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STATEMENT BY PROF TIAAN DE JAGER, CHAIR OF THE SOUTH AFRICAN COMMITTEE OF MEDICAL DEANS AND DEAN OF THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF PRETORIA

Compulsory COVID-19 vaccination recommended for all health sciences students and healthcare workers

PRETORIA – The South African Committee of Medical Deans (SACOMD) and the South African Committee of Dental Deans (SACODD) representing higher education institutions who educate the South African health workforce, recommend compulsory vaccination against the SARS-CoV-2 virus, which causes COVID-19, for all Health Sciences students as well as the general health workforce.

This will advance the efforts to curtail the spread of the virus among our communities and limit the impact it may have of significant disease. The further critical protection vaccination will afford is for dental healthcare workers and students exposed to high-level aerosol-generating procedures (AGPs).

We recognise the following scientific evidence, which has emerged during the pandemic globally:

- The COVID-19 death rate in South Africa is 401 per 100 000 population as of mid-August 2021, placing it at the time among the top 10 countries with the highest COVID-19 death rate globally.
- COVID-19 vaccines have maintained high effectiveness against severe COVID-19, despite mutations affecting the spike protein.
- COVID-19 vaccination is estimated to lower the risk of transmission by 2-2.8 fold.
- COVID-19 vaccination halves the risk of long COVID-19 (symptoms for >28 days), which can be debilitating and affect the productivity of individuals.
- The higher level of SARS-CoV-2 exposure, including exposure to higher viral load, contributes to healthcare workers (HCW) being more susceptible to becoming infected, and possibly more likely to develop symptomatic and severe COVID-19. Studies from South African health

facilities reported approximately 40% of HCWs were infected during the course of the first wave alone.

- The higher risk of HCWs being infected by SARS-CoV-2 also increases the risk of their family members being infected by the virus. Household transmission studies of secondary cases resulting from HCWs being infected by SARS-CoV-2 report a 48% to 79% reduction in secondary cases in unvaccinated members in those households where HCWs had been vaccinated against COVID-19 – with two doses of the Pfizer or AstraZeneca (AZ) vaccine – compared with where the index HCW cases were unvaccinated.

- HCWs may present additional risks to their patients as well as to the general households they come from, and their connected communities. COVID-19 vaccination of HCWs has the additional benefit of safeguarding healthcare services.

Historically, HCWs have been required as students to be vaccinated against the hepatitis B virus, albeit primarily for individual benefit in that case. The case for COVID-19 immunisation transcends individual benefit and has major benefits for the good of the broader health facility community, including fellow colleagues and patients whose lives are entrusted to the care of the HCW. As such, it is a moral imperative for HCWs to submit to vaccination against COVID-19, and for the best schedule of vaccine to be used to maximise protection not only against severe COVID-19, but also that which has the greatest likely impact in protecting against infection and mild-moderate COVID-19.

Our final recommendation is that all HCWs in South Africa who have already received a single dose of the non-replicating vector Johnson & Johnson (J&J) COVID-19 vaccine should receive a booster dose. The single-dose J&J vaccine among South African HCWs has been reported to reduce risk of hospitalisation and death by 74% and 97%, respectively.

However, data is unavailable of the J&J vaccine's effectiveness against infection and mild COVID-19; its efficacy is expected to be substantially lower than two doses of the Pfizer vaccine, which induces substantially higher concentrations of neutralising antibody than a single dose of J&J. A booster dose of J&J six months after vaccination has been shown to increase antibody levels nine-fold. Alternatively, a heterologous prime-boost approach with a boost of a messenger RNA vaccine – for which evidence for the AstraZeneca non-replicating vector vaccine (which induces similar antibody responses even after a single dose compared with the J&J vaccine) followed by a single dose of the Pfizer vaccine exists – could be considered. The AZ-Pfizer heterologous schedule induces similar to greater neutralising antibody and cell-mediated immune responses than two doses of either of the vaccines, and particularly compared with two doses of the AZ vaccine.

SACOMD and SACODD make an urgent appeal through this statement for the following actions:

1) All adults in South Africa must be vaccinated against COVID-19 as soon as possible.

2) COVID-19 vaccination should be compulsory for all HCWs, including those in training as health professions students in South Africa, also for the safety of patients and the general community.

3) There be serious consideration of booster doses for all HCWs in South Africa who already received a single dose of the non-replicating vector J&J COVID-19 vaccine.

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