RESOURCE CONSIDERATIONS FOR INVESTING IN HAND HYGIENE IMPROVEMENT IN HEALTH CARE FACILITIES
Resource considerations for investing in hand hygiene improvement in health care facilities

ISBN 978-92-4-002589-9 (print version)

© World Health Organization 2021

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; https://creativecommons.org/licenses/by-nc-sa/3.0/igo).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: “This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition”.

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization (http://www.wipo.int/amc/en/mediation/rules/).


Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris.

Sales, rights and licensing. To purchase WHO publications, see http://apps.who.int/bookorders. To submit requests for commercial use and queries on rights and licensing, see http://www.who.int/about/licensing.

Third-party materials. If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers’ products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

Graphic design by Maraltro.
Contents

IV Acknowledgements
1 Part 1. Introduction
   1.1 Focus and purpose
   1.2 Intended audience
   1.3 Background
   1.4 Brief overview of the MMIS
   1.5 How health facilities can understand their situation and address all five
       elements of the MMIS
   2 1.6 Using this document

5 Part 2. Needs and resource considerations for implementation of MMIS
   5 Table 1. System change (Build it)
   6 Tools to support estimation of required resources
   6 Other supporting actions
   7 Table 2. Training and Education (teach it)
   8 Tools to support estimation of required resources
   8 Other supporting actions
   9 Table 3. Monitoring and feedback (check it)
   10 Tools to support estimation of required resources
   10 Other supporting actions
   11 Table 4. Reminders and communications (sell it)
   11 Tools to support estimation of required resources
   12 Other supporting actions
   13 Table 5. Safety climate/culture change (live it)
   13 Tools to support estimation of required resources
   14 Other supporting actions

15 References
16 Annex
Acknowledgements

This document was developed by the World Health Organization (WHO) Department of Integrated Health Services (Universal Health Coverage and Life Course division). WHO gratefully acknowledges the contributions that many individuals and organizations have made to the development of this document.

**Overall coordination, writing and design of the document**

Benedetta Allegranzi (Department of Integrated Health Services, WHO) and Julie Storr (IPC consultant, United Kingdom) coordinated and led the development of this document; Julie Storr led the writing.

The following staff and experts contributed to the content development and review of the document and are gratefully acknowledged.

Alessandro Cassini (Department of Integrated Health Services, WHO), Michele Cecchini (Public Health, Organisation for Economic Co-operation and Development), Ana Paula Coutinho-Rehse (WHO Regional Office for Europe), Claire Kilpatrick (IPC consultant, United Kingdom), Andrew Mirelman (Department of Health Governance and Financing, WHO), Margaret Montgomery (Water, Sanitation, Hygiene and Health Unit, WHO), Ece Özçelik (Public Health, Organisation for Economic Co-operation and Development), Pierre Parneix (Nouvelle Aquitaine, Healthcare-Associated Infection Control Centre, France), Anthony Twyman (Department of Integrated Health Services, WHO), Anne-Gaëlle Venier (National Support Mission for Healthcare-associated Infection Prevention, France), Dr. Lee Yew Fong (Sarawak General Hospital, Ministry of Health, Malaysia).
Introduction

1.1 Focus and purpose

Investment in all the drivers and facilitators of hand hygiene action in health care to ensure that it occurs at the point of care and other critical moments requires a multidisciplinary, multifaceted approach. WHO describes such an approach as a “multimodal improvement strategy” (MMIS) which is at the core of its implementation models for hand hygiene and infection prevention and control (IPC) programmes.

The focus of this document is on the resource considerations for investing in hand hygiene improvement in health care (primary, secondary and tertiary) using the MMIS approach. It presents the inputs (such as equipment, supplies and activities) required to:

• estimate the investments needed to implement and sustain a comprehensive hand hygiene programme based on the MMIS; and
• support health workers to perform hand hygiene at the point of care and at other important times for safe, high-quality care.

Where available, costing and other relevant tools that can aid in the estimation of required resources are listed.

The document strengthens the narrative around the overall resources required to develop and implement hand hygiene improvements in health care using an MMIS. Strengthening this narrative will also support related work of the WHO and United Nations Children’s Fund (UNICEF) Hand Hygiene for All Global Initiative, launched in 2020 (1).

1.2 Intended audience

The intended audience of this publication includes policy-makers, senior facility managers, infection prevention and control (IPC) leads, planners and others involved in developing and implementing hand hygiene improvement programmes at the primary and secondary/tertiary care level.

1.3 Background

Improving hand hygiene in health care is one of the key areas of focus of the global WHO/UNICEF Hand Hygiene for All Initiative; in 2020 this was reinforced with new recommendations calling to action Member States to achieve universal access to hand hygiene in the context of COVID-19 (1, 2). This builds on over a decade of work by WHO on providing guidance and tools for improvement of hand hygiene in health care.

Hand hygiene in health care is a modifiable behavioural intervention, and the MMIS is a well established WHO approach (1). It is presented as part of the WHO’s minimum requirements for IPC (3).

* [https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene](https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene)
and within the guidelines on core components of IPC programmes (4) as an evidence-based strategy to improve hand hygiene (5), among other IPC interventions, at all levels. It was initially conceived in the context of WHO’s hand hygiene guidelines (6) and related implementation tools (7).

1.4 Brief overview of the MMIS

The MMIS comprises five synergistic elements*, each of which is essential and complementary. They must all be in place, to some degree, as part of interventions to achieve outcome improvements and optimal hand hygiene behavioural change.

The MMIS is grounded in behavioural science and incorporates different constructs of multiple behavioural models, including the Health Belief Model and the Theory of Planned Behaviour (6). These models reinforce the need for the five elements that comprise the strategy:

- system change
- training and education
- monitoring and feedback
- reminders in the workplace/communications
- safety climate/culture change.

To aid understanding, these MMIS elements can be simplified to just five words: build, teach, check, sell and live.

The MMIS has proved to be highly effective, leading to a significant improvement in hand hygiene compliance and other key hand hygiene indicators and a reduction in health care-associated infections and antimicrobial resistance (4–6,8), as well as having played an important role in contributing to stop outbreaks. Multimodal hand hygiene improvement programmes are also highly cost saving (9).

Implementation of the MMIS requires resources at the initial planning and implementation phase (including capital/infrastructure and ongoing costs), as well as for assessing its impact and ongoing costs over a multiyear period. This is needed to sustain hand hygiene interventions and behaviours that will help prevent health care-associated infections and antimicrobial resistance, as part of an IPC programme.

1.5 How health facilities can understand their situation and address all five elements of the MMIS

The WHO Hand Hygiene Self-Assessment Framework (10) is a diagnostic tool that provides a situation analysis of the state of the hand hygiene programme/activities within an individual health care facility, according to the five elements of the MMIS. It can provide key information, if used on a regular basis, to support decision-making on the actions and associated resources required for hand hygiene improvement, no matter what the context. The Framework provides information on the extent to which each of the five elements of the MMIS are being met. It therefore supports incremental improvement.

* See Annex.
and, inherently, behaviour change. The Framework has been used to inform three global surveys on hand hygiene improvement based on the MMIS (11).

The MMIS is relevant to all countries, but the approach and the required inputs will be different in each individual case, guided by the results derived from the Hand Hygiene Self-Assessment Framework. The percentage of resources to be allocated to each of the five elements of the MMIS depends on the local situation. Taking the example of system change, weaknesses/deficits – such as lack of access to hand hygiene products – can be identified using the Framework, irrespective of the income level of a country.

- **In least-developed countries** where half of health-care facilities lack basic water services, “system change” to provide hand hygiene facilities will be the first element of the MMIS to be prioritized and weaknesses will be likely to relate to the water infrastructure, and costs will be centred around this. Costs in this situation should also immediately address alcohol-based handrub (ABHR), which can support hand hygiene improvement while water services are being addressed, as well as facilitating hand hygiene at the point of care on an ongoing basis. Local production of ABHR formulations in national, subnational or hospital pharmacies or by private companies is strongly encouraged (as recommended by WHO guidance), especially if commercial options are limited or too costly (2).
- **In many low- and middle-income countries**, system change weaknesses have been found to include lack of continuous availability of clean water, soap and ABHR, as well as maintenance issues, such as broken taps, missing handles and leaking pipes (12).
- **In high-income countries**, a continuous supply of clean running water is likely to be the norm, yet weaknesses may still be present, such as a lack of ABHR dispensers at each point of care or systems to replenish stocks of ABHR regularly.

All these weaknesses/deficits negatively affect the ability of health workers to clean their hands at the point of care, but at a different order of magnitude. In addition, all elements of the MMIS are equally important and thus, each one of them should be assessed and improved in different aspects depending on the local situation, including resources available and cultural factors. The Hand Hygiene Self-Assessment Framework again enables plans to be developed to bridge these gaps and achieve incremental improvements.

In situations such as the least-developed countries example above, the majority of costs will initially be on system change. Even at the outset, however, resource considerations should be given to the other elements of the MMIS: each element must be addressed to support the requisite long-term behaviour change in the target audience of the hand hygiene programme.

The precise composition of IPC teams on the ground will also vary by country. The IPC team composition will be important to take into account when considering resource requirements.

### 1.6 Using this document

In order for the intended audience to both consider and estimate all the resources required, Tables 1–5 provide prompts for those working at the national, subnational and facility levels by supporting them to estimate the associated costs. The tables highlight what should be in place for each of the five elements of the MMIS and the associated resource considerations – both set-up and ongoing – for primary and secondary/tertiary care settings. They also list tools to support estimation of required
resources, including costing tools* where they are available. WHO’s CH0osing Interventions that are Cost-Effective (WHO-CHOICE) Costing Interventions templates (CostIt)** (13) is not included, but the intended audience might find this a useful tool to consult at the start of the process of development and implementation of hand hygiene improvement programmes. Each table concludes with a number of other supporting actions. This is summarized in Fig. 1.

**Fig. 1. Summary of the MMIS tables**

Table 1. System change (Build it)
Table 2. Training and Education (Teach it)
Table 3. Monitoring and feedback (Check it)
Table 4. Reminders and communications (Sell it)
Table 5. Safety climate/culture change (Live it)

**What the tables contain**
For each element of the MMIS the tables present:
- what should be in place
- resource considerations (set-up and ongoing)
- tools to support estimation of required resources
- other supporting actions

**Level of the health system**
The tables address:
- primary care
- secondary/tertiary care

---

* Note, the tools included across Tables 1–5 are those that support cost estimates to be made in relation to hand hygiene improvement. Academic studies on the costing or cost–effectiveness of hand hygiene interventions are not included as “tools”.
** CostIt software helps the user calculate the economic costs of interventions, but it can also be used to estimate financial costs. It provides a set of separate templates for reporting and analysis of costs at the programme, hospital and primary health facility.
Table 1. **System change (Build it)**

**GOAL**

Health workers, patients and visitors are able to access hand hygiene infrastructure and products*

<table>
<thead>
<tr>
<th>WHAT SHOULD BE IN PLACE</th>
<th>RESOURCE CONSIDERATIONS (SET UP AND ONGOING)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human resources</strong></td>
<td><strong>At the primary care level</strong></td>
</tr>
<tr>
<td>• A trained IPC officer at the next administrative level (e.g. district) to support primary care facilities to ensure that all the infrastructures listed below are reliably/sustainably in place</td>
<td>• Numbers and types of personnel required to ensure hand hygiene products are available, operational and maintained where required</td>
</tr>
<tr>
<td><strong>Water supply</strong></td>
<td><strong>At the next administrative level (e.g. district)</strong></td>
</tr>
<tr>
<td>• Supply available from a source on the premises, e.g. a deep borehole or a treated, safely managed piped water supply</td>
<td>• Quantities and types of materials and equipment for installation, operation and maintenance (O&amp;M) of a high-quality water supply</td>
</tr>
<tr>
<td><strong>Soap and towels or other hand drying methods</strong></td>
<td>• Numbers and types of personnel for installation and O&amp;M of water supply</td>
</tr>
<tr>
<td>• At the point of care</td>
<td>• Quantity and unit costs of soap, towels and dispensers</td>
</tr>
<tr>
<td>• Where personal protective equipment (PPE) is put on or taken off</td>
<td>• Quantity and unit costs of ABHR</td>
</tr>
<tr>
<td>• Where health care waste is handled</td>
<td>• Costs associated with production and distribution – local, central or commercial – of ABHR</td>
</tr>
<tr>
<td>• Within 5 metres of toilets, entrances and exits of health-care facilities, waiting and dining rooms, and other public areas</td>
<td>• Costs associated with waste management/recycling of ABHR containers</td>
</tr>
<tr>
<td><strong>ABHR</strong></td>
<td>• Handling costs – e.g. tariffs/customs associated with ABHR and other hardware</td>
</tr>
<tr>
<td>• At the point of care</td>
<td>• Ability to produce and make available policies and procedures</td>
</tr>
<tr>
<td>• Within 5 metres of toilets</td>
<td></td>
</tr>
<tr>
<td>• Where PPE is put on/taken off</td>
<td></td>
</tr>
<tr>
<td>• Where health care waste is handled</td>
<td></td>
</tr>
<tr>
<td>• At entries and exits of health-care facilities, waiting and dining rooms, and other public areas</td>
<td></td>
</tr>
</tbody>
</table>

* According to the WHO/UNICEF coverage indicators (14), to achieve basic services, water should be available from an improved source on the premises, and hygiene should be functional and available at points of care and within 5 metres of toilets (with water and soap and/or ABHR).
## Water supply
- A safe and sufficient quantity of water available and piped inside the facility at all times – at a minimum to high-risk wards (for example, maternity ward, operating rooms and intensive care unit)

## Soap/towels or other hand drying methods
- At the point of care
- Where PPE is put on or taken off
- Where health care waste is handled
- Within 5 metres of toilets, entrances and exits of health-care facilities, waiting and dining rooms, and other public areas

## ABHR
- At the point of care
- At toilets and service areas (for example, the decontamination unit)
- Within 5 metres of toilets
- Where PPE is put on/taken off
- Where health care waste is handled
- At entrances and exits of health-care facilities, waiting and dining rooms, and other public areas

### Tools to support estimation of required resources

### Other supporting actions
- Use of the Hand Hygiene Self-Assessment Framework to understand the current situation and identify local gaps regarding system change
- Collection of information on:
  - numbers of beds/points of care to be equipped with hand hygiene facilities (and other critical areas: preparing medication, donning/doffing of PPE and so on)
  - numbers of health workers and associated salaries
  - numbers of anticipated hand hygiene opportunities per time period (based on, for example, workflow analysis)
  - people responsible for ensuring ongoing O&M of systems
  - local producers of ABHR and regional, national and international companies and distributors
- Development of a hand hygiene improvement action plan using WHO’s Guide to implementation and template action plans
<table>
<thead>
<tr>
<th><strong>GOAL</strong></th>
<th>Health workers, patients and visitors are trained on why and when hand hygiene is needed and how to perform it appropriately</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHAT SHOULD BE IN PLACE</strong></td>
<td><strong>RESOURCE CONSIDERATIONS (SET UP AND ONGOING)</strong></td>
</tr>
</tbody>
</table>
| **Human resources**  
- A trained IPC link person with dedicated (part-time) availability to deliver training |  
- Numbers and types of personnel required to undertake needs assessments and training, including who, how many and where they will be sourced – this role may be included within an IPC programme budget and may not be listed as a separate cost, depending on the setting |
| **Programmes**  
- A funded programme for all health workers (at all levels) to be trained on why, when and how to ensure hand hygiene, at least annually  
- Training materials, as necessary |  
- Personnel required to update training materials  
- Personnel to determine whether training will be delivered locally or centrally (e.g. through online mechanisms)  
- Personnel required to translate/adapt training materials  
- Quantity and type of training materials, including a schedule to be made widely available (paper or electronic) and printing  
- Training venue  
- Per diem – e.g. for travel required to deliver/receive training |

<table>
<thead>
<tr>
<th><strong>SECONDARY AND TERTIARY CARE</strong></th>
</tr>
</thead>
</table>
| **Primary care**  
- Trained IPC team member(s) or at least one FTE trained IPC focal point (nurse or doctor) per 250 beds in charge of delivering training, as part of his/her role |  
- Numbers and types of personnel required to undertake regular training sessions, including who, how many and where they will be sourced – this role may be included within an IPC programme budget and may not be listed as a separate cost, depending on the setting |
| **Programmes**  
- A funded programme  
- All health workers trained on why, when and how to ensure hand hygiene, at least annually (a minimum 2-hour training session) |  
- Personnel required to update training materials  
- Personnel to determine whether training will be developed and delivered locally or centrally (e.g. through online mechanisms)  
- Personnel required to translate/adapt training materials  
- Quantity and type of training materials, including a schedule to be made widely available (paper or electronic) and printing – including a hand hygiene technical reference manual  
- Information technology (IT) and internet access – e.g. to enable training videos to be shown to participants and remote training to take place  
- Training venue  
- Per diem – e.g. for travel required to deliver/receive training |
Tools to support estimation of required resources


Other supporting actions

- Use of the Hand Hygiene Self-Assessment Framework to understand the current situation and identify gaps regarding training and education
- Collection of information on:
  - numbers and type of health workers to be trained, and associated salaries
  - people responsible for ensuring both up-to-date materials and delivery of training
  - Internet access
  - IT requirements and/or other practical props
  - printing requirements
  - overheads
  - training room/venue costs
- Development of a training action plan using WHO’s Guide to implementation and template action plans
# Table 3. Monitoring and feedback (check it)

**GOAL**

Health care workers are monitored and given feedback on their compliance with best practices care and highlights of good performance and areas for improvement.

<table>
<thead>
<tr>
<th>WHAT SHOULD BE IN PLACE</th>
<th>RESOURCE CONSIDERATIONS (SET UP AND ONGOING)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human resources</strong></td>
<td><strong>At the next administrative level (e.g. district)</strong></td>
</tr>
</tbody>
</table>
| • A trained IPC officer at the next administrative level (e.g. district) to support primary care facilities to monitor hand hygiene structural and process indicators | • Numbers and types of personnel (who, how many and where they will be sourced) required to undertake: 
  - periodic or continuous observational monitoring and feedback (at least annually) – this role may be included within an IPC programme budget and may not be listed as a separate cost, depending on the setting 
  - periodic use of the WHO Hand Hygiene Self-Assessment Framework 
  - data entry, report writing and feedback to stakeholders and managers 
| | • Quantity and types of tools and supportive materials for monitoring IPC structural and process indicators and presenting results – e.g. printing if paper forms/reports used; IT requirements if electronic data used, including internet access 
| | • Per diem – e.g. for travel required to deliver/receive training – this role may be included within an IPC programme budget and may not be listed as a separate cost, depending on the setting |

**PRIMARY CARE**

**SECONDARY AND TERTIARY CARE**

Human resources

- Trained IPC team member(s) or at least one FTE trained IPC focal point (nurse or doctor) per 250 beds in charge of periodic or continuous monitoring (at least annual) of hand hygiene process and structure, and timely and regular feedback, as part of their role

- Numbers and types of personnel (who, how many and where they will be sourced) and associated salaries required to undertake: 
  - periodic or continuous observational monitoring and feedback (at least annually): between 150 and 200 opportunities for hand hygiene should be observed in each surveyed unit (department, service or ward) – this role may be included within an IPC programme budget and may not be listed as a separate cost, depending on the setting 
  - periodic use of the WHO Hand Hygiene Self-Assessment Framework 
  - data entry, report writing and feedback to stakeholders and managers 

- Numbers and types of personnel to be trained on observational methodology 

- Quantity and types of tools and supportive materials for monitoring IPC structural and process indicators and presenting results – e.g. printing if paper forms/reports used; IT requirements if electronic data used, including internet access 

- Costs associated with automated monitoring systems, if used 

- Per diem – e.g. for travel required to deliver/receive training – this role may be included within an IPC programme budget and may not be listed as a separate cost, depending on the setting
Tools to support estimation of required resources


Other supporting actions

- Use of the Hand Hygiene Self-Assessment Framework to understand the current situation and identify gaps regarding monitoring and feedback
- Collection of information on:
  - numbers of wards/units/primary health facilities to be monitored
  - numbers and types of health workers to be trained, and associated salaries
  - IT requirements
  - printing requirements
  - training rooms/venue costs
- Development of a hand hygiene monitoring action plan (outlining units to be surveyed) using WHO’s Guide to implementation and template action plans
### Table 4. Reminders and communications (sell it)

**GOAL**
Health workers, patients and visitors are reminded about when and how to perform hand hygiene, and good communications are made to promote hand hygiene.

<table>
<thead>
<tr>
<th>WHAT SHOULD BE IN PLACE</th>
<th>RESOURCE CONSIDERATIONS (SET UP AND ONGOING)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human resources</strong></td>
<td><strong>At the next administrative level (e.g. district)</strong></td>
</tr>
<tr>
<td>• Trained IPC link person with responsibility for ensuring reminders and communications are in place</td>
<td>• Numbers and types of personnel (who, how many and where they will be sourced) required to:</td>
</tr>
<tr>
<td></td>
<td>- display/refresh posters and other communication methods on why, when and how to ensure hand hygiene</td>
</tr>
<tr>
<td></td>
<td>- distribute hand hygiene leaflets and other communications – e.g. mailing costs</td>
</tr>
<tr>
<td></td>
<td>- undertake audits of posters/reminders</td>
</tr>
<tr>
<td></td>
<td>- support periodic local, national and international hand hygiene campaigns</td>
</tr>
<tr>
<td></td>
<td>• Quantity and types of posters/leaflets and other communications messages and requirements for adaptation and printing (including translation to local languages)</td>
</tr>
<tr>
<td></td>
<td>• Internet access</td>
</tr>
<tr>
<td><strong>Human resources</strong></td>
<td>• Numbers and type of personnel (who, how many and where they will be sourced) required to:</td>
</tr>
<tr>
<td>• At least one FTE trained IPC focal point (nurse or doctor) per 250 beds in charge of ensuring reminders and communications are in place</td>
<td>- display/refresh posters and other communication methods on why, when and how to ensure hand hygiene</td>
</tr>
<tr>
<td></td>
<td>- distribute hand hygiene leaflets and other communications – e.g. mailing costs</td>
</tr>
<tr>
<td></td>
<td>- undertake audits of posters/reminders</td>
</tr>
<tr>
<td></td>
<td>- support periodic local, national and international hand hygiene campaigns</td>
</tr>
<tr>
<td></td>
<td>- set up and maintain webpages, screen savers, radio messages, podcasts and other media</td>
</tr>
<tr>
<td></td>
<td>- determine the need for and source (as required) specialist communications input</td>
</tr>
<tr>
<td></td>
<td>• Quantity and types of posters/leaflets and other communications messages</td>
</tr>
<tr>
<td></td>
<td>• Requirements for adaptation and printing (including translation to local languages) and estimated costs</td>
</tr>
<tr>
<td></td>
<td>• Internet access</td>
</tr>
<tr>
<td></td>
<td>• Social media messages</td>
</tr>
</tbody>
</table>

### Tools to support estimation of required resources
Other supporting actions

• Use of the Hand Hygiene Self-Assessment Framework to understand the current situation and identify gaps regarding reminders and communications

• Collection of information on:
  - numbers of wards/units/primary care facilities where posters will be displayed
  - IT requirements
  - printing requirements
  - translation requirements

• Development of a hand hygiene reminders and communications action plan (outlining printing requirements and overheads) using WHO’s Guide to implementation and template action plans
<table>
<thead>
<tr>
<th>WHAT SHOULD BE IN PLACE</th>
<th>RESOURCE CONSIDERATIONS (SET UP AND ONGOING)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human resources</strong></td>
<td>Proportion of costs listed for the next administrative level (e.g. district) (see secondary and tertiary care row, below)</td>
</tr>
<tr>
<td>• A trained IPC officer at the next administrative level (e.g. district) to secure leadership commitment and action on hand hygiene improvement within primary care</td>
<td>• Includes costs of hand hygiene coordinators/project managers overseeing improvement at the primary care level, leadership time to be a role model for and champion hand hygiene</td>
</tr>
<tr>
<td>• A trained IPC link person with dedicated (part-time) availability to advocate for hand hygiene</td>
<td></td>
</tr>
<tr>
<td><strong>Human resources</strong></td>
<td>• Numbers and types of personnel (e.g. hand hygiene coordinators/project managers) to:</td>
</tr>
<tr>
<td>• At least one FTE trained IPC focal point (nurse or doctor) per 250 beds in charge of securing leadership commitment and action on hand hygiene improvement, as part of his/her role</td>
<td>- direct/coordinate hand hygiene improvement plans</td>
</tr>
<tr>
<td></td>
<td>- coordinate a hand hygiene improvement team, including monthly meetings</td>
</tr>
<tr>
<td></td>
<td>- secure senior leadership commitment</td>
</tr>
<tr>
<td></td>
<td>- establish hand hygiene leaders/champions and role models across all disciplines</td>
</tr>
<tr>
<td></td>
<td>- develop newsletters</td>
</tr>
<tr>
<td></td>
<td>- undertake baseline assessments (including of barriers and levers); develop and implement action plans</td>
</tr>
<tr>
<td></td>
<td>- develop (innovative) leadership and patient inclusive communications/information – e.g. advocacy videos</td>
</tr>
<tr>
<td></td>
<td>- develop and implement reward schemes/incentives – e.g. free participation in training or conferences, awards</td>
</tr>
<tr>
<td></td>
<td>- participate in and lead on local, national and international hand hygiene campaigns</td>
</tr>
<tr>
<td></td>
<td>• Time of senior leaders/managers and other stakeholders to attend meetings (virtual and in person) if considered necessary in the setting (may be already considered part of the role, depending on the culture)</td>
</tr>
<tr>
<td></td>
<td>• Meeting rooms for high-level meetings to secure support from leadership</td>
</tr>
<tr>
<td></td>
<td>• Printing of action plans, leaflets, newsletters and other materials</td>
</tr>
</tbody>
</table>

**Tools to support estimation of required resources**

- Guide to implementation: a guide to the implementation of the WHO multimodal hand hygiene improvement strategy. Geneva: World Health Organization; 2009 (https://www.who.int/publications/i/item/a-guide-to-the-implementation-of-the-who-multimodal-hand-hygiene-improvement-strategy). This includes template action plans (also available at: https://www.who.int/campaigns/world-hand-hygiene-day/clean-hands-2012) and template letters to advocate hand hygiene to managers and to communicate hand hygiene initiatives to managers. See section II.5 for a full list of resources.

Other supporting actions
• Use of the Hand Hygiene Self-Assessment Framework to understand the current situation and identify gaps regarding safety climate/culture change
• Collection of information on:
  - key stakeholders (leaders/champions/role models) to be targeted, and associated salaries
  - IT requirements
  - printing requirements
• Development of a hand hygiene engagement action plan (outlining units to be surveyed) using WHO’s Guide to implementation and template action plans
References


Note: all URLs accessed 12 April 2021.
ANNEX: IMPROVING HAND HYGIENE THROUGH A MULTIMODAL STRATEGY

Use the five elements to drive improvement
All elements are essential and complementary.

The five critical elements to be implemented as part of an infection prevention and control programme at the health care facility level, in an integrated manner, can be simplified as: Build it; Teach it; Check it; Sell it and Live it (see visual).

Track progress
- Track progress over time through use of the Hand Hygiene Self-Assessment Framework.
- The Framework is a diagnostic tool, identifying strengths and gaps requiring improvement across each of the five elements.

WHO’s multimodal hand hygiene improvement strategy
- Effective hand hygiene improvement programmes can prevent up to 50% avoidable infections acquired during health care delivery and generate economic savings on average 16 times the cost of implementation.
- The multimodal improvement strategy is highly effective, leading to significant improvement of key hand hygiene indicators in health care facilities. It comprises five elements.
- Implementing a multimodal strategy leads to a reduction of health care-associated infections and antimicrobial resistance, and substantially helps to stop outbreaks.

System Change (Build it)
- Achievement of continuous availability of the necessary infrastructure, materials and equipment to effectively perform hand hygiene at the point of care.
- This includes the reliable and uninterrupted provision of alcohol-based hand rub at the point of care, continuous supplies of safe, clean water, soap, single-use towels, and an adequate number of functioning sinks.

Training and Education (Teach it)
- Tailored education and practical training of clinical staff, patients and visitors about the importance of hand hygiene to better understand when and how it should be performed.
- Education should also address all other health workers, including hospital administrators, cleaning personnel and community health workers.

Monitoring and Feedback of Hand Hygiene Indicators (Check it)
- Regular monitoring and evaluation (ideally using standardized tools) of hand hygiene infrastructures (location of facilities at the point of care, consumption of soap and alcohol-based hand rubs), including knowledge of and compliance with best practices.
- Providing regular feedback to health workers and senior management using local data is a very powerful approach to raise awareness and achieve improvement of practices.

Reminders in the Workplace/Communications (Sell it)
- Posters, stickers, visual and vocal prompts, banners, screensavers. They can continually prompt and remind health workers about the importance of hand hygiene and the indications when to perform it.
- They also help to involve patients and their visitors and inform them of the level of care they should expect from health workers with regards to hand hygiene.

Safety Climate/Culture Change (Live it)
- Creating an organizational environment that prioritizes high compliance with hand hygiene to achieve patient and health worker safety.
- At the institutional level, this should include the allocation of resources for hand hygiene programmes and clear messages of support for hand hygiene from leaders within the institution, setting benchmarks or targets, and having hand hygiene champions.
- At an individual level, the aim is to ensure that health workers identify hand hygiene as a priority that reflects their commitment to do no harm to patients. Partnering with patients and patient organizations to promote hand hygiene may also promote a climate of patient safety, but should be undertaken sensitively and in close consultation with key stakeholders, including health workers and patient representatives.