COVID-19 Emergency Preparedness and Response

WASH and Infection Prevention and Control in – Health Care Facilities

Guidance Note[1]

This guidance note is primarily for GOAL WASH staff – though will also be of use to Health staff to help them in their preparedness and response to the current COVID-19 global pandemic. It provides an overview of Infection Prevention and Control (IPC) and its intersection with water, sanitation and hygiene (WASH). It also provides key actions that GOAL staff can implement to help prevent infection and its spread in health care facilities (HCFs) - that is from human to human- among health care workers and patients and by touching surfaces contaminated with the virus. WASH, including waste management and environmental cleaning are all critical for effective IPC.
The guidance provides highlights of key actions GOAL and health facility staff can undertake to prevent infection in health care facilities. For more detailed information refer to the WASH FIT training guide here and additional resource links below.

1. Understanding Infection Prevention and Control:

According to WHO, infection prevention and control (IPC) is a scientific approach and practical solution designed to prevent harm caused by infection to patients and health workers..

Poor WASH and IPC lead to health acquired infections, transmission of diseases from health facilities to communities and increased use of antibiotics and exacerbate outbreak and spread of infections- in this case- COVID- 19. On the contrary, effective IPC reduces hospital-acquired infections by at least 30% (WHO 2016).

In the context of HCFs, we also differentiate IPC and WASH: IPC covers much more than just the WASH services in a HCF (patient management, standard and additional precautions, hand hygiene (5 points of care), PPE, isolation procedures, etc) however they cannot be met without effective and adequate WASH services. It is important to note that with a potential increased patient influx, the demand for water and sanitation services might be higher than the available offer and that it will be essential to support the gap to avoid health services being disrupted.

The below guidance also applies to temporary screening facilities set-up, inside or nearby existing HCFs, or in other buildings requisitioned for this purpose, where IPC-WASH services need to be put in place or strengthened. However, we do not include the screening process itself and medical equipment disinfection and sterilization as part of this IPC/ WASH guidance note; this can be found in GOAL's guidance on **IPC During Healthcare Delivery**.

We also must bear in mind that each country MoH has norms and standards in terms of water and sanitation for health facilities that GOAL teams must be aware of.

[1] Adapted from Unicef document: UNICEF-COVID-19 WASH in HCF_14 March

Important resources to read:

Joint WHO-UNICEF WASH technical brief:	https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19
WHO technical guidance pages 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/
WHO revised online IPC training:	https://openwho.org/courses/COVID-19-IPC-EN
CDC Best Practices for Environmental Cleaning in Healthcare Facilities in Resource-Limited Settings	https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf

Key practices for IPC and WASH in HCFs:

1. Hand Hygiene (handwashing with soap and running water or alcohol- based hand rub AHRB/ sanitizer) and safe cough and sneeze etiquette in all settings
2. Ensure availability at all time of properly labelled water points for different usages (safe water for drinking; water for handwashing stations; water for cleaning and disinfection of surfaces) in adequate quantity and sanitation services regularly serviced and disinfected
3. Environmental cleanliness (cleaning floors, surfaces and any touch points and linen)
4. PPE and WASH equipment disinfection (aprons, boots, googles, waste containers, water containers)
5. Infectious and hazardous waste management

2. **What GOAL WASH programmes can do to reduce infection risk in health care facilities (HCFs)**

First steps include:

Undertake a quick assessment (using the WASH component of GOAL's Health Facility Assessment Tool :

IPC - assessment in HCFs.xlsx

To identify HCFs with poorer WASH IPC practices and the highest patient population which would provide the greatest risk. The assessment format can be adapted to focus on just specific COVID-19 related key IPC parameters where numerous HCFs are to be evaluated quickly. The assessment will need to be implemented based MoH priorities in terms of geographical areas and HCFs as not all facilities can be tackled at the same time.

Once the assessment is complete plans should be drawn up, in coordination with health colleagues and MoH, for training of health care workers and non-medical staff on IPC measures and for WASH infrastructure improvements such as: increased water storage, latrine repairs, additional hand washing facilities, water treatment chemicals for drinking water, etc.

In the framework of the contingency COVID-19 preparedness and response plan, it is likely that MoH will identify HCFs that are utilized for screening only, and those for screening and patient treatment; each type will require a different degree of IPC intervention. It is important to prepare a plan for providing and improving or upgrading WASH services and supplies and implement them to support facilities established for screening and treatment. Ensure the continuous availability of critical hygiene and prevention items like soap, hand-sanitizers, chlorine (HTH 60-70%) commercial disinfectant (eg. clorox) and disinfection materials (mop, buckets etc.), drinking water dispensers and personal protection equipment for use of cleaners in HCFs.

Develop a simple system to monitor functionality of services - in both supported and non-supported HCFs. The following aspects must be frequently monitored: availability of water, chlorinated water at different concentrations (1%, 0,5%, 0,05%), availability of chlorine, detergents and disinfectants, handwashing systems (water/soap, alcohol rub /hand-sanitizers or chlorine water), bathroom and toilets cleanliness (separated from suspected/confirmed cases and other persons), medical and solid waste regular disposal and safe elimination. The WASH fit tool can be easily adapted for this purpose – however this should be coordinated with the MoH as there may be existing tools which they are already using.

3. Provision of WASH services in HCFs

3.1. Water

Water is required to support personal hygiene including hand washing with soap as a key preventive measure. Water must be available for regular cleaning and disinfection purposes, cleaning, disinfection, laundry and other activities while sufficient drinking water remains crucial.

Key actions:

- Ensure that safe and adequate[1] running water is available in HCFs especially at points of care (screening rooms, examination rooms, injection rooms, wards, treatment rooms, labour rooms, delivery rooms and postnatal care rooms as well as mortuaries), and for environmental cleaning, laundry activities, personal hygiene and decontamination of equipment and surfaces.
- If there is no running water, all means must be put in place to secure continuous availability of water for health care facility uses, this may require transporting water or increasing on-site water storage capacity.
    - In areas where trucking water is opted for.
        a. Each truck load should be checked for free residual chlorine (>0.5 mg/l) to ensure water safety
        b. Allow water to settle in the tank before releasing for use.
        c. Ensure regular cleaning of storage tanks.
- Ensure the water is safely treated. A number of measures can be taken to improve water safety starting with collection and safe storage of treated water in regularly cleaned and covered containers. Furthermore, conventional, centralized water treatment methods which utilize common filtration system and disinfection to inactivate COVID-19.
- When possible, avoid installation of metal taps and use elbow operated taps (as in surgical rooms) where feasible; in most cases though, where standard taps are in use, ensure taps are regularly disinfected together with regular handwashing or provide paper towels to use when opening and closing taps and facilities for disposing of towels safely.

Technical Annex:
WHO brief on free residual chlorine measurement:
https://www.who.int/water_sanitation_health/hygiene/envsan/chlorineresid.pdf

3.2. Personal hygiene

Hygiene and safe behaviours are key IPC measures for preventing the transmission of COVID-19 in HCFs. Hand hygiene must be performed at every point and moment after touching surfaces in HCFs; touching doors handles, elevator doors and buttons, after removing masks; going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing. There is a need to make hand sanitizers or handwashing facilities positioned in every critical HCF room (entrance, screening and observation, care, near toilets, exit).

Key actions:

- Hand rubbing with an alcohol-based formulation makes hand hygiene disinfection possible at the point of care, is faster, more effective and better tolerated; alternatively, regular hand washing with soap and water, or a 0,05% chlorine solution, is necessary to avoid infection.
- The appropriate technique and time taken to clean hands is also important (20-30 seconds for alcohol rub and 40-60 seconds for handwashing with clean water and soap).
- Where patient care is taking place, hand hygiene facilities, including products (e.g. alcohol-based hand-rub if available, water, soap, sinks) should be **in place, easily accessible, as close as possible** (e.g. within arm's reach) to the point of care to fulfil the right times for hand hygiene in support of patient and health worker safety.
- Support behavioural change amongst health workers, patients and care takers towards effective hand hygiene as part of quality of care and patient safety.
- Avoid close contact with other people - no hugging, kissing/ pecking cheeks, shaking hands.
- Remind, brief and train healthcare workers, patients and clients including mothers on why, when and how to wash hands frequently.
- Ensure the availability of hand washing stations with soap and water or alcohol rub/hand sanitizers in healthcare facilities entrance and exit, near bathroom ad toilet, and all points of care (screening, observation, treatment).

Respiratory hygiene messages should also be disseminated to patients and health care workers : ..

- Avoid touching your eyes, nose, and mouth if hands have not been disinfected previously
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- If a tissue is not to hand cough into your elbow.
- Turn your head away from others when coughing or sneezing.
- Always disinfect or wash your hands with water and soap after coughing or sneezing. Covering ones the mouth with bare hands while sneezing is not recommended.

Technical Annexes:
WHO Open online course on IPC: WHO IPC MODULE 3 – PPT HERE
https://openwho.org/courses/COVID-19-IPC-EN (Module3, slide 11-17)

CDC Handwashing guidance:

https://www.cdc.gov/handhygiene/providers/guideline.html

CDC cough and sneezing etiquette guidance:
https://www.cdc.gov/healthywater/hygiene/etiquette/coughing_sneezing.html

CDC poster on how to make 0,05% chlorine solution for hand washing with HTH:
https://www.cdc.gov/vhf/ebola/pdf/chlorine-solution-liquid-mild.pdf

3.3. Environmental cleaning

Environmental cleaning is a key IPC measure for preventing the transmission of COVID-19. Existing recommended cleaning and disinfection procedures in HCF should be followed consistently and correctly. Laundry and surfaces in all medical environments should be regularly (at least once a day and when a patient is discharged) cleaned. There are many disinfectants, that are active against COVID-19. Currently, WHO recommends the use of:

- 70% Ethyl alcohol to disinfect small areas e.g. reusable dedicated equipment (e.g., thermometers) between uses.
- Sodium hypochlorite at 0.5% (equivalent 5000ppm) for disinfection of surfaces.

Key actions:

- Ensure availability of detergents, soap powder or liquid soap, disinfectant (HTH 65-70%, NaDCC tablets, commercial chlorine bleach) and cleaning materials (wipes, mopes, buckets etc.) in targeted HCFs.
- Clean and disinfect frequently touched objects using a regular household cleaning spray or wipe.
- Wipe down with cloth often-touched surfaces such as door and window nobs, door handles, handrails, chairs, elevator buttons, to remove dirt, followed by thorough disinfection with using preferably hand sprayers.
- Ensure adequate and frequent environmental cleaning of facility floors with warm water and detergent or soapy water, followed by proper disinfection.
- Cleaning staff should be trained on the WHO recommended procedures for donning/doffing PPEs and on decontamination practices.

Technical Annexes:
WHO Open online course on IPC: WHO IPC MODULE 3
https://openwho.org/courses/COVID-19-IPC-EN (Module 3, slides 23-33)
CDC Best Practices for Environmental Cleaning in Healthcare Facilities in Resource-Limited Settings: https://www.cdc.gov/hai/pdfs/resource-limited/environmental-cleaning-508.pdf
CDC PPE Sequence guidance:
https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf
CDC visual brief to make 0,5% chlorine solution with liquid bleach:
https://www.cdc.gov/vhf/ebola/pdf/cleaning-handwashing-5percent-liquid-bleach.pdf

CDC visual brief to make soapy water for surface cleaning:
https://www.cdc.gov/vhf/ebola/pdf/chlorine-solution-liquid-soapy.pdf

Northern Ireland Regional IPC Manual, cleaning and disinfection in simple words:
https://www.niinfectioncontrolmanual.net/cleaning-disinfection

3.4. Waste management

Solid waste management including HCF infectious waste volumes will increase because of higher generation of personal protective equipment (PPEs) such as gloves, face and nose masks, water-proof protective gowns, rubber boots, rubber apron, and other contaminated materials including paper tissues. To reduce waste volumes, it is advisable to use reusable plastic PPEs that can be cleaned and disinfected with 0.5% chlorine solution. Proper collection, storage, transfer, treatment and final disposal of infectious waste from healthcare facilities and COVID -19 treatment units is key.

Key actions:

- Pedal-operated waste collection bins with liners should be available at point of use in healthcare facilities as the preferred choice.
- In the absence of pedal-operated waste bins, bins with swinging lids can be opted as the alternative. Otherwise, open waste containers are better than those with lids which require physical opening/covering by hands.
- Color-coded waste segregation bins according to the 3- bin system (infectious waste, sharps and general waste). Waste bin coding/labelling is key to identify infectious healthcare waste and home-based materials to prevent infection. Waste bin liners should also be procured.
- Waste record keeping is important to understand how much waste is generated per day.
- Ensure those responsible for operating the incinerator know and understand the correct operating principles for effective burning and have the sufficient fuel, tools and equipment necessary to achieve the required results.
- Pit burning with the aid of fuel drops such as kerosene can be opted in the absence of incinerators.

Technical Annexes:

ICRC Medical waste management guidance:
https://www.icrc.org/en/doc/assets/files/publications/icrc-002-4032.pdf

3.5. Sanitation

COVID-19 is less likely to be transmitted through faecal-oral routes, the respiratory route remains the major route of transmission. However, precautionary principles apply and all faecal sludge generated from HCFs must be properly disposed of. Around 1 in 5 HCF lack a sanitation service. That means, over 1.5 billion people are going to health centres with no toilets at all[2]. The COVID-19 emergency response efforts demand the availability of safely managed sanitation systems such as improved latrines or toilets connected to a septic tank or sewer lines to safely confine and treat faeces. As for the water demand, there might be an increased need of toilets and volume of faecal sludge and wastewater to collect and eliminate due to a patient influx in HCFs.

Key actions:

- Ensure the safe collection, treatment and final disposal of patient feces and wastewater from screening and treatment HCFs.
- Ensure availability of clean and adequate toilets or latrines, dedicated for suspected and confirmed cases of COVID- 19, complying with local MoH standards.
- Support and advise on the proper use of toilets to avoid droplets splashes.
- Use chlorine solution to pre-treat wastewater from washing hands, cleaning, laundry, bathing and teeth brushing activities.
- Whereas the disinfection power of chlorine kills viruses in wastewater, inactivating viruses in feacal materials shall be done by raising the pH of the feacal materials by lime to higher levels (>12) for 30 minutes.
- Ensure availability of disinfection supplies (chlorine, lime, detergents) and equipment (backpack and hand sprayers, mops and buckets).
- Assess the availability of desludging trucks, sewage holding tanks and locations of desludging to ensure they are safely managed and do not represent a risk for the nearby communities.
- Liaise with Health teams to ensure that Sanitation staff are trained on the WHO recommended procedures for donning/doffing PPEs.

[2] *WHO / UNICEF Joint Monitoring Programme Report for WASH in Healthcare Facilities, April 2019*