



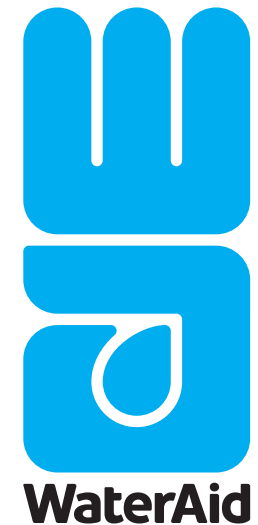
# Structured review of existing resource gaps

## Summary report and recommendations on current IPC and WASH training materials

Informed by a gap analysis desk review and key informant interviews



WaterAid/Wimbledon Foundation WASH and IPC Training Development Project  
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## Executive summary and recommendations

As a first step to informing a new training package, a process to identify what is available and highlight gaps in the availability and suitability of targeted training resources was performed.

This report presents the summary of the findings of a desk exercise and key informant interviews (KII). It describes recommendations that will help to shape the formative research (a future step in the overall project) and facilitate the development of fit for purpose training packages that aim to overcome known and perceived gaps within Malawi.

In summary, there is no one training package that currently meets the needs of the project. A range of materials are available that could inform a new training package. The output of the desk review is in itself a useful resource, one that facilitates easy access to relevant content to be used at the time of developing the training course and thus will save time at this stage in the project. The findings of this exercise will therefore act as a key resource to be consulted throughout the development of the training package, contributing to an efficient approach and could be considered a working compendium.

Recommendations include using these findings to i) support decision making on the exact content for a new training package, ii) help in the allocation of tasks related to preparation of the new training materials, iii) develop a plan for peer review and finalization. Additionally, a process to extract content that will be relevant for the final training package (from the resources outlined in this report) is required once details of its content are more advanced.

## Current situation



A national project to improve water, sanitation and hygiene (WASH) in health care facilities is underway in Malawi and involves the development of a scalable model for training.

This includes the development of training packages, on aspects of WASH and infection prevention and control (IPC), that would be suitable for training of trainers, and which are due to be delivered by the end of this project.

### Acknowledgements

We'd like to thank the IPC and WASH experts in Malawi (Ms. Angeline Chiotcha, Mr. Holystone M. Kafanikhale and Dr. Owen Musopole) who provided their insights during the key informant interviews. We'd also like to thank Monique Narracott for her initial review and documentation of resources and Natasha Mwenda, Laston Zungu, Alice Woodland, Helen Hamilton, Nausheen Hasan and Kyla Smith for their contributions and review.

WaterAid wishes to thank the Wimbledon Foundation for funding this work as part of their wider support to WaterAid's work in health centres, schools and communities.

## Purpose of this report

As a first step to informing a new training package, a process to identify what is available and gaps in the availability and suitability of targeted training resources was performed.

This report presents the summary of the findings of a desk exercise and key informant interviews (KII), and highlights some key recommendations that will help to shape the formative research (another step in the overall project) and facilitate the development of the training packages to be fit for purpose and overcome current known and perceived gaps.



## Approach to gathering information on IPC and WASH training materials

The following steps were taken.

### 1

#### Gap Analysis 1

- a. A focused/targeted desk review of freely available IPC and WASH training-related resources was undertaken.
- b. The purpose was to describe the process used to identify the availability of and gaps in relevant, freely available evidence based resources and to provide recommendations on the available resources that will inform the development of the training package as part of a scalable model.
- c. The types of resources to be sourced, the search strategy, inclusion criteria and plan to categorise available resources were all outlined from the outset of the exercise.

### 2

#### Gap Analysis 2

- a. An initial list of potential interviewees for KIIs was compiled during discussions between the core group of people working on the project (WA and the consultants) and then reviewed by WA staff.
- b. Key names were identified and contact was made in the first instance by WA staff, already known to the interviewees, through emails.
- c. The interviewees were introduced and three telephone interviews were then conducted in March 2021. Each interview lasted for approx. 45 minutes.

# Summary findings



▼ Chrissy Kautche, health attendant, cleaning the corridors, Khuwi Health Centre, Ntchisi district.

## GAP Analysis 1

- **National WASH and IPC guidelines are available** at country level (Malawi) and will be used to inform the content of the training materials
- **A number of international guidelines exist** that are relevant for informing the content of the training materials. These could be particularly useful in ensuring that all content is current and evidence based with regards to the goal of improving WASH and IPC and preventing infections, protecting patients and health workers alike. The exact content to be extracted from these documents will ultimately depend on the structure of the new training materials and the process of extracting that content is recommended for the next phase of work, once the training package outline has been agreed.
- **Importantly, a range of training materials exist, however the majority of these are focused on IPC rather than WASH<sup>1</sup>.** WHO does provide WASH in health care facilities training materials. However, the majority of those freely available from credible sources are solely focused on IPC, aimed at IPC focal points and/or frontline, clinical improvements, and do not fully embrace associated aspects of WASH.
- **Assessment and implementation materials are available** for IPC and WASH, though most often not combined as IPC/WASH but are presented as separate documents. These could however play a key role in informing the content of a training package, i.e. the approaches recommended for implementation and improvement could run throughout the package, either implicitly or explicitly depending on the final nature of the package and intended target audience and outcome (e.g. will the package aim to train on assessment and implementation of guidance and if not, then the concepts might still be useful for the content construct).
- **It is clear that there is no one package, currently available,** that will meet the plan for new targeted WASH/IPC training materials. The majority of materials found may inform the content of a new training package depending on the final decision regarding this.



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Limitations to this exercise were also noted. The full findings of this step are available in annex 1.

1. It should be noted that application of the WaterAid/ICAN training materials in part stimulated this current project to ensure a new package could be developed, fit for purpose for the target audience.



## GAP Analysis 2

There appears to be no ideal training on IPC/WASH currently in use, based on these interviews, which concurs with Gap Analysis 1. However, these were three short interviews which gathered perceptions and opinions and in summary, the information provided on the future of training packages was insightful rather than all-embracing:

- **The current focus of training content** – IPC guidance, WASH, antimicrobial resistance (AMR), waste, quality improvement (QI) – often not cohesively presented.
- **The people involved in training** – Need to be credible. Participants need to want to be there, not for the money. (A range of groups mentioned regarding delivery and participants - NGO, UN, etc support training. Attendants, cleaners, health workers, doctors, juniors, managers, ministries have all been involved in training).
- **The innovation/successes (now and in the future)** – teams working together, combining topics (IPC and WASH), Training of Trainers, the impact of evaluations, gravitate to online learning for continuous updates.
- **The challenges/gaps related to training** – lack of funds, detail on WASH infrastructure maintenance, competing priorities, 'ownership' (of the topics at national level), community participation and representation, 'crowded space' (are there too many tools now?), a pool of trainers required, practical demonstrations, no joined up approach/ thinking (for IPC/WASH), time (out of the workplace), money orientation, base levels of competence (in the 'class', skill/team mix – new and existing teams), motivation, lack of support to implement (in practice).
- **The approach (now and in future)** – mainly slides (taken from other sources – needs to be more practical), needs to work for the target audience (for individuals and teams, simplified for support staff, don't forget junior staff), needs to reach everyone (including managers), the need for (ongoing) champions, mandatory aspect (tied to legislation/accreditation), use of technology, take away job-aides.



▲ Aviss Chioko nursing officer post-natal ward incharge, washing her hands, Ntchisi District Hospital, Malawi.



**Note:** the responses provided to the interviews are perceptions and opinions; they do not represent a research study/approach, nor necessarily what is actually happening in country. However, the information can be considered with regards to how the training package will both be compiled and presented and concur with perceptions outlined at the start of this project.

## Brief reflections from this exercise

- **This issue of ownership of future training packages is key.**
- **The best training materials will not change practices and behaviours** if people are not supported to see the training as priority and in the context of overall improvement supported by the health facility and other leaders. Addressing support for implementation after training is delivered is critical.
- **Support from leadership is cited as a challenge by the interviewees.** Therefore, to obtain buy-in in a meaningful way for a new training package early on in the process, it will be important to work with senior staff in different settings. While this is not part of the training package, this will hopefully be of value in addressing many of the existing issue. Recognising and addressing staff motivation to undertake training, as it's part of their job and not an extra burden on them, including dedicated time outside of the workplace, will be critical.
- **Tailoring the training for different groups**, from management to support staff is a very important point. There should be separate training packages for each group that are contextualised to their role – and a training needs analysis done prior to this for each group. Empowering districts to localise/adapt training would help with this.
- **Certification** – if the training can be tied to registration with regulatory bodies this could be a motivator and should be further explored.
- **There should be effort directed to developing post-training materials** as well as the core training, e.g., job aids - 'how to' guides that people can easily access when they need (e.g., on their phones). Consideration could also be given to setting up some kind of mentorship scheme if possible.
- **Many tools already exist** – but is there also guidance on how to use these tools and when to use each one? This could be a gap addressed by this training.
- **Ideally, training needs to be identified by the team** at the health facility with support from the district level. However, this is not done regularly because even if the facilities identify gaps, trainings would be conducted when external partners are willing to support. How can this process be changed through the training package? A preparatory planning phase could help.
- **For COVID-19 the commonly used training materials are those produced by Africa CDC**, which were adapted a little to suit the local context. Consider reviewing these for informing the development of the training package.
- **Environmental health officers have legal backing**, but representation from other specialized directorates i.e. nursing/clinical/environmental health etc. is still important – address territorialism if possible through the new materials and buy-in exercises. IPC is mostly championed by people in curative situations (clinicians, nurses and doctors) and in most trainings, environmental health staff are left out hence a gap for them to articulate IPC issues. Most of the environmental health staff focus on community WASH and thus these gaps and disjointed situations should be addressed by the training package as far as possible.
- **It will also be important to be realistic** and note what is out of scope for this project, knowing that there are many dependencies to ensuring training is carried through to practice however this project will not necessarily have the resource to address all issues.

**Note:** this exercise did not aim to source advocacy type materials aligned to training. If such resources as required as part of this project a separate exercise would need to be undertaken.

## Recommendations



In summary, and given the reason this project was commenced, there is no one package that currently appears to meet the needs within country while a range of materials are available that could inform a new training package.

The output of the desk review exercise allows for resources to be easily sourced and relevant content to be reviewed at the time of developing the new training course content and thus will save time at this stage in the project.

Recommendations include using the findings of this exercise to support discussions on the exact content for a new training package and allocation of tasks to prepare the materials as well as a plan for peer review and finalization.

Additionally, a process to extract content that will be relevant for the final training package from those resources outlined in this report will provide the basis for starting the development of the training package, once details of its content are confirmed.



▲ A handwashing station with no water, Mkunzi Health Centre, Ntchisi district.

# ANNEX 1

## Gap Analysis 1: Review of WASH and IPC training-related resources

### Introduction

This document, entitled Gap Analysis 1, presents a summary and review of water, sanitation and hygiene (WASH) and infection prevention and control (IPC) resources identified through a targeted desk search.

The main focus of the review is on relevant, credible resources that are freely available and might directly support the development of and/or inform training in these two technical areas (WASH and IPC), ideally focused on low resource settings. It builds on an initial annotated bibliography prepared during the preliminary phase of the project.

The work is part of a wider national project to improve WASH in health care facilities through the development of a scalable model for targeted WASH and IPC training, which includes the development of WASH and IPC training packages that are fit for purpose and targeted at those who require comprehensive trainings to support the improvement of WASH and IPC in health care.

### Purpose

1. To describe the process used to identify the availability of and gaps in relevant, freely available evidence based resources;
2. To provide recommendations on the available, online resources that will inform the development of the training package as part of a scalable model.

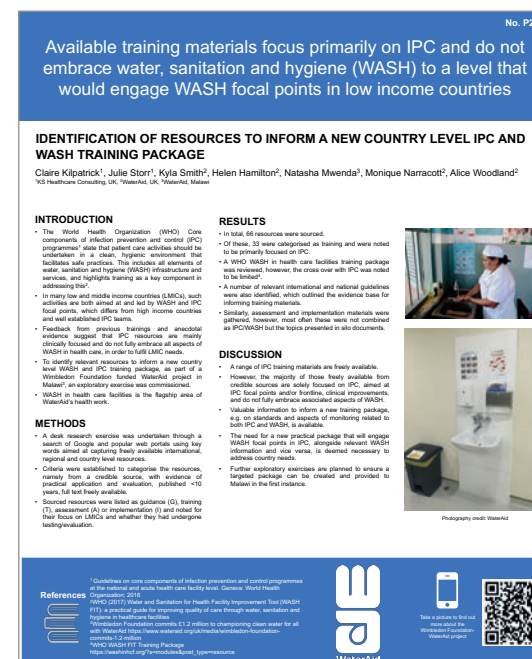
The findings of Gap Analysis 1 will feed into a summary report and the final recommendations in the summary report will also include the results of the Gap Analysis 2. Gap Analysis 2 involves undertaking key informant interviews (KIIs) to rapidly identify the current as well as perceived gaps in training resources.

It is intended that the recommendations will include distilling the desk exercise findings in order to consider exactly which parts of the listed resources should be used to inform the training content, in the context of this targeted project.

### Target audience

This, and the final report, have been shared with the project's core training development group and other stakeholders.

These findings were also shared in a poster presentation at the International Conference on Prevention & Infection Control (ICPIC) 2021.





## Method

### Types of resources to be sourced

The desk review involves collation of any resources freely available on line, which focus on WASH and IPC, both training and other resources that meet evidence based standards known to improve WASH and IPC in health care and protect patients and health workers alike. The evidence based standards are set by UN agencies including the World Health Organization.

### Search strategy

The desk review will be undertaken by searching a wide range of organizational web pages and by conducting a broad Google search using key words which aims to span international, regional and country/local level resources, while this will be dependent on resources having been published on line.

The resource search will span, not exclusively:

- International and national guidance and standards (including related policies and guidelines)
- Training packages/materials
- Assessment tools
- Implementation resources.

### Inclusion criteria

Inclusion of a resource is based on the following criteria:

- The resource is from a credible/trusted source
- There is some evidence of practical application and/or evaluation of the resource in relation to WASH and IPC in low resource settings
- The resource has been published within the previous 10 years<sup>2</sup>
- A full text version is freely available and accessible

There is no scoring system presented in association with the inclusion criteria for resources. Those resources included in the findings will be described as informing the training package or being recommended to be used as actual content. Inclusion of a resource does not imply endorsement by WaterAid or any specific organization associated with the resource.

### Categorisation of available resources

Resources will be categorised under the following four headings:

1. International and national guidance (including standards, competences, related policies and guidelines) (G)
2. Training packages/materials (T)
3. Assessment tool (A)
4. Implementation resource (includes manuals, advocacy materials, videos) (I)

2. Exceptions to this include if the resource is accepted as the definitive gold standard and has not been further updated.

The following structure has been developed to guide the review of the resources and this is expanded on within the tables presented within the results section of this report.

- Is the resource Low-to-Middle-Income-Country (LMIC)-focused?
- Has the resource been tested/evaluated?
- Was the resource developed with end user involvement?
- Is the resource mainly focused/targeted at the WASH and IPC community?
- Does the resource exist in more than one language (i.e. not solely English)?

The table also includes a “notes” section that allows for a brief review, highlighting perceived strengths and weakness of the resource. It concludes with a final column indicating whether the resource informs teaching or has the potential to be used as content within training materials.

## Limitations

The resources identified as a result of the desk review are likely to be a snapshot, albeit comprehensive, of all possible available resources. The results will only include those that are freely available and found on line. A process whereby updates to resources/documents are identified is out of scope of this project given its time limited nature.

The approach employed, including the use of three reviewers and led by technical subject matter experts, can provide a level of confidence in the process. It should be noted that while developing the new training package, additional checks on available resources can be conducted depending on the final decisions for the training content and structure.

▶ Eunice Kalimbira, community midwife technician, writing notes at her desk, Ntchisi district.



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## Abbreviations and acronyms

<b>AMR</b>	Antimicrobial resistance
<b>HCF</b>	Health care facilities
<b>HCW</b>	Health care workers
<b>ICAN</b>	Infection control Africa network
<b>IPC</b>	Infection prevention and control
<b>JMP</b>	Joint monitoring programme
<b>NGO</b>	Non-governmental organisations
<b>PPE</b>	Personal protective equipment
<b>QI</b>	Quality improvement
<b>ToT</b>	Training of trainers
<b>UN</b>	United Nations
<b>WASH</b>	Water, sanitation and hygiene
<b>WASH FIT</b>	WASH facility improvement tool (from WHO)
<b>WHO</b>	World Health Organization

# Results of the review

Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Guidelines (G)</b>								
<b>Ministry of Health Malawi: Infection Prevention and WASH Guidelines for Malawi, November 2020 (available in country)</b>	G	Y	N	Y	Y	N	<ul style="list-style-type: none"> <li>Comprehensive IPC and WASH guidelines set by the Ministry of Health in Malawi.</li> </ul>	C
<b><u>WHO Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level (2016)</u></b>	G	Y	Y	Y	Y	Y	<ul style="list-style-type: none"> <li>Outlines the evidence and recommendations on what an IPC programme should look like nationally and in HCFs</li> <li>Adaptable to the local context</li> <li>Core Component 3 relates to training and education</li> <li>Core Component 8 incorporates WASH</li> </ul>	Inf
<b><u>WHO Minimum Requirements for infection prevention and control (IPC) programmes (2019)</u></b>	G	Y	N	Y	Y	N	<ul style="list-style-type: none"> <li>Based on the Core Component Guidelines of 2016 - presents and promotes the <i>minimum requirements</i> for IPC programmes.</li> <li>Minimum requirements for IPC programmes in relation to training and education and WASH are presented.</li> </ul>	Inf
<b><u>WHO Essential environmental health standards in healthcare (2008)</u></b>	G	Y	Y	N	Y	Y	<ul style="list-style-type: none"> <li>Provides guidance on essential environmental health standards to support the development and implementation of national policies.</li> <li>Target audience: health managers and planners, architects, urban planners, WASH staff, clinical and nursing staff, carers and other health-care providers, and health promoters.</li> </ul>	Inf

3. G: refers to international and national guidance (including standards, related policies and guidelines); T: refers to training packages/materials; A: refers to assessment tools; I: refers to implementation resources

Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Guidelines (G) continued</b>								
<a href="#"><u>WHO/UNICEF. Water, sanitation, and hygiene in health care facilities practical steps to achieve universal access to quality care</u></a>	G	Y	N	N	Y	Y	<ul style="list-style-type: none"> <li>● Presents eight practical steps that Member States can take at the national and sub-national level to improve WASH in health care facilities together with a bank of case studies.</li> <li>● Practical step 6 relates to development of the health workforce and the document contains useful case study examples.</li> </ul>	Inf
<a href="#"><u>Africa CDC Personal Protective Equipment for Different Clinical Settings and Activities (Jan 2021)</u></a>	G	Y	N	N	Y	Y	<ul style="list-style-type: none"> <li>● Provides guidance to African Union Member States based on specific requests from Member States for a checklist/guidance for the required Personal Protective Equipment (PPE) for healthcare workers and caregivers.</li> </ul>	
<a href="#"><u>CDC/ICAN Best Practices for Environmental Cleaning for Healthcare Facilities (2020)</u></a>	G	Y	N	N	Y	N	<ul style="list-style-type: none"> <li>● Provides guidance on best practices for environmental cleaning procedures and programs in healthcare facilities in resource-limited settings including elements related to staffing and training.</li> </ul>	Inf
<a href="#"><u>Africa CDC Best Practices for COVID-19 in Primary Healthcare Facilities August 2020</u></a>	G	Y	N	N	Y	N	<ul style="list-style-type: none"> <li>● Addresses issues specific to primary healthcare facilities (PHCs) and aims to guide triage and screening of all patients, IPC measures that must be implemented to avoid transmission of COVID-19 in the PHC, environmental cleaning and waste management specific to COVID-19, and healthcare worker training to ensure implementation in every PHC. Focus on maternal/newborn settings.</li> </ul>	Inf
<a href="#"><u>WHO Infection prevention and control during health care when coronavirus disease (COVID-19) is suspected or confirmed. Interim guidance 29 June 2020</u></a>	G	Y	N	N	Y		<ul style="list-style-type: none"> <li>● Interim guidance on IPC strategies during health care when coronavirus disease (COVID-19) is suspected or confirmed. Intended for health workers, including health-care managers and IPC teams at the facility level, but it is also relevant for the national and district/provincial levels.</li> </ul>	Inf
<a href="#"><u>WHO Core competencies for infection prevention and control professionals 2020</u></a>	G	N	N	N	Y	N	<ul style="list-style-type: none"> <li>● Describes the knowledge, skills and attitudes required by all persons responsible for and working in the IPC programme at the national, sub-national and facility level in order to be deemed competent. Competences are presented according to the WHO Core Components.</li> </ul>	Inf



Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Guidelines (G) continued</b>								
<b><u>Accreditation of continuous professional development activities for infection prevention and control professionals. IPC Accreditation Board for Africa (IABA)</u></b>	G	Y	N	N	Y	N	<ul style="list-style-type: none"> <li>Lays out seven standards for accreditation addressing learning outcomes and learning programmes.</li> </ul>	Inf
<b><u>WHO/UNICEF. Water and Sanitation Facility Improvement Tool (WASH FIT)</u></b>	G	Y	Y	N	Y	Y	<ul style="list-style-type: none"> <li>An improvement tool to help health care facility staff and administrators prioritize and improve services, and inform broader district, regional and national efforts to improve quality health care.</li> <li>The WASH FIT guide contains practical step-by-step directions and tools for assessing and improving services.</li> </ul>	C
<b><u>WHO Standards for improving quality of maternal and newborn care in health facilities</u></b>	G	Y	Y	Y	Y	Y	<ul style="list-style-type: none"> <li>The framework contains eight domains of quality of care that should be assessed, improved and monitored within the health system. Contains broad standards and associated quality statements.</li> </ul>	Inf
<b><u>WHO, 2017. Safe management of wastes from health care activities: a summary. World Health Organization, Geneva</u></b>	G	Y	?	?	Y	Y	<ul style="list-style-type: none"> <li>This document highlights the key aspects of safe health-care waste management in order to guide policy-makers, practitioners and facility managers to improve such services in health-care facilities.</li> </ul>	Inf
<b><u>WHO 2009. Guide to local production: WHO-recommended handrub formulation</u></b>	G	Y	Y	N	Y	Y	<ul style="list-style-type: none"> <li>Provides a practical step by step guide for local production of ABHR.</li> </ul>	Inf
<b><u>Water, sanitation, hygiene, and waste management for SARS-CoV2, the virus that causes COVID-19, updated July 2020</u></b>	G	Y	N	N	Y	Y	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to: a) Identify possible causes of HAIs and describe how they are transmitted. b) Describe how risk recognition protects patients and healthcare personnel and identify risk factors associated with HAIs in healthcare settings. c) Describe the hierarchy of controls and how these controls reduce risk in healthcare settings. d) Identify how the IPC core components provide a blueprint for successful implementation of IPC programs.</li> </ul>	Inf

Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Training (T)</b>								
<b>Open WHO training <u>Introduction to IPC</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to: a) Identify possible causes of HAIs and describe how they are transmitted. b) Describe how risk recognition protects patients and healthcare personnel and identify risk factors associated with HAIs in healthcare settings. c) Describe the hierarchy of controls and how these controls reduce risk in healthcare settings. d) Identify how the IPC core components provide a blueprint for successful implementation of IPC programs.</li> </ul>	C
<b>Open WHO training <u>WHO Core components and multimodal strategies</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to: a) describe how the WHO Core Components relate to the implementation of a successful IPC programme; and b) describe multimodal strategies that can be applied to improve IPC activities.</li> </ul>	C
<b>Open WHO training <u>Standard Precautions: Hand hygiene</u></b>	T	Y	?	N	Y	Y	<ul style="list-style-type: none"> <li>A one hour course where the learner will be able to a) describe hand hygiene as a critical component of infection prevention and control; b) identify the 5 Moments for Hand Hygiene; c) discuss glove use and hand hygiene during patient care activities; d) demonstrate the correct way to wash hands with soap and water according to the WHO-recommended method; e) demonstrate the correct way to perform hand hygiene with an alcohol-based handrub (ABHR) according to the WHO-recommended method; and f) discuss key issues and considerations of hand hygiene in a health care facility.</li> </ul>	C
<b>Open WHO training <u>Standard Precautions: Waste management</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to: a) identify the categories and sources of waste at a health care facility; b) describe the best practices for minimizing, segregating, collecting, transporting and storing health care waste; and c) identify the recommended treatment and final disposal methods for health care waste.</li> </ul>	C

Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Training (T) continued</b>								
<b>Open WHO training <u>Standard Precautions: Environmental cleaning</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A one hour course where the learner will be able to: a) describe areas of collaboration between IPC and environmental services; b) describe the health care environment and purpose of environmental cleaning; c) identify differences between routine and terminal cleaning; d) describe standard precautions to keep environmental services workers safe; e) explain the function of cleaning agents and disinfectants; and f) describe uses of environmental monitoring in the health care setting.</li> </ul>	C
<b>Open WHO training <u>Basic microbiology</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to: a) define microbes and other microbiology terms; b) describe the chain of infection; c) describe the main groups of microorganisms; d) discuss common multidrug-resistant organisms; and e) describe basic laboratory diagnostics.</li> </ul>	Inf
<b>Open WHO training <u>Injection safety</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A two-hour course where the learner will be able to: a) identify common factors that contribute to unsafe injection practices in health care; b) explain the risks associated with unsafe injection practices and infections caused by them; c) apply injection safety best practices in health care; d) describe the 7 steps of a safe injection; e) demonstrate safe handling and disposal of needles and other sharps; f) explain the mechanism of safety-engineered syringes; g) identify the ways in which needle-stick injuries can occur in your facility; h) describe what to do if a needle-stick injury does occur; i) explain exposure management for hepatitis B (HBV), hepatitis C (HCV) and HIV from needle-stick injuries; and j) apply the multimodal strategy to reduce needle-stick injuries in your facility.</li> </ul>	C

Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Training (T) continued</b>								
<b><u>Open WHO training Leadership and programme management in IPC</u></b>	T	Y	?	N	Y	N	<ul style="list-style-type: none"> <li>A four-hour course where the learner will be able to: a) define leadership as it applies to the roles and responsibilities of the IPC focal person; b) identify how characteristics and types of leadership relate to your own leadership approaches; c) define the components of communication and describe how they are used to communicate effectively in IPC; d) select the most effective channels of communication to use in various IPC situations; e) explain which leadership skills and behaviours are needed for optimal conflict resolution; f) explain how project management skills apply to developing a strong IPC programme; g) identify and categorize risk and risk management strategies as they apply to your IPC projects; h) apply adult learning theories to how you can approach education and training of health care workers in your facility; i) describe how the three factors of successful implementation—context, innovation, and recipients—define a framework for improving IPC activities; j) explain how understanding behaviour change can be used to develop and implement the best IPC interventions; k) select the best strategies to use when attempting to make low cost or no cost improvements; and l) develop quality improvement (QI) strategies that can be used to systematically improve processes and outcomes.</li> </ul>	Inf
<b><u>Open WHO training IPC for COVID-19</u></b>	T	Y	?	N	Y	Y	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to: a) define IPC and its role in the context of preparedness, readiness and response; b) describe the current epidemiological COVID-19 situation, including case definitions and signs and symptoms; c) describe source control, administrative controls and environmental and engineering controls; d) describe the WHO-recommended IPC measures for health care facilities, including when dealing with suspect or confirmed COVID-19 cases; e) describe additional IPC measures to be taken to assist in general preparedness within a health care facility.</li> </ul>	C
<b><u>Open WHO training Covid-19 How to put on and remove personal protective equipment (PPE)</u></b>	T	Y	?	N	Y	Y	<ul style="list-style-type: none"> <li>A one-hour course where the learner will be able to.</li> </ul>	C



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<b>Training (T) <i>continued</i></b>								
<b>Open WHO training <u>Decontamination and sterilization of medical devices</u></b>	T	Y	?	N	Y	N	● A one-hour course where the learner will be able to.	Inf
<b>WHO IPC e-learning module: <u>Introduction to IPC</u></b>	T	Y	?	N	Y	N	● Self-directed learning to enhance levels of IPC knowledge, primarily directed at those who work in IPC but also anyone interested in this topic.	C
<b>WHO IPC e-learning module: <u>WHO Core components and multimodal strategies</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Standard Precautions: Hand hygiene</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Standard Precautions: PPE</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Standard Precautions: Waste management</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Standard Precautions: Environmental cleaning</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Basic microbiology</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Injection safety</u></b>	T	Y	?	N	Y	N	● As above	C

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<b>Training (T) <i>continued</i></b>								
<b>WHO IPC e-learning module: <u>Leadership and programme management in IPC</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Transmission based precautions</u></b>	T	Y	?	N	Y	N	● As above	C
<b>WHO IPC e-learning module: <u>Surgical site infection</u></b>	T	Y	?	N	Y	N	● As above	Inf
<b>WHO IPC e-learning module: <u>Catheter associated urinary tract infections</u></b>	T	Y	?	N	Y	N	● As above	Inf
<b>WHO IPC e-learning module: <u>Antimicrobial resistance</u></b>	T	Y	?	N	Y	N	● As above	Inf
<b>WHO IPC e-learning module: <u>HAI surveillance</u></b>	T	Y	?	N	Y	N	● As above	Inf
<b>WHO IPC e-learning module: <u>Decontamination and sterilisation</u></b>	T	Y	?	N	Y	N	● As above	Inf
<b>WHO IPC e-learning module: <u>Outbreak investigation</u></b>	T	Y	?	N	Y	N	● As above	Inf
<b><u>The TEACH CLEAN Package</u></b>	T	Y	Y	Y	Y	N	● Training package to improve cleaning standards and environmental hygiene in hospitals, which incorporates all elements of Standard Precautions.	C
<b><u>WASH FIT modules</u></b>	T	Y	Y	Y	Y	Y	● Training package targeted at facility level, as part of a broader process to improving WASH – hand hygiene, environmental cleaning and HCWM are topics that straddle IPC.	C

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<b>Training (T) continued</b>								
<b>Malawi Quality Management Directorate IPC COVID-19 Training</b>	T	Y	NA	NA	Y	Y	<ul style="list-style-type: none"> <li>Suite of PowerPoint, guidance and Excel assessments used to deliver COVID-19 training.</li> <li>Includes: chain of infection; safe management of dead bodies; rational use of PPE; IPC for COVID-19 pre-test; Introduction to IPC; health care waste management; hand hygiene; environmental decontamination; equipment care; environmental cleaning and disinfection; donning and doffing PPE and a COVID-19 scorecard.</li> </ul>	C
<b>ICAN and WaterAid Training Modules 2019 IPC COVID-19 training package</b>	T	Y	NA	NA	Y	N	<ul style="list-style-type: none"> <li>A suite of around 15 presentations and multiple short videos used to deliver a five-day training course, addressing: a) Introduction to basic microbiology b) Evaluating IPC, WASH and WASH FIT c) The Built environment d) Applying WASH and IPC Principles. The training also included a visit to a health centre. Available via SharePoint.</li> </ul>	Inf
<b>ICAN and WaterAid WASH and IPC Training Report 2019</b>	T	Y	NA	NA	Y	N	<ul style="list-style-type: none"> <li>Report of a five-day training on WASH and IPC led by WaterAid and ICAN (not online, available in SharePoint).</li> <li>Potentially useful insights from group discussions.</li> </ul>	Inf
<b><u>SAVE THE CHILDREN WASH Training Program</u> (not currently available)</b>	T	Y	Y	?	Y	Y	<ul style="list-style-type: none"> <li>Based on a package of modules, can be adapted based on participant's needs and the context within which they are working.</li> <li>Participants can either be groups working directly in the WASH sector, or those working in any technical sector which may have WASH components integrated within their programmes.</li> <li>Training usually last from between 3 to 5 days, and includes a range of practical elements, including broader emergency response elements.</li> </ul>	Inf

Resource	G; T; A; I <sup>3</sup>	LMIC focused (Y/N)	Evidence of testing/evaluation (Y/N/?)	End user involvement (Y/N/?)	WASH/IPC focused (Y/N)	Multiple languages (Y/N)	Notes	Informs (Inf) or use as content (C)
<b>Assessment (A)</b>								
<b><u>WHO 2018. IPC assessment tool – national level IPCAT2</u></b>	A	Y	?	Y	Y	N	<ul style="list-style-type: none"> <li>● IPCAT2 assists countries to determine the IPC core components already in place, to guide action planning. IPCAT2 corresponds to the six core component recommendations of the guidelines targeted at the national level.</li> </ul>	Inf
<b><u>WHO. Infection Prevention and Control Assessment at the Facility Level (IPCAF)</u></b>	A	Y	Y	Y	Y	Y	<ul style="list-style-type: none"> <li>● A structured, closed-formatted questionnaire with an associated scoring system. The framework is intended for acute health care facilities, but it can be used in other inpatient health care settings.</li> </ul>	Inf
<b><u>WASH FIT Digital Water and Sanitation for Health Facility Improvement Tool</u></b>	A	Y	Y	Y	Y	Y	<ul style="list-style-type: none"> <li>● Free, open-access digital tool, based on the WASH FIT guide to help health care facilities improve quality of care through improved WASH. Built on the mWater digital monitoring platform, WASH FIT Digital includes a set of forms for implementing a risk-based management approach developed by WHO and UNICEF. The site also includes a dashboard to visualize the process and keep track of progress. Content is out of date in relation to WASH FIT indicators and a new APP is being prepared for launch by WHO.</li> </ul>	Inf
<b><u>WHO Cleaning and disinfection of environmental surfaces in the context of COVID-19. Interim guidance 15 May 2020</u></b>	A	Y	N	N	Y	Y	<ul style="list-style-type: none"> <li>● The purpose of this document is to provide guidance on the cleaning and disinfection of environmental surfaces in the context of COVID-19.</li> <li>● Intended for health-care professionals, public health professionals and health authorities that are developing and implementing policies and standard operating procedures (SOP) on the cleaning and disinfection of environmental surfaces in the context of COVID-19.</li> </ul>	Inf
<b><u>WHO/UNICEF, 2018. Core questions and indicators for monitoring WASH in health care facilities in the Sustainable Development Goals</u></b>	A	Y	?	?	Y	Y	<ul style="list-style-type: none"> <li>● WHO and UNICEF, working with the Global Task Team for monitoring WASH in health care facilities (HCF), have developed a set of core questions and indicators for WASH in HCF, in support of monitoring WASH in the 2030 Agenda for Sustainable Development. The indicators include definitions for basic water, sanitation, hand hygiene, health care waste management, and environmental cleaning services.</li> </ul>	Inf



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<b>Assessment (A) continued</b>								
<b><u>WHO/UNICEF/JMP Monitoring in health care facilities</u></b>	A	Y	Y	?	Y	?	<ul style="list-style-type: none"> <li>An outline of monitoring standards that relate to data collated by JMP on a regular basis to inform global reports.</li> </ul>	Inf
<b><u>WHO/UNICEF tracking country progress on WASH in health care facilities</u></b>	A	Y	N	N	Y	Y	<ul style="list-style-type: none"> <li>A google doc. As part of the follow-up process to track progress in implementing the 2019 World Health Assembly Resolution on WASH in health care facilities, all countries are asked to summarize progress on key actions (the “eight practical steps”). WHO and UNICEF are facilitating the process through a simple tracker. The data in the country tracker are also being used in various health efforts, including in global COVID-19 monitoring and resource mobilization.</li> </ul>	Inf?
<b><u>WHO, 2010. Hand Hygiene Self-Assessment Framework</u></b>	A	Y	Y	Y	Y	Y	<ul style="list-style-type: none"> <li>The Hand Hygiene Self-Assessment Framework is a systematic tool with which to obtain a situation analysis of hand hygiene promotion and practices within an individual health-care facility according to WHO multimodal improvement strategy.</li> </ul>	Inf

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<b>Implementation (I)</b>								
<b><u>A guide to the implementation of the WHO multimodal hand hygiene improvement strategy. Geneva: World Health Organization; 2009</u></b>	I	Y	Y	Y	Y	Y	<ul style="list-style-type: none"> <li>Comprehensive manual to support implementation of WHO Hand Hygiene guidelines using a stepwise approach according to WHO Multimodal Improvement Strategy.</li> </ul>	Inf
<b><u>Interim Practical Manual supporting national implementation of the WHO Guidelines on Core Components of Infection Prevention and Control Programmes. Geneva: World Health Organization; 2017</u></b>	I	Y	?	Y	Y	N	<ul style="list-style-type: none"> <li>This practical manual is designed to support implementation of the World Health Organization (WHO) Guidelines on core components of infection prevention and control programmes at the national level, with special focus on countries with limited resources.</li> <li>Contains lists of tools and resources, case studies and useful quotes that could be used to enhance training packages as well as addressing barriers and solutions.</li> </ul>	C
<b><u>Improving infection prevention and control at the health facility: interim practical manual supporting implementation of the WHO guidelines on core components of infection prevention and control programmes. Geneva: World Health Organization; 2018</u></b>	I	Y	?	Y	Y	N	<ul style="list-style-type: none"> <li>This practical manual is designed to support health care facilities to achieve effective implementation of their infection prevention and control (IPC) programmes according to the World Health Organization (WHO) Guidelines on core components of IPC programmes<sup>1</sup> in the context of their efforts to improve the quality and safety of health service delivery and the health outcomes of the people who access those services.</li> <li>The principles and guidance provided are valid for any country, but with a special focus on settings with limited resources.</li> </ul>	C
<b><u>Implementation manual to prevent and control the spread of carbapenem-resistant organisms at the national and health care facility level</u></b>	I	Y	N	Y	Y	N	<ul style="list-style-type: none"> <li>Aimed at IPC professionals mainly. Structured according to the multimodal improvement strategy.</li> <li>Contains a section on cleaning, outlining the evidence and approaches to be used.</li> </ul>	Inf

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<b>Implementation (I) continued</b>								
<b><u>WHO/UNICEF 2020. What is WASH FIT? 2-page overview</u></b>	I	Y	N	N	Y	N	● Simple outline of WASH FIT – useful as a handout	Inf
<b><u>2020. Combatting AMR through WASH and IPC in healthcare</u></b>	I	Y	N	N	Y	N	● This updated two-page flier, jointly produced by WHO, UNICEF and WaterAid, details the latest burden from poor WASH and IPC in health care, the role WASH and IPC serve in preventing AMR and the benefits of joint action and investments. It also provides examples of effective, collaborative action at the global, national and facility level. It allows anyone working in these fields to speak confidently about the current core issues, as well as solutions and will ultimately drive quality of care given how critical WASH and IPC measures are for AMR reduction and overall patient safety.	Inf
<b><u>2020. IPC to reduce the burden of AMR</u></b>	I	N	N	N	Y	N	● 4-page advocacy flyer on the importance of IPC as part of the solution to AMR – useful handout.	Inf
<b><u>Infection Prevention and Control (IPC)/WASH video</u></b>	I	Y	N	N	Y	N	● Educational video by Future Learn (9.5 minutes) on the basic principles of IPC/ WASH by Angeline Chiotcha (Ministry of Health, Malawi), part of a <a href="#">British Society for Antimicrobial Chemotherapy</a> online course on <a href="#">antimicrobial stewardship for Africa</a> .	C
<b><u>WASHFIT Liberia training package (found here upon searching)</u></b>	T	Y	N	Y	Y	N	● Training slides modified from WASHFIT to suit the Liberia target audience.	Inf

In addition, there are numerous webinar presentations that have been delivered by a range of organisations which span to some degree WASH and IPC in health care.

## In summary

- National WASH and IPC guidelines are available at country level (Malawi), though not freely available so were not found through the desk research, and would be used to make up the content of some of the training materials.
- A number of international guidelines exist that are relevant for informing the content of the training materials and could be particularly useful in ensuring that all content is current and evidence based with regards to goal of improving WASH and IPC and preventing infections, protecting patients and health workers alike. The exact content to be extracted from these documents will ultimately depend on the structure of the new training materials and the process of extracting that content is recommended for the next phase of work, once the training package outline has been agreed.
- **Importantly, a range of training materials exist, however the majority of these are focused on IPC rather than WASH.** WHO does provide WASH in health care facilities training materials, however, the cross over between IPC is limited. It should be noted that the WaterAid/ICAN training materials are those which stimulated this exercise to ensure a new package could be fit for purpose for the target audience.
- Assessment and implementation materials are again available for IPC and WASH, though most often not combined as IPC/ WASH but are presented as separate documents. These could however play a key role in informing the content of a training package, i.e. the approaches recommended for implementation and improvement could run throughout the package, either implicitly or explicitly depending on the final nature of the package and intended target audience and outcome (e.g. will the package aim to train on assessment and implementation of guidance and if not then the concepts might still be useful for the content construct).
- **It is clear that there is no one package, currently available, that will meet the plan for new targeted WASH/ IPC training materials. The majority of materials found may inform the content of a new training package depending on the final decision regarding the content of the package.**

**WaterAid is an international not-for-profit, determined to make clean water, decent toilets and good hygiene normal for everyone, everywhere within a generation. Only by tackling these three essentials in ways that last can people change their lives for good.**

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