

## South African healthcare workers and COVID-19: A shared responsibility to protect a precious and limited resource

**To the Editor:** Healthcare workers (HCWs) in African countries face high risks of occupational exposure to many pathogens, including tuberculosis, measles, HIV and Ebola.<sup>[1,2]</sup> The novel coronavirus SARS-CoV-2 poses an arguably greater threat to African HCWs than any other infectious agent to date. Data from countries with established epidemics show that HCWs experience high rates of COVID-19 infection, morbidity and mortality. In the USA, 19% of COVID-19 cases whose occupational status was known were HCWs (9 282/49 000),<sup>[3]</sup> and >90 000 HCW COVID-19 infections were documented in 30 countries, with 260 deaths in nurses, by early May 2020.<sup>[4]</sup> In South Africa (SA), on 6 May, Minister Zweli Mkhize reported that 511 HCWs had tested positive for SARS-CoV-2 (7% of the national total), with nurses accounting for 53% of total HCW cases.<sup>[5]</sup>

The unprecedented risk posed to HCWs by COVID-19 is clearly acknowledged by all levels of the SA government. Nationally there have been commitments, both financially and administratively, to ensure procurement and local production of personal protective equipment (PPE) and transparent reporting of HCW COVID-19 infections. To varying degrees, administrative and engineering interventions to prevent COVID-19 infections and outbreaks have been implemented in SA healthcare facilities (Table 1). Despite the early phase of the pandemic and general availability of PPE, SA is already facing high rates of HCW COVID-19 infections and exposure events. This is a concerning development reflecting both widespread community transmission (with HCW infections) and the need to strengthen 'universal' prevention measures in healthcare facilities, e.g. physical distancing, mask-wearing, hand hygiene, and increased cleaning/disinfection of surfaces and equipment. HCWs should note that PPE is the last line of defence against occupationally acquired infections, and that adherence to universal prevention measures in healthcare

**Table 1. Primary infection prevention of COVID-19 in healthcare facilities**

### Administrative interventions

#### Visitors and patients

- Limit or restrict healthcare facility visitors and persons escorting patients
- Screen all patients for COVID-19 symptoms before entering the facility
- Triage patients with possible COVID-19 symptoms to a separate assessment area

#### Staff

- All staff to attend repeated training regarding COVID-19 risk reduction
- Ensure that agency staff or locums are familiar with the facility's COVID-19 policies
- Encourage all staff to receive influenza vaccination to reduce frequency of flu-like illnesses and absences
- All staff to do daily self-monitoring for COVID-19 symptoms using a form, an app or a buddy symptom check system
- Communicate the plan for staff to report possible COVID-19 symptoms to their line manager

#### In hospitals

- Restrict hospital admissions to essential stays only and de-escalate non-urgent admissions and elective procedures
- Admit PUIs and COVID-19-infected patients to dedicated isolation wards
- Implement a standardised COVID-19 symptom/exposure checklist for admissions
- Screen all hospital inpatients daily for COVID-19 signs and symptoms
- Avoid movement and transfers of patients and staff between wards
- Have a low threshold to isolate, reassess and test for SARS-CoV-2 if inpatients develop fever or respiratory symptoms
- Consider testing all new ICU admissions for SARS-CoV-2, or if capacity allows, consider testing all patients on admission

### Engineering interventions

- Ensure adequate natural or mechanical ventilation, especially in areas performing aerosol-generating procedures
- Create greater physical separation (spacing) between beds to reduce droplet contamination of adjacent surfaces
- Increase availability of alcohol hand rub at the point of care and ensure access to soap, water and hand towels
- Increase the frequency of surface and equipment cleaning and disinfection in the facility
- Provide dedicated areas for cleaning and disinfection of re-usable PPE, e.g. visors and goggles
- Implement strict physical distancing in the workplace, i.e. on ward rounds and in tea rooms, the cafeteria and staff meetings
- Keep medical notes outside the patient cubicle, paper notes in a plastic file, and prescription charts in plastic sleeves that can be wiped over with disinfectant

### PPE

#### Universal masking

- Require all outpatients and visitors to wear a non-medical (cloth) mask while inside the facility
- Require all inpatients with or without symptoms of acute respiratory infection to wear a medical mask
- Require all HCWs to wear medical masks in clinical areas and cloth masks in communal areas, e.g. tea rooms, cafeterias
- Require all administrative staff and support staff with limited patient contact to wear non-medical (cloth) masks

#### PPE policies and training

- Ensure that all staff are familiar with the facility's PPE policies
- Ensure a stable supply of adequate-quality PPE
- Provide ongoing training, PPE buddies to observe donning/doffing and visible reminders of how to use PPE safely

PUIs = persons under investigation; ICU = intensive care unit; PPE = personal protective equipment; HCW = healthcare worker.

facilities is critical, particularly in the light of presymptomatic COVID-19 transmission.<sup>[6]</sup>

From a workforce preservation perspective, all HCWs should practise physical distancing, universal masking and appropriate PPE use. These actions will not only prevent infection but also reduce the occurrence of high-risk COVID-19 exposure events that necessitate self-quarantine for 7 - 14 days. A reliable supply of PPE and HCW adherence to guidance for its safe use is just one aspect of the plan to safeguard HCWs during this pandemic. Implementing a comprehensive set of infection prevention measures in all SA healthcare settings is a shared responsibility, and is critical to protect the health and lives of our precious and limited national healthcare workforce.

**Funding.** AD and AS are supported by NIH Fogarty Emerging Global Leader Awards K43 TW010682 and TW010683.

**Conflicts of interest.** None.

#### Angela Dramowski

*Division of Paediatric Infectious Diseases, Department of Paediatrics and Child Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa*  
dramowski@sun.ac.za

#### Moleen Zunza

*Division of Epidemiology and Biostatistics, Department of Global Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Cape Town, South Africa*

#### Kopano Dube

*Ukwanda Centre for Rural Health, Department of Global Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Worcester, South Africa*

#### Mohammed Parker

*Ukwanda Centre for Rural Health, Department of Global Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Worcester, South Africa*

#### Amy Slogrove

*Ukwanda Centre for Rural Health, Department of Global Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Worcester, South Africa; and Department of Paediatrics and Child Health, Faculty of Medicine and Health Sciences, Stellenbosch University, Worcester, South Africa*

1. Alele FO, Franklin RC, Emeto TI, Leggat P. Occupational tuberculosis in healthcare workers in sub-Saharan Africa: A systematic review. *Arch Environ Occup Health* 2019;74(3):95-108. <https://doi.org/10.1080/19338244.2018.1461600>
2. Ngatu NR, Kayembe NJ, Phillips EK, et al. Epidemiology of ebolavirus disease (EVD) and occupational EVD in health care workers in sub-Saharan Africa: Need for strengthened public health preparedness. *J Epidemiol* 2017;27(10):455-461. <https://doi.org/10.1016/j.je.2016.09.010>
3. Centers for Disease Control and Prevention. Characteristics of health care personnel with COVID-19 – United States, February 12 - April 9, 2020. *MMWR Morb Mortal Wkly Rep* 2020;69(15):477-481. <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6915e6-H.pdf> (accessed 18 April 2020).
4. International Council of Nurses. International Council of Nurses calls for data on healthcare worker infection rates and deaths. Press release, 6 May 2020. <https://www.icn.ch/news/icn-calls-data-healthcare-worker-infection-rates-and-deaths> (accessed 12 May 2020).
5. Grobler R. Coronavirus: 511 healthworkers positive, 26 hospitalised and 2 have died – Zweli Mkhize. *News24*, 6 May 2020. <https://www.news24.com/SouthAfrica/News/coronavirus-511-health-workers-positive-26-hospitalised-and-2-have-died-zweli-mkhize-20200506> (accessed 12 May 2020).
6. Cheng HY, Jian SW, Liu DP, Ng TC, Huang WT, Lin HH; Taiwan COVID-19 Outbreak Investigation Team. Contact tracing assessment of COVID-19 transmission dynamics in Taiwan and risk at different exposure periods before and after symptom onset. *JAMA Intern Med* 2020 (epub 1 May 2020). <https://doi.org/10.1001/jamainternmed.2020.020>

*S Afr Med J. Published online 1 June 2020. <https://doi.org/10.7196/SAMJ.2020.v110i7.14903>*