19–6.81	< 0.001
Intimidated at work								
no	141	43.7	1.00 (ref)			1.00 (ref)		
yes	172	53.3	3.72	2.27–6.10	< 0.001	3.59	2.01–6.43	< 0.001
Self-reported medical history								
HIV								
yes	56	17.3	1.88	0.52–6.71	0.334			
no	167	51.7	1.37	0.41–4.54	0.611			
undisclosed	14	4.3	1.00 (ref)					
Other chronic diseases								
no	75	23.2	1.00 (ref)			1.00 (ref)		
yes	248	76.8	1.14	0.67–1.97	0.622	2.06	1.05–4.03	0.035*

** OR: odds ratio; AOR: adjusted odds ratio; CI: confidence interval*

CONCLUSION

To our knowledge, this is the first study to assess symptoms of CMDs in golf course workers. The prevalence of CMDs was higher among informal than formal golf course workers. Work-related stress, substance abuse and comorbidities are associated with poor mental health in golf course workers. Job insecurity may have an impact on the psychological health of informal workers. Further studies are needed to support these findings and provide information to develop intervention strategies, if needed.

KEY MESSAGES

1. Golf course workers report experiencing CMDs that could be associated with socio-economic factors, such as poor living conditions and alcohol use.
2. Most golf course workers earn less than the minimum wage.
3. Golf course workers would benefit from health and wellness programmes.

DECLARATION

The authors declare that this is their own work; all the sources used in this paper have been duly acknowledged and there are no conflicts of interest.

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AUTHOR CONTRIBUTIONS

Conception and design of the study: NT, TK, KW, FM, VN, NN
Data acquisition: NT, TK, KW, FM, VN, NN
Data analysis: NT, KW
Interpretation of the data: NT
Drafting of the paper: NT
Critical revision of the paper: NT, TK, KW, FM, VN, NN
Accountability for all aspects of the work: NT, TK, KW, FM, VN, NN

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Spo Kgalamono

BCur, MBChB (Medicine), Post-graduate Diploma in Occupational Health (cum laude)*, MMed (Community Health), Diploma in Public Health (DPH), Fellow of the College of Public Health Medicine in Occupational Medicine*

On 1 January 2021, Spo Kgalamono was appointed as the executive director of the National Institute for Occupational Health (NIOH), a division of the National Health Laboratory Service (NHLS); and the chair of Occupational Health in the School of Public Health, University of the Witwatersrand. Dr Kgalamono had been acting executive director of the NIOH from March 2019 to 30 September 2020.

As a renowned specialist in occupational medicine, Dr Spo Kgalamono has contributed to improving the health of workers for more than 20 years, and these appointments are well deserved. She joined the NIOH in 2000 and was appointed head of the Occupational Medicine Department in 2002. She has facilitated the Wits Post-graduate Diploma in Occupational Health for doctors for more than 17 years and has trained registrars in occupational medicine since 2010. She has also co-authored several peer-reviewed manuscripts and delivered numerous conference presentations, nationally and internationally. Her current main area of interest is workplace mental health.

Over the years, Dr Kgalamono has received many awards and accolades, including the Best Investigator Award at the International Mesothelioma Conference in Japan in 2010; the Golden Key Award for Excellent Achievement in 2010; and best local supervisor for Wits Public Health registrar training in 2004. In 2011, she was recognised as one of the three most influential women in public health in South Africa by the Public Health Association of South Africa and, in 2020, she was part of the NIOH's COVID-19 Occupational Health Outbreak Response Team, which provided us all with COVID-19 guidelines and procedures, online training and education, and surveillance and research updates.

Dr Kgalamono is a member of The South African Society for Occupational Medicine (SASOM) Executive Committee, the *Occupational Health Southern Africa* Editorial Board, the Occupational Health Workstream COVID Committee, the International Working Group on Occupational Diseases, the Medical Bureau for Occupational Diseases Review Authority, and the WHO Workplace Mental Health Guideline Development Committee. She is also a Technical Expert Committee member for the Department of Employment and Labour.

In her ever-humble manner, Spo has expressed her appreciation of the confidence that the NHLS executive team has placed in her by choosing her to fill these two prestigious and important occupational health roles, and the support that she has received from the NIOH staff, the NHLS Board, professional Societies, academics at the University of Cape Town, KwaZulu-Natal University and the University of the Witwatersrand, and officials in the Department of Health.

Dr Spo Kgalamono
Photograph: courtesy of Dr Kgalamono

Muzimkhulu Zungu

MBChB (UCT), Master of Medicine (MMed) in Community Health (UP); Diploma in Occupational Medicine and Health (DOMH) (UP), Fellow of the College of Public Health Medicine of South Africa (FCPHM)

In December 2020, Prof. Muzimkhulu Zungu was promoted to adjunct professor in the School of Health Systems and Public Health (SHSPH), Faculty of Health Sciences, University of Pretoria. Muzimkhulu 'Muzi' Zungu was first introduced to the field of occupational health during a field visit to a sweet factory while he was an under-graduate medical student at the University of Cape Town (UCT) in 2002. While the highlight of the visit was the gift pack at the end of the day, he did register that, within health work, there is a field that specialises in 'safety' in the workplace. Of course, 'safety' is not really what Muzi works with in occupational health, but colleagues in occupational health will have become familiar with the forgivable mistake by many employers in thinking that 'safety' is equivalent to occupational health.

It was, however, not until 2006, when he joined the University of Pretoria community health (now public health medicine) registrar programme, that the real fire and passion for occupational health or, rather, workers' health, was ignited in his professional life. He was 'hooked' when he rotated through the National Institute for Occupational Health (NIOH). Muzi remembers this as being the beginning of his occupational health career and one of two of his favourite rotations of the entire four-year registrar programme. It is not surprising that 12 months later, in 2010, he joined the NIOH on a full-time basis, accepting a position as a medical officer. This confused his family and friends who were still trying to understand what a community health or public health medicine specialist was, and now he was going to work in an occupational health institute, which was also less known in mainstream medicine.

Muzi is currently the head of the HIV TB in the Workplace unit at the NIOH, National Health Laboratory Service (NHLS). He is the founding head of this unit, which aims to strengthen occupational health services, with an emphasis on HIV and TB in the work environment. Muzi also has a joint appointment in the Environmental and Occupational Health Sciences Division of the SHSPH at the University of Pretoria, as a senior lecturer and coordinator of the Diploma in Occupational Medicine and Health (DOMH) programme. His responsibilities are: 1) to conduct research and supervise post-graduate students' research (diploma, master's and PhD) in environmental and occupational health, 2) to facilitate teaching and training of under- and post-graduate students at the SHSPH and, to a limited extent, other institutions of higher learning, 3) to train workers in various workplaces, and 4) to provide service delivery in occupational health (his favourite part of the job as he gets to be at the coal face with workers confronting health and safety hazards, head-on with employers, organised labour, and the relevant regulator).

Muzi has extensive experience in working with tripartite-plus social partners in the workplace, such as government departments (Employment and Labour, Health, and Mineral Resources and Energy), organised labour, organised business, the Informal economy, and civil society stakeholders. His previous experience includes being a clinical manager in the Gauteng Department of Health, director of the Medical Bureau for Occupational Diseases (MBOD), assistant compensation commissioner for occupational diseases (CCOD), and acting executive director of the NIOH.

Professor Muzimkhulu Zungu
Photograph: courtesy of NIOH

Working in these different but related positions has allowed him to collaborate and/or serve within various occupational health technical partnerships and committees within the Republic of South Africa, the Southern African Development Community (SADC), African Union Development Agency–New Partnership for Africa's Development (AUDA-NEPAD), International Labour Organization (ILO); World Health Organization (WHO); International Commission on Occupational Health (ICOH); the World Bank; and other local and international institutions of higher learning. Through these collaborations, he has graduated several post-graduate students, published in peer-reviewed journals, and produced a number of technical reports and advisories.

Muzi's favourite quote is: "It always seems impossible until it is done" (Nelson Mandela).

Regional implementation of occupational health and safety information system (OHASIS)

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Background

Countries in the southern Africa region have initiated efforts to strengthen availability and utilisation of occupational health and safety data to inform policy and practice. These efforts are part of implementing the Southern Africa Tuberculosis and Health Systems Support (SATBHSS) project, which supports the rolling out of a standardised package of occupational health services and mining safety standards to respond to tuberculosis and occupational lung diseases. In undertaking these tasks, the countries are strengthening the capacity of public sector agencies responsible for mine safety inspection; expanding periodic screening and referral for occupational lung diseases and other diseases, in line with regional standards and international best practice; and developing/strengthening care programmes for occupational lung diseases. These efforts are being implemented with cognisance that the different countries have varying degrees of mining experience to offer occupational health and safety services. Zambia, the project's regional centre of excellence (CoE) on occupational health and safety (OHS), has a relatively large OHS capacity and mining sector, while Lesotho, Malawi and Mozambique have growing mining sectors.

Front (L-R): Mr Muyunda Sundano (Ministry of Mines and Mineral Development, Zambia), Mr Absalom Ndlovu (OHSI, Zambia), Dr Samuel Olalekan (NIOH, SA), Mr Norman Khoza (AUDA-NEPAD), Mr Monty Rambau (NIOH, SA), Mr Sam Phiri (Ministry of Health, Zambia); back (L-R): Mr Darlington Maamba (MSD, Zambia), Mr Yoram Chulu (MSD, Zambia), Mr David Jones (NIOH, SA)
Photograph: courtesy of Norman Khoza

One of the countries' challenges is weak OHS data management systems to support the evolution of OHS paradigms. The lack of data presents a challenge in understanding the extent of OHS incidents and accidents in the region. Therefore, the SATBHSS project made provision to support the development and roll-out of occupational health services databases and electronic record systems in the region. The aim is to assist countries to link medical surveillance with occupational hygiene and inspection data for integrated management of occupational lung diseases, and to strengthen overall referral for compensation. The electronic record systems and databases will support countries to move from the current paper-based systems for inspection, and medical surveillance, reporting, storage and sharing of information. The implementation of these OHS information systems will facilitate efficient and effective data capturing and storage, enable countries to monitor progress of OHS, and allow data-sharing among different sectors at national and regional levels.

Occupational health and safety information systems

In a bid to implement a robust and sustainable occupational health and safety information system, the countries undertook a scoping analysis of available cost-effective options in the region. The Occupational Health and Safety Information System (OHASIS) was subsequently chosen. The system was developed by researchers from the University of British Columbia, Canada, and South Africa. It captures and manages OHS information, which is key for surveillance programmes in a healthy workplace, and allows patterns and trends to be identified and early interventions to be instituted. The web-based system plays a role in collating and storing information on reported incidents and accidents, hazard assessments, and other services, such as hazardous waste management. Implementation of OHASIS, coupled with enhanced capacity of safety, health and environment systems, will result in better management of OHS in the region. The system will contribute to training and increased awareness on OHS issues in the workplaces, along with an increased reporting of accidents and incidents. It will also be useful in the daily management of occupational health surveillance, and the identification of common root causes of disease, allowing for interventions to be targeted. The information generated through OHASIS is valuable for strengthening research to generate evidence in support of policies and interventions.

The African Union Development Agency (AUDA-NEPAD) is collaborating with the National Institute for Occupational Health (NIOH) to provide technical support to countries in rolling out the information system. While implementing the project at national

level, an additional functionality will be included to allow for sharing of aggregated data on agreed indicators at the regional level.

The following OHASIS modules are available and can easily be adapted by countries, thereby reducing the time required to develop new modules:

1. Incident reporting
2. Incident investigation
3. Employee health
4. Vaccination
5. Respirator fit testing
6. Workplace assessment
7. Hazardous waste
8. Audit
9. Equipment maintenance tracking
10. Self-reporting

The following modules are currently under development, and will be rolled out in the various countries when finalised:

1. Health and safety committee
2. Occupational hygiene
3. Workplace health risk assessment

The AUDA-NEPAD and NIOH technical teams have been working with the Government of Zambia to detail their functional and non-functional requirements, and information technology (IT) governance. The team has concluded workshops with the Ministry of Labour and Social Security (MLSS), Ministry of Health (MoH), Workers' Compensation Fund Control Board (WCFCB), Occupational Health and Safety Institute (OHSI), and Mine Safety Department (MSD).

OBJECTIVES

1. To support project countries to implement an integrated cost-effective and country-owned occupational health and safety (OHS) information system for compliance monitoring, mine health surveillance, and referral for compensation
2. To promote harmonisation of data-generating and reporting systems that link worker exposure and outcomes, in the countries
3. To develop a regional dashboard for information-sharing between project countries based on agreed regional OHS indicators

SCOPE OF THE INITIAL IMPLEMENTATION

The project will initially be implemented in the four countries, i.e. Lesotho, Malawi, Mozambique, and Zambia. The focus will be to ensure that the current fragmented OHS data are converted into an integrated and organised system across ministries, sectors, and industries. At national level, the initial roll-out will be at strategic areas as a starting point for a nationwide roll-out of the system.

Back (L-R): Mr Sam Phiri (MoH, Zambia), Mr Chibesa Ndawa (OHSI, Zambia), Dr Fwasa Singogo (MoH, Zambia), Mr Kingsley Kangwa Mukwikile (WCFCB Acting Commissioner/CEO, Zambia), Dr Samuel Olalekan (NIOH, SA), Mr Monty Rambau (NIOH, SA), Mr. Mario Mutale (WCFCB, Zambia); front (L-R): Mr Chansa Kapema (WCFCB, Zambia), Mr Norman Khoza (AUDA-NEPAD), Mr David Jones (NIOH, SA), Mr Gilbert Mukumbi (WCFCB, Zambia)

Photograph: courtesy of Norman Khoza

Further to the adaptation of the available modules, countries will be supported with the development and installation of additional required modules, as per the countries' requests. The initial roll-out of the system has started in Zambia at the CoE on OHS. Lessons learnt in Zambia will be utilised to roll out the system in the rest of the region.

EXPECTED OUTCOMES

1. Integrated occupational health and safety (OHS) information systems will be rolled out in Lesotho, Malawi, Mozambique, and Zambia.
2. Databases will be linked, at the national level, for data sharing between the implementing ministries, institutes and regional organisations.
3. In-country co-developers, system administrators and users will be trained in the four countries.
4. Regional modules to facilitate sharing of aggregated data between countries will be developed and rolled out.
5. Aggregated data will be shared at the regional level as per agreed OHS indicators.

ACKNOWLEDGEMENT

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12th IOHA virtual International Scientific Conference

11–15 September 2021

Jeongim Park
e-mail: jeongim69@gmail.com

Under the theme, *Bridging Gaps in OH Development, Opening New Horizons*, we have decided to make the 12th IOHA International Scientific Conference a virtual conference to ensure the safety of attendees. The conference will offer high-quality scientific and technical content, as well as a wide range of current topics in occupational hygiene (OH) fields, including the roles and experiences of the OH professional during the COVID-19 pandemic. The conference will bring many professionals together from the fields of OH, exposure science, toxicology, ergonomics, epidemiology, occupational medicine and health, and risk management. Professional development courses (PDCs) for continuing education, keynote speeches from nine distinguished professionals, 40+ symposia conveying various critical topics, special lectures on emerging topics by invited lecturers, and many papers and posters from international OH experts, will be on the programme.

There is still time to submit your presentation proposals as 28 February 2021 is the deadline for PDC, symposium, and special lecture proposals. The deadline for podium and poster proposals is 31 March 2021. Don't forget to register early and save! The IOHA 2021 advance rate registration closes on 31 May 2021. Attendees can save approximately 20% on standard registration. Visit the conference website for more details, proposal submissions, and online registration: www.ioha2021.org.

AIHA announcements

Sue Marchese
e-mail: smarchese@aiha.org

The AIHA announces hybrid on-site and virtual AIHce EXP 2021 conference event

The American Industrial Hygiene Association (AIHA) has announced that the annual American Industrial Hygiene Conference and Exposition (AIHce EXP) will take place on 24-26 May 2021 in Dallas, Texas, as a hybrid on-site and virtual event. Those willing and able to travel can attend events in person at the Kay Bailey Hutchison Convention Center, under heightened safety protocols. Those unable to travel to attend the conference in person can attend an entirely virtual conference that will be held concurrently. Full registration for the combined on-site and virtual, or wholly virtual, experience includes access to session recordings on AIHce OnDemand, six-to-eight weeks after the conference. Register today and take advantage of the advance rates. Group discounts are available for individuals from the same company registering for either the in-person or the virtual AIHce EXP. To learn more, visit Group Registration Rates.

Occupational and environmental health experts urge business owners to implement AIHA COVID-19 guidelines as new virus strain emerges

While business owners and consumers closely watch how the new, more readily-transmittable variant of SARS-CoV-2 develops, the occupational environmental health and safety (OEHS) profession is urging business owners, schools and other organisations to continue implementing practical science-based guidelines developed by the AIHA. The comprehensive Back to Work Safely guidelines for small to mid-size businesses in 26 industry sectors provide recommendations on personal protective equipment (PPE), engineering controls, enhanced cleaning and disinfection, personal hygiene, and physical distancing. All guidelines are available in both English and Spanish. The AIHA has also issued guidelines addressing COVID-19-related topics, including engineering controls, and cleaning and disinfection in non-healthcare settings (all of which are also in both English and Spanish).

The AIHA offers major discounts on education products for IH/OH professionals in developing economies

To expand awareness and promote the importance of industrial/occupational hygiene (IH/OH) education across the globe, the AIHA offers digital versions of a series of PDF publications and e-learning courses at discounted prices, including the AIHA 'White Book', the *Noise Manual*, the 'Basic Principles of Occupational Hygiene' e-course, and many more. Use the discount code 'DEVNAT' to take advantage of this offer. Please note that the publications and e-learning courses are in English only.

AGSSO statement of worker rights

Pablo Enrique Domínguez Ortiz
e-mail: pa3blo@gmail.com

From the beginning, man has adapted to environmental variations, climates, and social conditions, including hazardous exposures created in workplaces. The right to health is not only the absence of disease but, in an integral way, also a state of physical, mental and social wellbeing, as established by the World Health Organization (WHO). Safe and healthy work is linked to the dignity, equity and equality of the person. In this sense, prevention measures are aimed at minimising exposure to occupational hazards. Therefore, it is important to adopt a preventive, coherent and comprehensive approach to worker health and safety that informs all aspects of organisational operations, including policies, guidelines, processes, roles and responsibilities. The health of workers constitutes a fundamental requirement for the economic success of a country. A healthy workforce is one of the most significant attributes of productivity. As a consequence, safe and healthy work has, as its primary function, the protection of individual health and wellbeing.

We conclude that "Occupational Health and Safety is a fundamental right of all workers".

The Breathe Freely campaign – a BOHS initiative to reduce occupational lung disease

Kevin Bampton
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Despite decades of legislation and technical innovation, the United Kingdom (UK), like many other countries, continues to see no great diminution in the effects of occupational exposure to respiratory threats in recent years. Figures released late last year from the regulator, the Health and Safety Executive (HSE), confirm that, despite some improvement, deaths from respiratory disease still account for the majority of occupational-linked fatalities the UK. An estimated 12 000 people died from occupational lung disease in 2020, in comparison to 111 people who sadly died in workplace accidents. Indeed, some diseases (such as interstitial lung disease) are on the increase.

It is unlikely that this is exclusive to the UK. This is also likely to be one of the last sets of figures that provides a comparable statistical base for analysis of the impact of legislative and other interventions. This is because occupational respiratory illnesses are likely to be one of the major risk factors for poor outcomes in terms of COVID-19 infections. Looking at the global map for chronic respiratory mortality and the global map for COVID-19 deaths, there is a superficial correlation that might confirm this.

To put it bluntly, the global pandemic may have increased mortality among those who were exposed to respiratory hazards, but those deaths will be logged as COVID-19 deaths, rather than having arisen from occupational exposures. Much needs to be done to highlight that COVID-19 has almost certainly been rendered a more fatal virus because of occupational exposures. In the UK, the higher mortality among older males tracks the mortality rates arising from respiratory exposures.

Among survivors, 'long COVID' is likely to be the marker set for respiratory illness, rather than chronic illness arising from respiratory exposures in the workplace. In some senses, the statistical imperative to address occupational respiratory threats is likely to be one of the significant victims of the pandemic.

Talking to cancer specialists in the UK, it is clear that we do not dig deep enough to determine whether cancers and other respiratory illnesses are occupational in nature. Family doctors don't ask, medical records don't flag, and specialists only focus on causes when the illness is rare and there is a research imperative to find the cause. How, then, can we determine the effectiveness of measures to protect respiratory health? How can we promote, on a national and international basis, the priority that workplace respiratory protection requires?

It is in this context that discussions between members of the Australian Institute for Occupational Hygiene (AIOH) and the British Occupational Hygiene Society (BOHS) have been progressing around Breathe Freely websites.

Many will be aware that, five years ago, the BOHS launched an ambitious campaign with construction and, latterly, manufacturing to highlight occupational respiratory risks. The Breathe Freely campaign spawned a number of activities, events and materials, but also a website with tools, information and guidance to help industry directly

address the challenges of reducing harmful exposures (https://www.breathefreely.org.uk/). Over the years, there have been tens of thousands of visits to the website and downloads of content. In 2019, the BOHS agreed to freely share the content with the AIOH, which produced the wonderful Breathe Freely Australia website, https://www.breathefreelyaustralia.org.au/. The website contextualised the material to Australia and extended the content, presenting it in a slightly more accessible way. Subsequently, a site was co-developed by the New Zealand Occupational Hygiene Society (NZOHS) (https://www.breathefreely.co.nz/).

With each iteration, new content has been added and the site has been further developed. The value of extending the content of the Breathe Freely websites has been discussed by the BOHS and AIOH. Clearly, behind such an initiative lie the various complexities of issues, ranging from copyright protection to liability, and how and who assures that content is locally relevant. Nevertheless, both organisations can see huge value in sharing Breathe Freely's website content throughout the IOHA family. Obviously, translation may present huge opportunities to share English-language content further, despite any challenges.

We therefore welcome approaches from any occupational hygiene or industrial hygiene society that might think this is a useful way to develop a plan to present to the IOHA (and the BOHS and AIOH) boards, as the basis for collective global content-sharing to tackle this important issue. Please contact kevin.bampton@bohs.org if this is of interest to you.

The role of the occupational health nurse practitioner in the era of COVID-19

Sandra Muller: Treasurer and ExCo representative, SASOHN Western Cape
e-mail: sasohnwctreasurer@gmail.com

When the World Health Organization (WHO) recognised all nurses by declaring that 2020 would be the 'International Year of the Nurse and the Midwife' (YONM), the hope was expressed that the many roles that nurses play in global healthcare would be lauded. In the early days of the pandemic, a general outpouring of support from the public for healthcare workers was witnessed in many countries.

When COVID-19 took centre place on the world stage, the International Council of Nurses noted that "It could not be more timely that the World Health Organization designated 2020 as the International Year of the Nurse and Midwife", and that "the courageous work of nurses and other healthcare workers in (the) face of coronavirus does honour to the YONM 2020 and the 200th anniversary of Florence Nightingale's birth".[1]

Nurses are fully aware of the many roles that they play in healthcare, in addressing not only healthcare, but also social, economic and emotional issues. This has been true of our efforts in dealing with the COVID-19 pandemic in South Africa where the employment sector has been adversely affected, resulting in devastating effects on individuals, families and communities.[2]

The psychological impact of the pandemic on healthcare workers has been addressed in multiple studies. In the midst of the second wave of infections, we need to consider the additional potential stressors on healthcare workers as a result of the effects of having contracted the infection, and/or the long hours that they continue to work to manage the pandemic.[3,4]

With specific reference to the occupational health nurse practitioner (OHNP), the entire country has come to appreciate the importance of safety and health at work, and no longer can the importance of the OHNP, as the custodian of the welfare of people at work, not be recognised. With the publication of the first Department of Employment and Labour guideline on workplace preparedness for COVID-19 on 22 March 2020,[5] risk assessment, workplace controls, safe work practices and other everyday health and safety terms have become part of the layperson's lexicon. During the COVID-19 pandemic, many people have come to understand and appreciate the importance of occupational health and safety, and OHNPs' opinions were sought, possibly for the first time.

When the 'hard lockdown' eased and people could start returning to work, the chair of the national occupational health task team on the COVID-19 epidemic, Dr Barry Kistnasamy (director of occupational health in the Department of Health), through Prof. Rajen Naidoo from the College of Health Sciences, University of KwaZulu-Natal, asked if it would be possible for the South African Society of Occupational Health Nursing Practitioners (SASOHN) and The South African Society of Occupational Medicine (SASOM) practitioners, nationally and provincially, to address the fact that the large majority of workers in South Africa do not have access to occupational health services themselves. The request was to develop a strategy that could be developed to mobilise members to provide occupational health services to the underserved workers. Prof. Naidoo continued that "We clearly need

new ways of thinking about how we practise our discipline and how we extend our services. We have state-of-the-art guidelines, but they are meaningless if not implemented by the skilled professionals" (R Naidoo, University of KwaZulu-Natal, personal communication 27 Apr 2020).

Occupational health professionals must not allow memories about the 'new normal' to fade once the state of disaster is lifted. Pressure should be applied to government and private enterprises for occupational health and safety to remain 'up where they belong' and for employers to accept that occupational health and safety procedures are an integral part of any company's daily operations.

The speed with which amendments have been made to legislation, e.g. the swift enaction of the Amendment to the COID Act to include COVID-19 as an occupational disease, shows that change does not have to be 'slow in coming'. The protection of the physical and mental health, wellbeing and safety of all people at work, including healthcare workers, from all hazards, including infection, should not be negotiable.

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SAIOH president's address

Hennie van der Westhuizen: SAIOH president
e-mail: president@saioh.co.za

Hennie van der Westhuizen holds an MSc Occupational Hygiene: University of Greenwich, and a PhD Environmental Health (Occupational Hygiene): Catholic University of Leuven and CPUT

Photograph: courtesy of SAIOH

In this newsletter

As the incoming president of SAIOH from January 2021, I stepped into the big shoes of Norman Khoza. Fortunately, Norman's personality and skills will not be lost to us as he will continue to serve on the SAIOH National Council in the position of the immediate past president. A change in the SAIOH constitution, which was ratified at the annual general meeting in 2020, now specifies a two-year term of office for presidents, from 2021. Therefore, my tenure, and those of my fellow Council members (see Table 1), will be for two years. I look forward to serving with them to focus our experience, knowledge, and skills towards growing and strengthening SAIOH, and serving our members and our profession.

COVID-19 negatively affected the attainment of some goals set for 2020 and the future remains uncertain. However, planning, backed by contingency planning, is being put into place to address the affected issues, such as marketing and the Annual National Conference. A face-to-face scientific conference is planned for October this year (in Cape Town) and, in addition, regional workshops/seminars are being considered. More information regarding these events will be disseminated through the course of the year.

Operational matters will be dealt with in the usual manner. The only difference is that there is a shift towards the electronic execution of activities, where possible. Matters on the horizon that require mentioning are the finalisation of the improved oral examination procedures and the fine-tuning of the quality management system.

Occupational hygiene is an integral part of the interdisciplinary specialist team in occupational health and safety (OHS), locally and internationally. SAIOH champions occupational hygiene and supports the combined OHS effort by honouring, liaising with, and entering into memorandums of agreement with bodies that represent the various disciplines. Credit needs to go to our members, as their professional conduct puts the stamp on the principles that SAIOH advocates.

Throughout all our operations, the administrative staff are key to the success of our endeavours. We thank and honour them for their integrity, loyalty, and dedication.

As we venture into the new year, with as many possibilities as there are challenges, I know that we, as the occupational hygiene community, will persist and strive to protect our fellow workers and communities.

Table 1. SAIOH National Council and key management, 2021

Title	Name	Portfolio position	Email address
Dr	Hennie van der Westhuizen	President	Hennievdwest@gmail.com
Mr	Norman Khoza	Past president	NormanK@nepad.org
Ms	Naadiya Nadasen	Vice president	naadiya@apexenviro.co.za
Ms	Karen du Preez	PCC chair	KarenD@nioh.ac.za
Mr	Andrew Dickson	PCC vice chair	andrewd@geoenv.co.za
Mr	Nico Potgieter	Council member (marketing and communications)	n.potgieter@dundeeprecious.com
Mr	Deon Swanepoel	Council member (technical)	deon@d-oh.co.za
Mr	Moses Mokone	Council member (branches)	MosesM@nioh.ac.za
Prof.	Cas Badenhorst	Co-opted member	cas.badenhorst@angloamerican.com
Mr	Jaco Pieterse	Co-opted member	Jaco.Pieterse@gijima.com
Mr	Deon Jansen van Vuuren	General manager	deon.jvvuuren@gmail.com
Ms	Kate Smart	Chief administrative officer	info@saioh.co.za
Ms	Lee Doolan	PCC administrator	lee@saioh.co.za

SAIOH STRATEGY

Nico Potgieter: SAIOH marketing and communication
e-mail: n.potgieter@dundeeprecious.com

Following the SAIOH Council's strategic workshops and input from members, we look forward to implementing the short-/medium-term strategy. Strategic objectives include:

- to maintain and ensure SAIOH's relevance in creating workplaces free of health risks, in the African context;
- to embrace the application and use of 4IR and digital technologies in occupational hygiene practice;
- to preserve professionalism and ethical professional practice amongst occupational hygiene practitioners;
- to develop and build the SAIOH brand in the African context, locally and abroad;
- to contribute to improving training and continuous development of the occupational hygiene profession in the African context;
- to provide and maintain good governance and administrative practices within SAIOH.

SAIOH ACTIVITIES

Nico Potgieter: SAIOH marketing and communication
e-mail: n.potgieter@dundeeprecious.com
Kate Smart: SAIOH chief administrative officer
e-mail: info@saioh.co.za

SAIOH webinars and conferences

Based on the successful webinars in 2020, SAIOH will again host webinars on topical and technical aspects during 2021. Dates and topics will be communicated to members, using the relevant platforms. Members can look forward to virtual mini-conferences this year, which will be hosted by the various SAIOH branches. Keep an eye open for communications from SAIOH or your branch chair. COVID-19 permitting, SAIOH will host its annual scientific conference from 26 to 29 October 2021, in Cape Town. Venues, topics, and presenters will be confirmed as arrangements are made and will be communicated to our members. We wish the organising committee well in this endeavour!

We welcome inputs

The SAIOH Council invites ideas and suggestions on topics for the upcoming webinars, regional conference, and annual conference. If you have any suggestions or contributions in this regard, please e-mail them to our president at president@saioh.co.za or to the chief administrative officer at info@saioh.co.za.

Council activities

Council members are eager to start their work with renewed energy, following the holiday period. Please refer to important SAIOH Council and Management Board dates in Table 2.

For 2021, some of the following key initiatives will be driven:

- ethics training and awareness webinars;
- more position and technical papers;
- revamping of the SAIOH website to make it more interactive; and
- marketing of SAIOH and occupational hygiene to schools and universities.

Table 2. SAIOH National Council and Management Board meetings, 2021

Date	Meeting
28 January	SAIOH Management Board meeting
11 February	SAIOH strategy meeting
19 February	SAIOH Council meeting
15 March	SAIOH Management Board meeting
12 April	SAIOH Management Board meeting
07 May	SAIOH Council meeting
07 June	SAIOH Management Board meeting
26 July	SAIOH Management Board meeting
20 August	SAIOH Council meeting
13 September	SAIOH Management Board meeting
4 October	SAIOH Management Board meeting
8 November	SAIOH Management Board meeting
30 November	SAIOH Council meeting

SAIOH will continue liaising with its sister organisations, governmental departments, and other key stakeholders to further the occupational hygiene profession. SAIOH will furthermore continue to explore novel ways, and improve existing means, to add value to its members.

Make your mark

The SAIOH Council invites topics from its members, and the establishment of working groups for technical papers. If you have any suggestions or contributions in this regard, please e-mail them to our president at president@saioh.co.za or to the chief administrative officer at info@saioh.co.za.

The SAIOH fees for 2021, by category, are listed in Table 3.

FROM THE PROFESSIONAL CERTIFICATION COMMITTEE (PCC)

Lee Doolan: SAIOH PCC administrator
e-mail: lee@saioh.co.za

SAIOH PCC registration assessment and meeting dates, 2021

We urge all prospective members, as well as current members wishing to attain certification at the next level, to familiarise themselves with the assessment dates in Table 4. For all assessment matters, please visit the SAIOH website (www.saioh.co.za) or contact Lee Doolan, PCC administrator, at lee@saioh.co.za.

The 2021 certification assessment and PCC meeting dates are also available on the SAIOH website (www.saioh.co.za), or on request from the PCC administration.

ASSESSMENT OUTCOMES, 2020

Deon Jansen van Vuuren: SAIOH general manager
e-mail: deon.jvvuuren@gmail.com

The PCC completed three certification assessments in 2020. After the first quarter's written assessments, using SAIOH facilities, the final two written assessment sessions were completed online. All oral assessments were held via virtual platforms. In 2021, all assessments will be

Table 3. SAIOH assessment, membership, and other fees, 2021

SAIOH Fees	Excluding VAT	Including VAT
Membership		
Certified member	1 832.30	2 107.15
Non-certified member	1 099.38	1 264.29
Pro rata: July–Dec 2021	916.15	1 053.57
Pro rata: Nov–Dec 2021	305.38	351.19
Organisational member	3 118.50	3 586.28
RTP		
Application	1 969.23	2 264.62
Renewal	623.70	717.26
W201 course: assessment	924.00	1 062.60
Certification		
Application fee	383.91	441.49
Assessment fee: OH assistant (W201)	924.00	1 062.60
Assessment fee: technologist/hygienist	1 050.20	1 207.73
Student application and assessment	661.31	760.51
Re-mark/one-on-one review	668.62	768.91
Advertising		
SAIOH e-mail system*	374.15	430.27

** for advertisements/notifications sent via the SAIOH e-mail system*

RTP: recognised training provider; W201: Fundamentals of Occupational Hygiene module

Table 4. Important PCC dates, 2021

	Payment deadline		
Assessment/ Meeting	**Applications and evaluations**	**Assessments**	**Assessment date**
Written assessment	29 January	19 February	12 March
PCC ExCo meeting	26 March		
PCC meeting/oral assessment	23 April		
Written assessment	14 May	04 June	25 June
PCC ExCo meeting	02 July		
PCC meeting/oral assessment	30 July		
Written assessment	06 August	27 August	17 September
PCC ExCo meeting	01 October		
PCC meeting/oral assessment	15 October		
Written assessment (universities)	1–30 November		

online until conditions allow otherwise. A lot of time and energy was spent on developing the online electronic written assessments, including ironing out some glitches, and making access and usage easier. The team working on the new oral assessment formats is making progress and should reach the halfway mark early in 2021.

2020 assessment statistics

The number of written assessments for registered occupational hygiene assistants (ROHAs) was exceptionally low for 2020, down 40% from 2019. However, the numbers of assessments for registered occupational hygiene technologists (ROHTs) and registered occupational hygienists (ROHs) were higher than in 2019. Regrettably, the ROH written and oral assessment pass rates were again low (lower than in 2019), but the ROHT written and oral assessment pass rates improved from 2019.

Table 5 summarises the results for written oral and final assessments. The column 'Oral assessment' results are also the final assessment outcomes, and these members will now be certified at the respective levels. The ROHAs do not do oral assessments, and the ROHTs and ROHs must pass the written assessment (65% and 70%, respectively) before being allowed to do the final/oral assessments (the same pass rates are required). All ROHA assessments now comprise of the Occupational Hygiene Training Association's (OHTA's) W201 (Fundamentals of Occupational Hygiene module) questionnaires.

We congratulate all our members who passed their assessments and wish them the best in their professional development journey! All the candidates who passed were certified and registered at the respective levels, as per the SAIOH PCC established processes. We encourage those who did not pass to persevere and to seek mentors through SAIOH's mentorship programme to assist them in their development. Lee Doolan, the PCC administrator, can be contacted in this regard.

Table 5. Written and oral assessment results, as of December 2020

Certification category	Written assessment					Oral assessment				
	Assessed n	Passed n	Failed n	Pass rate %		Assessed n	Passed n	Failed n	Pass rate %	
	2020				2019	2020				2019
Occupational hygiene assistant*	150	111	39	74	88	ROHAs do not do oral assessments				
Occupational hygiene technologist (ROHT)	49	31	18	63	58	41	27	14	66	58
Occupational hygienist (ROH)	45	15	30	33	54	16	12	4	75	88
Total	244	157	87	64	81	207	150	57	73	84

** includes members writing OHTA W201 exams through the RTPs (ROHA)*

OCCUPATIONAL HYGIENE SKILLS FORUM

Deon Jansen van Vuuren: SAIOH general manager
e-mail: deon.jvvuuren@gmail.com

The Occupational Hygiene Skills Forum (OHSF), a sub-committee of the PCC, was busy in the latter part of 2020. Activities included:

- developing the application (requirements and forms) and the evaluation (criteria and matrix) for training organisations that wish to become SAIOH recognised training providers (RTPs) in any occupational hygiene skill set or course; and
- developing criteria and formats for the evaluation of the tertiary institutions' occupational hygiene qualifications (meeting the PCC's 50% occupational hygiene content requirement).

As soon as the above activities are completed, they will be incorporated into the SAIOH quality management system (QMS) and be available on the SAIOH website (www.saioh.co.za).

HAVE YOUR SAY

The SAIOH Council invites and welcomes your feedback on how this communication is helping you as a SAIOH member, and what we can do to improve our service delivery. If you have any suggestions, inputs or contributions, please e-mail them to our president at President@saioh.co.za or to the chief administrative officer at info@saioh.co.za.

South African and ICOH presence at the 24th Annual Conference of the Society of Occupational Medicine of the Province of Buenos Aires, Argentina

Claudina Nogueira: Vice president for Scientific Committees of the International Commission on Occupational Health (ICOH), 2018–2022; project/data manager, University of Pretoria – Faculty of Health Sciences, Pretoria, South Africa; Board member of Workplace Health Without Borders (WHWB); Executive Committee (ExCo) member of The South African Society of Occupational Medicine (SASOM)
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Santiago Aldaz: Occupational health physician, Pontifical Catholic University of Argentina, Buenos Aires, Argentina; member of the Society of Occupational Medicine of the Province of Buenos Aires (*Sociedad de Medicina del Trabajo de la Provincia de Buenos Aires* – SMTBA); ICOH member
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24 Jornadas de Salud Ocupacional, the 24th Annual Conference of the Society of Occupational Medicine of the Province of Buenos Aires (*Sociedad de Medicina del Trabajo de la Provincia de Buenos Aires* – SMTBA) took place from 2 to 4 December 2020 at the Hotel Scala in Buenos Aires, Argentina. The conference, themed *Challenges and Opportunities of the New Normal*, offered its participants an excellent hybrid format programme that included a balanced mix of virtual and 'real place – real time' sessions and presentations, the majority of which were delivered in Spanish. Close to 100 presenters and a total of 552 delegates (537 national and 15 international) participated (virtually and on-site), representing Argentina, Brazil, Colombia, Costa Rica, Guatemala, Mexico, Paraguay, Peru, South Africa, Spain, and the United States of America.

This conference presented a challenge in terms of organisation and the call for participants. Throughout 2020, periodic virtual meetings were held with every organiser, coordinator and speaker, at both national and international levels. Work agendas had to be prepared, respecting the different time zone of each speaker, in order to manage and organise update sessions, debates, working groups and symposia.

'Five to tango' – 'Movers and shakers' at the conference included (L to R): Drs Sandra Gaviola, Maria Cristina Pantano, Claudia De Hoyos, Samanta Kameniecki and Plinio Calvento

It is important to note that the *24 Jornadas de Salud Ocupacional* conference was a pioneer event in terms of its virtual transmission in Argentina, since it was the first conference to offer a combination of face-to-face and virtual formats, convening more than 10 Spanish-, English- and Portuguese-speaking countries. Protocols were adhered to for those participants who attended the conference in person.

- The distance between chairs was 2 m (79 inches).
- Wearing of facial masks was mandatory.
- Gel alcohol was used as sanitiser.
- Changeable protective plastic covers were placed on microphones, with additional sanitisation with 70% alcohol.
- Maximum capacity was maintained at 30%.
- Temperatures were measured and recorded at the entrance of the hotel.

On a global level, SMTBA is an affiliate member of the International Commission on Occupational Health (ICOH) and a scientific advisory body of the International Labour Organization (ILO). Regionally, SMTBA is a member of the Latin American Association of Occupational Health (*Asociación Latinoamericana de Salud Ocupacional* – ALSO).

Founded in November of 1982, SMTBA arose from the interest of a group of 48 specialist doctors who were concerned with workers' health, and focused on three main objectives:

- to promote and maintain the health of people in relation to their work;
- to train specialists, teachers, researchers and leaders in the occupational health disciplines; and
- to provide support to occupational physicians across the country.

Today, SMTBA has approximately 345 members and boasts prestigious scientific trajectory and educational programmes of academic excellence through its Departments of Teaching, and Research and Scholarships.

Since 1983, SMTBA has published a printed version of an occupational health journal in Spanish (*Salud Ocupacional*, 101 issues in total) coordinated by Prof. Dr Antonio Werner (ICOH honorary member) for members, partners and other interested parties. Due to various circumstances, the publication was discontinued in 2012, which left a gap in the Society's offerings to its members and partner organisations. During the conference, as a product of continuous improvement, and following the path of technological innovation, SMTBA was proud to officially launch the first issue of the journal in digital format; it can now be accessed via the SMTBA website: https://smtba.org.ar/wp-content/uploads/2020/11/Revista-SMTBA-001-Nov.pdf. Fittingly, this first digital issue (November 2020) was dedicated to COVID-19 and its impact on work and medicine.

The following pre-conference events were held on 2 December:

- Workshop on applied biomechanics for the assessment of injuries
- Workshop on spirometry and respiratory function tests in industry, organised by Dr Jorge Morales Camino (president of the ICOH2012 Congress in Cancun, Mexico)
- Symposium on absenteeism

The opening ceremony of the conference took place on the evening of 2 December. Official welcome messages were delivered by Dr Plinio Calvento (president elect of SMTBA and president of the conference), Dr Viviana Gómez-Sánchez (president of ALSO), Dr Nicolás Santoro (immediate past president of SMTBA), Ms Maria Cristina Etala (advisor to the under-secretary of Labour of the City of Buenos Aires), Dr Claudia de Hoyos (current ICOH national secretary for Argentina), and Dr Maria Cristina Pantano (past ICOH national secretary for Argentina). During the ceremony, an award was bestowed on Dr Nicolás Santoro, in recognition of his trajectory in the SMTBA as president from 2017 to 2020 and his contributions in the areas of occupational health and safety management, and preventive medicine, in Argentina.

Dr Viviana Gómez-Sánchez (Costa Rica), president of ALSO, was invited by the organisers to deliver the virtual keynote address at the opening ceremony. Her presentation, titled 'The role of the occupational physician in the era of the COVID-19 pandemic', included the following elements: the meaning of occupational medicine, work safety, occupational wellbeing, basic indicators and health trends in America in 2019; the Pan American Health Organization (PAHO) Plan of Action on Workers' Health 2015–2025; the role of professional associations and the objectives of ALSO during the COVID-19 pandemic; and final thoughts for occupational medicine professionals in the time of COVID-19.

The following sessions were presented on Day 1 of the conference, 3 December:

- Symposium – Occupational cancer
- Forum – The 'new normal'
- Special session – COVID-19 and the 'new normal' in Latin America
- Update session – Technological innovation in health
- Update session – 'Digital health'
- Roundtable – Leading companies: management in the 'new normal'
- Symposium – Gender and COVID-19

The following offerings were delivered on Day 2 of the conference, 4 December:

- Expert panel – Alcohol and drug prevention programmes: results and opportunities
- Special session – Research presentations by post-graduate students registered for the occupational medicine specialty (SMTBA-UCA [Pontifical Catholic University of Argentina]), organised by Prof. Dr Claudio Taboadela (past ICOH Board member). This session included presentations of a very high academic standard in the following topics:
    - Coronavirus and occupational health risk assessment
    - Exposure to ionising radiation due to the use of fluoroscopy in surgery
    - Chloracne: a disease of the past?
    - Use of the p53 genetic test in the pre-employment medical examination
    - Cosmic radiation exposure in flight crews
    - Toluene: implications of use on the health of restorers of easel paintings and polychromes

'Coordinator of note' – Dr Santiago Aldaz (Argentina) strikes a pose at one of the conference sessions that he facilitated

'Busy body' – Prof. Dr Claudio Taboadela (Argentina) organised and chaired various sessions at the conference, including the special session of research presentations by post-graduate students registered for the occupational medicine specialty (SMTBA-UCA)

- Symposium – Technological breakthroughs in the workplace
- Roundtable – The COVID-19 pandemic and mental health
- Working groups, followed by presentation of conclusions:
    - o Professional certification and re-certification
    - o Medical fees
    - o New occupational diseases that are not listed
    - o Systematic team work in occupational health
    - o Application of computerisation and communication technologies to daily work tasks
- Symposium – Health, safety and environment: roles and challenges
- Forum – Update on health examinations in the 'new normal'

Ms Claudina Nogueira, ICOH vice president for Scientific Committees and SASOM ExCo member, was invited by the organisers to deliver the closing address, titled 'Challenges and opportunities of occupational health in the 'new normal". Her virtual presentation, preceded by a video recording with an introductory message in Spanish, included an overview of occupational infectious diseases, a discussion on how occupational health has been affected by the COVID-19 pandemic, lessons learned from COVID-19 that will impact occupational health, and some proposals for the future of occupational health, post-pandemic. Her presentation was coordinated by Dr Santiago Aldaz and translated into Spanish by Prof. Dr Claudio Taboadela.

In closing, the 'new normal' ways of living and working that are direct results of the ongoing global COVID-19 pandemic have shown us, throughout most of the past year, that never has it been more important to collaborate and share learnings. This Buenos Aires conference, *24 Jornadas de Salud Ocupacional*, was an excellent example of a united front in collaboration and sharing of lessons learned, knowledge and experience. Congratulations and heartfelt thanks are extended to all the organisers, presenters and, especially, participants for making it all possible. In addition, this conference brought together a number of developing nations, including Argentina and South Africa, to debate common concerns that we all face in public and occupational health, as well as various country scenarios, particularly related to the COVID-19 pandemic. There is added value in sharing experiences and lessons learned, and this advantage transcends borders and the fact that different languages are spoken in the participating countries.

'Across the miles' – Ms Claudina Nogueira (South Africa) delivered the conference closing address virtually, titled 'Challenges and opportunities of occupational health in the 'new normal"

CONGRATULATIONS AND CELEBRATIONS

The SASOM chair and members extend their hearty congratulations to long-time SASOM member and friend, Dr Spo Kgalamono, on her concurrent appointments from 1 January 2021, viz. executive director of the South African National Institute for Occupational Health (NIOH) and chair of occupational health at the Wits School of Public Health. SASOM looks forward to continued fruitful collaborations with both the NIOH and the Wits School of Public Health, under Dr Kgalamono's leadership. Well deserved, Spo – we wish you every success for these paramount roles in promoting and developing occupational health in South and southern Africa!

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*Photographs and approval for the use of conference and Society logos: Courtesy of the Society of Occupational Medicine of the Province of Buenos Aires (*Sociedad de Medicina del Trabajo de la Provincia de Buenos Aires – *SMTBA), Argentina*

The COVID-19 vaccine roll-out in the mining sector

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BACKGROUND

South Africa is the country that is most affected by the COVID-19 pandemic on the continent, having recorded 1 470 516 cases and 45 092 deaths by 6 February 2021. This accounts for 40% of cases and 48.6% of deaths on the African continent.[1] The country, however, took time to secure any bilateral agreements with vaccine companies. By September 2020, wealthy nations had secured 2 billion doses of COVID-19 vaccines through advanced purchase agreements (APAs), which are legally-binding bilateral agreements between countries and companies.[2] Although the country delayed getting into bilateral agreements with the vaccine producers, it has managed to secure a supply of vaccines.

The availability of the vaccines does not translate to vaccination, and this article explores the preparedness of the South African mining industry to participate in the roll-out of the COVID-19 vaccine.

RATIONALE FOR A VACCINE FOR COVID-19

SARS-CoV-2, the virus that causes COVID-19, was isolated early in January 2020, but it has reverberated around the world, leading to a need to find a vaccine if its path of destruction is to be stopped. The disease has led to much morbidity and mortality, major disruptions to economies, and second waves that have been more severe than the first waves experienced in the northern hemisphere winter in January to March 2020. South Africa was no exception; average weekly cases during the peak of the second wave in January 2021 were higher than those reached during the peak of the first wave in July 2020.[3]

By early February 2021, the pandemic had led to 106 million cases and 2.3 million deaths around the world. This is the largest outbreak of a rapidly transmissible respiratory viral infection since the biggest influenza pandemic in 1918–1919, which killed an estimated 50 million people worldwide. To provide context, influenza now kills 389 000 people a year[4] and tuberculosis killed 1.4 million people in 2019.[5]

It is estimated that 40–60 million people will be pushed into extreme poverty because of the economic shocks from COVID-19, and that about 1.6 billion informal workers lost 60% of their income, with little to no savings and no access to social protection.[6] Several countries, including South Africa, have had to institute lockdowns and severely restrict economic activity in many sectors, as well as control movement of people.

Vaccination and achieving herd immunity are seen as a viable method of getting back to normal life and economic activity.

SOUTH AFRICAN VACCINE ROLL-OUT PLAN

Due to global shortages of the COVID-19 vaccine, all vaccine manufacturers are dealing with governments only through bilateral agreements. This has meant that the private sector cannot procure its own stocks of vaccine. The South African Government has formed a collaboration with Business Unity South Africa (BUSA) on how business can play a significant role in ensuring that around 67% of the South African population is vaccinated by the end of 2021. Government will be the sole procurer for the vaccine, and the private sector will assist in ensuring vaccination. The vaccination process has been phased, as indicated in Figure 1.

Compared to other high- and middle-income countries, South Africa was late in securing vaccine stocks. The first lot of vaccines comprised 1.5 million doses of the AstraZeneca vaccine secured through the Serum Institute in India. The first 1 million doses arrived in South Africa on 1 February 2021. Through the COVAX initiative, driven by the World Health Organization (WHO) to ensure access to the vaccine for lower-income countries, the country expects another batch of vaccines by the second quarter of 2021, to cover 10% of the population.[7] The South African Government plans to purchase further vaccine doses from other pharmaceutical companies to cover 67% of the population by the end of 2021. The exact vaccines used in the roll-out will be highly influenced by their efficacy against the South African variant 501Y.V2. Many of the vaccines are undergoing tests specific to the variant.

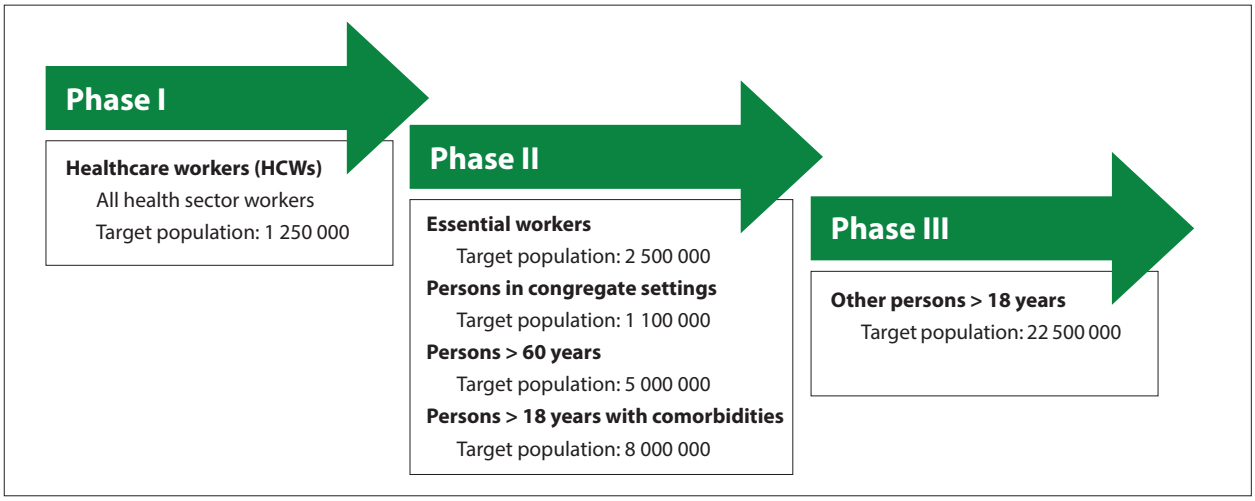

Figure 1. Phased approach to vaccination in South Africa *(source: National Department of Health, 7 January 2021)*

Both public and private providers will play a part in vaccinating the population. Medical aid companies will pay for the vaccination of their approximately 7 million members and dependents, and have committed to pay for 7 million other non-insured members of the public.[8] The Council for Medical Schemes has changed regulations to include the COVID-19 vaccine under prescribed minimum benefits. The remainder of the private sector will contribute through permutations that include purchasing vaccines for their employees who are not insured, vaccinating their employees, vaccinating dependents and community members, and contributing to the Solidarity Fund or in kind.

The vaccination programme will rely on support from the Electronic Vaccine Data System, which will manage the accreditation of facilities, supply of vaccines, pre-booking, and recording of the vaccines administered.

COVID-19 IN THE MINING INDUSTRY

The impact of COVID-19 on the mining sector mirrored that of South Africa. By 5 February 2021, the sector had recorded 28 198 cases with 307 deaths among a population of 382 928 employees that was screened on a daily basis.[9] The trajectory of the epidemic clearly illustrates the second wave in January 2021, as seen in Figure 2.

Mining companies endeavour to implement the measures for combatting and controlling SARS-CoV-2 as set out in the Department of Mineral Resources and Energy's Guidelines for a mandatory Code of Practice on the Mitigation and Management of COVID-19 Outbreak. This starts with health promotion through education of employees. The preventive measures are:

- wearing of face masks, hygiene (hand washing, sanitisers), and social distancing, i.e. non-pharmaceutical interventions (NPIs);
- adequate ventilation;
- screening and testing; and
- quarantine.

Treatment for the disease includes isolation and medication. Despite these measures, as seen in Figure 2, the peak in daily cases seen in January 2021 was higher than that seen in July 2020, underscoring the need for the implementation of other measures to control the disease, such as vaccination.

MINING INDUSTRY VACCINE ROLL-OUT PLAN

The South African mining industry is an integral part of the response by business in partnering with government on the vaccine roll-out. Similar to South Africa, the industry has approved an approach on prioritisation of individuals for vaccination. Other preparatory measures include the registration of health workers, which will be followed by all other employees; the registration of vaccination sites; and general readiness for the logistics of implementing a vaccination programme.

Prioritisation for vaccination

Companies have identified risk-ranked employees for vaccination (Table 1).

Preparedness

The COVID-19 vaccination campaign is a major undertaking for the country and the mining industry. A number of steps need to be in place for it to be successful, including:

1. provision of information and education to employees on the COVID-19 vaccine. This should be at company, Minerals Council, and Mine Health and Safety Council (MHSC) levels. Focus group discussions at all these levels might be required to inform employees about the facts regarding the vaccine and to dispel some of the prevalent myths about the vaccine;
2. education about informed consent for vaccination and ultimately securing consent from employees;
3. ensuring that adequate staff will be available for administration of the vaccine;

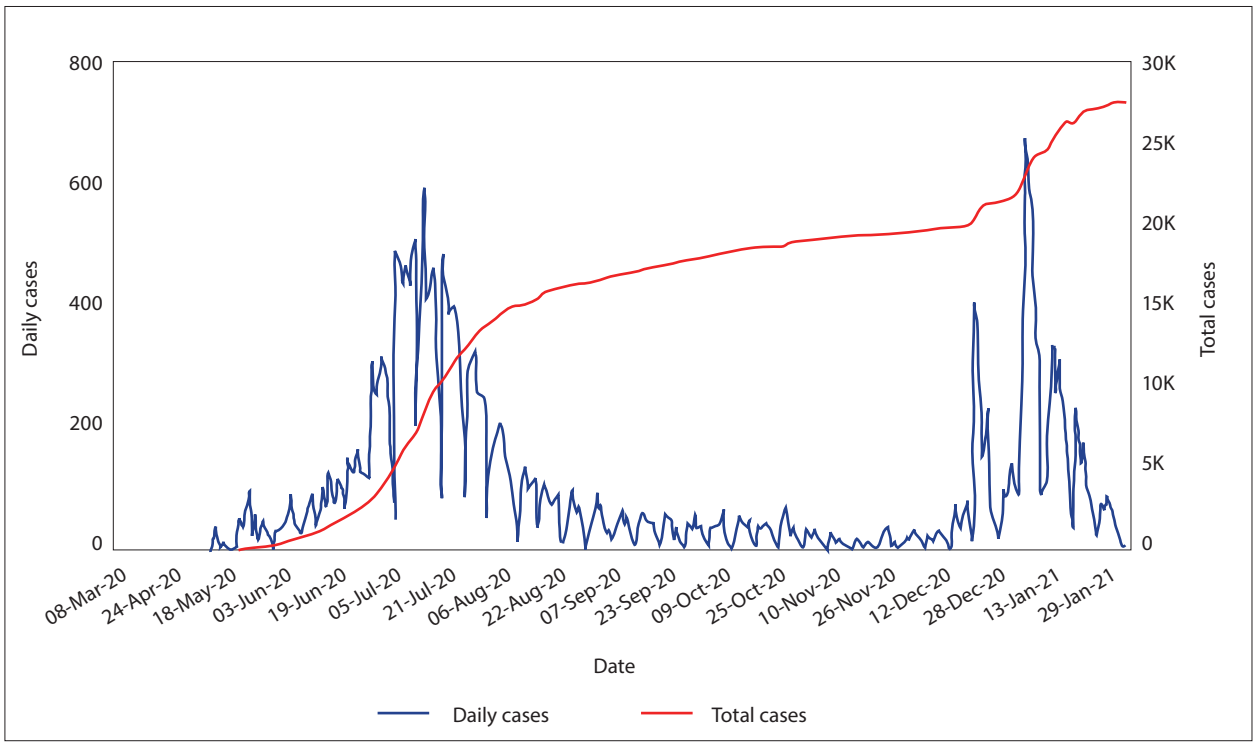

Figure 2. Daily and total cases of COVID-19 diagnosed, 2020–2021 *(source: Minerals Council South Africa, 2021)*

Table 1. Summary of the mining companies' prioritisation framework

Priority	Reason
Healthcare workers (HCWs)	HCWs are prioritised above all sections of the population as they are exposed to COVID-19 in the course of their work.
Working in gold sector	Research by the Minerals Council showed that workers in the gold sector had a mortality that was 2–2.7 times higher than that of the industry.
Age > 45 years; previous history of tuberculosis; impaired lung function	Research also showed that age > 45 years and previous history of tuberculosis or impaired lung function increased the risk of mortality.
Comorbidities as defined by the National Department of Health (NDOH)	The NDOH has a defined list of conditions that increase the risk of mortality from COVID-19.
Occupations	The top 30 occupations with highest numbers of personnel that contract COVID-19 have been identified by the Minerals Council. The limitation of this analysis is the lack of denominators, and thus the rate calculation.

4. procurement of supplies for administering the vaccine to employees (and possibly dependents and communities);
5. categorising employees into those on medical aid and those who are not insured;
6. categorisation of health workers into four groups:
   Phase 1a: all patient-facing workers in hospitals and emergency medical services workers
   Phase 1b: all patient-facing workers in other healthcare facilities/establishments
   Phase 1c: all patient-facing workers working at community level
   Phase 1d: non-patient-facing workers in the health sector;
7. risk ranking and categorisation of all employees according to priority for vaccination;
8. readiness to report on vaccines administered, ensuring second doses are administered and reported on, and monitoring adverse side effects. This requires linking to the EVDS; and
9. consultations with district health officials on what coordination and support will be required to ensure access to vaccines and to vaccinate peri-mining communities.

It is not yet resolved how pregnant women and children younger than 16 years will be handled. Thus far, these groups are being excluded in most vaccination programmes.

CONCLUSION

The world is facing an unprecedented pandemic with devastating social and economic consequences. Vaccination offers a tool to break the cycle of transmission of SARS-CoV-2 and should be supported and utilised to gain maximum benefit. Vaccines are, however, not a panacea for breaking the back of the pandemic. Uncertainties about the effectiveness of the vaccines against the South African variant 501Y.V2 abound. The approach by the industry is that the variants could not have been foreseen and, if the vaccines are effective against severe disease, as most are, the vaccine programme is still well worth it.

The availability of vaccines will not mean that we drop the NPIs against the disease. For some time to come, it will be safer for individuals to continue to wear masks, wash hands, and practise social distancing. This will likely be the new norm for some years to come.

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100 YEARS 1920 - 2020

AMFAM

ASSOCIATION OF MINE FINANCIAL & ADMINISTRATIVE MANAGERS

"THE SECOND COVID-19 WAVE AND INDUSTRY'S RESPONSE"

WEBINAR

25 FEBRUARY 2021

TIME

09:00 - 11:00

MICROSOFT TEAMS

Upon RSVP of attendance, a link to the event will be sent to each member via a meeting request

Dr. T Balfour is a qualified medical doctor and public health medicine specialist with an MBA. She has a wealth of management experience that spans 20 years, 17 of which have been at a strategic level. She has gained experience in varied settings across the public and private sectors. Her key strengths lie in strategic leadership and analysis, advocacy and lobbying and stakeholder management.

Dr. T Balfour is the Head of the Health Department, at the Minerals Council South Africa. In addition she has served on several boards including the Medical University of Southern Africa, Department of Labour's Compensation Board and Department of Mineral Resource's Mine Health and Safety Committee. She currently serves on the board of an NGO, Vuyani Dance Theatre.

Dr. T Balfour is also a patron for Women in Mining South Africa (WIMSA).

RSVP before 23 February 2021

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