

# MOMENTUM

Country and Global Leadership



## Operational Guidance

# ESSENTIAL SUPPLY LIST

For Infection Prevention and Control in Health Care Facilities

## BACKGROUND

**MAINTAINING INFECTION PREVENTION AND CONTROL (IPC) STANDARDS IS VITAL TO ENSURING THAT HEALTH CARE FACILITY (HCF) STAFF CAN PROVIDE SERVICES THAT ARE SAFE FOR PATIENTS AND STAFF.**

To meet basic levels of IPC readiness, health care facilities need access to essential supplies and equipment. These include soap and water for handwashing, proper waste receptacles for safe separation and disposal of medical waste, and sufficient stocks of personal protective equipment (PPE) to protect staff, patients, and visitors.



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The insufficient stocking of essential IPC supplies and equipment undermines efforts to achieve and sustain universal access to care that is safe (does no harm), cost-effective, and efficient. According to a 1995–2008 review and meta-analysis, health care-associated infections developed in more than 15% of patients in limited-resource settings (Allegranzi, 2011). Unclean environments at health facilities contribute to the emerging threat of antimicrobial resistance (Homes, 2016). Furthermore, the current SARS-CoV-2 (COVID-19) pandemic acutely demonstrates the importance of investing in sustained IPC measures to protect patients and staff from preventable transmission of known and future infectious diseases.

Multiple IPC guidance and standards documents have been published by various global institutions including the [World Health Organization \(WHO\)](#), the [WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene \(JMP\)](#), the [Centers for Disease Control and Prevention \(CDC\)](#), [SPHERE](#), [John Hopkins University](#), and the [London School of Hygiene and Tropical Medicine](#). Although these documents reference specific equipment and materials necessary for implementing IPC best practices, there is no single resource that lists all essential IPC items in a format similar to the [WHO's Model List of Essential Medicines](#) that has guided procurement and stocking of critical medicines by ministries of health and partners for decades. This document was developed through [USAID's Momentum Country and Global Leadership](#) project to complement existing guidance and standard documents by providing centralized global guidance on essential infection prevention supplies and equipment, along with generalized information on transmission relevance, minimum supply specifications, and recommended stocking quantities.

### **MOMENTUM Country and Global Leadership**

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## **PURPOSE**

**THE DOCUMENT INCLUDES A LIST OF ESSENTIAL SUPPLIES FOR HCFS** to maintain basic standard IPC precautions in all health care service levels and contexts. Although certain clinical contexts may require additional standards and supplies, these basic standards remain universal. This list can also aid HCF staff, administrators, and government officials at local and national levels to better understand which IPC supplies should be prioritized for to maintain minimal IPC readiness. This “Essential List” provides guidance to inform budgeting, procurement, and planning decisions that impact IPC readiness of the health system and at health facility levels.

This document was developed based on a review of the literature in consultation with IPC experts and is modeled on the [WHO Model List of Essential Medicines](#) (See [Appendix 1](#) for the literature review tabulations). The list is non-exhaustive and focuses on the essential supplies required for IPC based on a review of the literature and available guidance. The list does not include items for treatment or procedures (e.g., the list includes gloves but not gauze). Although this document was not written to respond directly to the COVID-19 infectious disease pandemic, it does include essential IPC supplies required for delivery of safe health care services in the context of COVID-19.

Although the document does not provide specific guidance on inventory controls, it is recommended that national and sub-national health authorities incorporate the “Essential List” into their logistic management information systems and inventory control systems, along with development of forecasting plans for PPE and IPC consumables that prioritize facility needs, stockpiling and deployment plans, and continued communication with facilities to ensure supply.

## HOW TO USE THIS DOCUMENT

The document provides tables listing essential IPC supplies divided into technical sections. These sections are further divided by “Tools and Materials” and “Personal Protective Equipment.” Each table provides information on the use, applicable transmission-based precautions, specification or descriptive information of the material, and guidance on minimum quantities, as well as on stocking and refilling. In practice, this information should be contextualized according to national standards and availability of materials.

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## GUIDANCE ON READING LIST TABLES

Each section provides a list of corresponding equipment, tools, and materials and a list of PPE, as detailed in the following example table:

| Item   | Use  | Contact   | Droplet | Airborne | Specification  | Quantity  |
|--|--|---|---------|----------|--|---|
| <b>Tools, materials, and equipment identified as essential for IPC readiness</b> | How is the item used?                            | Need based on transmission-based precautions (PPE lists only) |         |          | General description for procuring items along with approximate duration/lifespan of the product.<br><br>Single use: Product can only be used once and should then be disposed of.<br><br>Approximate (~) duration:<br>Estimate of the product lifespan | Guidance notes for determining <u>minimum</u> quantities required of the item. All quantities should be verified according to actual need and in accordance with local protocols. |
| <b>Example: Gloves, medical non-sterile</b>                                      | <i>Touching infectious materials or surfaces</i> | +   | +       |          | <i>Powder-free nitrile, vinyl or latex. Non-sterile. Various sizes available</i><br><br><i>Single use</i>  | <i>1 pair/health care worker (HCW)</i>  |

# ESSENTIAL INFECTION PREVENTION SUPPLIES

## HEALTH CARE WORKERS (HCWs)

### HAND HYGIENE MATERIALS FOR HCWs

| Item                                      | Use   | Specification   | Quantity  |
|---|---|---|---|
| <b>Alcohol-based hand rub (ABHR)</b>      | Hand disinfection dispensed at points of care (POCs) or given to staff for personal use | 70% to 95% of alcohol by volume or national standards                   | 3ml/use   |
| <b>Hand hygiene promotional materials</b> | Demonstrating proper handwashing for patients and staff                                 | Water-Resistant<br>~1 year product duration                             | 1 set/handwashing station<br>(see infrastructure section)                             |
| <b>Hand towels, single use</b>            | Drying hands after washing  | Single use hand-drying material (e.g., disposable paper towels)         | 1/hand wash<br>Available at all handwashing stations                                  |
| <b>Soap</b>                               | Handwashing   | Liquid, solid, leaf or powdered form of soap (liquid soap is preferred) | Liquid soap—0.7ml/use<br>Solid soap—0.7g/use<br>Available at all handwashing stations |

## PPE FOR HCWs

| Item                        | Use   | Contact | Droplet | Airborne | Specification   | Quantity         |
|-----------------------------|---|---------|---------|----------|---|------------------|
| <b>Aprons, disposable</b>   | Protection during cleaning, preparing disinfectants, and corpse management                              | +       |         |          | Medical; plastic<br>Single use  | 1 piece (pc)/HCW |
| <b>Eye protection</b>       | Protecting eyes from droplets or airborne exposure  |         | +       | +        | Plastic medical goggles or face shield<br>EU PPE Regulation 2016/425; EN 166; ANSI/ISEA Z87.1; or equivalent<br><br>Duration according to manufacturer specifications   | 1 pair/HCW       |
| <b>Respirator</b>           | Preventing inhalation of small particles that may contain infectious agents or harmful gases and vapors |         |         | +        | Minimum "N95" respirator according to the Food and Drug Administration (FDA) Class II, under 21 CFR 878.4040, and CDC NIOSH;<br>Minimum "FFP2" according to EN 149, EU PPE Regulation 2016/425 Category III; or equivalent<br><br>Duration according to manufacturer specifications<br><br>Must be worn according to manufacturer's instruction | 1 pc/HCW         |
| <b>Gloves, elbow-length</b> | Protecting hands and forearms during deep cavity procedures   | +       |         |          | Single use; sterile; powder-free nitrile, vinyl, or latex; elbow-length various sizes available   | 1 pair/HCW       |

| Item  | Use  | Contact | Droplet | Airborne | Specification   | Quantity   |
|---|--|---------|---------|----------|---|------------|
| <b>Gloves, medical non-sterile</b>                | Touching infectious materials (bodily fluids) or contaminated surfaces                                     | +       | +       |          | Single use; powder-free nitrile, vinyl, or latex; non-sterile, long cuffs, reaching well above the wrist, ideally to mid-forearm; various sizes available; having a range of sizes stocked and available is recommended.<br><br>EU MDD Directive 93/42/EEC Category III; EU PPE Regulation 2016/425 Category III: EN 455; EN 374; ANSI/ISEA 105; ASTM D6319; or equivalent set of standards | 1 pair/HCW |
| <b>Gloves, surgical sterile</b>                   | Performing invasive medical or surgical procedures when sterility is required                              | +       |         |          | Single use; sterile; rubber; long cuffs, reaching well above the wrist, ideally to mid-forearm<br><br>Various sizes available and should be selected appropriately  | 1 pair/HCW |
| <b>Gowns, non-sterile</b>                         | Protecting exposed skin from bodily fluids and droplets  | +       | +       |          | Long-sleeved, mid-calf length, fluid-resistant, preferably disposable (single use)<br><br>EU PPE Regulation 2016/425 and EU MDD Directive 93/42/EEC; FDA Class I or II medical device; EN 13795 any performance level; AAMI PB70 all levels acceptable; or equivalent;<br><br>Various sizes available and should be selected appropriately  | 1 pc/HCW   |
| <b>Head covering/surgical caps/surgical hoods</b> | Keeping hair, beard, and scalp covered so that flakes of skin and hair are not shed into the sterile field |         |         |          | Large enough to cover the entire scalp and hair; disposable or reusable cloth   | 1 pc/HCW   |

| Item                          | Use   | Contact | Droplet | Airborne | Specification  | Quantity   |
|-------------------------------|---|---------|---------|----------|--|--|
| <b>Mask, surgical/medical</b> | Protecting health care staff from droplet exposure, spills of contaminated fluids and/or detergent/disinfectant | +       | +       |          | Single use; non-sterile; nonwoven; shape provides complete coverage of the nose, mouth, and chin (e.g., rectangular shape comprising 3 or 4 folded layers) Malleable nose strip made of aluminum, allowing a snug fit; internal and external surfaces are clearly identified; 2 pairs of ties; latex-free, glass fiber-free<br><br>EN 14683 Type II IR, IIR, or equivalent | 1 pc/HCW, patient, or visitor<br>Maximum 6 hours/person or if damaged, wet, or dirty |
| <b>Overshoes</b>              | Covering footwear in surgical areas; unnecessary for procedures with minimal blood or body fluid spillage       | +       |         |          | Cover entirety of footwear   | 1 pair/HCW   |
| <b>Scrubs/Uniform</b>         | Protecting exposed skin from bodily fluids, droplets  | +       | +       |          | Reusable; washable   | 1 set/HCW  |



## ENVIRONMENTAL CLEANING

### TOOLS AND MATERIALS FOR ENVIRONMENTAL CLEANING

| Item                                     | Use   | Specification   | Quantity                        |
|--|---|---|---------------------------------|
| <b>Bucket, for use with detergent</b>    | Cleaning surfaces, reprocessing (washing and disinfecting) cleaning tools   | Plastic, preferably with lid and color-coded to national standards<br>~6-month duration   | 1 pc/cleaning set <sup>1</sup>  |
| <b>Bucket, for use with disinfectant</b> | Disinfecting surfaces, reprocessing (washing and disinfecting) cleaning tools, and for preparing disinfectant solutions | Plastic, preferably with lid and color-coded to national standards<br>~6-month duration   | 1 pc/cleaning set <sup>1</sup>  |
| <b>Bucket, for use with rinse water</b>  | Cleaning and disinfecting surfaces, reprocessing (washing and disinfecting) cleaning tools                              | Plastic, preferably with lid and color-coded to national standards<br>~6-month duration   | 1 pc/cleaning set <sup>1</sup>  |
| <b>Cloths</b>                            | Cleaning non-floor surfaces, wiping used instruments with wet cloth and point of use                                    | Reusable<br>Cotton cloths are preferred to microfiber as these can be damaged by chlorine solutions<br>Different colors can be assigned according to areas with different risk<br>~3-month duration | 3 pcs/cleaning set <sup>1</sup> |
| <b>Dustpan</b>                           | Collecting debris as part of environmental cleaning   | Plastic or metal<br>~3-month duration   | 1 pc/cleaning set <sup>1</sup>  |

<sup>1</sup> Separate cleaning sets are required for isolation rooms, isolation areas, non-isolation areas, toilet blocks, shower blocks, safe areas (e.g., administrative offices), and water treatment areas. They are typically used after care is provided or at scheduled cleaning frequencies identified locally

| Item  | Use  | Specification  | Quantity                        |
|---|--|--|---------------------------------|
| <b>Floor brush</b>                              | Spot cleaning of floors  | Plastic or metal<br>~3-month duration  | 1 pc/cleaning set <sup>1</sup>  |
| <b>Markers, fluorescent</b>                     | Marking surfaces to assess cleaning coverage<br>Remaining marks can be shown using an ultraviolet light (blacklight) | Commercially available fluorescent markers or “hi-lighters”  | 2 pcs/cleaning set <sup>1</sup> |
| <b>Mop head or cleaning squeegee/with cloth</b> | Cleaning and disinfecting floors   | Cloth for mop should have different color to help identify the areas in which those are supposed to be used for cleaning.<br>Cotton cloths should be preferred to microfiber as the latter can be damaged by chlorine solutions<br>~3-month duration<br>Used mops or cloths should be stored and washed separately from other linens | 3 pcs/cleaning set <sup>1</sup> |
| <b>Mop stick</b>                                | Hold mop head or cleaning squeegee/with cloth for floor cleaning and disinfection                                    | Wooden or metal<br>~6-month duration   | 1 pc/cleaning set <sup>1</sup>  |
| <b>Paper, disposable</b>                        | Cleaning spillage  | Absorbent paper; single use  | 500 g/cleaning set <sup>1</sup> |
| <b>Sign, wet floor/caution/hazard</b>           | Indicate safety hazards for patients and staff during environmental cleaning or hazard-generating incident           | Plastic or other durable water-resistant material<br>~1-year duration  | 1 pc/cleaning set <sup>1</sup>  |

| Item                            | Use  | Specification   | Quantity   |
|---------------------------------|--|---|--|
| <b>Detergent</b>                | Cleaning of surfaces prior to disinfection including floors, beds, dishes, laundry, bedpans, urinals, reusable PPE, etc. | Liquid soap, enzymatic cleaners, mild alkaline detergents                                 | Volume or weight calculated based on product type, facility size, patient load, and number of staff <sup>2</sup> |
| <b>Disinfectants</b>            | Disinfection of surfaces, cleaning materials, and PPE  | Recommend: quaternary ammonium compounds, alcohol, bleach, peroxide                       | Volume or weight calculated based on product type, facility size, patient load, and number of staff <sup>2</sup> |
| <b>Squeeze bottle, portable</b> | Dispensing cleaning and disinfection solutions during environmental cleaning   | Plastic squeeze bottle. Spray bottles are not recommended<br>~6-month duration            | 3 pcs/cleaning set <sup>1</sup>  |
| <b>Toilet brush</b>             | Toilet cleaning  | Plastic scrubbing brush with handle dedicated to toilet cleaning<br>~3-month duration     | 2 pcs/toilet block   |
| <b>Ultraviolet light</b>        | Identifying bodily fluids and cleaning verification using fluorescent markers  | Handheld. Should include batteries if not rechargeable<br>Long lasting; replace as needed | 2 units/facility   |

<sup>2</sup> Refer to manufacturer instructions and local guidance for calculating volumes. Global standards are available with varying calculation methods.

## PPE FOR ENVIRONMENTAL CLEANING

| Item                         | Use  | Contact | Droplet/<br>Chemical | Airborne/<br>Inhalation | Specification   | Quantity   |
|------------------------------|--|---------|----------------------|-------------------------|---|--|
| <b>Aprons, reusable</b>      | Protection during cleaning, preparing disinfectants, and corpse management                           | +       | +                    |                         | Reusable, waterproof, chemical-resistant<br>~6-month duration   | 2 pcs/each role: cleaner, person preparing disinfectant solutions<br>Can be used by multiple individuals |
| <b>Boots, rubber (gum)</b>   | Foot protection for environmental cleaning   |         |                      |                         | Rubber boots or other waterproof footwear (safety footwear required only for incineration)<br>~6-month duration   | 2 pcs/each role: cleaner, person preparing disinfectant solutions  |
| <b>Eye protection</b>        | PPE for droplet, airborne, and chemical precautions  |         | +                    | +                       | Plastic medical goggles or face shield<br>~6-month duration   | 2 pcs/each role: cleaner, person preparing disinfectant solutions  |
| <b>Face covering</b>         | Chemical inhalation protection during preparation of disinfectants using bleach or chlorine solution |         | +                    |                         | Reusable or single use; splash resistant<br>Medical mask type IIR preferred<br>Refer to chemical manufacturer specifications  | 6 pcs/person preparing disinfectant solution<br>2 pcs/person/day for single use                          |
| <b>Gloves, thick/utility</b> | PPE for waste collection, disinfectant preparation, and corpse management                            | +       |                      |                         | Domestic reusable thick rubber gloves; Chemical resistant<br>~3-month duration<br>Can be used by multiple individuals; Various sizes available and should be selected appropriately | 2 pairs/each role: cleaner, person preparing disinfectant solutions                                      |

| Item                               | Use  | Contact | Droplet/<br>Chemical | Airborne/<br>Inhalation | Specification   | Quantity   |
|------------------------------------|--|---------|----------------------|-------------------------|---|--|
| <b>Gloves, medical non-sterile</b> | Touching contaminated materials or surfaces  | +       |                      |                         | Single use; powder-free nitrile, vinyl or latex; non-sterile<br><br>Various sizes available   | 1 pair/HCW   |
| <b>Gowns, non-sterile</b>          | Protects exposed skin from bodily fluids, droplets   | +       | +                    |                         | Long-sleeved, fluid-resistant, single use, preferably disposable  | 1 pc/HCW   |
| <b>Respirator, Elastomeric</b>     | Worn by the staff manipulating high test calcium hypochlorite or sodium dichloroisocyanurate for preparing disinfectant solution (if preparing disinfectant with bleach, wear a surgical mask) |         |                      | +                       | Elastomeric face piece with BP2 or BP3 filters<br><br>Preferably adjustable<br>Full face piece respirators are preferred as they also offer eye protection<br><br>Long lasting. Replace according to manufacturer recommendations for filters and units | 1 unit/HCF/<br><br>Can be used by multiple individuals |

# INSTRUMENT PROCESSING

## TOOLS AND MATERIALS FOR INSTRUMENT PROCESSING

| Item                             | Use   | Specification  | Quantity   |
|----------------------------------|---|--|--|
| <b>Bucket</b>                    | Fetching water  | Rubber or plastic, chemical resistant<br>~6-month duration   | 1 pc/instrument processing person  |
| <b>Cleaning tools</b>            | Cleaning instruments before sterilization and high-level disinfection | Brush and sponge<br>~3-month duration  | 1 pc/instrument cleaning set   |
| <b>Chemical disinfectant</b>     | Disinfecting instruments after cleaning                               | Per national standards<br>Commonly used are ortho-phthalaldehyde, glutaraldehyde, peracetic acid, hydrogen peroxide; Chlorine based compounds, alcohol, chlorine dioxide | Volume calculated based on product type, facility size, patient load, and number of staff                                |
| <b>Detergent</b>                 | Cleaning instruments before sterilization and high-level disinfection | Enzymatic cleaners; mild alkaline detergents   | Weight/volume calculated based on product type, manufacturer specifications, facility size, patient load, and # of staff |
| <b>Drapes</b>                    | Covering surfaces for opening of sterile instrument packs             | Paper  | 1 pc/procedure (opening of pack)   |
| <b>Instrument wrap/packaging</b> | Wrapping cleaned instruments in drums for sterilization               | Packaging should be selected according to the sterilization method and the devices used. Do not recommend the use of metal drum trays.                                   | 1 pc/instrument/procedure  |
| <b>Lubricants</b>                | Protecting medical devices  | Water soluble  | Volume calculated based on product type, facility size, patient load, and number of staff                                |

| Item  | Use   | Specification   | Quantity   |
|---|---|---|--|
| <b>Marking pen</b>                          | Labeling instrument packs                                       | Indelible, non-bleeding, and non-toxic; sharp-tipped, water-based, or ballpoint pens should not be used   | 3 pcs/instrument processing person                   |
| <b>Squeeze bottle, portable</b>             | Irrigating/flushing instruments during cleaning                 | Plastic squeeze bottle. Spray bottles are not recommended<br>~6-month duration  | 3 pcs/instrument processing person                   |
| <b>Steam sterilization device/equipment</b> | Sterilizing reusable medical devices (autoclaves)               | Per national standards<br><br>Examples: pre-vacuum sterilizers, steam-flush pressure-pulse; gravity sterilizers<br><br>Long lasting. Replace according to manufacturer recommendations. | 1 device/HCF   |
| <b>Transport container</b>                  | Transporting contaminated devices to instrument processing area | Full-enclosed puncture-resistant container that prevents liquids from spilling. Labeled as biohazard  | 1/ward or by caseload # according to local protocols |

### PPE FOR INSTRUMENT PROCESSING

| Item                    | Use  | Contact | Droplet | Airborne | Specification   | Quantity   |
|-------------------------|--|---------|---------|----------|---|--|
| <b>Aprons, reusable</b> | Protection during cleaning, preparing disinfectants, and corpse management |         |         |          | Reusable, waterproof, chemical-resistant<br>~6-month duration | 1/instrument processing personnel<br><br>Can be used by multiple individuals |

| Item   | Use  | Contact | Droplet | Airborne | Specification   | Quantity   |
|--|--|---------|---------|----------|---|--|
| <b>Boots, gum</b>                            | Foot protection  |         |         |          | Rubber boots or protective shoe coverings (safety boots required only for incineration)<br>~6-month duration  | 1/instrument processing personnel<br>Can be used by multiple individuals |
| <b>Eye protection</b>                        | Instrument cleaning  | +       | +       |          | Plastic medical goggles or face shield<br>~6-month duration   | 1/instrument processing personnel  |
| <b>Face covering/<br/>non-surgical masks</b> | Chemical inhalation protection during preparation of disinfectants using bleach or chlorine solution |         |         |          | Medical mask type IIR preferred<br>Splash resistant<br>Refer to chemical manufacturer specifications          | 6/person reprocessing<br>2/person/day for single use                     |
| <b>Gloves, thick/utility</b>                 | Handling of instruments  | +       |         |          | Domestic reusable thick rubber gloves; chemical resistant<br>Various sized are available<br>~3-month duration | 1/instrument processing personnel<br>Can be used by multiple individuals |
| <b>Gloves, medical non-sterile</b>           | Transporting contaminated devices  | +       |         |          | Powder-free nitrile, vinyl, or latex. Non-sterile. Various sizes available<br>Single use                      | 1 pc/HCW   |
| <b>Gowns, non-sterile</b>                    | Protecting exposed skin from bodily fluids, droplets, and airborne exposure                          | +       |         |          | Long-sleeved, fluid-resistant, single-use, preferably disposable  | 1 pc/HCW   |



## WASTE MANAGEMENT

### TOOLS AND MATERIALS FOR WASTE MANAGEMENT

| Item                                | Use                                  | Specification   | Quantity   |
|-------------------------------------|--------------------------------------|---|--|
| <b>Bin, infectious</b>              | Collecting infectious waste          | Plastic or metal/with lid; preferably with step/pedal function; size varies by need and location<br>Recommend color coding bins according to national standards<br>~1-year duration             | 1 pc/POC<br>1 pc/restroom  |
| <b>Bin, non-infectious</b>          | Collecting non-infectious waste      | Plastic or metal/with lid; preferably with step/pedal function; size varies by need and location<br>Recommend color coding bins according to national standards<br>~1-year duration             | 1 pc/POC   |
| <b>Bin, sharps</b>                  | Collecting used needles and syringes | Puncture- and leak-proof bins for collection of needles and syringes.<br>Quantity consumed should be monitored to see the real consumption and in case needed, readjust the quantity suggested. | 1 pc/POC<br>Replace when 2/3 full  |
| <b>Plastic bags, infectious</b>     | Collecting infectious waste          | Size will vary according to receptacle.<br>Recommend color coding bags according to national standards.   | 1 pc/receptacle<br>Assume 15% of total HCF waste by weight is infectious (WHO, 2018)     |
| <b>Plastic bags, non-infectious</b> | Collecting non-infectious waste      | Size will vary according to receptacle.<br>Recommend color coding bags according to national standards.   | 1 pc/receptacle<br>Assume 85% of total HCF waste by weight is non-infectious (WHO, 2018) |
| <b>Trolley</b>                      | Transporting waste and bed linens    | Plastic or other durable water-resistant material. Separate trolleys should be used for infectious waste, general waste, and linens, preferably color-coded according to national standards.    | ≥ 1 trolley/HCF<br>~1-year duration  |

## PPE FOR WASTE MANAGEMENT

| Item                           | Use   | Contact | Droplet/<br>Chemical | Airborne/<br>Inhalation | Specification   | Quantity   |
|--------------------------------|---|---------|----------------------|-------------------------|---|--|
| <b>Aprons, reusable</b>        | Protecting exposed skin during waste processing   | +       |                      |                         | Reusable; waterproof; chemical-resistant; heat-resistant<br>~6-month duration   | 2 pcs/each role: cleaner, person preparing disinfectant solutions<br>Can be used by multiple individuals |
| <b>Eye protection</b>          | Eye protection for incineration   | +       | +                    |                         | Plastic medical goggles or facial shield<br>~6-month duration   | 1 pc/each person conducting incineration   |
| <b>Gloves, thick/utility</b>   | Waste collection, disposal, incineration  | +       |                      |                         | Domestic reusable thick rubber gloves; chemical-resistant;<br>heat-resistant if for incineration;<br>~3-month duration  | 1/each person conducting waste disposal and incineration   |
| <b>Respirator, elastomeric</b> | Worn by the staff who is manipulating high test calcium hypochlorite or sodium dichloroisocyanurate for preparing disinfectant solution (if preparing disinfectant with bleach, wear a surgical mask IIR) |         |                      | +                       | Elastomeric facepiece with BP2 or BP3 filters (under EN 14387:2004+A1:2008 classification); full facepiece respirators are preferred as they also offer eye protection;<br>N95 mask can be used if elastomeric not available, though not equivalent;<br>Long lasting, replace according to manufacturer recommendations | 1 pc/HCF<br>Can be used by multiple individuals  |
| <b>Safety footwear</b>         | Foot protection for incineration  | +       |                      |                         | Durable; Reinforced toe; slip-resistant tread<br>Safety footwear required for incineration only. For all other environmental cleaning tasks, rubber (gum) boots are acceptable<br>~1-year duration or if tread as worn beyond use   | 2 pairs/each person conducting incineration<br>Can be used by multiple individuals                       |

## INFRASTRUCTURE AND MAINTENANCE

| Item  | Use  | Specification   | Quantity   |
|---|--|---|--|
| <b>Chlorine test kit</b>                      | Measuring free residual chlorine in water  | Digital meter, test strips, or colorimeter (digital, color wheel, or pool tester) with reagent (DPD1)<br>~1-year duration   | 1 kit/HCF<br>1 test strip/test   |
| <b>Electricity/power</b>                      | Operating sterilization equipment; water pumping; lighting; incineration or alternative treatment technologies | Electricity or natural gas  | Sufficient for all uses  |
| <b>Handwashing station</b>                    | Enable handwashing for patients and staff  | In case of absence of sink or permanent handwashing facilities, provide 100-liter plastic drum with lid and possibly with touch-free or elbow-tap method to capture wastewater.<br>~1-year duration   | 1 station/toilet block (within 5 meters)<br>1/HCF entrance<br>1/ward<br>1/morgue |
| <b>Infectious/sharps waste disposal means</b> | Disposing of infectious waste and/or sharps safely   | Per national standards<br><br>Acceptable methods include autoclaving; incineration; burial in a lined, protected pit; and collection for medical waste disposal off site.<br><br>Long lasting, replace according to manufacturer instructions if applicable | Sufficient for all uses  |
| <b>pH test kit</b>                            | Measuring pH levels of water   | Digital meter or colorimeter with reagent (phenol red)  | 1 kit/HCF  |
| <b>Safety ladder</b>                          | Safely accessing hard to reach areas during environmental cleaning and maintenance                             | Metal or fiberglass; heavy duty<br><br>Long lasting, replace according to manufacturer instructions   | 1 pc/HCF   |

|                               |   |   |  |
|-------------------------------|---|---|--|
| <b>Toilets</b>                | Preventing exposure to bodily fluids  | Accessible to patients and staff (doors are unlocked or a key is always available), functional (the toilet is not broken, the toilet hole is not blocked, and water is available for flush/pour-flush toilets), and private (there are closable doors that lock from the inside and no large gaps in the structure) | 1 toilet dedicated for staff<br>1 sex-separated toilet with menstrual hygiene facilities<br>1 toilet accessible for people with limited mobility   |
| <b>Turbidity meter/tube</b>   | Measuring water turbidity to make sure chlorine can disinfect drinking water (turbidity<20 NTU) | Digital meter or plastic or glass cylinder with clear readable markings<br><br>Long lasting, replace according to manufacturer instructions   | 1 pc/HCF   |
| <b>Water</b>                  | Handwashing<br>Environmental cleaning   | Safe for the purpose intended<br>From an improved water source  | Outpatients – 5L/consultation<br>Inpatients – 40-60L/patient/day<br>Operating theatre or midwife obstetric unit – 100L/intervention<br>Dry supplementary feeding center – 0.5-5L/consultation<br>Wet supplementary feeding center – 15L/consultation<br>Inpatient feeding center 30L/patient/day<br>Cholera treatment center 60L/patient/day |
| <b>Water station, potable</b> | Provision of potable water for patients and staff for waterborne infection prevention           | Free chlorine residual of 0.2 – 0.5 mg/L at point of consumption<br>If no permanent infrastructure is available, store portable water in bucket/tank with lid and tap   | Accessible to all (including those with disabilities) at all times and in all wards  |
| <b>Water storage</b>          | Water storage in case of service interruption   | High-density polyethylene tanks<br><br>Long lasting, replace according to manufacturer instructions   | Water storage capacity is calculated aiming at having 2 days of autonomy in case of interruption of water supply.<br><br>The total volume of the tank will therefore be calculated by needs per capita multiplied by number of daily outpatients or inpatients Additional water needs for HCWs and caregivers should be included.            |

## APPENDIX 1: LITERATURE REVIEW

| Item  | <a href="#">JMP</a>   | <a href="#">IPCAF<sup>3</sup></a> | <a href="#">SPHERE</a>                         | <a href="#">CDC</a> | Teach Clean (LSHTM <sup>4</sup> ) | Jhpiego (John Hopkins) | # |   |   |  |   |
|---|---|-----------------------------------|--|---------------------|-----------------------------------|------------------------|---|---|---|--|---|
| <b>Name of Item</b>                                       | <i>Instances and excerpts of mention of the item in the above water, sanitation, and hygiene (WASH) and IPC reference documents</i> |                                   |  |                     |                                   |                        |   |   |   |  |   |
| <b>Bin, infectious</b>                                    | ✓   | In all consultation areas         | ✓<br>At each "waste generation point"          | ✓                   |                                   | ✓                      | ✓ | Clinical waste Color-coded  | ✓ |  | 6 |
| <b>Bin, non-infectious</b>                                | ✓   |                                   |  | ✓                   | ✓                                 |                        | ✓ |   | ✓ |  | 6 |
| <b>Bin, sharps</b>  | ✓   |                                   |  | ✓                   | ✓                                 |                        | ✓ |   | ✓ |  | 6 |
| <b>Water</b>  | ✓   | Facility level                    | ✓<br>Sufficient water                          | ✓                   | 5L/patient/day                    | ✓                      |   | ✓<br>Visibly clean for hygiene and cleaning                                 | ✓ | Running water for handwashing; 5L per outpatient; 40–60 liters/patient/day per admission; 100L/procedure (operation, deliveries, etc.) | 6 |
| <b>Soap, handwashing</b>                                  | ✓   | Or ABHR. At every POC; latrines   | ✓<br>Available at hand washing stations at POC |                     |                                   | ✓                      |   | ✓<br>Liquid, bar, leaf, or powdered form of soap (liquid soap is preferred) | ✓ | Does not recommend bar soap for safety; discourages antiseptic soap due to cost  | 5 |
| <b>Alcohol-based Hand Rub (ABHR), Point of Care (POC)</b> | ✓   | Or soap. At every POC; latrines   | ✓<br>Available at hand washing stations at POC |                     |                                   | ✓                      |   |   | ✓ |  | 4 |

<sup>3</sup> Infection Prevention and Control Assessment Framework

<sup>4</sup> London School of Hygiene and Tropical Medicine

| Item                               | <a href="#">JMP</a>   | <a href="#">IPCAF<sup>3</sup></a>                | <a href="#">SPHERE</a>         | <a href="#">CDC</a>     | Teach Clean (LSHTM <sup>4</sup> )  | <a href="#">Jhpiego (John Hopkins)</a>                                  | # |  |
|------------------------------------|---|--|--------------------------------|-------------------------|--|---|---|--|
| <b>Name of Item</b>                | <i>Instances and excerpts of mention of the item in the above water, sanitation, and hygiene (WASH) and IPC reference documents</i> |  |                                |                         |  |   |   |  |
| <b>Aprons, reusable</b>            |   |  | ✓                              | Exposed skin protection | ✓  | Chemical-resistant  | 4 |  |
| <b>Detergent</b>                   |   |  | ✓                              | Detergent               | ✓  | Liquid soap, enzymatic cleaners, detergents                             | 4 |  |
| <b>Disinfectants</b>               | ✓   | Mentioned as consideration for "advance service" |                                |                         | ✓  | Quaternary ammonium compounds, Alcohol, bleach, peroxide                | 4 |  |
| <b>Eye protection</b>              |   | ✓  | Sufficient quantities Required | ✓                       | Masks, goggles, or shields to protect from splashes, droplets, or sprays | ✓   | 4 |  |
| <b>Gloves, medical non-sterile</b> |   | ✓  | Sufficient quantities Required | ✓                       | Touching infectious materials  | ✓   | 4 |  |
| <b>Gloves, thick/utility</b>       |   |  |                                | ✓                       | Waste management PPE   | ✓   | 4 |  |
| <b>Handwashing station</b>         | ✓   | At every POC, toilets within 5 meters            |                                | ✓                       | Outbreaks  | ✓   | 4 |  |
|                                    |   |  |                                |                         | ✓  | At every POC, toilets within 5 meters, and "service areas" for cleaners |   |  |

| Item  | <a href="#">JMP</a>   | <a href="#">IPCAF<sup>3</sup></a> | <a href="#">SPHERE</a>                    | <a href="#">CDC</a> | Teach Clean (LSHTM <sup>4</sup> )                                       | Jhpiego ( <a href="#">John Hopkins</a> ) | #  |             |                                  |  |   |
|---|---|-----------------------------------|---|---------------------|---|--|--|-------------|----------------------------------|--|---|
| <b>Name of Item</b>                             | <i>Instances and excerpts of mention of the item in the above water, sanitation, and hygiene (WASH) and IPC reference documents</i> |                                   |   |                     |   |  |  |             |                                  |  |   |
| <b>Mask, surgical</b>                           |   | ✓                                 | Sufficient quantities Required            | ✓                   | Masks, goggles, or shields to protect from splashes, droplets or sprays | ✓  | Disposable                                   | ✓           |                                  | 4  |   |
| <b>Plastic bags, infectious</b>                 |   | ✓                                 |   |                     |   | ✓  |  | ✓           |                                  | 4  |   |
| <b>Plastic bags, non-infectious</b>             |   | ✓                                 |   |                     |   | ✓  |  | ✓           |                                  | 4  |   |
| <b>Bucket, detergent</b>                        |   |                                   |   |                     |   | ✓  |  | Color-coded | ✓                                | 3  |   |
| <b>Bucket, disinfectant</b>                     |   |                                   |   |                     |   | ✓  |  | Color-coded | ✓                                | 3  |   |
| <b>Bucket, rinse water</b>                      |   |                                   |   |                     |   | ✓  |  | Color-coded | ✓                                | 3  |   |
| <b>Cloths, reusable</b>                         |   |                                   |   |                     |   | ✓  | Preferable color-coded, cotton or microfiber | ✓           |                                  | 3  |   |
| <b>Gowns, isolation</b>                         |   |                                   |   | ✓                   | Exposed skin protection   | ✓  |  |             | ✓                                | Long-sleeved, fluid-resistant, single-use, preferably disposable. Protect HCWs and cleaners from blood and bodily fluids | 3 |
| <b>Hand towels, single-use</b>                  |   | ✓                                 | Available at hand washing stations at POC |                     |   |  |  | ✓           | Disposable hand-drying materials | ✓  | 3 |
| <b>Mops/cleaning squeegee/ with floor cloth</b> |   |                                   |   |                     |   | ✓  |  | ✓           | Microfiber; cotton string        | ✓  | 3 |

| Item                                    | <a href="#">JMP</a>   | <a href="#">IPCAF<sup>3</sup></a> | <a href="#">SPHERE</a>                               | <a href="#">CDC</a> | Teach Clean (LSHTM <sup>4</sup> )                 | Jhpiego ( <a href="#">John Hopkins</a> ) | #                                 |
|---|---|-----------------------------------|--|---------------------|---|--|-----------------------------------|
| <b>Name of Item</b>                     | <i>Instances and excerpts of mention of the item in the above water, sanitation, and hygiene (WASH) and IPC reference documents</i> |                                   |  |                     |   |  |                                   |
| <b>Respirator</b>                       |   | ✓                                 | Available as needed                                  |                     | ✓   | Cleanliness; airborne precaution         | 3                                 |
| <b>Water station, potable</b>           |   | ✓                                 | "Is a reliable safe drinking water station present?" |                     | ✓   | At POC                                   | 3                                 |
| <b>Aprons, disposable</b>               |   |                                   |  |                     |   | ✓  | 2                                 |
| <b>Boots, gum</b>                       |   |                                   |  | ✓                   | Waste management PPE                              | ✓  | Protective footwear               |
| <b>Chlorine</b>                         |   |                                   |  | ✓                   | Used for water treatment and surface disinfection | ✓  | Water chlorination                |
| <b>Dustpan</b>                          |   |                                   |  |                     |   | ✓  | 2                                 |
| <b>energy/power</b>                     |   | ✓                                 | Sufficient for all uses                              |                     | ✓   | Asks indirectly                          | 2                                 |
| <b>Face covering/non-surgical masks</b> |   |                                   |  |                     | ✓   | Chlorine mixing                          | 2                                 |
| <b>Markers, fluorescent</b>             |   |                                   |  |                     | ✓   | For cleaning monitoring                  | 2                                 |
| <b>Sign, wet floor/caution/hazard</b>   |   |                                   |  |                     | ✓   | ✓ hazard sign                            | 2                                 |
| <b>Trolley, waste</b>                   |   |                                   |  | ✓                   | Some sort of cart for transporting waste safely   | ✓  | Transporting waste and bed linens |



| Item   | <a href="#">JMP</a>   | <a href="#">IPCAF<sup>3</sup></a>                | <a href="#">SPHERE</a> | <a href="#">CDC</a> | Teach Clean (LSHTM <sup>4</sup> )      | Jhpiego ( <a href="#">John Hopkins</a> ) | # |
|--|---|--|------------------------|---------------------|--|--|---|
| <b>Name of Item</b>                            | <i>Instances and excerpts of mention of the item in the above water, sanitation, and hygiene (WASH) and IPC reference documents</i> |  |                        |                     |  |  |   |
| <b>Water storage</b>                           |   |  | ✓                      |                     | ✓                                      |  | 2 |
| <b>Absorbent material</b>                      |   |  |                        |                     |  | ✓ For cleaning spillages                 | 1 |
| <b>Alcohol (70%)</b>                           |   |  |                        |                     |  | ✓ Cleaning delicate surfaces             | 1 |
| <b>Alcohol-Based Hand Rub (ABHR), personal</b> |   |  |                        |                     | ✓ Do staff carry ABHR on their person? |  | 1 |
| <b>Bed linens</b>                              |   | ✓ White preferred to allow for use of chlorine   |                        |                     |  |  | 1 |
| <b>Cloths, disposable</b>                      |   |  |                        |                     |  | ✓ For cleaning                           | 1 |
| <b>Colorimeter (chlorine pool tester)</b>      |   |  | ✓                      |                     |  |  | 1 |
| <b>Colorimeter reagent</b>                     |   |  | ✓                      | Weekly testing      |  |  | 1 |
| <b>Drapes</b>                                  |   |  |                        |                     |  | 1  | 1 |
| <b>Floor brush</b>                             |   |  |                        |                     |  | 1  | 1 |
| <b>Gloves, surgical sterile</b>                |   | ✓ Sufficient quantities. Required                |                        |                     |  |  | 1 |
| <b>Gowns, surgical</b>                         |   |  |                        |                     |  | ✓ Absorbent materials not recommended    | 1 |
| <b>Hand hygiene promotional materials</b>      | ✓   | Mentioned as consideration for "advance service" |                        |                     |  |  | 1 |

| Item  | <a href="#">JMP</a>   | <a href="#">IPCAF<sup>3</sup></a>  | <a href="#">SPHERE</a> | <a href="#">CDC</a> | Teach Clean (LSHTM <sup>4</sup> )  | Jhpiego ( <a href="#">John Hopkins</a> )                          | # |   |
|---|---|--|------------------------|---------------------|------------------------------------|---|---|---|
| <b>Name of Item</b>                               | <i>Instances and excerpts of mention of the item in the above water, sanitation, and hygiene (WASH) and IPC reference documents</i> |  |                        |                     |                                    |   |   |   |
| <b>Hand lotion/cream</b>                          |   |  |                        |                     |                                    | ✓ Combats hand dryness due to frequent handwashing; non-oil-based | 1 |   |
| <b>Hand towel, single use</b>                     |   |  |                        |                     |                                    | ✓ Towels should be personal or washed after use                   | 1 |   |
| <b>Head covering/surgical caps/surgical hoods</b> |   |  |                        |                     |                                    | ✓ Shedding skin or hair   | 1 |   |
| <b>Instrument wrap/packaging</b>                  |   |  |                        |                     |                                    | ✓ For storing sterilized instruments                              | 1 |   |
| <b>Menstrual hygiene facilities</b>               | ✓   | Poorly defined but may include menstrual hygiene management products and disposal. 1 set per latrine |                        |                     |                                    |   |   | 1 |
| <b>Needle/hub cutters</b>                         | ✓   | Mentioned as consideration for "advance service"   |                        |                     |                                    |   |   | 1 |
| <b>Overshoes</b>                                  |   |  |                        |                     |                                    | ✓   | 1 |   |
| <b>Paper, disposable</b>                          |   |  |                        |                     |                                    | ✓ For cleaning  | 1 |   |
| <b>Portable containers/cart/trolley</b>           |   |  |                        |                     | ✓ For cleaning materials transport |   | 1 |   |
| <b>Safety ladder</b>                              |   |  |                        |                     |                                    | ✓   | 1 |   |
| <b>Scrubs/uniform</b>                             |   |  |                        |                     |                                    | ✓   | 1 |   |
| <b>Squeeze bottle, portable</b>                   |   |  |                        |                     |                                    | ✓ Discourages spray bottles                                       |   |   |
| <b>Toilet Brush</b>                               |   |  |                        |                     |                                    | ✓   | 1 |   |

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