

Preparedness measures in case of COVID-19 emergency in Water, Sanitation and Hygiene (WASH) and Infection Prevention and Control (IPC) in Health Care Facilities (HCF)

INTERNAL DOCUMENT / Coronavirus - Procedure n° ... – DROI-DeXT-U

Redaction	: 25.03.2020	from : EASA (WASH and FSL) unit
Validation	: 27.03.2020	
Translation	: 08.04.2020	

Due to the evolving nature of the situation related to the ongoing COVID-19 pandemic, and the necessity to adjust the responses, including technical, these documents are likely to be modified or completed.

A. INTRODUCTION

This **guidance note**, issued by UNICEF, aims to help delegations to be able to respond with the Host National Society to requests from the Ministry of Health according to the alert levels of the COVID-19 epidemic. It is intended for WaSH and healthcare staff to help them prepare for and respond to the current global COVID-19 pandemic.

This note gives an overview of Infection Prevention and Control (IPC) and its intersection with the Water, Sanitation and Hygiene (WaSH) sector. It also provides **key actions that staff can take to help prevent the infection and its spread in health facilities** (or Health Care Facilities - HCF) - that is, from person to person - among health workers and patients and by touching surfaces contaminated with the virus. The Water, Sanitation and Hygiene sector, including waste management and environmental cleaning, are important for Infection Prevention and Control (IPC).

It is recalled that these activities can only be done with the agreement of the HNSs (response plan) and the Ministries of Health. The guidelines are not exhaustive, but provide highlights of the main actions that WaSH and healthcare workers can take to prevent infection in healthcare settings.

B. UNDERSTANDING INFECTION PREVENTION AND CONTROL (IPC)

According to the WHO, Infection Prevention and Control (IPC) is a scientific approach and a practical solution designed to prevent damage caused by infection to patients, WASH and healthcare workers. It is based on infectious diseases, epidemiology, social sciences and the strengthening of health systems. IPC is uniquely positioned in patient safety and in quality universal health coverage, as it is relevant to health workers and patients at every medical consultation.

A poor situation in Water Sanitation and Hygiene and in IPC leads to infections related to healthcare, the transmission of diseases from health establishments to communities and an increased use of antibiotics, and favor the appearance and spread of infections - in this case COVID- 19. On the contrary, effective IPC reduces nosocomial infections by at least 30% (WHO 2016).

In the context of Health Care Facilities (HCF), we also differentiate IPC and WASH: IPC cannot be achieved without WASH services, the latter constituting the basis of an adequate IPC. **It is important to note that with the potential increase in the influx of patients, the demand for water and sanitation services may be higher than the available supply and it will be essential to close the gap to prevent health services from being disrupted.**

The guidelines below also apply to the establishment of temporary screening facilities, inside or near existing health care facilities, or in other buildings requisitioned for this purpose, where IPC-WASH services must be implemented or strengthened. However, the screening process itself or the disinfection and sterilization of medical equipment are not included in the framework of this WASH-oriented note, but the Health office will be able to give recommendations for action on these aspects. We must also bear in mind that the **various national Ministries of Health have norms and standards in terms of water and sanitation for health care facilities**, of which the teams must be aware.

Important resources to read	
IPC	<p>Joint technical note UNICEF-WHO on WASH: https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19</p> <p>Technical guidelines by the WHO on IPC: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control https://www.who.int/infection-prevention/publications/en/</p> <p>Revised online training on IPC by WHO: https://openwho.org/courses/COVID-19-IPC-EN</p> <p>Good practices on environmental cleaning in health care facilities in low-resources settings, by the CDC: https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf</p>

KEY PRACTICES FOR IPC AND WASH IN HEALTH CARE FACILITIES

- **Hand hygiene:** hand washing with soap and running water or with an alcohol-based hand disinfectant / disinfectant and compliance with barrier gestures for coughing and sneezing in all contexts.
- **Ensure the availability** at all times of properly labeled **water points** for the different uses (drinking water; water for hand washing stations; water for cleaning and disinfecting surfaces) in sufficient quantity, and services sanitation facilities regularly maintained and disinfected
- **Environmental cleanliness** (cleaning of floors, surfaces and possible contact points and fabrics)
- **Disinfection of PPE** (Personal Protective Equipment) and **WASH** equipment (aprons, boots, glasses, waste containers, water containers)
- **Management of infectious and dangerous waste**

PROPOSAL OF WASH ACTIVITIES TO REDUCE THE INFECTION RISK IN HEALTH CARE FACILITIES

First steps include :

- **Carry out a rapid assessment** (using for example tools such as WHO WASH-FIT¹ or existing national tools) **to identify HCFs without WASH services and those with the highest patient population**, which could compromise their security.

In accordance with the Ministry of Health and WHO, the assessment format can be adapted to prioritize the key IPC parameters related to COVID-19, where many health facilities need to be assessed quickly.

The WASH assessment should be carried out on the basis of the priorities of the Ministry of Health in terms of geographical areas and health centers as not all the facilities can be treated at the same time. In addition, we can work with the Health Systems Strengthening Teams of the UNICEF Health Section to identify communities suffering from multiple deprivations. A capacity assessment should be carried out, and training of health workers and non-medical staff about IPC measures in coordination with health colleagues may be necessary.

- As part of the **COVID-19 emergency preparedness and response plan**, it is likely that the Ministry of Health will identify the HCFs that are used only for screening, and those that will manage the screening and treatment of patients ; each type of HCF will require a different level of IPC intervention and coordination with the Ministry of Health and WHO to clearly share roles and responsibilities.

It is important to **prepare a plan to provide and improve or upgrade WASH services and equipment**, and to implement them to support established facilities for screening and treatment. It is necessary to **ensure the continuous availability of essential hygiene and prevention items** such as soap, hand sanitizers, chlorine generating products (HTH 60-70%, NaDCC.), commercial disinfectant (e.g. clorox) and disinfection materials (mops, buckets, etc.), drinking water dispensers and personal protective equipment for the use of hygienists in health centers.

- **Develop a simple system to monitor the functionality of services** in HCFs that are supported as well as not supported. The following aspects should be frequently monitored:
 - the availability of water,
 - chlorine solutions with different concentrations of active chlorine (1%, 0.5%, 0.05%),
 - the availability of chlorine, detergents and disinfectants,

¹ https://www.who.int/water_sanitation_health/publications/water-and-sanitation-for-health-facility-improvement-tool/fr/

- hand washing systems (water / soap, alcohol balms / hand sanitizers or chlorinated water),
- the cleanliness of the shower rooms and latrines (separate for suspected / confirmed cases and other people),
- regular and safe disposal of medical waste and solid waste.

PROVISION OF WASH SERVICES IN HEALTH CARE FACILITIES

WATER ACCESS:

Water is necessary to promote personal hygiene, including washing hands with soap as a key preventative measure. Water must be available to allow regular cleaning and disinfection, as well as laundry and other activities, without encroaching on the amount of drinking water available.

Key actions in terms of water access in HCFs

- Ensure that **safe and adequate running water is available in health centers**, in particular in treatment points (screening rooms, examination rooms, injection rooms, units, treatment rooms, work rooms, delivery rooms and postnatal care rooms as well as morgues), and for environmental cleaning, laundry, personal hygiene and decontamination of equipment and surfaces.
- **If there is no running water**, all means must be put in place to guarantee a continuous availability of water for health establishments, which may require transporting water or increase on-site water storage capacity.
- In areas where you choose to transport water by trucking:
 - A. Free residual chlorine (> 0.5 mg / l) must be checked for each truck load to ensure water safety
 - B. Let the water sit in the tank before releasing it for use.
 - C. Ensure regular cleaning of storage tanks.
- Make sure the water is treated safely. A number of steps can be taken to improve water security, starting with the safe collection and storage of treated water in regularly cleaned and covered containers. In addition, **conventional and centralized water treatment methods that use a common filtration and disinfection system inactivate COVID-19**.
- When possible, provide water stations with taps and devices operated by pedals or water dispensers equipped with sensors to minimize hand contact and reduce the risk of infection; avoid the installation of metal taps when possible and use elbow taps (as in operating rooms) when feasible; in most cases however, when standard taps are used, make sure the taps are regularly disinfected by regular hand washing, or provide paper towels to use when opening and closing the taps, as well as facilities for safely disposing of towels.

Important resources to read	
WASH SERVICES IN HCF	<p><u>Water :</u> WHO note on the measure of free residual chlorine: https://www.who.int/water_sanitation_health/hygiene/envsan/chlorineresid.pdf</p> <p><u>Hygiene :</u> WHO open online course on IPC : WHO IPC MODULE 3 – PPT https://openwho.org/courses/COVID-19-IPC-EN (Module 3, slide 11-17) CDC Guidelines on handwashing: https://www.cdc.gov/handhygiene/providers/guideline.html CDC Guidelines on sneezing and coughing etiquette: https://www.cdc.gov/healthywater/hygiene/etiquette/coughing_sneezing.html CDC poster on how to prepare a 0,05% chlorinated solution from HTH for handwashing: https://www.cdc.gov/vhf/ebola/pdf/chlorine-solution-liquid-mild.pdf</p> <p><u>Environmental cleaning :</u> HO open online course on IPC : WHO IPC MODULE 3 – PPT (slides 23-33) https://openwho.org/courses/COVID-19-IPC-EN CDC good practices on environmental cleaning in HCF in low-resources settings: https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf CDC Guidelines on PPE sequence: https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf CDC Visual note on how to prepare a 0,5% chlorinated solution from bleach: https://www.cdc.gov/vhf/ebola/pdf/cleaning-handwashing-5percent-liquid-bleach.pdf CDC Visual note on how to prepare soapy water for surface cleaning: https://www.cdc.gov/vhf/ebola/pdf/chlorine-solution-liquid-soapy.pdf Northern Ireland Regional IPC Manual on simple cleaning and disinfection: https://www.niinfectioncontrolmanual.net/cleaning-disinfection</p>

PERSONAL HYGIENE:

Hand hygiene and safe behavior are IPC key measures to prevent the transmission of COVID-19 in health care facilities. **Hand hygiene must be ensured at all times after touching surfaces in HCFs:** after touching door handles, elevator doors and buttons, after removing masks, after going to the toilets, before eating, and after blowing your nose, coughing or sneezing. **It is necessary to have hand disinfectants or hand washing facilities in each critical location of the health center (entrance, screening and observation places, care, near the toilets, exit).**

	Key actions in terms of <u>personal hygiene</u> in HCFs
	<ul style="list-style-type: none"> • Rubbing the hands with a hydro-alcoholic solution allows disinfection of the hands at the point of care which is faster, more effective and better tolerated; alternatively, ordinary hand washing with soap and water, or with a 0.05% chlorine solution, is necessary to avoid infection. • The proper technique and the time required for handwashing are also important (20-30 seconds for rubbing with alcohol and 40-60 seconds for handwashing with clean water and soap). • When caring for patients, hand hygiene facilities and products (e.g. alcohol-based hand sanitizer if available, water, soap, sinks) should be set up, easily accessible, as close as possible (for example within reach) to the place of care to ensure hand hygiene and therefore the safety of patients and health workers. • We must support the behavior change of health workers, patients and caregivers towards effective hand hygiene within the framework of quality of care and patient safety. • Avoid close contact with other people - no cuddling, kissing, shaking hands. • Remind, inform, and educate healthcare workers, patients, and clients, including mothers, about why, when, and how to wash hands frequently. • Ensure the availability of handwashing stations with soap and water or alcohol-based solutions / hand sanitizers at the entrance and exit of health centers, near the showers and toilets, and at all points of care (screening, observation, treatment).
	Key messages on <u>face hygiene</u> to disseminate to patients and healthcare workers
	<ul style="list-style-type: none"> • Avoid touching your eyes, nose and mouth if your hands have not been previously disinfected • Cover your cough or sneeze with a tissue, then throw the tissue in the trash. Always disinfect or wash your hands with soap and water after coughing or sneezing. It is not recommended to cover the mouth with bare hands when sneezing, but rather to sneeze in the crease of the elbow.

ENVIRONNEMENTAL CLEANING:

Environmental cleaning is a key IPC measure to prevent the transmission of COVID-19.

The cleaning and disinfection procedures recommended in the health centers must be followed in a systematic and correct manner. Linen and surfaces in all medical environments should be cleaned regularly (at least once a day and systematically when a patient leaves).

There are many disinfectants active against COVID-19. Currently, WHO recommends the use of:

- 70% ethyl alcohol to disinfect small areas, such as reusable equipment (e.g. thermometers) between uses.
- 0.5% chlorine solution (5000 ppm equivalent) for surface disinfection

Key actions for <u>environmental cleaning</u> in HCFs	
	<ul style="list-style-type: none"> • Ensure the availability of detergents, soap powder or liquid soap, disinfectant (HTH 65-70%, NaDCC tablets, commercial bleach) and cleaning products (wipes, mops, buckets, etc.) in targeted HCFs. • Clean and disinfect frequently touched objects using a spray bottle or ordinary household cleaning wipe. • Wipe frequently touched surfaces such as door and window handles, door handles, handrails, chairs, elevator knobs with a cloth to remove dirt, then disinfect thoroughly, preferably using sprayers by hand. • Ensure adequate and frequent environmental cleaning of HCFs floors with warm water and detergent or soapy water, followed by appropriate disinfection. • Cleaning staff (hygienists) should be trained with WHO recommended procedures in putting on / removing PPE and decontamination practices.

WASH AND IPC MEASURES IN HEALTH CARE FACILITIES

WASTE MANAGEMENT

Solid waste management, including infectious waste from HCFs, will increase due to the higher generation of personal protective equipment (PPE) such as gloves, face and nasal masks, waterproof protective gowns, boots rubber, rubber aprons and other contaminated materials, including tissues.

To reduce waste volumes, it is advisable to use reusable plastic PPE which can be cleaned and disinfected with a 0.5% chlorine solution. The collection, storage, transfer, treatment and final disposal of infectious waste from HCFs and COVID-19 treatment units are essential.

Key actions for <u>waste management</u> in HCFs	
	<ul style="list-style-type: none"> • Pedal waste bins with liners available at the point of use in health centers are the preferred option. • In the absence of pedal bins, bins with a tilting lid can be chosen as an alternative. Otherwise, open waste containers are better than those that require physical opening by hand. • Favor color-coded waste sorting bins according to the three-bin system (infectious waste, sharp and general waste). Coding / labeling garbage cans is essential to identify infectious healthcare and household waste. Garbage bags should also be purchased. • Keeping waste records is important for understanding the amount of waste produced per day. • The storage location for the reception of large volumes, the transport mechanism in decontaminated trucks and the final disposal arrangements by incineration and autoclaves must be organized in advance. • Combustion pits assisted by drops of fuel such as kerosene can be a solution in the absence of incinerators and autoclaves. • Train waste handlers and sanitation teams in putting on / removing PPE, decontamination, infection prevention and control (IPC) measures.

Important resources to read	
	<p>ICRC guidelines on medical waste management: https://www.icrc.org/en/doc/assets/files/publications/icrc-002-4032.pdf</p> <p>CDC guidelines on medical waste management: https://www.cdc.gov/infectioncontrol/guidelines/environmental/background/medical-waste.html#i2</p>

SANITATION IN HEALTH CARE FACILITIES

COVID-19 is less likely to be transmitted via the oral-fecal pathway, **with the respiratory tract remaining the primary route of transmission**. However, precautionary principles apply and all faecal sludge generated by HCFs must be disposed of properly. About 1 in 5 setting do not have a sanitation service. This means that more than 1.5 billion people go to health centers without toilets. COVID-19's emergency response efforts require the availability of safely managed sanitation systems such as improved latrines or toilets connected to a septic tank or sewer lines to contain and treat materials safe feces. With regard to water demand, there may be an increased need for toilets and the volume of faecal sludge and wastewater to be collected and disposed of due to the influx of patients into health centers.

Wastewater from hand washing, cleaning, laundry, bathing, flushing toilets, and brushing teeth should be collected and safely treated with chlorine before being sent to sewer pipes or infiltrated into a sanitation pit (provided that the water table is at least 1.5 m below the bottom of the pit at all times). The potential for contamination of the sanitation team, the community in general, healthcare and environment workers is of course a major concern.

Key actions in terms of <u>sanitation</u> in HCFs	
	<ul style="list-style-type: none"> • Safely ensure the collection, treatment and final disposal of patient excrement and wastewater from screening and treatment centers. • Ensure the availability of clean and adequate toilets or latrines, dedicated to suspected and confirmed cases of COVID-19, in accordance with local standards of the Ministry of Health. • Support and advise on the proper use of toilets to avoid drips and splashes. • Use a chlorine solution to pre-treat wastewater from hand washing, cleaning, laundry, bathing and brushing teeth. • While the disinfecting power of chlorine kills viruses in wastewater, inactivation of viruses in faeces must be done by raising the pH of the faeces by lime to higher levels (> 12) for 30 minutes. • Ensure the availability of disinfection material (chlorine, lime, detergents) and equipment (backpack and manual sprayers, mops and buckets). • Evaluate the availability of emptying trucks, sewage holding tanks and emptying sites to ensure that they are managed safely and do not pose a risk to neighboring communities. • Liaise with health teams to ensure that sanitation personnel are trained in the procedures recommended by WHO for donning and removing PPE.

C. TECHNICAL ADDITIONS

LOCAL PRODUCTION OF HYDROALCOHOLIC SOLUTION

The production of hydroalcoholic solution can be envisaged depending on the availability of raw materials and the possibility of ensuring good manufacturing practices on site. WHO has produced a guide detailing all stages of manufacturing. [Production guide \(WHO\)](#)

Geneva hospitals have made available on the free pharmed platform (E-learning) a whole training module on HAS production. It is recommended that pharmacists follow it before starting this activity. [Pharmed \(E-learning\)](#) – associated video [Youtube](#)

Local HAS production must also comply with local regulations on preparations (registration in the prescription, preparation report ...). Document accessible [here](#)

[Visit the DEXT-U webpage to find all recommendations related to COVID-19 :](#)
<https://www.expertiseinternationale.net/alerte>

ONGOING HEALTH PROGRAMS

The current Health programs have the role of providing operational support to crisis management with the health regions / districts in which we operate (assistance in creating case monitoring databases, coordination of actors, etc.) and to participate in COVID-19 meetings in collaboration with HNS.

The Health Section technical advisers remain available to support missions in monitoring and / or reorganizing current projects according to the initial distribution (usual advisers).

For new Covid-19 medical projects and questions, please contact:

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