



health

Department:
Health
REPUBLIC OF SOUTH AFRICA



COVID-19

**NATIONAL PUBLIC HYGIENE
STRATEGY AND
IMPLEMENTATION
PLAN**

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PREFACE BY THE ACTING DIRECTOR-GENERAL

The National Public Hygiene Strategy and implementation Plan set out a comprehensive approach to the delivery of public hygiene measures for public infections containment and mitigation of the COVID-19 epidemic and beyond. The strategy outlines public hygiene mitigation interventions necessary to delay, reduce and curb the spread of COVID-19 in South Africa, and outlines roles and responsibilities of various sectors.

Three (3) key public hygiene measures are emphasized for COVID-19 community infection prevention i.e. public education and awareness, community-based measures and personal protective measures. The strategy further provides guidelines for implementation of the outlined measures.

While it is anticipated that the national strategy will provide strategic direction and guidance on planning and coordination of response across jurisdictions. Various government sectors, including Municipalities remain with the ultimate responsibility for planning and implementation.

The targets set out in the strategy's implementation plan should be monitored through the National and Provincial Joint Operations Intelligence Committees and District Disaster Management Centres. To meet these targets will require a committed, concerted and collaborative effort on the part of all in pursuit. The latter is subsequent to the strategy identifying a number of priority areas and actions to be taken by various government departments and stakeholders in order to achieve the objectives of the strategy.

The strategy is a living document that will be adjusted based on how the disease evolve and on available evidence and international best practice.



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SECTION 1:

INTRODUCTION

1. Introduction

The World Health Organization (WHO) declared the COVID-19 as a Public Health Emergency of International Concern (PHEIC) on 30th January 2020 and subsequently a Pandemic on 11th March 2020. As of 29 June 2020, 10 million cases and nearly 500 000 deaths of COVID-19 have now been reported globally. The first case of COVID19 was confirmed in South Africa on 5th March 2020 – but since then, the number of COVID19 cases has grown sharply affecting all the nine provinces. The President of South Africa declared the COVID19 outbreak a 'national disaster' on 15th March, announcing extraordinary interventions including travel restrictions, social distancing, ramping up testing and tracing and enhancing public hygiene measures.

As the outbreak continues to evolve, it is vital to enhance community infection prevention plans to curb the spread of the virus to new areas. A key approach to this response is improved public hygiene methodologies, which are fundamental to COVID-19 mitigation. Public hygiene interventions should focus on personal protection aptitude, community hygiene practices and public education and awareness.

These methods should aim to reach all communities, with special focus on public places, high vulnerability settings, work places and high risk areas of residence within communities.

1.1 Strategy aim

To improve and promote public hygiene and cleanliness as a key intervention to the delay and prevent the spread of Corona virus in South Africa.

1.2 Objectives

- (1) To provide an approved evidence approach and minimum standards for the delivery of effective public hygiene measures in the context of COVID-19, with a focus on;
 - Hand and personal hygiene practices;
 - Environmental cleaning and disinfection;
 - Social distancing and respiratory etiquette;
 - Waste management;
 - Water, Sanitation and Hygiene; and
 - Enhancing public education and awareness to reduce and delay community infections.
- (2) To provide a framework to ensure that interventions are targeted at high risk areas and vulnerable communities.

1.3 Guiding Principles

Extensive experience has been gained both locally and internationally regarding the approach to implementing successful public hygiene programmes. The key implementation principles include the following;

- **Community Participation**

The involvement of the community and local leadership structures at local level in all aspects of interventions will be important to ensure the relevance of interventions and acceptability.

- **Integration**

Hygiene education and awareness must be integrated into:

- Primary health care programmes;
- Workplace programmes;
- Community social, religious and traditional affairs programmes;
- School programs at all levels.

- **Collaboration**

Collaboration and partnership between key role-players is important. This is especially important in planning for sustainable public hygiene interventions delivery. Collaboration should take place through co-ordination structures in all spheres of government.

- **Results oriented**

Health and hygiene education programmes should have an objective, the achievement of specific results that can preferably be measured, rather than just a general provision of information.

SECTION 2:

PUBLIC HYGIENE IMPLEMENTATION FRAMEWORK

2.1 Public hygiene approaches

Public health hygiene measures should be implemented with a focus on community settings such as in schools, health facilities, workplaces, points of entry, high vulnerability settings, public places, including public transportation, and high dense areas and places of residence.

1) Public hygiene should be guided by three (3) key measures:

- Public education and awareness;
- Personal Protection aptitude; and
- Community-based measures.

Public education and awareness – Development and use of various educational materials in all official languages and platforms to disseminate knowledge on safe

individual and community hygiene practices towards the prevention of the spread of COVID-19.

Community-based measures - to reduce transmission of infection in public places, including workplaces, schools, transportation, residential setting, and high vulnerability care settings. The measures include social distancing, application of sanitary precautions, environmental cleaning and disinfection of frequently touched surfaces in high human traffic places and monitoring of environmental hazards.

Personal protection aptitude – these measures include creating a sense of behavioural change and perspective through factual education, safe hand hygiene practices, respiratory etiquette, wearing of protective face masks, monitoring of individual health, self-isolation by staying home when feeling unwell, and keeping homes clean to prevent the spreading of infection.

2.2 Public hygiene activities and messages

Table 1: Public hygiene activities should focus on the following key areas.

Public hygiene measures	Key message	Minimum Standard Message	Activities
Public education	Breaking the cycle of disease	<ul style="list-style-type: none"> Understanding Corona Virus transmission routes; Creating affective barriers to disease transmission; 	Mass media, social media, participatory approach; Small group; workshops; Engaging community leaders; House to house visits.
Community based measures	Keep the environment hygienic	<ul style="list-style-type: none"> Cleaning and disinfection of frequently touched surfaces in public places, workplaces and homes; Keep the environment clean and manage waste safely; Avoidance of crowded places; Practicing social distancing; Building local skills to provide alternative low-cost means to handwashing facilities infrastructure i.e. Tippy taps. 	Mass media, participatory approach Small group workshops House to house visits Funerals, weddings, traditional gatherings, workplaces.
Personal protective measures	Practice good personal hygiene	<ul style="list-style-type: none"> Wash your hands with soap/ use a hand sanitizers; Making water safe for washing hands with soap; Use of hand sanitizers; Avoid touching your face and mouth with unwashed hands; Stay home when ill; Social distancing; Keep homes clean and sanitized at all times. Use protective cloth masks in public places. 	Mass media, participatory approach; Virtual workshops; Workplace newsletters, electronic messages, social distancing markings in lifts, communal areas.

2.3 Roles and responsibilities of various stakeholders in public hygiene

To combat the spread of corona virus in the country, a collaborative approach must be adopted. Therefore, various institutions must play key roles in improving, promoting and ensuring a hygienic environment, both at an individual, institutional and community level.

Below are roles and responsibilities or functions of various government departments and other stakeholders in the delivery and facilitation of public hygiene interventions and measures for COVID-19 response in South Africa.

Table 2: Role players and key responsibilities of sectors

Department	Key responsibilities/activities in public hygiene delivery
Department of Health (DOH)	<ul style="list-style-type: none"> Provide a framework to guide public hygiene measures and protocols; Support frontline operatives in the pandemic; Ensure Infection Prevention and Control implementation in health facilities and communities; Monitor the implementation of the public hygiene strategy by all stakeholders.
Department of Water, Sanitation and Human Settlement (DWSH)	<ul style="list-style-type: none"> Provision of water and sanitation services, especially in high risk areas; Support Municipalities implementing water services and sanitation mandate during COVID 19. Scale up community health and hygiene awareness as part of water supply and sanitation services.
Department of Cooperative Governance and Traditional Affairs (COGTA)	<ul style="list-style-type: none"> Support Municipalities with resources to be able to implement public hygiene interventions; Make MIG funds accessible for provision of waste collection services for Municipalities. Provide Municipalities with resources to implement public hygiene interventions;
Department of Basic Education (DBE) and Higher Education, Training and Innovation (DHET)	<ul style="list-style-type: none"> Ensure the availability of resources to implement hygiene measures in schools and Institutions of Higher Learning; Monitor compliance to health and safety protocols;
South African Local Government Association (SALGA)	<ul style="list-style-type: none"> Support Municipalities in implementing public hygiene measures and interventions.
Department of Transport (DOT)	<ul style="list-style-type: none"> Provide resources to enable public hygiene measures to be implemented in public transportation, including airports and seaports. Provide support to the transport services to heighten hygiene education in public transportation.
Department of Environment, Fisheries and Forestry (DEFF)	<ul style="list-style-type: none"> Establish the National Waste Management Strategy. Support municipalities to prepare Integrated Waste Management Plans and integrate with IDPs in the context of COVID-19.
South African Police Services (SAPS)	<ul style="list-style-type: none"> Provide resources to heighten hygiene measures in all SAPS workplaces and public service areas. Provide support for enforcement of COVID 19 response Regulations.

Department of Public Works and Infrastructure (DPWI)	<ul style="list-style-type: none"> ▪ Support with human resources for community based interventions through the Expanded Public Works Programme. ▪ Provide resources to enable hygiene measures to be implemented at the land port of entry.
Department of Social Development	<ul style="list-style-type: none"> ▪ Provide resources to enable public hygiene measures to be implemented in ECD centers and other areas for vulnerable groups. ▪ Ensure that this strategy is implemented at all SASSA offices especially during grant payments dates.
Municipalities	<ul style="list-style-type: none"> ▪ Commit sufficient resources to address public health measures, ▪ Support Municipal Health Services in their preventative activities, which includes hygiene education, monitoring and community surveillance.
Department of Correctional Services (DCS)	<ul style="list-style-type: none"> ▪ Provide sufficient resources to enable implementation of public health measures in prisons and other correctional facilities.
Private sector	<ul style="list-style-type: none"> ▪ Ensure the implementation and compliance to public hygiene measures in all business centers;
Media	<ul style="list-style-type: none"> ▪ Mass communication and creating awareness on the importance of public hygiene to curb the spread of the virus, and on public health measures to be taken to prevent the spread of Coronavirus.
Non-Government Organisations	<ul style="list-style-type: none"> ▪ Support public awareness and education promotion; ▪ Production of cloth masks.
Community leaders, forums and community based organisations	<ul style="list-style-type: none"> ▪ Community participation, engagement and involvement and influence social norms and health outcomes through health education and empowerment.

2.4 Target audience and settings

Public hygiene improvement interventions should be targeted public places, high vulnerability settings, schools, public transportation, points of entry, workplaces, and high risk residential areas. Those most vulnerable to diseases and those affected by other sicknesses, and those living in conditions that predisposes them to infections to be targeted as a starting point.

2.5 Funding and Other Resources

Resources, such as human resources, hygiene material/products and equipment to be adequately planned for and provided to ensure a consistent and effective implementation of public hygiene measures.

2.6 Acceptable public hygiene protocols

A comprehensive COVID-19 hygiene protocols for public places to include hand hygiene, frequent cleaning and disinfection, respiratory etiquette, social distancing, and waste management as public measures to delay and package to include measures hand hygiene little uniformity in the delivery of hygiene education. Therefore, minimum standards for hygiene education and standards on the types of hygiene interventions are provided, with the aim to improve the uniformity and quality of public hygiene promotion and interventions in South Africa during the outbreak.

2.7 Planning

Public hygiene interventions for COVID-19 response should be adequately planned for at local levels and within sectors. Linkages need to be created with organisation's internal planning processes. Planning to outline intervention targets and expected outcomes, identify resources, and clarify roles and responsibilities to ensure systematic implementation of an effective hygiene programmes.

2.8 Implementation approaches

The aim of public hygiene measures is improved community and environmental hygiene and increased knowledge, attitudes and practices to strengthen community infection containment for the spread of the COVID-19. Public hygiene to adopt the following approaches;

- Public education and awareness;
- Community based measures;
- Personal protective aptitude.

2.9 Capacity building and training

Building capacity on public hygiene measures at community level is important. Access to training for existing community leaders and structures, such as traditional healers, Community Health Workers, NGOs is needed to ensure increased advocacy and act as health promoters.

2.10 Monitoring, evaluation and reporting

A monitoring and evaluation framework is vital to track implementation and compliance to COVID-19 hygiene protocols and measures. Focus to be on monitoring of implementation in public places, high vulnerability settings, and high risk places of residence, schools, and workplaces. (Annexure to be included)

SECTION 3:

PUBLIC HYGIENE IMPLEMENTATION GUIDELINES

3.1 PUBLIC HYGIENE EDUCATION AND AWARENESS GUIDELINES

The main communication approaches to achieving the public hygiene objectives include advocacy, interpersonal communication, and community mobilization, supported and reinforced by mass media. Various communication mediums can be explored in increasing hygiene literacy.

The strategy therefore advocates for the use of the following communication mediums for public hygiene personal protective measures.

1) Use of mass media

Due to the ability to reach a large audience, regardless of socio-economic status or geographical area, mass media is an effective and reliable medium for creating

awareness, advocating and shaping public opinion. Mass media communication can overcome barriers of literacy and language and it is ideal for delivering simple, clear and focused messaging.

The use of mass media for hand hygiene promotion will aim to raise the political profile of hygiene promotion in South Africa and ensure that messages are distributed through a mixture of community radio, television, billboards and other effective mediums. Partnerships with key media (in print, radio, television and internet) will be leveraged to promote hygiene over the short, medium and long term through a national communication plan.

Public Service Announcements (PSAs): Appeals to be developed in appropriate messages and dissemination through radio and television.

Engaging social media: The use of social media is growing by day and can reach masses, particularly the youth. The use of social media, such as Facebook, Twitter, and/or Instagram. The objective is to place hand hygiene on the public agenda and a topic for discussion amongst people of all age groups, particularly the youth. Text messages will exclude illiterate people in the primary target group, so visual messages will have a greater reach.

2) Use of Information, Education and Communication (IEC) material

Hand hygiene promotion IEC material simple, targeted, tested and adapted to local context to ensure appropriateness and effectiveness.

3) Community mobilization

Community mobilization is an activity through which action is stimulated by the community, or by others. It is planned, carried out and evaluated by the community itself and organizations on a participatory and sustained basis to improve the health, hygiene levels so as to enhance the overall standards of living in the community.

Community mobilization strategies for COVID-19 to include;

- Involvement of community leaders, Community based organisations and religious and traditional leaders, to advocate to communities and provide a better understanding of the barriers that exist that prohibit safe hygiene practices and other COVID-19 protocols.
- Public service areas, such as clinics, hospitals, churches, shopping centers, and public transportation hubs (Taxi and bus ranks) will provide good audience for hygiene and COVID-19 communication.

3.2 IMPLEMENTATION GUIDELINES FOR HAND HYGIENE, RESPIRATORY ETIQUETTE AND SOCIAL DISTANCING

3.2.1 Hand Hygiene

Hand hygiene is extremely important to prevent the spread of the COVID-19 virus. Regular public programmes aimed at promoting best hand hygiene practices and

ensuring the availability of the necessary infrastructure (equipment and supplies) is critical.

Education and awareness programmes on safe hand hygiene practices, and availability of hand hygiene supplies should be strengthened in public places, transportation, points of entry, workplaces, and high vulnerability settings, high risk places of residence, homes and health-care facilities.

1) Use of alcohol-based hand sanitizers and washing hands with soap

Public hand hygiene promotion programmes should promote cleaning hands using an alcohol-based hand rub or with washing hands with water and soap at critical times. The 6-step handwashing technique and correct use of hand sanitizers to be emphasized.

Hand hygiene requirements in a health care settings to be in accordance with "My 5 moments to hand hygiene" as outlined in the [COVID-19 Disease: Infection Prevention and Control Guidelines, 2020](#).

Alcohol based sanitizers should not be encouraged after using a toilet, and for visibly soiled hands - washing hands with soap is critical as organic matter can render a sanitizer/disinfectant ineffective.



Handwash critical times:

Wash hands with soap;

- After visiting the toilet;
- Before handling food or eating;
- After taking care of sick people;
- After touching surfaces;
- Sneezing or coughing –where tissue was unused;
- When hands are visibly dirty; and
- Frequently throughout the day.

Figure 1: 6-step handwashing technique – wash hands wit soap for at least 20 seconds
Image by Unisqo

Take note:

- 1) Only use running water to wash hands;
- 2) Avoid using common basins for washing hands as this will spread the COVID-19 virus, rather use a jug to pour for water to run.

How to use of alcohol-based hand sanitizers



Figure 2: 4-step use of hand-sanitizer – sanitize for 20-30 seconds.
Image by Unisqo

2) Availability of hand hygiene resources

Hand hygiene resources (hand sanitizers or soap and potable water) should be consistently made available in all public places, workplaces, schools, public transportation, points of entry, high vulnerability settings for use by the public on entry and exit.

3) Placement of hand sanitizers in public places

- Hand sanitizers to be placed on all entrances in public places, public transportation, and points of entry, retail shops, and community service areas to ensure entry and exit sanitizing of hands by all entering customers/clients.
- Frequent sanitization of hands in high vulnerability settings, including schools, workplaces and old age homes.
- Displaying reminder education and COVID-19 protective measures, including hand hygiene reminders in prominent places.
- Utilizing other communication measures such as offering guidance from occupational health and safety officers, briefings at meetings and information on the intranet to promote hand-hygiene.
- Making sure that staff, contractors and customers have access to places where they can wash their hands with soap and water in workplaces.
- Display posters promoting hand-hygiene–these can be accessed at www.health.gov.za; www.NICD.ac.za and www.WHO.int or develop targeted sector specific information and education material.
- Promote hand hygiene in workplaces, utilizing existing occupational health and safety structures, briefings at meetings and information on the intranet to promote hand-washing.

Use of hand sanitizers and alcohol based formulations

- 1) Only alcohol based hand sanitizers must be used.
- 2) Sanitizers should have alcohol content of between 60-70% for maximum protection (WHO).

4) Provision of safe water for washing hands

The availability of potable water and soap is critical to enable safe hand hygiene practices, especially in schools and in high risk places of residence. Temporary water supplies should be made available to schools and areas without adequate water supplies. The quality of temporary water supplies to be tested frequently to ensure fitness for human consumption.

3.2.2 Respiratory etiquette

1) The following measures to contain respiratory secretions should be practiced and promoted in public hygiene awareness;

- (1) Universal masking during the COVID 19 pandemic.
- (2) Covering mouth and nose with a tissue when coughing or sneezing;
- (3) Using the nearest waste receptacle to dispose off tissues;
- (4) Performing hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.
- (5) Avoiding touching eyes, nose and mouth with unwashed hands.
- (6) Cloth masks for all – and face mask management in approved settings;
- (7) Ensuring proper disposal of disposable masks single usage.
- (8) Face shields for teachers dealing with deaf children.
- (9) Daily washing and ironing of cloth masks.

2) Public places, schools, workplaces and healthcare facilities should ensure the availability of materials for adhering to respiratory hygiene/cough etiquette in waiting areas for visitors, classrooms and offices, such as tissues and waste bins.

- Provide tissues and no-touch receptacles for used tissue disposal.
- Provide conveniently located dispensers of alcohol-based hand rub; where sinks are available, ensure that supplies for hand washing (i.e., soap, disposable towels) are consistently available.
- Ensure that and/or paper tissues are available at your workplaces, for those who develop a runny nose or cough at work, along with closed bins for hygienically disposing of them because good respiratory hygiene prevents the spread of COVID-19.
- Visual reminders on respiratory etiquette to be displayed in common areas, such as entrances, bathrooms, classrooms and eating places.



Fig 4: Image by Vikivisual

Other personal protective measures to be incorporated in public hygiene interventions;

- Change clothes daily and wash them, especially for households with sick people;
- Take showers or baths daily;
- Do not share tooth brushes or face cloths;
- Do not share utensils of sick people with others;
- Do not share feeding utensils amongst children.

3.2.3 Social distancing measures and wearing of protective masks

The Regulations published under the Disaster Management Act prescribes a requirement of 1.5 meters of social distancing from other persons to be applied in all public places, which includes in schools, workplaces, public transportation, points of entry, shopping malls, and prescribes the compulsory wearing of cloth masks in public places.

1) Practically applying spacing of 1.5 meters

- Use of floor markings, stickers or visuals to allow for safe distancing in queues;
- Designation of a compliance officer to ensure adherence to social distancing;
- Avoid overcrowding – only allowing number of people based on indoor floor space of premises.
- Compulsory wearing of cloth masks when standing in queues in shops, schools, workplaces and other public places.
- Keep shopping trolley between you and the person in front of you in the queue

2) Use of disposable latex gloves

The use of latex gloves by the general public and some workers in public places, e.g. tellers in retail shops is discouraged. The incorrect use therefore might contribute to the spread the virus from one area to another or from person to person, unless used as part of Personal Protective Equipment (PPE) required for specific work and workplaces, such as in health care facilities and some ready-made food handlers. Hand sanitising is encouraged at all times for the public and public place workers.

3.3 GUIDELINES FOR WASTE MANAGEMENT IN THE CONTEXT OF COVID-19

1) Management of health care risk waste (HCRW) from treating COVID -19 patients

The World Health Organisation (WHO) indicates that there is no evidence that direct, unprotected human contact during the handling of health-care waste (HCRW) has resulted in the transmission of the COVID-19. All HCRW produced during patient care, including those with confirmed COVID-19 infection, is considered to be infectious waste.

The national policy and guidelines on the management of health-care waste should be followed in handling waste generated in treating patients with COVID-19, as it relates to the segregation, collection, storage, and disposal thereof. Waste generated in waiting areas of health-care facilities can be classified as general waste. The management of general waste, including collection and disposal should be done in accordance with the relevant waste management legislation and By-laws of a Municipality.

The volume of infectious waste during the COVID 19 outbreak is expected to increase, especially through the use of PPE. Therefore, it is important to ensure that adequate capacity is available to handle and treat this HCRW.

2) Definitions of terms

General waste – Means waste that that does not pose an immediate hazard or threat to health or to the environment. This category of waste includes: domestic waste, building and demolition waste, paper, cardboard and plastics, discarded food, metal, glass, textiles, plastics and wood.

Health care waste - Means health care general waste and health care risk waste;

Health care risk waste - Means human and animal anatomical waste, infectious human and animal waste, sharps, chemical waste, pharmaceutical waste and radioactive waste generated by healthcare professionals, healthcare facilities and other non-healthcare professionals, e.g. tattooists and taxidermists

Infectious waste – means waste which is suspected to contain pathogens in sufficient concentration or quantity to cause disease in susceptible hosts or disease transmission. This category of waste include waste contaminated with blood and other body fluids; laboratory cultures and microbiological stocks; single use towels soiled with excreta waste from cleaning linen or the floor, dressings, bandages, swabs, gloves, masks, gowns, drapes and other material contaminated and other materials that have been in contact with patients infected with highly infectious diseases in isolation wards) (WHO, 2014).

Definitions

3) Management of HCW in public and private health care facilities (private and public) and Isolation Units/Wards

- a) The management of HCRW generated from isolation units/wards during the care of COVID-19 patients shall be classified accordingly in terms of SANS 10248.
- b) The waste shall be safely disposed of in red liners using designated single use box sets and tied when full.
- c) The designated single use box sets shall be marked "Infectious waste".
- d) A rigid-puncture-proof, yellow coloured sharps container shall be used for all generated sharps waste and shall be marked "Danger contaminated sharps" and labelled with the bio-hazard symbol.
- e) The designated single use box sets including the red liners shall be properly sealed prior to internal collection.

- f) $\frac{3}{4}$ full sealed box sets shall be removed and stored at the central storage area prior to collection for treatment and disposal.
- g) HCRW Officers/designated representatives shall witness collection at all times of the waste.
- h) The waste shall be collected and transported as HCRW streams/categories. The collection, removal and transportation of the waste shall be provided by the appointed or contracted service provider.
- i) The treatment and disposal of the waste must be conducted at a licensed HCRW treatment and disposal facility.
- j) General waste generated in waiting areas of health-care facilities can be classified as non-hazardous and should be disposed in leak proof, heavy duty disposal black bags and closed completely before collection and disposal by the relevant municipality at a licensed landfill site.
- k) Food waste generated including leftovers, disposal containers, plates and cutlery/utensils, food packaging and other general domestic waste shall be disposed of as general waste and collected by the relevant municipality

4) Management of COVID-19 waste for patients under investigation (PUI): Public and Private health care facilities

- a) The infectious waste generated during the care of suspected **COVID-19** patients shall be handled as HCRW irrespective of whether the person tests **NEGATIVE** or **POSITIVE** for COVID-19.
- b) The waste shall be safely disposed of in red liners using the designated single use box sets and marked "infectious waste" and labelled with the bio-hazard symbol.
- c) A rigid-puncture-proof, yellow coloured sharps container shall be used for all generated sharps waste and shall be marked "Danger contaminated sharps" and labelled with the bio-hazard symbol.
- d) A temporary room or storage area shall be identified to store the infectious waste.
- e) Provinces shall utilize the contracted service provider for that particular province to collect, remove, transport, treat and dispose of HCRW generated by PUIs in public health facilities.

5) Designated quarantine facilities

- a) All used masks, gloves, paper towels, tissues etc generated by individuals, staff, personnel and health care workers and other waste generated in such facilities shall be treated as infectious waste, irrespective of whether the person tests **NEGATIVE** or **POSITIVE** for COVID-19.
- b) Provincial Departments of Health contracted HCRW service provider shall provide the appropriate receptacles for the collection of the waste and the appropriate disposal thereof.
- c) All other waste, including food waste shall be treated as general waste, collected in black refuse bags, sealed when full and placed in designated refuse storage areas until collection by the relevant Municipality.
- d) Waste handlers in the facility and the removal agent must wear the necessary PPE at all times when handling waste.
- e) Provincial Departments of Health shall provide the appropriate receptacles for the collection of the waste and the appropriate disposal thereof.

- f) Provinces shall utilize the contracted service provider for that particular province to collect, remove, transport, treat and dispose of waste generated in the designated quarantine facility.
- g) Food waste generated including left overs, disposal containers, plates and cutleries/utensils shall be disposed of as general waste and collected by the relevant municipality.
- h) If utensils are non-disposal, these shall be placed in collection containers outside the room door for washing in hot water using gloves.

6) Points of Entry (land, sea and air)

- a) All used disposable masks, gloves, tissues, paper towels, etc generated by PUIs, and health care workers shall be treated as infectious waste.
- b) The point of entry should provide the appropriate receptacles for the collection waste and the appropriate disposal thereof.
- c) Port Authority contracted HCRW service provider shall utilize the contracted service provider to collect, remove, transport, treat and dispose of HCRW generated at the specific point of entry.
- d) Food waste generated including leftovers, disposal containers, plates and cutleries/utensils, food packaging and other general waste and shall be disposed of as general waste and collected by the relevant municipality to be disposed of at a licensed landfill site.

7) Self- isolation/quarantine at homes

- a) All waste items that have been in contact with individuals that are confirmed or suspected cases of COVID-19 (e.g. used tissues, single use towels, disposable cleaning cloths, gloves, masks, etc) shall be stored securely inside leak-proof and heavy duty disposable plastic bags, where refuse bins are not provided or a refuse bin with a fitting lid within the residential premises and without easy reach of children and domestic animals.
- b) The refuse plastic bag shall be tied when full.
- c) The tied full refuse bags or bin shall be stored separately within the residential premises until for the day of collection with other domestic waste by the relevant municipality.
- d) Other household waste can be disposed off as normal.

8) Workplaces/Offices and public places

- All disposable waste items (e.g. used facial tissues, disposable cleaning cloths, gloves, masks, etc.) are disposed of securely within disposable plastic bags.
- When the bag is three quarters full, the plastic bag should then be placed in a second bin bag and tied.
- These bags should be stored separately as far as it is reasonably possible, for **three (3) days** before being put out for collection by the Municipality or waste service provider.
- Other general business and office waste can be disposed of as normal
- Cleaning personnel should be made aware of the risks associated with working with potential COVID-19 waste and should be provided with the appropriate

personal protection equipment and should wear closed shoes when handling the waste.

- Waste storage areas should be regularly cleaned.
- Cleaners handling the waste must wear utility gloves when emptying the waste containers.
- Cleaning personnel should be trained on the new handling and disposal methods as explained above.
- All used disposal masks, gloves, tissues, paper towels, etc generated by individuals, staff, personnel and health care workers during physical health and COVID -19 screening and testing shall be treated as infectious waste.
- Each workplace or institution conducting public COVID -19 screening and testing shall procure or use the services of the HCRWM service provider to collect, remove, transport, treat and dispose of infectious waste generated.

9) Reporting and response protocol where unlawful disposal of HCRW is detected

Considering the serious public health issues associated with COVID-19, the default approach to any instance where the unlawfully disposed of HCRW is detected is to remove the risk from the environment immediately. Given the uncertainties in relation to the origin of this HCRW, and despite the scale of the unlawfully disposed of waste, it will be managed as though it is contaminated by COVID-19.

Since the environmental authority's regularly undertakes investigations in relation to any breaches of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), it would be prudent at this time, and considering the capacity limitations that exists within the health authorities to adopt the following protocol:

- Any instance of unlawfully disposed of HCRW that is reported to the environmental authorities must be submitted to the National Department of Environment, Forestry and Fisheries (DEFF) or the relevant Municipality;
- DEFF will communicate these reports to the relevant officials concerned with the management of HCRW at the National Department of Health as well as the provincial environmental authorities and the relevant municipality;
- The HCRW must be collected with minimal direct handling and it must be placed in adequately sized containers;
- Any information and/or evidence that could link the unlawfully disposed waste to a perpetrator must be photographed and sent to the DEFF coordinator who will then ensure that the necessary criminal investigations ensue; and
- In consultation with DEFF, the disposal option identified will depend on each individual circumstance.

Provincial/District Health Office or Municipal EHPs shall ensure proper monitoring of the collection, removal, transportation, treatment and disposal of the waste.

Municipal EHPs shall conduct proper and thorough investigations of all suspected and/or confirmed cases of COVID-19.

(10) Hygiene and waste handling

10.1 Use of PPE

All those who handle health-care waste should wear appropriate PPE which includes;

- ✓ Boots;
 - ✓ Long-sleeved gown;
 - ✓ Heavy-duty gloves;
 - ✓ Mask, and
 - ✓ Goggles or a face shield.
- Proper hand hygiene must be practiced at all times by all cleaners, waste handlers and waste supervisors after the removal of the waste and PPE.
 - All used and disposable PPE used during the handling of waste and caring of suspected and confirmed patients shall be treated as infectious waste and shall be handled as prescribed above.

10.2 Environmental cleanliness

- Environmental hygiene should be encouraged in health care facilities and communities, as part of public hygiene interventions.
- Strategies for waste removal to be implemented in communities, focusing on areas where there is no adequate removal services.

3.4 ENVIRONMENTAL CLEANING AND DISINFECTION GUIDELINES, ROLLOUT PLAN AND STANDARD OPERATING PROCEDURES

Transmission of the COVID-19 virus is via droplets from the respiratory tract and is linked to close contact between individuals within closed settings, such as households, health facilities, assisted living and residential institution environments. In addition, crowded community settings outside of health-care settings have been found vulnerable to COVID-19 transmission events including publicly accessible buildings, faith-based community centres, markets, transportation, and business settings.

Laboratory studies have evaluated the persistence of the COVID-19 virus on different surfaces, and reported the COVID-19 virus remained viable up to 1 day on cloth and wood, up to 2 days on glass, 4 days on stainless steel and plastic, up to 7 days on the outer layer of a surgical mask, 4 hours on copper, 24 hours on cardboard and up to 72 hours on plastic and stainless steel IN THE ABSENCE OF CLEANING. These studies, however, were conducted under laboratory conditions in absence of cleaning and disinfection practices and should be interpreted with caution in the real-world environment.

Personal protective measures such as frequent hand washing and avoiding touching the face with unwashed hands should be the primary prevention approaches to reduce any potential transmission associated with surface contamination.

The public places disinfection rollout plan and Standard Operating Procedures outlines

Guidelines and procedures for cleaning and disinfection measures for public places in the context of COVID-19 as a community based measure to delay, reduce and curb the spread of COVID-19.

1) Environmental cleaning and disinfection during COVID-19 outbreak

- (1) As part of the COVID-19 response and containment measures, the WHO and Department of Health promotes environmental cleaning and disinfection of frequently touched areas in public places, areas of high human volumes and high vulnerability settings, which include schools, public transportation, workplaces, amongst others.
- (2) The Department of Health has observed with concern that various methods of environmental disinfection are being implemented in the country for COVID-19 in various settings. These methods, include the use of tunnel/chamber disinfectants, fogging of indoor environments, and open spraying in outdoor environments such as in taxi ranks and streets. The chemicals used are unknown as to their safety to humans. In addition, no evidence exists of the effectiveness of these disinfection methods against the prevention of the spread of COVID-19.
- (3) Furthermore spraying individuals with disinfectants (such as in a tunnel, cabinet, or chamber) **is not recommended under any circumstances**, (1) due to health impacts of disinfectants on humans.
- (4) WHO has issued guidelines for environmental cleaning and disinfection and also pronounced against the use of some environmental disinfection methods. In addition to these guidelines, the Department of Health has issued an advisory memo in this regard.

2) Definition of terms

Often terms such as decontamination, disinfection, terminal cleaning, deep cleaning, sanitisation, and fumigation are used interchangeably by many, however these terms have different meanings and are applied in varying contexts. The concepts are defined below;

- *Disinfection* - a process of removing microorganisms except spores. It's conducted by application of antimicrobial agents to non-living objects to destroy microorganisms on inanimate objects and surfaces. Disinfectants should not be applied to humans or living tissue.
- *Deep cleaning* -often referred to as spring cleaning, involves cleaning walls, ventilation shafts and storage areas, floors, windows, ceilings, etc in all clinical and non-clinical areas. In some situations, temporary closure of such areas is required whilst deep cleaning is taking place.
- *Decontamination*- a general term used to describe process that include cleaning, disinfection and sterilization. Sterilisation refers to a validated process that renders a product free from microorganisms. It is the complete destruction or removal of microorganisms, including bacterial spores.

- *Sanitising* - a process of making clean and removing the occurrence and growth of bacteria or virus on a surface, often on live tissues, such as human hands.

3) Principles for cleaning and disinfection

- Cleaning is an essential first part in the disinfection process, it helps to remove pathogens or significantly reduce their load on contaminated surfaces. Cleaning with water, soap (or a neutral detergent) and some form of mechanical action (brushing or scrubbing) removes and reduces dirt, debris and other organic matter but does not kill microorganisms.
- Organic matter can render disinfectants ineffective. The disinfectant concentration and contact time are also critical for effective surface disinfection.
- Note: There is no added benefit of using disinfectants routinely especially since good cleaning removes up to 80% of organic contamination. Disinfectants can contribute to increasing microorganism resistance.

4) Disinfection methods for public places and workplaces

The recommended methods of disinfection for COVID-19 is preceded by **surface disinfection**.

Disinfectants are applied manually by wiping surfaces with cloth. Other non-touch technologies for application of chemical disinfectants can be adopted in larger indoor spaces where manual disinfection may not be feasible, but must be done under controlled conditions as many disinfectant chemicals are harmful to humans when inhaled.

5) Standard Operating Procedures for environmental cleaning and disinfection of public places and workplaces

- (1) Equipment and materials requirements for cleaning and disinfection in public places;

Table 3: cleaning and disinfection equipment requirements

Manual surface cleaning and disinfection	Non-touch technologies disinfection
<ul style="list-style-type: none"> ✓ Cleaning detergents and warm water; ✓ Buckets; ✓ Headmops; ✓ Wiping cloths (preferably disposable paper towels); ✓ Alcohol disposable wipes; ✓ Hand held sprayers; ✓ Cleaning scrubs and brushes; ✓ Detergents, disinfectants; 	<ul style="list-style-type: none"> ✓ Cleaning scrubs and brushes; ✓ Detergents and disinfectants; ✓ Backpack sprayers – or any other pest control methods; ✓ Mechanical gas disinfectors; ✓ Hand held sprayers.

- Cleaning equipment (e.g. buckets) should be well maintained.
- Buckets should be washed with detergent, rinsed, dried and stored inverted to drain fully when not in use.
- Detergent and/or disinfectant solutions must be discarded after each use;
- Disinfection solutions must be prepared fresh daily before use.

6) Technical specifications for recommended disinfectants

- Hypochlorite based products - liquid sodium hypochlorite, solid or powdered (calcium hypochlorite) formulations;
 - Sodium hypochlorite (household bleach) 0.1% (equivalent to 1000 ppm) for routine disinfection of surfaces;
 - Sodium hypochlorite (household bleach) at 0.5% (5000 ppm) when contaminated with blood and bodily fluids;
- Ethyl alcohol (70-90%) to disinfect small areas between uses, on reusable dedicated equipment;
- Vapourised hydrogen peroxide for non-touch disinfection.

Take note:

- NB: Material Safety Data Sheets (MSDS) for chemicals being used for disinfection must always be available on site.
- Only disinfectants registered with the *National Regulator for Compulsory Specifications* (NRCS) must be used.
- Disinfectants must comply with the labelling requirements as specified by the NRCS and the Department of Health Food stuffs, Cosmetics and Disinfectants Act, 1954.
- Disinfectant solutions must be prepared and used according to the manufacturer's recommendations for volume and contact time.
- Concentrations with inadequate dilution during preparation (too high or too low) may reduce their effectiveness.
- High concentrations increase chemical exposure to users and may also damage surfaces.
- Enough disinfectant solution should be applied to allow surfaces to remain wet and untouched long enough for the disinfectant to inactivate pathogens, as recommended by the manufacturer.
- Cleaning and disinfection procedures for aircraft should meet the requirements under 3.2.4 and Annex F of Guide to Hygiene and Sanitation in Aviation and ICAO Annex 9 Chapter 2 (E) requirements.

Table 4: Method of diluting hypochlorite required for different concentrations

Product	Chlorine available	How to dilute to 0.1% (1:1000ppm) for COVID-cleaning
Sodium Chlorite – liquid bleach	3.5%	▪ 1 part bleach to 32 parts water (e.g. 30ml bleach in 970ml water)
Sodium Chlorite – liquid bleach	5%	▪ 1 part bleach to 47 parts water (e.g. 20ml bleach in 980ml water)
NaDCC (sodium dichloro-isocyanurate) – powder	60%	▪ 1.7 grams to 1 liter water
NaDCC (1.5g/tablet) – tablets	60%	▪ 1 tablet to 1 liter water
Chloramine - powder	25%	▪ 4 grams to 1 liter water

Adapted from COVID-19 Infection Prevention and Control Guidelines V2, May 2020, NDOH

7) Storage and preparation of chlorine solutions

- Chlorine solutions should be stored in opaque containers, in a well-ventilated, covered area that is not exposed to direct sunlight.

- Disinfectant solutions should always be prepared in well-ventilated areas. Avoid combining disinfectants, both during preparation and usage, as such mixtures cause respiratory irritation and can release potentially fatal gases, in particular when combined with hypochlorite solutions.
- Personnel preparing or using disinfectants require specific PPE to protect hands, eyes and mucous membranes of the worker preparing the in use dilution.

8) Cleaning of minimally touched surfaces

Minimally touched surfaces floors, walls, ceilings, blinds, etc. should be thoroughly cleaned and cleaned as follows;

- Detergent solution/wipes should be used as per manufacturer's instructions;
- Damp mopping is preferable to dry mopping.
- Walls and blinds should be cleaned when visibly dusty or soiled. Window curtains should be regularly changed in addition to being cleaned when soiled.
- Sinks and basins should be cleaned at least twice a day.

9) Cleaning and disinfection of frequently touched surfaces in public places

- All public places should adhere to a daily cleaning schedule;
- For COVID-19, cleaning frequency of high touch surfaces should be increased to at least twice (2) a day.

High-touch surfaces/frequently touched surfaces include;

- Doors, door knobs/handles;
- Window handles;
- Kitchen and food preparation areas;
- Counter tops, desks, tables;
- Bathrooms – all areas;
- Touchscreen personal devices, personal computer keyboards;
- Telephones and work surfaces.

The disinfectant and its concentration should be carefully selected to avoid damaging surfaces and to avoid or minimize toxic effects on household members or users of public spaces.

- Cleaning should progress from the least soiled (cleanest) to the most soiled (dirtiest) areas, and from the higher to lower levels so that debris may fall on the floor and is cleaned last in a systematic manner to avoid missing any areas.
- Thoroughly clean surfaces using detergent and warm water.
- Use fresh cloths at the start of each cleaning session (e.g., routine daily cleaning in a general inpatient ward).
- Discard cloths that are no longer saturated with solution. For areas considered to be at high risk of COVID-19 contamination, use a new cloth to clean each area.
- Soiled cloths should be reprocessed properly after each use and an SOP should be available for the frequency of changing cloths.

- Apply disinfectant to surfaces using paper towel or a disposable cloth or use disposable alcohol wipes. If non-disposable cloths are used, ensure they are laundered and dried before reusing.
- Ensure surfaces remain wet for the period of time required to kill the virus (contact time) as specified by the manufacturer's guide. If no time is specified, leave for at least 10 minutes.

Table 5: Surfaces, cleaning procedures and precautions

High risk surfaces/areas	Equipment and procedure	Precautions
Stainless steel and enamel surfaces	<ul style="list-style-type: none"> ▪ Clean with detergent and water; ▪ OR ▪ Ammonia containing detergent where there are fatty deposits; ▪ Wipe over with 70%; ▪ Wipe over with hypochlorite disinfectant solution (bleach); 	<ul style="list-style-type: none"> ▪ Ensure the product is non-abrasive- scratches will retain dirt and bacteria; ▪ Ensure dryness of surface after wiping
Soft porous surfaces (fabric seats, carpets, rugs)	<ul style="list-style-type: none"> ▪ Launder/clean items as appropriate in water and detergents combined with disinfectants and in accordance with the manufacturer's instructions. 	<ul style="list-style-type: none"> ▪ Dry materials completely;
Hard plastic/glass surfaces	<ul style="list-style-type: none"> ▪ Clean with detergent and water; ▪ Wipe with alcohol based wipes/ apply hypochlorite solution; 	<ul style="list-style-type: none"> ▪ Dry completely;

10) Spraying/ fogging disinfection and use of other no-touch technologies

- In indoor spaces, routine application of disinfectants to environmental surfaces by spraying or fogging (also known as fumigation or misting) is not recommended for COVID-19 (WHO).
- Evidence has shown that spraying as a primary disinfection strategy is ineffective in removing contaminants outside of direct spray zones. Moreover, spraying disinfectants can result in risks to the eyes, respiratory or skin irritation and the resulting health effects. Spraying or fogging of certain chemicals, such as formaldehyde, chlorine-based agents or quaternary ammonium compounds, is not recommended due to adverse health effects on workers in facilities where these methods have been utilized.
- Spraying or fumigation of outdoor spaces, such as streets or high-dense areas, is not recommended to kill the COVID-19 virus or other pathogens because the disinfectant is inactivated by dirt and debris and it is not feasible to manually clean and remove all organic matter from such spaces. Moreover, spraying porous surfaces, such as sidewalks and unpaved walkways, would be even less effective.
- Furthermore, streets and sidewalks are not considered to be reservoirs of infection for COVID-19.

- Where no-touch technologies for application of chemical disinfectants are adopted for larger indoor spaces where manual disinfection may not be feasible, they must be done under controlled conditions as many disinfectant chemicals are harmful to humans when inhaled.
- The chemical residue must be removed after the contact time to prevent contact with humans;
- The use of no-touch disinfection technologies should be done only as an additional measure, after thorough cleaning and not as replacement.
- Disinfection must be targeted at touched surfaces, including sitting areas, service areas, entrances, blinds floor and the immediate environment.
- Where pertinent, non-porous materials should be properly disinfected with 0.5% sodium hypochlorite solution or according to manufacturer's instructions before using for other rooms.
- 0.5% peroxyacetic acid, 3% hydrogen peroxide, or 500mg/L chlorine dioxide can be adopted for air disinfection;
- When applying disinfectants through non-touch technologies, care must be taken to ensure that;
 - The area is empty and there are no occupants;
 - The area is adequately ventilated before and after application of disinfectant;
 - Contact times of disinfectants to be observed and applied as per manufacturer's instructions.
 - Ventilate areas with fresh air for a minimum of at least 30 minutes after applying disinfectant.

11) Use of tunnel-disinfectants

Spraying individuals with disinfectants (such as in a tunnel, cabinet, or chamber) is not recommended under any circumstances. This could be physically and psychologically harmful and would not reduce an infected person's ability to spread the virus through droplets or contact. Moreover, spraying individuals with chlorine and other toxic chemicals could result in eye and skin irritation, bronchospasm due to inhalation, and gastrointestinal effects such as nausea and vomiting (WHO).

12) Deep cleaning and decontamination procedures in public places and workplaces where a person tested positive for COVID-19 and where COVID-19 bodies are managed.

Where a person/worker/user of a public place/family member have been confirmed to have tested COVID-19 in a public place, workplaces, or homes, and other places where COVID-19 deceased bodies were handled, deep cleaning and decontamination of the affected area/s should be conducted.

- All frequently touched surfaces and shared resources that may have become soiled with respiratory secretions or other body fluids of the ill person(s) must be thoroughly cleaned and disinfected.

12.1) Deep cleaning and decontamination of patient's homes

As part of everyday hygiene measures, homes should be cleaned and disinfected daily, with a focus on frequently touched surfaces and objects such as tables, countertops, light switches, doorknobs, cabinet handles, bathrooms and food preparation areas.

The following guideline can be followed where a family member have tested positive for COVID-19;

- Clean and disinfect bathrooms and toilet surfaces at least once daily. Regular household soap or detergent should be used first for cleaning, and then, after rinsing, regular household disinfectant containing 0.5% sodium hypochlorite should be applied;
- Place contaminated linen into a laundry bag. Do not shake soiled laundry and avoid contaminated materials coming into contact with skin and clothes. Clean the patient's clothes, bed linen, and bath and hand towels using regular laundry soap and water or machine wash at 60–90 °C with common household detergent, and dry thoroughly.
- Gloves and protective clothing (e.g. plastic aprons) should be used when cleaning surfaces or handling clothing or linen soiled with body fluids. Domestic gloves should be used. After use, utility gloves should be cleaned with soap and water and dried. Single-use gloves (e.g., nitrile or latex) should be discarded after each use;
- [Use diluted household bleach solutions](#) if appropriate for the surface. Check to ensure the product is not past its expiration date. Unexpired household bleach will be effective against coronaviruses when properly diluted.
- [Alcohol solutions with at least 70% alcohol](#) to be utilized for surface disinfection.
- [Household cleaners and disinfectants](#): Clean the area or item with soap and water or another detergent if it is dirty. Then, use a household disinfectant;
- [Follow the instructions on the label](#) to ensure safe and effective use of the product.
- Perform hand hygiene before and after removing gloves;
- Gloves, masks and other waste generated during at-home patient care should be placed into a waste bin with a lid or suitable HCRW receptacle in the patient's room before being disposed of as infectious waste.
- Avoid other types of exposure to contaminated items from the patient's immediate environment (e.g. do not share toothbrushes, cigarettes, eating utensils, dishes, drinks, towels, washcloths or bed linen).

12.2) Deep cleaning and decontamination procedure there an employee in a workplace has tested positive for COVID-19.

For COVID-19 containment, workplaces should generally increase the frequency of routine cleaning and disinfection of high touch surfaces and shared resources (to at least twice a day), before starting the day and after finishing work. If there are more than two shifts per day, cleaning and disinfection before each shift is essential to protect the workers.

- All surfaces should be cleaned and wiped down daily, and apply (0.1%) chlorine solution (household bleach).
- Cleaning schedule

The following guideline should be followed where an employee have tested positive to COVID-19;

- High touched points and all shared resources (e.g. desks, tables, doors, door handles, telephones, lifts, lift knobs, photocopy machines, etc.) must be damp cleaned with detergent and water and then wiped with disinfectant;
- Reduce exposure to possible contaminated items from the patient's work environment (pens, computers, eating utensils, dishes) by wiping with 70% alcohol. Eating utensils can be washed and dried;
- Clean and disinfection all common entrances, exit points, bathrooms, kitchen areas and lifts;
- Windows, blinds, curtains to be thoroughly cleaned;
- Walls, floors, windows, ventilation shafts, storage areas to be cleaned thoroughly;
- Where there are bodily fluids are present of the positive, e.g. an employee vomits or there is blood present, such spillages should be covered with absorbant paper towels or similar and left for 30 min for the fluid to be absorbed. Then, wearing gloves and a plastic apron, the paper towels are removed using a brush and pan. The area is washed with detergent and water and dried. Finally the surface is wiped over with 5000 ppm (0.5%) chlorine, or 20x30g sachets of Biocide D Extra/10L water;
- The cleaning and disinfection crew must wear cloth masks, utility gloves and plastic aprons;
- After use, utility gloves should be cleaned with soap and water and dried;
- The crew must perform hand hygiene before and after removing gloves.

12.3) Temporary closure of a workplace after identification of a COVID-19 positive case

- Workplaces must be cleaned and disinfected as a daily hygiene measure. When a confirmed COVID-19 case amongst staff in workplaces and/or public places is reported and daily cleaning and disinfection routine and procedures has not been followed, and where substantial outbreak or 5 or more persons have been confirmed COVID-19 positive, the building should be temporarily closed for deep cleaning and disinfection.
- Temporary closure of the workplace is not required if the person that was diagnosed with COVID-19 did not visit or use the facility for more than 7 days. In addition, decontamination of workplaces is not necessary, if the area/s has been unoccupied for more than 7 days, however cleaning prior to occupation is recommended for removal of dust and/or dust mites from the premises prior to occupation.
- The size of the area/s to be disinfected, the disinfectant contact time and type of disinfection method should guide the duration of closure of the premises. Most disinfectants requires that the surface should remain wet for the required contact time of (between 3-24 hours);

- In most cases, only the sections of the premises that the infected employee/s may have contaminated may be temporarily closed for deep cleaning and decontamination.
- If all the necessary daily cleaning and disinfection procedures, universal masking, hand hygiene and social distancing was already in place meticulously followed, the workplace may function as normal;
- The company compliance officers should manage the temporary closure and ensure that deep cleaning and disinfection protocols are meticulously followed;
- Closure of premises for consecutive days is only indicated if there is an outbreak of 5 or more people and the source is not known. In this instance, the source of the infections maybe spreading it to others, therefore closure maybe needed for cleaning and screening of exposed members of staff to avoid exposing anyone to asymptomatic or pre-symptomatic spread.
- The management of employees that tested positive must follow clinical guidelines for isolation at home or at a designated isolation facility for the specified period as outlined in the Quarantine and Isolation Guidelines issued by the *Department of Health and National Institute for Communicable Diseases (NICD)*; and the *DOHs Guidance note for workplaces in the event of identification of a COVID-19 positive employee (V5: 14 May 2020)*;
- Contact tracing of fellow officials and family (all those identified as primary contacts – persons that have been in contact with the positive person for more than 15min without a mask), of the employee must be managed in line with the *NICD Guidelines for case-finding, diagnosis, management and public health response in South Africa*.

12.4) Public place disinfection in case of a confirmed or suspected COVID-19 case;

Where suspected or confirmed cases, or passengers with suspicious symptoms are found in public transportation or public gathering places, schools, cleaning and disinfection should be performed, using the following method;

- Surfaces or the inside of the vehicle/transportation mode must be damp cleaned with detergent and water and then wiped with disinfectant;
- All surfaces should be cleaned and wiped down daily, and apply (0.1%) chlorine solution. (household bleach)
- The crew disinfecting must wear cloth masks, utility gloves and plastic aprons.
- After use, utility gloves should be cleaned with soap and water and dried.
- The crew must perform hand hygiene before and after removing gloves.

Where external service providers are utilized for deep cleaning and decontamination after identification of a positive case in a workplace or public place, the service provider should provide the following;

- ✓ proof of training of the cleaning crew;
- ✓ proof of registration of the disinfectant used with the NRCS;
- ✓ the chemical MDS;

- ✓ Proof of correct dilution and use of the disinfectant.

13) Personal Protective Equipment (PPE) for cleaning and disinfecting staff.

Cleaners should wear adequate personal protective equipment (PPE) and be trained on the correct use to ensure it safely.

Table 6: Recommended cleaning PPE for cleaning and disinfection

Activity	Type of PPE
Manual cleaning and disinfection	Long rubber utility gloves – ideally up to elbow (that is washable); Surgical masks; Eye protection; Plastic apron; Closed work shoes.
Non-touch technologies	Plastic overalls; Respirators, minimum of a FFP2; Eye protection, either goggles or face shield; Closed shoes.

14) Training and orientation of cleaning staff on disinfection methods

Cleaning and support staff must be orientated and trained on;

- Hand hygiene
- Correct use of PPEs;
- The cleaning and correct disposal of PPE.
- Disinfection requirements, which should include;
 - Preparation, handling, application, and storage of disinfectant products, mostly bleach, which may be at a higher concentration than usual.
- Possible health risks from disinfectants and preventative measures;
- First aid measures to be taken in case of accidental exposure to chemicals;

15) Storage and disposal of waste generated from cleaning and disinfection

15.1) Storage of chemicals

- Chemical containers should be stored securely to prevent leakages;
- The area where the disinfection chemicals are stored must be adequately illuminated and ventilated.
- The walls, fittings and shelving of the storage area must be constructed of non-combustible material.
- Containers carrying chemicals should be treated as hazardous waste and disposed of in a prescribed manner.
- Overcrowding of chemical containers should be avoided at all times.

15.2) Disposal of chemical containers

- Chemical containers should be disposed of as hazardous waste and in adherence to prescribed legislation, or alternatively be returned to manufacturers for recycling.

- All waste generated during cleaning and disinfection, including masks, gloves, paper towels, etc. shall be treated as general waste in line with the Guidelines for waste management in the context of COVID-19.

To note;

Cleaning and disinfection of workplaces and public places must be implemented in conjunction with the other health and hygiene measures as prescribed in the lockdown Regulations and other health directives;

- Daily health screening of employees – temperature assessment and symptoms check;
- Workplace risk contingency plans – isolation and referral of suspected cases, and health and safety protocols;
- Compulsory wearing of cloth masks in public places;
- Compulsory hand hygiene practices – sanitizing on entry and exit by the public and employees;
- Social distancing (at least 1.5 meters).

16) Public places environmental cleaning and disinfection rollout plan

Below is the detailed rollout plan to guide disinfection of public places, including public transportation, high vulnerability settings and high risk areas of residence amongst others.

The plan outlines priority areas/responsible sectors, disinfection methods and minimum recommended frequencies of disinfection.

NATIONAL PUBLIC PLACES DISINFECTION IMPLEMENTATION PLAN

Table 7: Cleaning and disinfection rollout plan

High Priority Area	Public gathering places	Areas to be disinfected	Type of disinfection	Cleaning and disinfection frequency	Responsibility
Public transportation facilities/hubs	<ul style="list-style-type: none"> Bus, taxi and train stations/ranks; Busses, trains, taxis; E-hailing services. 	<ul style="list-style-type: none"> Indoor facilities (enclosed environments) (offices, toilet facilities and indoor areas); Frequently touched surfaces/objects (Hand rails; door handles); Passenger seats, windows; 	Surface disinfection	Daily on start and end of every shift	Department of Transport (DOT); Municipalities; Conveyance operators;
	<ul style="list-style-type: none"> Airports and aircrafts; Harbors and ships; Border posts; 	<ul style="list-style-type: none"> Terminal buildings, offices, check-in points, lifts, eating places, toilet facilities; Frequently touched surfaces/objects (Hand rails; door handles); 	Surface disinfection	Daily	Department of Transport (DOT); Municipalities; Conveyance operators
	<ul style="list-style-type: none"> Public and private primary and high schools; Institutions of higher Learning; Early Learning Development Centers; 	<ul style="list-style-type: none"> Classrooms, indoor play areas; lecture halls, lifts, corridors, desks and chairs, offices; halls, eating areas, sleeping facilities; Frequently touched surfaces/objects (Hand rails; door handles, teaching and learning aids, play facilities, windows, seating facilities); Scholar transport; 	Surface disinfection;	Daily, before and close of business;	DOT; DPWI; Port Authorities
Health care facilities	<ul style="list-style-type: none"> Hospitals, clinics and other health care facilities 	<ul style="list-style-type: none"> Wards, kitchen facilities, toilet facilities, emergency areas, reception/waiting areas; Frequently touched surfaces/objects (Hand rails; door handles); 	Surface disinfection	At least twice daily (as guided in the IPC guidelines on COVID 19)	Department of Health (DOH); Municipalities; Private health sector;

Isolation and quarantine Sites	Isolation and quarantine Sites	All frequently touched surfaces, including toilet, sleeping and eating spaces.	Surface disinfection	At twice a day (as guided in the IPC guidelines on COVID 19)	Department of Public Works and Infrastructure (DPWIs): DOH; Government departments; Private sector;
Workplaces	<ul style="list-style-type: none"> Office accommodation /Buildings Service points; Industries/ factories/ Warehouses 	<ul style="list-style-type: none"> Office buildings, toilet facilities, lifts, corridors, communal eating places, counters and service areas, desks, tables, chairs; Frequently touched surfaces/objects (Hand rails; door handles); 	Surface disinfection	Daily (before and after close of business)	
Business centers	<ul style="list-style-type: none"> Shopping centers/complexes/ Malls, retail shops, fast foods chains, banking halls 	<ul style="list-style-type: none"> Enclosed environments; Frequently touched surfaces, counters; Public service areas, toilet facilities, paying tills, paying machines etc. 	Surface disinfection;	Daily, at least twice a day	Private sector/owners;
High risk areas of residence	<ul style="list-style-type: none"> Communal living Hostels; Informal settlements; 	<ul style="list-style-type: none"> Communal toilet facilities and communal water collection points; 	Surface disinfection	Daily, at least twice a day	Municipalities Department of Water, Sanitation and Human Settlement (DWSH)
Accommodation establishments	<ul style="list-style-type: none"> Hotels, lodges, BnBs; 	<ul style="list-style-type: none"> Check in counters, reception areas; Gyms, sleeping and eating spaces; Frequently touched surfaces; 	Surface disinfection	Daily	Department of Tourism; Private establishment owners.
Correctional facilities	<ul style="list-style-type: none"> Prisons 	<ul style="list-style-type: none"> Sleeping and eating spaces, toilet and bathing facilities, eating halls; Frequently touched surfaces; 	Surface disinfection	Daily	DCS
	<ul style="list-style-type: none"> Police stations Courts 	<ul style="list-style-type: none"> Cells/ accommodation facilities, counters, waiting 	Surface disinfection	Daily	SAPS;

Public service areas	<ul style="list-style-type: none"> ▪ Municipal services offices 	halls, service areas, toilet facilities.	Surface disinfection	Daily, at least twice daily	Department of Justice (DOJ); Municipalities
High vulnerability settings	<ul style="list-style-type: none"> ▪ Places of safety; ▪ Homes of the Aged ▪ Shelters for the homeless. 	<ul style="list-style-type: none"> ▪ Living, sleeping and eating spaces, toilet and bathing facilities; ▪ Frequently touched surfaces. 	Surface disinfection	Daily, at least twice daily	DSD;
Religious gathering places	<ul style="list-style-type: none"> ▪ Churches 	<ul style="list-style-type: none"> ▪ Seating, door handles, rails, toilet facilities 	Surface disinfection	On start and end of each service	Religious Institutions
Entertainment facilities	<ul style="list-style-type: none"> ▪ Sporting facilities, stadia, arenas, cinemas, museums, theatres, cultural centers, public gyms; 	<ul style="list-style-type: none"> ▪ Toilet facilities, showers, spectator seating; ▪ Communal eating areas; ▪ Frequently touched surfaces; 	Surface disinfection	Before and after use by every person (machines); Before and close of business	Department of Sports, Arts and Culture; Private sector;

3.5 WATER, SANITATION AND HYGIENE (WASH) GUIDELINES

The provision of safe water, sanitation and hygienic conditions is essential for protecting human health during all infectious disease outbreaks, including of COVID-19. Ensuring evidenced-based and consistently applied WASH and waste management practices in communities, homes, schools, marketplaces, and health-care facilities will help prevent human-to-human transmission of the virus that causes COVID-19 (WHO).

Upholding best WASH practices in health facilities, quarantine areas, high risk places of residence, and homes is also important for preventing the spread of COVID-19 and when caring for patients at home.

The following WASH measures should be implemented to support the control of the spread of the virus;

(1) Provision of safe drinking water

Ensuring access to safe adequate water supply in all public settings, schools, health facilities, high vulnerability settings and high risk places of residence, such as informal settlements or un-serviced areas is critical for the COVID-19 infections prevention. Communities should be provided with safe, constant and adequate supply of water.

Several measures can improve water safety, starting with protecting the source water; treating water at the point of distribution, collection or consumption; and. Such measures can be effectively planned, implemented and monitored using water safety plans.

Key issues for public hygiene:

- Identification of high risk areas requiring supply of temporary water supplies;
- Frequent testing of the quality of water supplies at point of use.
- Ensuring that treated water is safely stored at home in regularly cleaned and covered containers – to be emphasized through health promotion.

(2) Safe disposal of sewage

Provision of adequate sanitation services, toilet facilities, safe use and maintenance thereof is critical in the control of the spread of disease, to ensure adequate care and protecting staff, care givers and patients at homes and in health care facilities from the risk of infection and to ensure safe sanitation practices in schools and communities.

Managing and disposing of excreta safely, (ii) engaging in frequent hand hygiene using appropriate techniques after using toilet facilities and implementing regular cleaning and disinfection practices will be particularly important. Providing adequate and accessible toilets for confirmed and suspected cases of COVID-19 infection).

Sanitation workers should have proper training and access to personal protective equipment (PPE) and in many scenarios, a specific combination of PPE elements is recommended.

(3) Provision of hygiene facilities

It is key to ensure that personal hygiene can be maintained, particularly hand hygiene in public places, schools and high risk places of residence. Innovative techniques to be applied and explored particularly in areas without adequate service to ensure that hand hygiene can be implemented.

a) Construction of self-made handwashing facilities (Tippy Taps)

Not all communities, and schools in the country have access to handwashing facilities and running water in their homes to wash hands. Programmes should be in place to build skills to enable local construction of self-made hand-wash technologies, using locally available material, i.e. Tippy Taps.



Fig 3: Images by tippy tap.org. and UNICEF.

4. NATIONAL PUBLIC HYGIENE IMPLEMENTATION PLAN

Table 8: Public hygiene implementation plan

OBJECTIVE	ACTIVITIES/ACTIONS	RESPONSIBILITY	TIME FRAME
Implement hygiene measures in public places	<ul style="list-style-type: none"> Monitor the implementation of the Public Hygiene Strategy by the public and private sectors; Provide support on capacity building of relevant COVID 19 hygiene protocols for workplaces, schools, public transportation and other sectors; Ensure enhanced Infection, Prevention and Control in health care facilities; Monitor the adherence to hygiene measures (hand hygiene, cleaning and disinfection, social distancing, waste management, water, sanitation and hygiene) in public places; Health education and awareness; 	Department of Health (DOH)	Immediately
	<ul style="list-style-type: none"> Develop, implement and monitor public hygiene plans at district level; Ensure environmental cleaning and disinfection of municipality owned public places, and including high risk places of residence. Monitor and enforce entrance and exit hand sanitizing in public places, including business centers, schools, public transportation; Monitor and ensure adherence to social distancing measures in public places; Monitor and enforce environmental cleaning and disinfection in public places, high vulnerability places and high risk areas of residence, including business centers, schools, public transportation; Community health education and awareness – including empower communities with the skills to construct simple low-cost technology for 	Municipalities/Municipal Health Services;	Immediately

	handwashing, particularly where water is scarce and appropriate handwash facilities are nonexistent.		
	<ul style="list-style-type: none"> ▪ Implement hygiene measures (hand hygiene, social distancing, environmental cleaning and disinfection, waste management) in schools; ▪ Training of educators and cleaners on COVID-19 protocols; ▪ Ensure food safety in school feeding programmes in line with hygiene protocols. ▪ Ensure adequate water, sanitation and handwashing facilities; ▪ Enhance COVID-19 information, education and awareness to learners and teachers. 	Department of Basic Education (DBE)	Immediately
	<ul style="list-style-type: none"> ▪ Implement hygiene measures (hand hygiene, social distancing, environmental cleaning and disinfection, waste management and water, sanitation and hygiene) in institutions of higher learning. ▪ Enhance COVID-19 information, education and awareness to learners and all workers. 	Department of Higher Education and Training (DHET)	Immediately
	<ul style="list-style-type: none"> ▪ Ensure implementation of hygiene measures in public transportation; ▪ Continuously promote positive hygiene behaviours in public transportation; ▪ Ensure adherence to social distancing measures in public transportation; ▪ COVID-19 education and awareness in public transportation. 	Department of Transport (DOT); Municipalities	Immediately

	<ul style="list-style-type: none"> Implement hygiene measures (hand hygiene, social distancing, environmental cleaning and disinfection, waste management and water, sanitation and hygiene) in ECDs, Old Age Homes; Ensure food safety in children feeding programmes in line with hygiene protocols. Ensure COVID-19 information, education and awareness in ECDs, Old Age Homes and shelters. 	Department of Social Development (DSD);	Immediately
	<ul style="list-style-type: none"> In collaboration with the Department of Health provide guidelines on management of infectious waste in the context of COVID-19; Inclusion of COVID-19 considerations in environmental initiatives, including vector control initiatives; Facilitate interventions focusing on high risk areas with a focus on safe sanitation, separation of waste at source, recycling; Community health education and awareness. 	Department of Environment Fisheries and Forestry (DEFF) DOH;	Immediately
	<ul style="list-style-type: none"> Support COVID-19 response public hygiene interventions at community level through the Expanded Public Works Programme. 	Department of Public Works and Infrastructure (DPWI)	Immediately

5. MONITORING IMPLEMENTATION OF THE STRATEGY AND MONITORING EVALUATION FRAMEWORK

Physical monitoring of adherence to public hygiene measures;

- (1) The Regulations published in terms of the Disaster Management Act, prescribes that sectors should designate compliance officers in their areas of operation to ensure adherence to hygiene measures and protocols, such as workplaces, schools, public service areas.
- (2) Environmental Health Practitioners to provide oversight monitoring on compliance to public hygiene measures in public places.
- (3) Public hygiene data to be collected and reported on through District Disaster Management Centres and the provincial Joint operations teams.
- (4) The DOH may request data on outlined indicators from the various sectors periodically for implementation overview.

Action	Target	Indicators	Responsible Organization
Public hygiene measures in public places;	<ul style="list-style-type: none"> Designate hygiene measures compliance officers in each sector; 	<ul style="list-style-type: none"> Number of sector disinfection compliance officers designated; 	All government departments; Private sector;
	<ul style="list-style-type: none"> Orientation of cleaning staff on disinfection requirements; 	<ul style="list-style-type: none"> Number of cleaning staff oriented and trained per sector; 	All government departments; Private Sector;
	<ul style="list-style-type: none"> Environmental cleaning and disinfection of public places; 	<ul style="list-style-type: none"> Transport facilities cleaned and disinfected, disaggregated into: <ul style="list-style-type: none"> Taxi ranks; Bus ranks; Train stations; 	DOT; COGTA Municipalities.
	<ul style="list-style-type: none"> Public transportation; 	<ul style="list-style-type: none"> Number of transport modes disinfected, disaggregated into: <ul style="list-style-type: none"> Taxis; Buses; Trains; Transport hubs and facilities implementing hand hygiene measures for passengers and drivers and social distancing; 	
	<ul style="list-style-type: none"> Airports and aircrafts. 	<ul style="list-style-type: none"> Airports cleaned and disinfected weekly (cleaning schedules); Airports implementing hand hygiene measures for travellers; Airports complying with social distancing measures; 	DOT COGTA Port authorities
	<ul style="list-style-type: none"> Land borders. 	<ul style="list-style-type: none"> Land border posts cleaned and disinfected weekly (cleaning schedules). Land borders implementing hand hygiene measures for travellers and staff; 	DOT DPWI

		<ul style="list-style-type: none"> Number of transport facilities complying with social distancing measures for travellers; 	
<ul style="list-style-type: none"> Sea ports. 	<ul style="list-style-type: none"> Harbours cleaned and disinfected weekly (cleaning schedules); Number of transport facilities implementing hand hygiene measures for travellers; Number of transport facilities complying with social distancing measures; 	<ul style="list-style-type: none"> DOT Port authorities 	
<ul style="list-style-type: none"> Public and private schools; <ul style="list-style-type: none"> 23 076 public schools; 1922 independent schools; 	<ul style="list-style-type: none"> Schools with designated cleaning staff; Cleaning schedules for schools; Schools adherent to social distancing measures; Schools adherent to hand hygiene protocols; Schools with adequate water and sanitation facilities; Schools transport facilities compliant with hygiene and social distancing measures; Number of schools implementing temperature assessments and other screening measures for students and all staff; 	<ul style="list-style-type: none"> DBE Private school owners 	
<ul style="list-style-type: none"> Public and private institutions of higher learning. <ul style="list-style-type: none"> 26 public higher education institutions (97 campuses), 133 Private higher education institutions, 150 technical and vocational education and training, 299 private colleges, 	<ul style="list-style-type: none"> Institutions of higher learning cleaning and disinfection (weekly schedules) disaggregated into: <ul style="list-style-type: none"> Public higher education institutions; Private higher education institutions; 	<ul style="list-style-type: none"> DHET Private Institutions 	

<p>9 community education and training colleges (1810 centers);</p>	<ul style="list-style-type: none"> ○ Technical and vocational education and training centers; ○ Private colleges; ○ Community education and training colleges; ▪ Transport facilities implementing social distancing and hand hygiene measures for students and staff; ▪ Number of Institutions implementing temperature assessments and other screening measures for students and all staff; ▪ Designated and trained cleaning staff; ▪ Cleaning schedules; ▪ Institutions compliant with social distancing measures; ▪ Institutions adherent to hand hygiene measures; 	
<ul style="list-style-type: none"> ▪ Early Childhood Development Centers (ECD) facilities; 	<ul style="list-style-type: none"> ▪ ECDs with designated cleaning staff; ▪ Cleaning schedules for ECDs;; ▪ ECDs compliant with social distancing measures; ▪ ECDs with adequate water and sanitation facilities; ▪ ECDs compliant with hand sanitising measures. 	<p>DSD Private</p>
<ul style="list-style-type: none"> ▪ Business centers nationwide; 	<ul style="list-style-type: none"> ▪ Shopping malls, centres, gyms, complexes cleaning and disinfected schedules; ▪ Business centres compliant with hand hygiene measures; ▪ Business centres compliant with social distancing measures; 	<p>DTI Private Sector</p>

	<ul style="list-style-type: none"> Prisons; 	<ul style="list-style-type: none"> Prisons implementing cleaning and disinfection schedules; Correctional facilities compliant with hand hygiene measures for inmates and staff; Correctional facilities compliant with social distancing measures; 	Department of Correctional Services
	<ul style="list-style-type: none"> 1154 police station; 	<ul style="list-style-type: none"> Prisons implementing cleaning and disinfection schedules daily, hand sanitising and social distancing 	SAPS
	<ul style="list-style-type: none"> Old Age Homes, and places of safety; Permanent and temporary shelters; 	<ul style="list-style-type: none"> Shelters and Old Age Homes implementing daily cleaning and disinfection schedules, hand sanitizing and social distancing measures. 	DSD
	<ul style="list-style-type: none"> Religious gathering places; 	<ul style="list-style-type: none"> Churches implementing entry and exit hand sanitizing, social distancing and cleaning and disinfection measures. 	Church leaders

6. References

DOH, National Had Hygiene Behavioural Change Strategy, 2015;

DOH, COVID-19 Disease, Infection, Prevention and Control Guidelines, May 2020;

WHO.int, Water, Sanitation and Hygiene and Waste Management for COVID-19 virus, April 2020;

WHO.int, Cleaning and Disinfection of Environmental Surfaces in the context of COVID 10, May 2020;

WHO.int, Getting your workplace ready for COVID-19 (WHO), 3 March 2020;