



Preparing the Workplace for Coronavirus

“GPs and Dentists” PPE use & Respirator fit testing

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NHLS

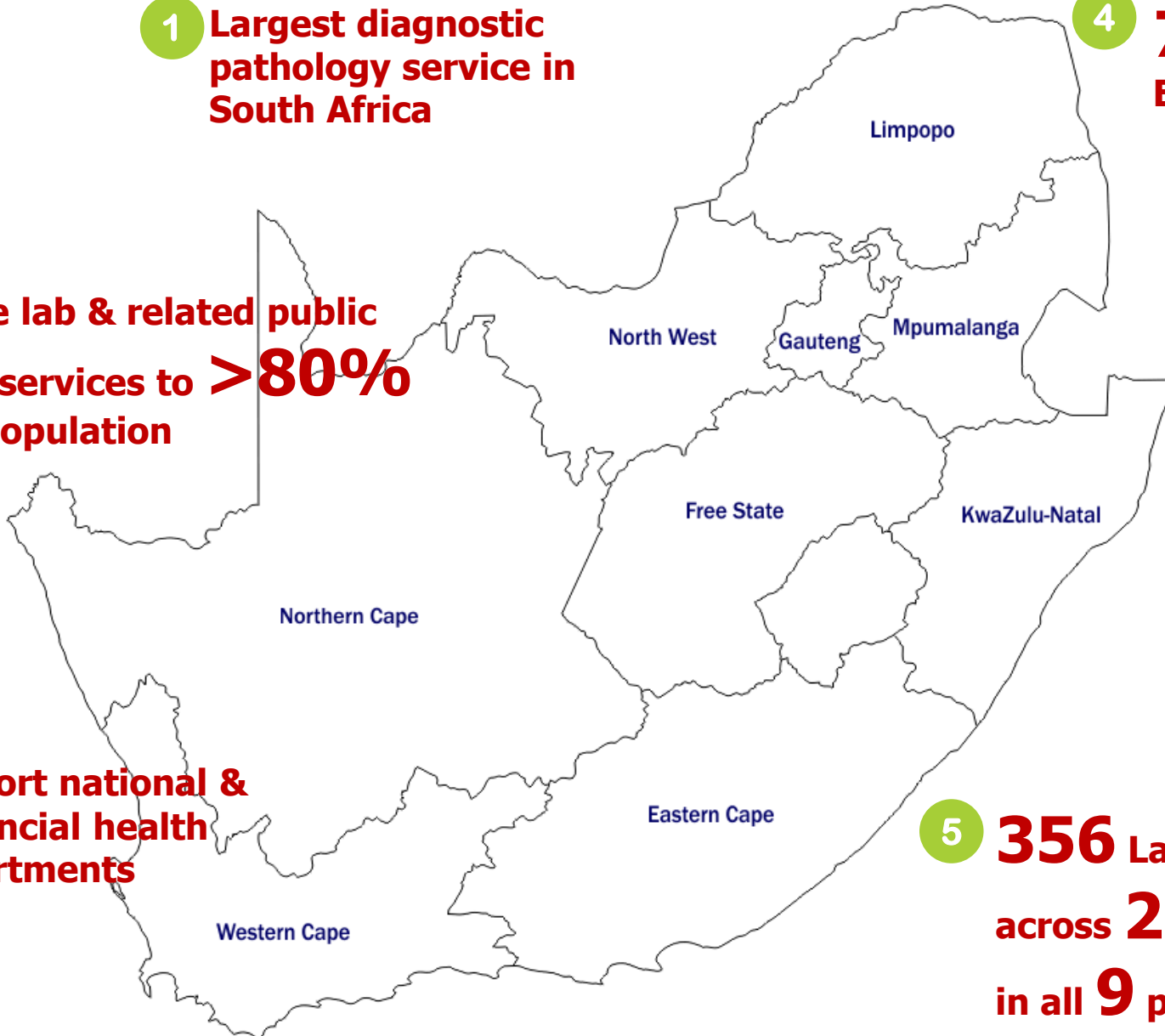
1 Largest diagnostic pathology service in South Africa

4 7515 Employees

2 Provide lab & related public health services to >80% of SA population

3 Support national & provincial health departments

5 356 Laboratories across 260 sites, in all 9 provinces





**NATIONAL INSTITUTE FOR
OCCUPATIONAL HEALTH**

Division of the National Health Laboratory Service

Healthy, Safe and Sustainable Workplaces

**PROMOTING DECENT WORK THROUGH CUTTING EDGE
RESEARCH SERVICE DELIVERY AND TRAINING**



Improve and promote workers' health and safety



Catalyst for a mind set change towards greater prevention



Inform regulation, policy and standards



Public and private sectors of the economy



Formal and informal economies



HOW TO STAY INFORMED:

THIS SITUATION IS RAPIDLY EVOLVING

Please check for updates on the NICD, NIOH and NDOH websites

www.nicd.ac.za | www.nioh.ac.za www.ndoh.gov.za

Latest updated information on the spread of COVID-19

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>

Advice and guidance

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

https://www.ilo.org/beijing/information-resources/public-information/WCMS_736744/lang--en/index.htm

MITIGATION OF RISK IN THE WORKPLACE

Primary prevention

- Business continuity and pandemic preparedness - Policies
- Minimise risks of transmission in the workplace. HRA including controls (Engineering, Administrative and **PPE**)
- Education and Training /HP (risk communication)

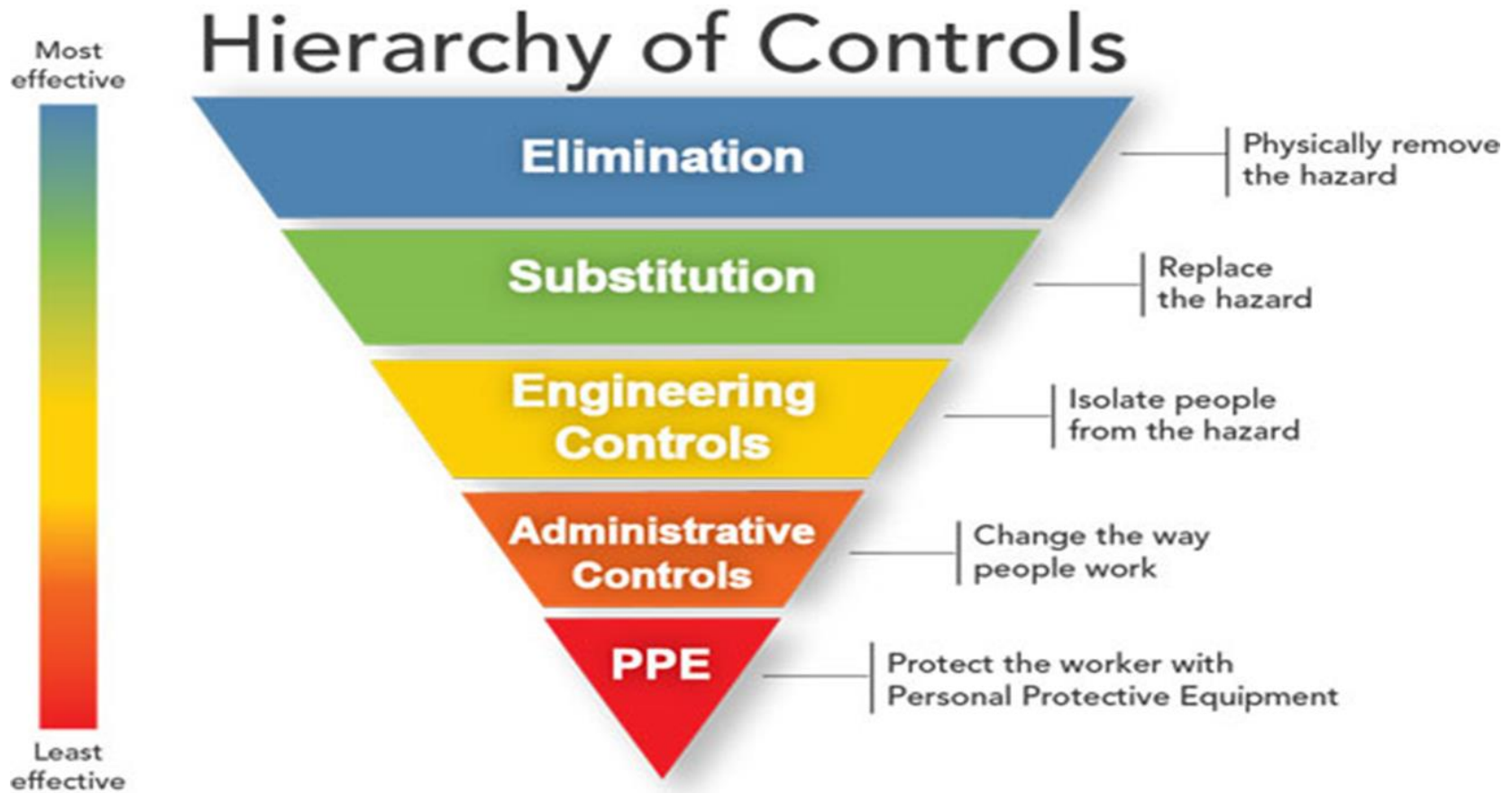
Secondary Prevention

- Identify persons at risk early and respond appropriately
- Medical screening / Medical Surveillance / Treatment
- Quarantine
- Etc

Tertiary prevention

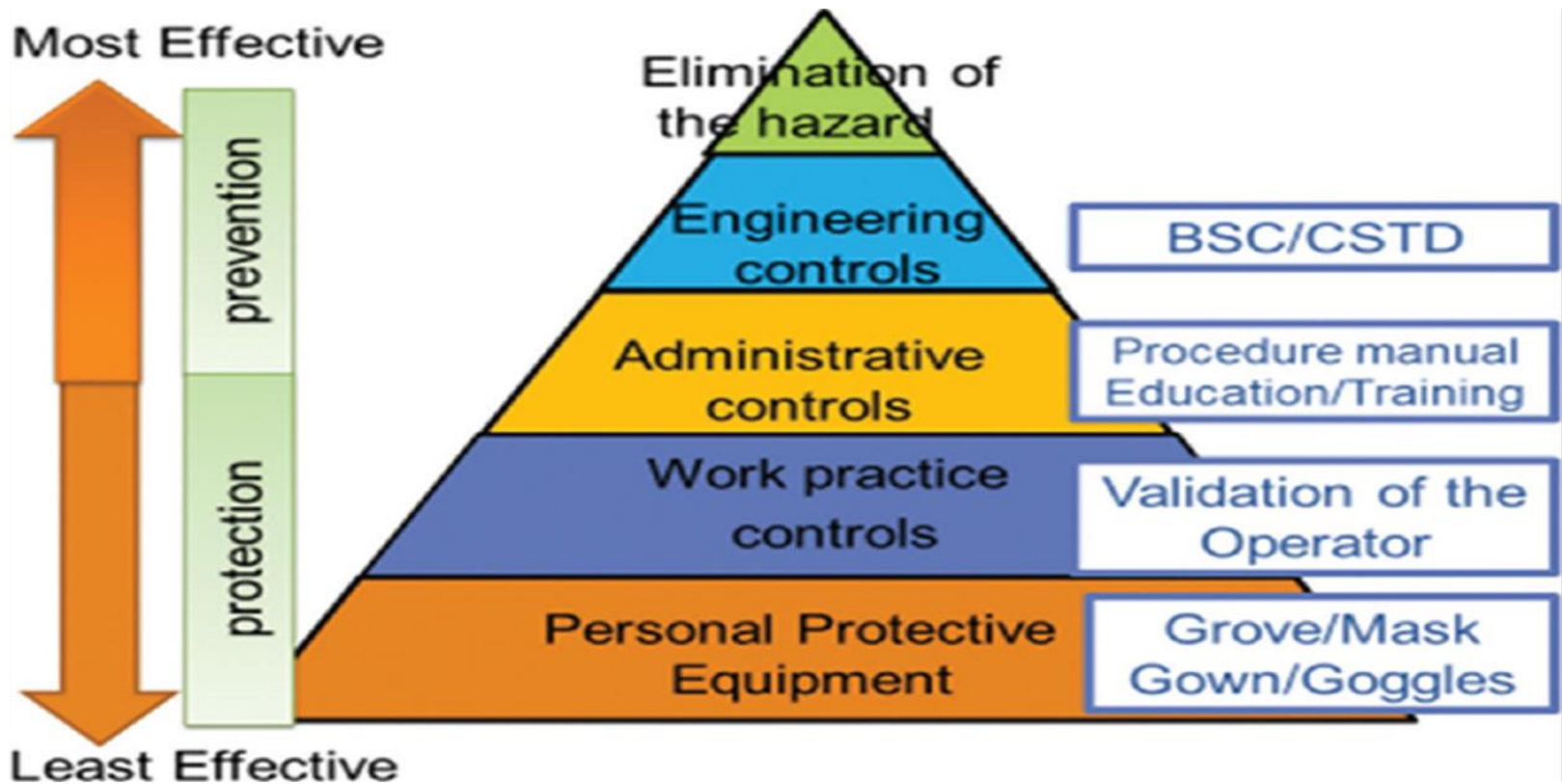
- Rehabilitation
- Respond appropriately to a case of COVID amongst staff
- COIDA
- Leave etc

Control of exposure



Source: NIOSH

Control of infection



Source: Asian Pacific Journal of Oncology Nursing

Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19)

Interim guidance
27 February 2020



**World Health
Organization**

Table 1. Recommended type of personal protective equipment (PPE) to be used in the context of COVID-19 disease, according to the setting, personnel and type of activity^a

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Healthcare facilities			
Inpatient facilities			
Patient room	Healthcare workers	Providing direct care to COVID-19 patients.	Medical mask Gown Gloves Eye protection (goggles or face shield).
		Aerosol-generating procedures performed on COVID-19 patients.	Respirator N95 or FFP2 standard, or equivalent. Gown Gloves Eye protection Apron
	Cleaners	Entering the room of COVID-19 patients.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
	Visitors ^b	Entering the room of a COVID-19 patient	Medical mask Gown Gloves
Other areas of patient transit (e.g., wards, corridors).	All staff, including healthcare workers.	Any activity that does not involve contact with COVID-19 patients.	No PPE required
Triage	Healthcare workers	Preliminary screening not involving direct contact ^c .	Maintain spatial distance of at least 1 m. No PPE required
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m. Provide medical mask if tolerated by patient.

PPE use & COVID-19

Key factors regarding PPE

- Depend on the outcome of the risk assessment in relation to the job activities and the likelihood of exposure to COVID-19
- Should not be used in isolation
- Least desirable, but in practice most used control measures
- Unavoidable during emergency situations to supplement other controls (hierarchy)
- Select appropriate PPE in relation to the hazard
- Should meet the design standards and specifications
- Compatibility with other PPE
- Proper fitting (fit testing- FFP2 / N95)
- Information and training
- Proper donning and doffing of PPE including proper sequencing
- Limitations of the PPE
- Proper care, maintenance and disposal of the PPE

Supply of PPE

- Shortage of stock – minimise unnecessary use
- <https://www.sapema.org/members/>
- New products (documentation to confirm performance requirements, specifications and standards of approval)
- Product marking
- SABS -SANS 1866-1&2
- South African homologation process
- National Regulator for Compulsory Specifications
- Protechnik can verify (EU certified)

Strategies of optimising the supply

- **Respirator re-use**
 - Manufacturer instruction : single use only
 - Resource constraints – RA to prevent contamination during multiple donning and storage
 - CDC strategy for optimising the supply of RPE - extended use but avoid discomfort
- WHO - Surgical masks should be available for patients with respiratory symptoms that are being cared for. Not recommended for asymptomatic individuals to wear a mask
- Respirators are recommended for users in direct contact with the infection source or during aerosol generating procedures

Information- *Disinfection of N95 respirators*

RPE use & COVID-19

- **RPE use and effectiveness**
 - Difference between a mask (surgical mask) and respirator (FFP2/N95)
 - Effective respiratory protection program (RPP)
 - **Elements** include policies, respirator selection, medical evaluation, training and *respirator fit testing*
- *Difference between seal check, **fit test** and filtration efficiency test*
 - It tests whether a specific type, model and size of respirator can adequately fit a specific individual
 - To confirm if the respirator provides a satisfactory fit or barrier between the user and infection source
 - It also gives the employee confidence that they are protected by their supplied respirators
 - New hazard identified (corona virus)

Respirator fit testing (cont)

- Qualitatively or Quantitatively
- Qualitative fit testing is currently recommended (CDC) since it minimises the destruction of N95 respirator used in fit testing.



Factors affecting fit

- **Include**
 - Facial hair and beards Incorrect donning of a respirator
 - Incorrect respirator size or shape
 - Compatibility with other equipment
 - Multiple donning and doffing



Limitations of PPE

- The hazard still exists
- Dependent on user's behaviour
- No one equipment to protect against every source of infection
- Should be properly used
- May restrict movement, dexterity, field of vision, communication, or comfort
- Should be properly maintained
- Requires regular training
- Improper use – false protection (exposure will exist even if wearing correct type for the hazard)

Sources of Information

1. World Health Organization. (2020). Rational use of personal protective equipment for coronavirus disease (COVID-19): interim guidance, 27 February 2020. World Health Organization. <https://apps.who.int/iris/handle/10665/331215>. License: CC BY-NC-SA 3.0 IGO (Accessed 5/03/2020)
2. Jeanneth Manganyi, Kerry S. Wilson, David Rees .(2017). Quantitative respirator Fit, face Sizes, and determinants of fit in South African Diagnostic Laboratory Respirator Users, *Annals of Work Exposures and Health*. 61(9):1154-62.
3. Centre for Disease control. (2018). Respirator Trusted-Source Information. [//www.cdc.gov/niosh/npptl/topics/respirators/disp_part/RespSource3fittest.html](http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/RespSource3fittest.html) (Accessed 5/03/2020)
4. [Centre for Disease control. \(2020 \) Strategies for Optimizing the Supply of N95 Respirators https://www.cdc.gov/coronavirus/2019-ncov/hcp/checklist-n95-strategy.html](https://www.cdc.gov/coronavirus/2019-ncov/hcp/checklist-n95-strategy.html) (Accessed 8/03/2020)

If you suspect you have been exposed to COVID-19

- ▶▶ Alert your supervisor and occupational health clinic immediately
- ▶▶ If you are experiencing symptoms, inform your health care provider about any contacts and recent travel to areas affected by COVID-19

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For more information contact NICD: 080 002 9999

www.nicd.ac.za or www.nioh.ac.za

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