

Development of a Country report on the measures implemented to combat the impact of COVID-19 in South Africa

Chapter 2: Government leadership, governance, institutional arrangements and state capacity in responding to COVID-19

Interview Prof Wolfgang Preiser, Head Division of Medical Virology,
Stellenbosch University/NHLS Tygerberg, Cape Town
Date: 19 October 2020 (14:00 – 15:15)

Questions sent to Prof Preiser:

- How do you generally view the medicine and health-related measures at national, provincial and local levels to slow down and reduce infections?
- Can you describe the lab testing strategies, including community testing developed over time since the beginning of the outbreak?
- How were the lab testing strategies developed? Were these adequate and efficient, and are adequate testing capacities available?
- How efficient was implementation of national guidelines at the provincial and local level?
- Have stakeholders outside of government, such as private hospitals and communities, been involved in the planning of virus testing strategies?
- Regarding the lab testing processes, what were the weaknesses in the supportive and intergovernmental structures, and how efficient was coordination with local government?
- Has there been any negative effect on other lab testing capabilities, such as HIV and TB?
- How do the outcomes of lab testing in South Africa compare with other countries?
- How efficient was the research cooperation in your field, both locally and internationally?
- Do you have any further comments or suggestions for this project?
- The process and impact of changes in testing strategy over time, and between provinces
- The process and outcome of public and private partnership in coping with testing demand.
- Views on the use of confirmed cases for surveillance purposes to inform the national response.
- Views on the whole debate around herd immunity in South Africa, and if the right decisions were made in relation to this.

The objectives of the interview had been explained to Prof Preiser in a previous phone conversation. Prof Preiser agreed to the recording of the discussion and the use of the agreed minutes in the context of the Covid-19 Country Report.

Prof Preiser disclosed that he is aware of the health situation, especially the SARS-CoV-2 laboratory developments, in Cape Town and the Western Cape in general, but has less knowledge about other provinces. He is member of the NHLS, and therefore his views may sometimes be biased.

In general, the WC performed well in the battle against the pandemic. This may partly be due to the fact that the increase of cases in SA occurred later than in other countries. However, the WC was the first province affected by the epidemic in a major way. The country therefore had the opportunity to learn from other experiences. This was done better than in countries such as Brazil or India. An example for a successful learning experience was the need for oxygen treatment and availability.

The regular (first weekly, then bi-weekly) meetings of the provincial (former name) Silver Command involving various role players, including private hospitals, airport staff etc., work well. Topics addressed include public health measures, capacity, testing, and targeting of risk patients (e.g. diabetics).

The experience from the current pandemic has triggered structural reforms and improvements which hopefully will remain in place thereafter. An example is the provision of medicines to patients without having to wait for hours in queues at the hospital pharmacy.

There have been unforeseen issues, such as the refusal of people to go into quarantine or isolation facilities, even though those were free of charge and comfortable.

The personal involvement of Karmani Chetty, CEO of the NHLS, was very helpful. Nevertheless, organisational confusion and deficiencies (long preceding the pandemic) posed problems.

The NICD testing capacity was soon overwhelmed, and the expanded community testing programme resulted in long turnaround times so that results were no longer useful. Consequence were lack of compliance of patients and risk of further spreading of the disease (Reference provided by Prof Preiser: Porter JD, Mash R, Preiser W. Turnaround times - the Achilles' heel of community screening and testing in Cape Town, South Africa: A short report. *Afr J Prim Health Care Fam Med.* 2020 Oct 2;12(1):e1-e3. doi: 10.4102/phcfm.v12i1.2624. PMID: 33054266; PMCID: PMC7564763.).

The programme therefore became ineffective. The WC subsequently excluded persons below the age of 55 and without risk factors from testing, to preserve laboratory capacity for those most in need, placing the focus on high-risk persons (e.g. diabetics).

“Abuse” of laboratory testing (e.g. requiring one or two negative results before returning to work) resulted in waste (of tests and worktime); examples are policemen who got tested repeatedly. This is although experts had recommended that it would be sufficient to remain in isolation for 10 days; thereafter, patients are not infectious anymore. Altogether, adoption and implementation of guidelines developed with expert advice was often problematic, especially by government institutions outside the Department of Health (examples are school opening, taxi operations). As regards biomedical matters, all government departments and institutions should follow NDoH guidelines to avoid needless confusion, wasteful expenditure

and implementing unnecessary or even harmful measures. Examples are the closure of institutions following a positive diagnosis among staff (unnecessary), requiring negative tests to return to work (superfluous, wastes tests and worktime), “spray tunnels” (useless and potentially harmful).

A major issue was the inadequacy of necessary supplies, such as swabs, test kits or reagents. Occasionally, even ethanol (required for certain assays) was not readily available. Lack of supplies affects both private and public laboratories in a similar fashion, and as a result, public and private laboratories compete for the same resources. Some of the supply problems persist until today.

Reasons are not always clear, but may include global shortages (as evidenced by reports from other countries), diversion to other world regions, discontinuation of international flights, as logistics issues (allegedly customs clearance operated erratically due to reduced hours and repeated shutdowns whenever a staff member had been diagnosed as infected). Problems with laboratory testing procedures occur because of the inherent difficulties, such as need for full PPE protection of persons taking the swabs, sample processing, and analytics. Sophisticated high-throughput assay machines require specific test kits many of which were not available in sufficient amounts, as well as competent staff and expert laboratory infrastructure. Flexibility of laboratory processes led by skilled staff helped in circumventing some of the problems. Similar problems have also been reported in other countries (e.g. Germany, USA).

Glenda Gray asked about the inadequate testing strategy and technical problems resulting in inadequate control of the situation. She also mentioned that the capacity in the private sector was much higher than in the public sector. The reproductive rate (R) achieved values below 1 only in July/August during lockdown stage 3, probably due to increased immunity at the local level. Another issue raised was the underestimated transmission in pregnant women.

Prof Preiser concurred with this assessment. An issue was that the NHLS had not expected the dire and prolonged lack of supplies for the assays for which they already had instrumentation. Generally, the testing strategy was developed on the basis of international benchmarking which was developed for a middle-class country environment. Instead, a context-specific testing strategy should be developed adapted for the South African conditions.

In the Western Cape, there was a high level of unmitigated transmission in highly populated communities and poor contact tracing. Social distancing worked better in affluent communities. The seroprevalence of SARS-CoV-2 in public sector patients in Cape Town Metropolitan sub-districts showed high community positivity rates ranging between 31% and 46%. In light of projections based on the herd immunity effect, these high levels of community infection are likely the main contributor to the decline of the COVID-19 epidemic in the Cape Town Metro (NICD Bulletin, Reference provided by Prof Preiser: NICD special public health surveillance bulletin, 28 Sept 2020: https://www.nicd.ac.za/wp-content/uploads/2020/09/COVID-19-Special-Public-Health-Surveillance-Bulletin_Issue-5.pdf). This community immunity effect was not intended by the decision makers, but “just happened”.

Similar to Covid-19, TB is transmitted by aerosols. Glenda Gray raised the issue that the number of TB diagnoses decreased since the beginning of the lockdown. In contrast, HIV viral load tests for monitoring of patients on ART are less affected, but still not back to pre-lockdown levels (CRAM survey). Especially pregnant women do not come to the clinic, because of fear of coronavirus infection. This effect of people staying away from health care out of fear of infection has also been observed in other countries.

Prof Preiser reported that the decrease in new TB or HIV diagnoses is not due to laboratory testing limitations, since resources used for SARS-CoV-2 testing are different from TB or HIV tests. The reason therefore is the decrease in the number of patients visiting the clinics.

Prof Preiser addressed the poor decisions for shutting down laboratories when staff got infected which caused worries, fear and panic among the other lab staff. The close-down, however, caused much harm by interrupting business continuity and achieved no benefit. As experience was gathered, such unnecessary and harmful measures were avoided and the handling of cases became much better.

System failures included a lack of preparedness for a pandemic and low interest in innovative interventions, checking and tracing methods (such as apps).

Negotiations with private hospitals to give access to public sector patients took quite some time, and in the end it was not necessary. However, it was prudent to prepare for the eventuality, and these discussions provided valuable lessons for future public-private interactions.

Coordination of laboratory structures is sometimes not good, and available expertise is not used efficiently. For example, the NHLS has been tasked with providing rapid antigen testing for incoming passengers at airports, but this is against WHO recommendations and the provincial structures were not informed about what to do in case of a positive outcome (quarantine of other passengers?, etc.).

International research cooperation has worked well using the existing excellent research infrastructure in South Africa. Problematic were the sometimes long approval times for studies which had been pre-approved in other regions. This has wasted time, and approval for several projects has come too late. This structural issue should be addressed.

Time was lost unnecessarily after unqualified or even mischievous comments on investigational drugs (such as chloroquine) (W. Preiser and R. Preiser, Academic publishing in pandemic times. SAJS 116 (9/10), 2020. <https://doi.org/10.17159/sajs.2020/8803>).

Glenda Gray mentioned the total number of excess deaths estimated by the MRC. Some people die undiagnosed at home in poor communities and therefore are not included in the statistics. Under the assumption that about one third of these cases are due to Covid-19, the estimated total number of deaths is about 65-83 per 100,000 population. This is similar to some first-world countries (USA, 68; UK, 67 deaths per 100,000 population). The argument that mortality from Covid-19 is rather low in South Africa is therefore flawed.

Mortality statistics has revealed that special risk populations include undiagnosed patients with diabetes or cardiovascular diseases.

Post-meeting comment (W Preiser):

Even though NIOH (<https://www.nioh.ac.za/>) is part of the NHLS and has published numerous documents for guidance etc., the NHLS's own structures (as far as I can tell from my own interactions here in the Western Cape province) were rather hapless and took a long time to meet the needs in terms of guidance, protocols, equipment etc. As an example, there was a hysterical emphasis on the risk emanating from laboratory specimens (which is extremely low if standard precautions as per usual SOPs are followed), whereas the real risks, namely infection through contact with fellow staff, were totally neglected. This is how cases and outbreaks occurred in diagnostic laboratories, as they did in other settings that continued operations during the lockdown.

Once "social" distancing measures had been instituted and ongoing symptom checks etc were performed, this risk diminished remarkably. In a medical setting one would have wished for a much more proactive and informed approach, seeing that the necessary expertise to guide such a rational response is readily available "in house".

We had to come up with our own solutions, did staff training, set up hand disinfections stations, put up posters and signs, re-arranged workplaces and (important!) tea rooms etc. and continuously monitored all staff. In this way sporadic cases continued to occur among staff (who were of course exposed in their families and communities like everyone else, too – so cases as such are not a problem, the potential for their transmission at the workplace is), but there were no more significant exposures at work which pose a risk to employees but also disrupt any business affected.

Reading about police stations, clinics, offices etc shut down for days or longer following cases there indicates a lack of appropriate guidance and leadership. The common requirement for staff "testing negative" after they had Covid-19 to resume work and for "fumigation" or even "spray tunnels" speaks of lack of insight and not being led by evidence as available to the NDoH, e.g. through the MAC.

These notes from the interview were approved by Prof Preiser on 27 October 2020.