

SAVE LIVES
Clean **Your** Hands

Guide to Implementation

A Guide to the Implementation of the WHO
Multimodal Hand Hygiene Improvement Strategy



**World Health
Organization**

Patient Safety

A World Alliance for Safer Health Care

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DEFINITION OF TERMS

Action plan	A detailed, carefully-prepared scheme of activities to be initiated or continued in order to improve hand hygiene at a given health-care facility.
Alcohol-based handrub	An alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to reduce the growth of microorganisms. Such preparations may contain one or more types of alcohol with excipients, other active ingredients and humectants.
Efficacy / efficacious	The (possible) effect of the application of a hand hygiene formulation when tested in laboratory or in vivo situations.
Effectiveness / effective	The clinical conditions under which a hand hygiene product has been tested for its potential to reduce the spread of pathogens, e.g. field trials.
Hand cleansing	Actions to prevent skin irritation.
Hand hygiene	A general term referring to any action of hand cleansing.
Hand hygiene co-ordinator	The person at a facility assigned to coordinate the preparation and implementation of the hand hygiene improvement programme.
Handrubbing	Applying an antiseptic handrub to reduce or inhibit the growth of microorganisms without the need for an exogenous source of water and requiring no rinsing or drying with towels or other devices.
Handwashing	Washing hands with plain or antimicrobial soap and water.
Health care-associated infection (HCAI)	An infection occurring in a patient during the process of care in a hospital or other health-care facility which was not present or incubating at the time of admission. This includes infections acquired in the hospital but appearing after discharge, and also occupational infections among staff of the facility.

KEY TO SYMBOLS

The following symbols are used throughout the Guide to Implementation as a quick reference for users. The symbols highlight specific actions, key concepts and also reference the tools and resources available as part of the suite of materials available to aid implementation.



Key Concept

Alerts the reader to an issue of importance for success.



Tools

Indicates a section of the Guide to Implementation where explanations on the tools included in the implementation toolkit are included.



Key Action

Indicates a section of the Guide to Implementation where key actions for the implementation of the WHO multimodal hand hygiene improvement strategy are pointed out.

PART I

I.1. OVERVIEW

Health care-associated infection (HCAI) places a serious disease burden and has a significant economic impact on patients and health-care systems throughout the world. Yet good hand hygiene, the simple task of cleaning hands at the right times and in the right way, can save lives.

World Health Organization (WHO) has developed evidence-based [WHO Guidelines on Hand Hygiene in Health Care](#) to support health-care facilities to improve hand hygiene and thus reduce HCAI.

This Guide to Implementation has been developed to assist health-care facilities to implement improvements in hand hygiene in accordance with the [WHO Guidelines on Hand Hygiene in Health Care](#).

The strategy described in this Guide to Implementation has been designed to be used by any health-care facility, irrespective of the level of resources or whether the facility has already implemented any hand hygiene initiatives. The approach focuses primarily on improving hand hygiene compliance by health-care workers who work with patients. Through the actions proposed by the strategy, improvement of infrastructures for hand hygiene along with enhancement of knowledge and perception about hand hygiene and HCAI and of the patient safety climate is also meant to be achieved. The ultimate goal is to reduce both the spread of infection and multi-resistant germs as well as the numbers of patients acquiring a preventable HCAI, and thus to prevent waste of resources and save lives.

Details of all of the tools supplied to support successful implementation of a hand hygiene improvement strategy at any health-care facility are provided in this guide.

I.2. ABOUT HAND HYGIENE IN HEALTH CARE

I.2.1. Rationale for a Guide to Implementation

The [WHO Guidelines on Hand Hygiene in Health Care](#) present the evidence base for focusing on hand hygiene improvement as part of an integrated approach to the reduction of HCAI. Implementation is of utmost importance to achieving an impact on patient safety and therefore this guide aims actively to support the use of the guidelines.

I.2.2. The problem of HCAI and the importance of hand hygiene

HCAI affects hundreds of millions of people worldwide and is a major global issue for patient safety. At both the level of the country and of the health-care facility, the burden of HCAI is significant, although it may be difficult to quantify at this stage.

In general, and by their very nature, infections have a multifaceted causation related to systems and processes of health-care provision as well as to political and economic constraints on health systems and countries. They also reflect human behaviour conditioned by numerous factors, including education. However, acquisition of infection, and in particular cross-infection from one patient to another, is in many cases preventable by adhering to simple practices.

Hand hygiene is considered to be the primary measure necessary for reducing HCAI. Although the action of hand hygiene is simple, the lack of compliance among health-care workers continues to be a problem throughout the world.

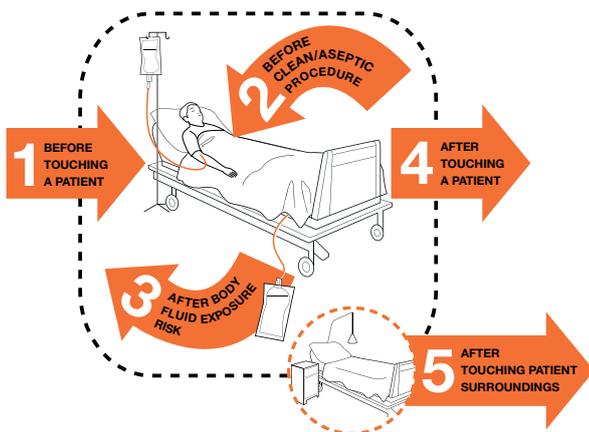
Yet hand hygiene improvement is not a new concept within health care. Many health-care facilities around the world already have well-established policies and guidelines and undertake regular training programmes in this area. Increasingly, actions are being undertaken to introduce alcohol-based handrubs at the point of care. However, long-lasting improvements remain difficult to sustain, and many facilities worldwide have not yet begun to address hand hygiene improvement in a systematic way. This is due to numerous constraints, particularly those relating to the very infrastructures and resources required to enable attention to turn to hand hygiene improvement.

I.2.3. A global response to the problem

In 2005, WHO Patient Safety launched the First Global Patient Safety Challenge, Clean Care is Safer Care, to galvanise international focus and action on the critical patient safety issue of HCAI and on the central role that hand hygiene compliance by health-care workers plays in reducing such infections. In 2009, WHO Patient Safety launched an extension to this programme; **SAVE LIVES: Clean Your Hands**, an initiative that aims to ensure an ongoing global, regional, national and local focus on hand hygiene in health care. In particular, **SAVE LIVES: Clean Your Hands** reinforces the “My 5 Moments for Hand Hygiene” approach as key to protect the patient, the health-care worker and the health-care environment against the spread of pathogens and thus reduce HCAI.

 This approach encourages health-care workers to clean their hands (1) before touching a patient, (2) before clean/aseptic procedures, (3) after body fluid exposure/risk, (4) after touching a patient and (5) after touching patient surroundings.

My 5 Moments for Hand Hygiene



As part of their ongoing commitment to reduce HCAI, WHO Patient Safety has developed this revised Guide to Implementation and a series of tools to support health-care workers in establishing and sustaining good hand hygiene practices by health-care workers and reducing HCAI at health-care facilities worldwide. This is part of the long-term **SAVE LIVES: Clean Your Hands** initiative.

I.3. ABOUT THE GUIDE TO IMPLEMENTATION

This Guide to Implementation and the related implementation toolkit will assist in the development of local action plans to address hand hygiene improvement and sustainability, starting now.

I.3.1. Purpose of the Guide to Implementation

The Guide to Implementation:

- is a manual to be used to facilitate local implementation and evaluation of a strategy to improve hand hygiene and thus reduce HCAI at individual health-care facilities;
- assists health-care facilities in preparing a comprehensive action plan to improve hand hygiene irrespective of their starting point;
- supports the components of the WHO multimodal hand hygiene improvement strategy, as presented in the [WHO Guidelines on Hand Hygiene in Health Care](#), which is described in the next section.

 The guide will inform you how to:

- prepare an [Action Plan](#) for hand hygiene improvement;
- evaluate the elements that exist in the health-care facility for ensuring effective hand hygiene;
- identify what system changes are needed at a health-care system or health-care facility level to support implementation of the [WHO Guidelines on Hand Hygiene in Health Care](#);
- select and access alcohol-based handrubs and other products used for hand hygiene;
- provide appropriate and effective education and reminders to health-care workers irrespective of their starting point;
- develop approaches to ensuring an institutional safety climate;
- undertake evaluation and feedback (e.g. observation of hand hygiene compliance); and
- maintain momentum and motivation for continued hand hygiene at facilities that have already achieved excellent standards.

The primary target audience for this Guide to Implementation is:

- professionals in charge of implementing a strategy to improve hand hygiene within a health-care facility.

The Guide to Implementation may also be of value to the following:

- WHO country office staff;
- Ministry of Health leads for patient safety / infection control;
- infection prevention and control practitioners;
- senior managers/leaders;
- other individuals or teams responsible for hand hygiene or infection control programmes at a health-care facility; and
- patient organizations.

 Implementation of the [WHO Guidelines on Hand Hygiene in Health Care](#) requires action in a number of areas. It is important that professionals with the ability to make key decisions that will result in improvement are actively involved in the process of implementation from the outset.

The [WHO Guidelines on Hand Hygiene in Health Care](#) make it clear that it should be relatively simple for health-care providers in virtually every setting to immediately start and continue to evaluate and improve the reliability of hand hygiene infrastructure and practices.

 This Guide to Implementation can therefore be used:

- at any time as a broad outline of how a hand hygiene improvement strategy might be executed; and
- at any time as a guide for developing local action plans to improve hand hygiene.

I.4. WHO MULTIMODAL HAND HYGIENE IMPROVEMENT STRATEGY

I.4.1. The strategy components

Successful and sustained hand hygiene improvement is achieved by implementing multiple actions to tackle different obstacles and behavioural barriers. Based on the evidence and recommendations from the [WHO Guidelines on Hand Hygiene in Health Care](#), a number of components make up an effective multimodal strategy for hand hygiene. The WHO multimodal hand hygiene improvement strategy has been proposed to translate into practice the WHO recommendations on hand hygiene and is accompanied by a wide range of practical tools (implementation toolkit) ready to use for implementation.

 The key components of the strategy are:

1. **System change:** ensuring that the necessary infrastructure is in place to allow health-care workers to practice hand hygiene. This includes two essential elements:
 - access to a safe, continuous water supply as well as to soap and towels;
 - readily accessible alcohol-based handrub at the **point of care***.
2. **Training / Education:** providing regular training on the importance of hand hygiene, based on the “My 5 Moments for Hand Hygiene” approach, and the correct procedures for handrubbing and handwashing, to all health-care workers.
3. **Evaluation and feedback:** monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among health-care workers, while providing performance and results feedback to staff.
4. **Reminders in the workplace:** prompting and reminding health-care workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.
5. **Institutional safety climate:** creating an environment and the perceptions that facilitate awareness-raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all levels, including
 - active participation at both the institutional and individual levels;
 - awareness of individual and institutional capacity to change and improve (self-efficacy); and
 - partnership with patients and patient organizations.



Each component deserves equally important, specific and integrated efforts to achieve effective implementation and maintenance. However, facilities around the world may have progressed to different levels as far as hand hygiene promotion is concerned. Therefore, while some components might be identified as the central features to start with in some facilities, others may not be immediately relevant in others. At facilities with a very advanced level of hand hygiene promotion, some components should nonetheless be considered for improvement and action to ensure long-term sustainability.

It is important to note that implementation, evaluation and feedback activities should be periodically rejuvenated and repeated and become part of the quality improvement actions that will ensure sustainability. Hand hygiene improvement is not a time-limited process: hand hygiene promotion and monitoring should never be stopped once implemented.

The five components, together with linked tools available for their implementation, are described in separate sections of this guide (Sections II.1–II.5).



***Point of care** – The place where three elements come together: the patient, the health-care worker, and care or treatment involving contact with the patient or his/her surroundings (within the patient zone). The concept embraces the need to perform hand hygiene at recommended moments exactly where care delivery takes place. This requires that a hand hygiene product, e.g. alcohol-based handrub, if available, will be easily accessible and as close as possible (e.g. within arms reach), where patient care or treatment is taking place. Point-of-care products should be accessible without having to leave the patient zone.

Availability of alcohol-based hand-rubs at the point of care is usually achieved through staff-carried handrubs (pocket bottles), wall-mounted dispensers, containers affixed to the patient’s bed or bedside table or to dressing or medicine trolleys that are taken into the point of care.

I.4.2. The implementation toolkit

Acknowledging the vastly different levels of awareness and the barriers to implementing hand hygiene improvement strategies from country to country, and even within the same country, an implementation toolkit has been developed to support health-care workers in improving hand hygiene at their facilities, irrespective of their starting point. The Guide to Implementation is central to the toolkit and together they aim to facilitate the process of translating the recommended components of the WHO multimodal hand hygiene improvement strategy into action.

Published studies suggest that, on average, compliance with hand hygiene is around 40% (WHO Guidelines on Hand Hygiene in Health Care). By providing the tools to support health-care workers and others responsible for improving patient safety at the national and local levels, WHO Patient Safety hopes to see compliance increase in each country of the world from its current baseline.



The aim is that the increase will be observed over time until at least 2020, when it is hoped that a culture of hand hygiene excellence will be embedded in all health-care facilities. Each individual health-care facility across the world must set its own realistic targets and action plans for improvement in order to reach this aim.

WHO Guidelines on Hand Hygiene in Health Care

Guide to Implementation of the WHO Multimodal Hand Hygiene Improvement Strategy

Template Action Plan

Tools for System Change	Tools for Training / Education	Tools for Evaluation and Feedback	Tools for Reminders in the Workplace	Tools for Institutional Safety Climate
Ward Infrastructure Survey	Slides for the Hand Hygiene Co-ordinator	Hand Hygiene Technical Reference Manual	Your 5 Moments for Hand Hygiene Poster	Template Letter to Advocate Hand Hygiene to Managers
Alcohol-based Handrub Planning and Costing Tool	Slides for Education Sessions for Trainers, Observers and Health-Care Workers	Observation Tools: Observation Form and Compliance Calculation Form	How to Handrub Poster	Template Letter to Communicate Hand Hygiene Initiatives to Managers
Guide to Local Production: WHO-recommended Handrub Formulations	Hand Hygiene Training Films	Ward Infrastructure Survey	How to Handwash Poster	Guidance on Engaging Patients and Patient Organizations in Hand Hygiene Initiatives
Soap / Handrub Consumption Survey	Slides Accompanying the Training Films	Soap / Handrub Consumption Survey	Hand Hygiene: When and How Leaflet	Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities
Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1	Hand Hygiene Technical Reference Manual	Perception Survey for Health-Care Workers	SAVE LIVES: Clean Your Hands Screensaver	SAVE LIVES: Clean Your Hands Promotional DVD
Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2	Observation Form	Perception Survey for Senior Managers		
	Hand Hygiene Why, How and When Brochure	Hand Hygiene Knowledge Questionnaire for Health-Care Workers		
	Glove Use Information Leaflet	Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1		
	Your 5 Moments for Hand Hygiene Poster	Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2		
	Frequently Asked Questions	Data Entry Analysis Tool		
	Key Scientific Publications	Instructions for Data Entry and Analysis		
	Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities	Data Summary Report Framework		

I.4.3. The step-wise approach

 In each section dedicated to the five strategy components, different approaches to implementation are suggested according to various potential situations of a health-care facility. Overall, this guide proposes a step-wise approach as a model to gradually implement a comprehensive hand hygiene programme at the facility level. The target is principally a facility where a hand hygiene improvement programme needs to be initiated, but the approach represents a cycle that should be adapted locally and renewed periodically by any facility aiming to sustain hand hygiene improvement.

 The approach includes five steps to be undertaken sequentially:

Step 1: facility preparedness – readiness for action

Step 2: baseline evaluation – establishing knowledge of the current situation

Step 3: implementation – introducing the improvement activities

Step 4: follow-up evaluation – evaluating the implementation impact

Step 5: ongoing planning and review cycle – developing a plan for the next 5 years (minimum)

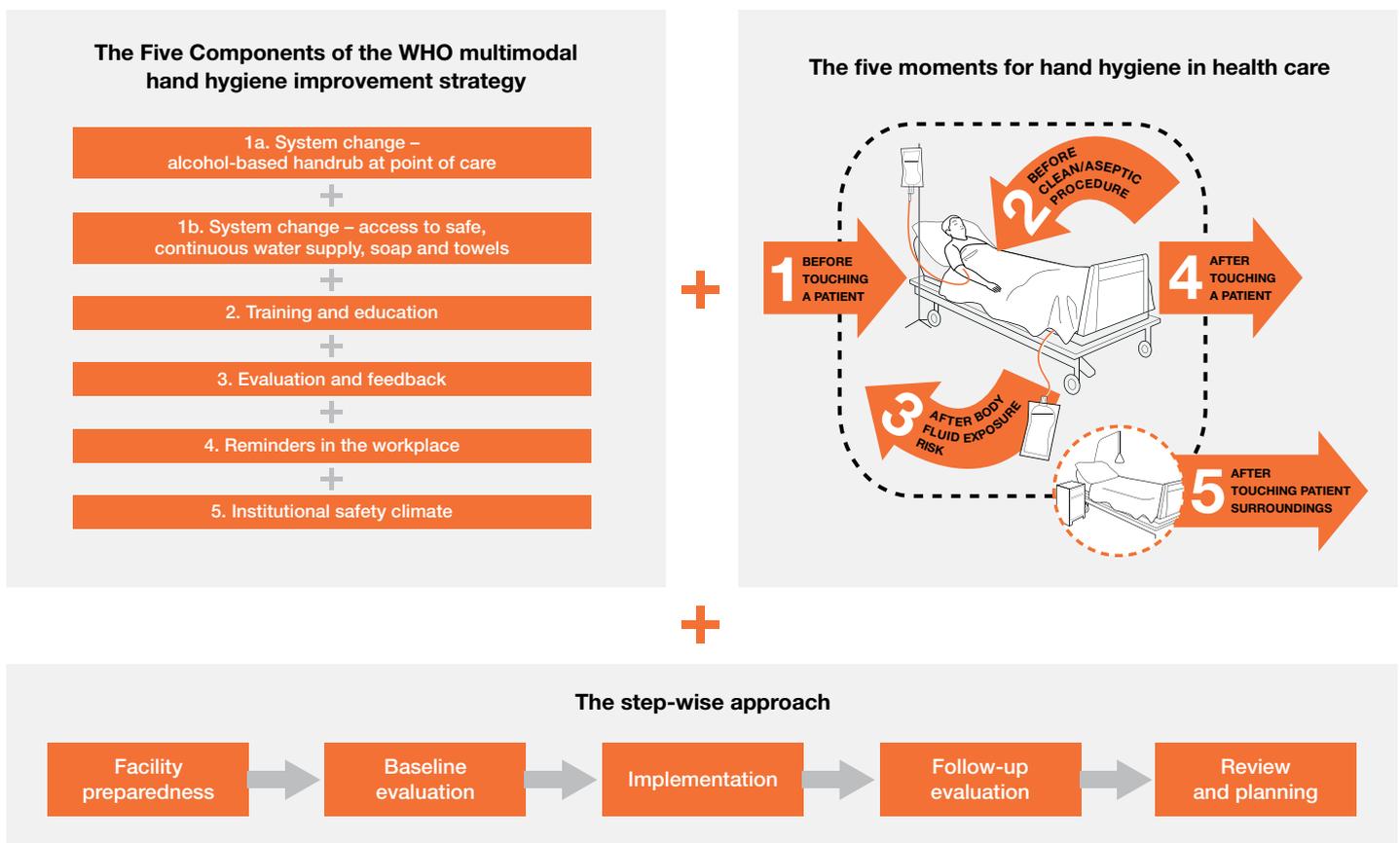
The overall aim is to embed hand hygiene as an integral part of the culture in the health-care facility.

The main objectives to be achieved in each step are the following:

- **Step 1:** ensuring the preparedness of the institution. This includes obtaining the necessary resources (both human and financial), putting infrastructure in place, identifying key leadership to head the programme including a coordinator and his/her deputy. Proper planning must be done to map out a clear strategy for the entire programme.
- **Step 2:** conducting baseline evaluation of hand hygiene practice, perception, knowledge and the infrastructures available.
- **Step 3:** implementing the improvement programme. Ensuring the availability of an alcohol-based handrub at the point of care is vitally important, as is conducting staff education and training and displaying reminders in the workplace. Well-publicized events involving endorsement and/or signatures of commitment from leaders and individual health-care workers will generate great participation.
- **Step 4:** conducting follow-up evaluation to assess the effectiveness of the programme.
- **Step 5:** developing an ongoing action plan and review cycle, while ensuring long-term sustainability.

These steps are described in detail in Part III, after an understanding of each of the five strategy components has been gained.

In summary the figure below illustrates the WHO multimodal hand hygiene improvement strategy, the “My 5 Moments for Hand Hygiene” approach, which is key to the strategy implementation, and the step-wise approach.



PART II

II.1. SYSTEM CHANGE

II.1.1. System change – definition and overview

 System change is a vital component in all health-care facilities. It refers here to ensuring that the health-care facility has the necessary infrastructure in place to allow health-care workers to perform hand hygiene.

The [WHO Guidelines on Hand Hygiene in Health Care](#) state that compliance with hand hygiene is only possible if the health-care setting ensures an adequate infrastructure and if a reliable and permanent supply of hand hygiene products at the right time and at the right location is provided in accordance with the “My 5 Moments for Hand Hygiene” approach.

In those situations where the system is reliable and fully supportive of hand hygiene improvement, health-care facilities will have sinks for handwashing available in each clinical setting, complete with safe running water, soap and disposable towels along with alcohol-based handrub available at each point of care and/or carried by health-care workers.

Health-care facilities in many parts of the developing world may not have piped-in tap water, or it may be available only intermittently. Soap and towel availability may also be severely limited due to resource constraints. [The WHO Guidelines on Hand Hygiene in Health Care](#) acknowledge that key issues therefore need to be addressed, including availability of tap water (ideally drinkable) for handwashing. Where tap water is not available, water “flowing” from a pre-filled container with a tap is preferred; where running water is available, the possibility of accessing it without needing to touch the tap with soiled hands is preferable. When bar soap is used, small bars of soap in racks that facilitate drainage should be made available; careful hand drying with a single-use towel (paper or cloth) is also important.

 In recent years, health-care facilities in many parts of the world have introduced alcohol-based handrubs. If the alcohol-based handrub is procured from the market, the [WHO Guidelines on Hand Hygiene in Health Care](#) recommend that the product meet recognised standards for antimicrobial efficacy (ASTM or EN standards), be well tolerated and accepted by the health-care workers and selected taking cost into account, making sure that they are purchased in adequate quantities. In cases where the WHO-recommended handrub formulation is produced locally, instructions for ingredient procurement, preparation, quality control and storage should be followed. The best type of dispensers will need to be procured, ideally from the local market, and advice on the safe re-use of dispensers should be followed. Dispensers should be available at the point of care, be well-functioning and reliably and permanently contain alcohol-based handrub. They should also be safely mounted, placed and stored. Pocket bottles should be considered, especially when alcohol ingestion by patients is a potential risk.

 System change is a particularly important priority for health-care facilities starting on their journey of hand hygiene improvement activities, assuming and expecting that the entire necessary infrastructure is put in place promptly. However, it is also essential that health-care facilities revisit the necessary infrastructure on a regular basis to ensure handwashing and hand hygiene facilities live up to a high standard on an ongoing basis.

 It is essential that the health-care facility's infrastructure be assessed at an early stage in the hand hygiene improvement journey. Support and commitment from key senior managers is crucial to this. It is also a priority that an action plan to ensure system change is prepared and implemented, involving all of those key health-care facility staff who will be depended upon to make system change happen.

The implementation toolkit includes key tools that will help ensure that system change is addressed promptly and appropriately.

II.1.2. Tools for system change – tool descriptions

The tools described in this section aim at directing and supporting health-care facilities in making prompt and appropriate system changes. Some of these tools will appear also in other sections, where their placement will reflect their nature and function (for example, the ward infrastructure survey appears in this section because it is useful for assessing the actual need for and availability of resources and products for hand hygiene and thus to enable the achievement of system change; however, by definition, it is an evaluation tool and will thus be included in the range of tools for evaluation presented in section II.3.2).

All of these tools can be used at the start of the hand hygiene improvement journey but can also be utilised to improve hand hygiene infrastructure already in place or to undertake routine or periodic product use and infrastructure monitoring. Health-care facility infrastructures can change frequently; for example, new buildings and/or refurbished wards can appear, as well as changes to supplied products. Therefore, the tools are applicable in a variety of circumstances.

 The range of tools available to support the implementation of system change is represented in the figure below.



Ward Infrastructure Survey	
What	A survey tool that collects data about existing infrastructures and resources
Why	<ul style="list-style-type: none"> • Because it is important to collect information about existing infrastructures and resources in place in each clinical setting as a baseline. This will also enable follow-up measurement of potential system changes following implementation; • lack of access to sinks, running water and alcohol-based handrub is likely to contribute to lower rates of compliance; • finding out details about the ward infrastructure is useful in terms of explaining current hand hygiene compliance rates. This will also help identify priorities for system change and guide the ongoing preparation and revision of action plans.
Where	In every clinical setting where an assessment of handwashing and handrub facilities and resources must be conducted in the context of the hand hygiene improvement strategy implementation.
When	<ul style="list-style-type: none"> • During the time allocated for baseline evaluation of the existing infrastructure and equipment/resources for hand hygiene; • at key specified follow-up intervals when an update on this information is necessary to maintain the required hand hygiene infrastructures. Even if the facility already conducts a hospital-wide audit of infection control and hand hygiene practices, this should be considered in the action plan for addressing system change; • usually during step 1 or 2 and 4 (see sections III.2.1, III.2.2, III.2.4).
Who	The survey should be completed by the hand hygiene programme co-ordinator or an identified and informed health-care worker within the clinical setting (e.g. a senior nurse who can complete the survey while walking around the ward).
How	Completion of the form by the identified person should be undertaken by answering questions to obtain the relevant information while walking round the setting. Forms should then be collated by the identified co-ordinator.

Alcohol-based Handrub Planning and Costing Tool	
What	A tool to help managerial planning to provide alcohol-based handrub at the point of care and to decide on whether: <ul style="list-style-type: none"> to purchase alcohol-based handrub from an established manufacturer; or to produce it locally, according to the WHO recommendations (see Guide to Local Production: WHO-recommended Handrub Formulations).
Why	<ul style="list-style-type: none"> Because one of the nine key recommendations arising from the WHO Guidelines on Hand Hygiene in Health Care is the provision of a readily-accessible alcohol-based handrub at the point of patient care for use by health-care workers; to ascertain the feasibility of implementing alcohol-based handrub; to evaluate whether the alcohol-based handrub in use conforms to the quality criteria recommended by WHO.
Where	In the hospital management unit of the health-care facility.
When	<ul style="list-style-type: none"> During the planning and development of an action plan to improve hand hygiene; when the health-care facility is in the process of selecting or changing the alcohol-based handrub; when the health-care facility is in the process of evaluating the quality of the alcohol-based handrub in use; usually during step 1 (see section III.2.1).
Who	The tool should be used by senior managers, pharmacists and the hand hygiene programme co-ordinator at the health-care facility.
How	A number of tasks need to be performed to plan for this crucial step: <ul style="list-style-type: none"> Information must be gathered on any and all local producers of alcohol-based handrubs and on regional and international distributors who may be interested in supplying to your market; senior managers and the hand hygiene programme co-ordinator should use the tool to compile and present all of the relevant information.

Guide to Local Production: WHO-recommended Handrub Formulations	
What	<ul style="list-style-type: none"> A practical guide for use at the pharmacy bench during the preparation of WHO-recommended alcohol-based handrub formulations; a summary of essential background technical, safety and cost information.
Why	<ul style="list-style-type: none"> Because in some health-care facilities alcohol-based handrub is not available, not affordable or does not meet the necessary criteria; local production of handrub according to the formula and methodology recommended by WHO can be an alternative to market products.
Where	In suitable production facilities; in central pharmacies or dispensaries, hospital pharmacies or national drug companies.
When	As identified and required by the health-care facility, for example based on the Alcohol-based Handrub Planning And Costing Tool results; usually during step 1 (see section III.2.1).
Who	The tool should be used by qualified pharmacists; local producers of alcohol-based handrub.
How	Following the instructions from protocol in Part A of the tool.

Soap / Handrub Consumption Survey	
What	A monitoring tool that captures the usage of various products intended for hand hygiene purposes.
Why	<ul style="list-style-type: none"> In order to understand the baseline usage of hand hygiene products, a survey is needed before starting implementation of the hand hygiene programme; to demonstrate the process of changing demands for hand hygiene products, this survey needs to be repeated on a regular basis (i.e. once a month) in the context of a hand hygiene programme; this is also essential for the purchasing department to foresee the amount of alcohol-based handrub and other products to order / produce.
Where	At the central purchasing department of the health-care facility or at the pharmacy.
When	Initially during the baseline evaluation (step 1, see III.2.1), and with once-monthly or every 3-5 months repetition throughout the hand hygiene programme.
Who	The tool should be used mainly by health-care workers in the central purchasing department of the facility. This task needs cooperation with the pharmacy, central supply and possibly the engineering departments.
How	Via a monitoring sheet / protocol with blank fields to be filled in by relevant personnel.

Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1	
What	<p>A protocol for evaluation of tolerability and acceptability of a single alcohol-based handrub product. This tool includes two different components:</p> <ul style="list-style-type: none"> • a questionnaire for the subjective evaluation of hand hygiene practices, the product itself and the skin condition following use; • a scale for the objective evaluation of the skin conditions following use.
Why	Tolerability and appreciation of alcohol-based handrub by health-care workers is a crucial factor influencing successful implementation and prolonged use.
Where	In clinical settings where the alcohol-based handrub either has been newly distributed or is in use and there is an interest in assessing its tolerability and acceptability. This protocol is meant to be applied in settings where an average of at least 30 hand hygiene opportunities occurs daily for each health-care worker.
When	Testing of a new product / after the introduction of a product. The protocol design requires at least 3–5 consecutive days of exclusive use of the test product and one month of routine use.
Who	<p>User: a trained observer in collaboration with the programme co-ordinator and the pharmacist</p> <p>Population of the survey: 40 health-care workers should be selected to perform this test:</p> <ul style="list-style-type: none"> • questionnaire for subjective evaluation – health-care workers using the product, involved in the survey; • scale for objective evaluation – a trained observer evaluating the health-care workers involved in the survey.
How	Use this tool according to the instructions accompanying the protocol. A similar protocol to be used to compare different products is also available (Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2).

Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2	
What	<p>A protocol to compare the tolerability and acceptability of different alcohol-based handrubs. This tool includes two different components:</p> <ul style="list-style-type: none"> • a questionnaire for the subjective evaluation of hand hygiene practices, the product itself and the skin condition following use; • a scale for the objective evaluation of the skins condition following use.
Why	Tolerability and appreciation of alcohol-based handrub by health-care workers is a crucial factor influencing successful implementation and prolonged use.
Where	In clinical settings where there is an interest in comparing the tolerability and acceptability of various alcohol-based handrubs (e.g. in the context of a product selection process). This protocol is meant to be applied in settings where an average of at least 30 hand hygiene opportunities occurs daily for each health-care worker.
When	Testing of a new product / after the introduction of the new product. The protocol design requires at least 3–5 consecutive days of exclusive use of the test product and one month of routine use.
Who	<p>User: a trained observer in collaboration with the programme co-ordinator and the pharmacist</p> <p>Population of the survey: 40 health-care workers should be selected to perform this test:</p> <ul style="list-style-type: none"> • questionnaire for subjective evaluation – health-care workers using the product, involved in the survey; • scale for objective evaluation – a trained observer evaluating the health-care workers involved in the survey.
How	Use this tool according to the instructions accompanying the protocol. A similar protocol to evaluate a single product is also available (Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1).

II.1.3. Using the tools for system change – examples of possible situations at the health-care facility

Example 1: health-care facilities with serious deficiencies in infrastructure for hand hygiene.

 If your health-care facility has no or only a few sinks as well as water, soap and towel provision deficiencies:

- start by using the ward infrastructure survey to assess the availability and appropriateness of the infrastructure, including sinks;
- according to the results, then discuss with your chief executive officer (CEO)/director/ senior managers the need for complying with the WHO recommendations of having a sink/patient-bed ratio of at least 1:10 and for the continuous provision of safe water, soap and disposable towels at all sinks.

 If an alcohol-based handrub is not available:

- use the alcohol-based handrub planning and costing tool for the criteria to select such a product;
- evaluate the availability of alcohol-based handrubs from the market;
- consider the possibility of producing an alcohol-based handrub formulation locally, either at your pharmacy or at an external facility, according to the [Guide to Local Production of WHO-recommended Handrub Formulations](#);
- both for products procured from the market and for locally produced formulations, consider testing their tolerability and acceptability by health-care workers by using the [Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub](#) before introducing them widely within the facility.

Criteria to consider when deciding whether to purchase or produce alcohol-based handrub

Purchase from the market – criteria	<ul style="list-style-type: none"> • Availability • Efficacy • Tolerability • Cost
Produce locally using WHO formulation – criteria	<ul style="list-style-type: none"> • Existence of suitable facilities for production • Existence of suitable facilities for storage • Availability of local technical expertise (e.g. pharmacists) • Availability of raw materials • Availability and affordability of dispensers • Overall anticipated costs

Example 2: health-care facilities where the alcohol-based handrub is already available but where system change goals have not been fully achieved according to the WHO recommendations.

 Key actions:

- Evaluate if the alcohol-based handrub product in use complies with the quality criteria recommended by WHO in the [Alcohol-based Handrub Planning and Costing Tool](#).
- Consider whether the product is actually well-tolerated and appreciated by health-care workers.
 - If necessary, conduct the [Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1](#).
 - If necessary, select a new product or evaluate local production.
- Using the [Ward Infrastructure Survey](#), determine whether the products required for hand hygiene (alcohol-based handrub, soap and disposable towels) are permanently available facility-wide or only in some clinical settings.
- Using the [Ward Infrastructure Survey](#), determine whether products are appropriately positioned at the point of care according to the definition included in this guide.
- Implement actions according to this assessment in order to make the products permanently available at each point of care. For example, make sure that the alcohol-based handrub dispensers are located precisely at each point of care (e.g. at each bedside and not at the room entrance). If necessary, increase the number of dispensers and also provide different types of dispensers (e.g. wall-mounted dispensers, pocket bottles, dispensers affixed to the furniture). If possible, ensure that the sink/patient-bed ratio is well above 1:10.
- Secure an adequate annual budget to provide full hand hygiene resources in all wards and departments at all times.

Example 3: health-care facilities where system change is well advanced (alcohol-based handrub is available at each point of care facility-wide, a safe water supply is always available, the sink/patient-bed ratio is well above 1:10, soap and disposable towels are available at each sink, products are well-tolerated and accepted by health-care workers).

 Focus on long-term actions:

- Complete the [Ward Infrastructure Survey](#) at regular, pre-determined time intervals to help identify, on an on-going basis, potential deficiencies in infrastructure;
- Continue to secure an adequate annual budget to provide full hand hygiene resources in all wards and departments at all times.

 **Accessing the Tools**

www.who.int/gpsc/en/

II.2. TRAINING / EDUCATION

II.2.1. Training / Education – definitions and overview

Education is a critical success factor and represents one of the cornerstones for improvement of hand hygiene practices.

 All health-care workers require full training / education on the importance of hand hygiene, the “My 5 Moments for Hand Hygiene” approach and the correct procedures for hand washing and hand rubbing. By disseminating clear messages, not open to personal interpretation, with a user-centred standardized approach, such training / education aims to induce behavioural and cultural change and ensure that competence is deep-rooted and maintained among all staff in relation to hand hygiene.

 As facilities move across the hand hygiene improvement continuum, it is expected that they will establish a robust programme of education on hand hygiene and provide regular training to all health-care workers, including new starts as well as regular updates and competency checks of existing and previously-trained staff. At a minimum, basic training on the importance of hand hygiene is essential to ensure patient safety in all health-care facilities.

 Education is a vital strategy element which integrates strongly with all the other essential strategy components. Indeed, without appropriate training it is unlikely that system change will lead to behavioural change with the actual adoption of alcohol-based handrubs and sustained improvement in hand hygiene compliance. On the other hand, evaluation and feedback especially about local compliance rates and results from the knowledge test (by raising awareness of existing gaps and defective practices), trigger attention to the concepts targeted by education. In addition, most types of reminders are developed to call attention to key educational messages. Finally, building a strong and genuine institutional safety culture is inherently linked to effective educational interventions.

 In the context of a hand hygiene improvement programme, the targets for training at different levels are trainers, observers and health-care workers. A top-down approach to training is recommended whereby the hand hygiene programme co-ordinator, together with other key players at the facility (senior managers or a committee if one exists), will identify the individuals capable of fulfilling the role of trainers and observers.

The trainers will be in charge of delivering training / education to health-care workers, including providing practical demonstrations of how and when to perform hand hygiene according to the “My 5 Moments for Hand Hygiene” approach. For these reasons, the trainer should preferably have a basic knowledge of infection control, experience of education as well as of having delivered health-care at the bedside. Ideally, he or she should be an influential and credible leader (e.g. chief nurse / matron / doctor / head of another key department or discipline).

 Future trainers should be briefed on the key messages to be spread and should be supported to become familiar with the tools available for training; in most cases a formal training of the trainers should be organized by the hand hygiene programme co-ordinator.

 Similarly, observers should receive full training and become able to detect hand hygiene opportunities correctly according to the method proposed by WHO and to the “My 5 Moments for Hand Hygiene” approach (see also section II.3 related to evaluation and feedback). Taking a rigorous approach, observers should be validated, i.e. their capacity to carry out their tasks adequately should be confirmed by testing.

Activities to train trainers and observers should be led by the hand hygiene programme co-ordinator, provided that he or she has good knowledge of infection control, and should take place in the facility preparedness phase (step 1, section III.2.1).

The crucial role of trainers and observers should be clearly acknowledged by the health-care facility by allocating protected time to these activities. Where a hospital-wide campaign is being implemented, trainers ideally should work in pairs to ensure the maximum spread of messages in a consistent manner.

 Plans for health-care workers’ training should be made during the facility preparedness phase (step 1, section III.2.1) and should include decisions about how much time will be allocated to training as well as about the specific clinical settings where training / education will be provided in the first instance (e.g. priority according to risk for HCAI).

 Staff education is a key element of the implementation phase (step 3, see section III.2.3) of a hand hygiene improvement programme. In some settings where the resources that can be invested in continuous training are limited, it will be necessary to provide education on basic principles of microbial transmission and indications for hand hygiene. A problem-solving approach should be employed, where trainees are presented with scenarios that encourage them to apply theoretical principles.

Staff within health-care facilities can change frequently, and existing staff have the pressure of remembering a number of standards they must meet during their day-to-day activities. Therefore, following an intensive induction period, training activities should be repeated periodically in order to include newly recruited staff and to update knowledge for the others.

 Basic educational sessions for trainers, observers and health-care workers should focus on:

- background to WHO Patient Safety and the First Global Patient Safety Challenge;
- definition, impact and burden of HCAI;
- major patterns of transmission of health care-associated pathogens, with a particular focus on hand transmission;
- prevention of HCAI and the critical role of hand hygiene;
- [WHO Guidelines on Hand Hygiene in Health Care](#) and their implementation strategy and tools, including why, when and how to perform hand hygiene in health-care.

Additional sessions should be dedicated exclusively to observers, to learn the proposed method for observation and to practice its use.

 Facilities should consider implementing a system of checking on the competence of all health-care workers who have received hand hygiene training. This could take the form of an annual training course or a practical hand hygiene demonstration workshop to confirm competence in relation to correct hand hygiene techniques at the correct moments. Utilising the hand hygiene knowledge survey will also fulfil the purpose of checks on competence.

II.2.2. Tools for training / education – tool descriptions

The key tools described in this section aim to direct and support health-care facilities to prepare and deliver training / education.

 The range of tools that can be used for education is represented in the figure below:

Slides for the Hand Hygiene Co-ordinator	Slides for Education Sessions for Trainers, Observers and Health-Care Workers	
Hand Hygiene Training Films	Slides Accompanying the Training Films	
Hand Hygiene Technical Reference Manual	Hand Hygiene Why, How and When Brochure	Glove Use Information Leaflet
Frequently Asked Questions	Key Scientific Publications	
Sustaining Improvement – Additional Activities for Consideration by Health-care Facilities		
Observation Tools	Your 5 Moments for Hand Hygiene Poster	

Observation Tools – described in the evaluation and feedback section

Your 5 Moments for Hand Hygiene Poster – described in the Reminders in the workplace section

Slides for the Hand Hygiene Co-ordinator	
What	A PowerPoint slide deck entitled ‘Health Care Associated Infection and Hand Hygiene Improvement’ to assist hand hygiene leads (especially programme co-ordinators) in explaining the need for hand hygiene to senior managers and other key players. In particular: <ul style="list-style-type: none"> • to advocate standards of hand hygiene; • to explain the importance of the “My 5 Moments for Hand Hygiene” approach; • to outline the facility’s action plan to improve hand hygiene.
Why	Because a representative responsible for, or interested in, planning initiatives to improve hand hygiene will need to communicate the importance of hand hygiene and the planned activities to others.
Where	At meetings.
When	Prior to initiating or implementing hand hygiene improvement strategies (step 1, section III.2.1).
Who	The tool should be used by: <ul style="list-style-type: none"> • The representative responsible for planning initiatives to improve hand hygiene (the hand hygiene programme co-ordinator); and • parties interested in catalysing initiatives to improve hand hygiene at health-care facility to communicate the importance of hand hygiene with senior managers and others.
How	A slide presentation by the hand hygiene co-ordinator to others at the facility using visual aids or paper copies, detailing the slide deck template and other local information.

Slides for Education Sessions for Trainers, Observers and Health-Care Workers	
What	<p>A PowerPoint slide deck including the key concepts related to the WHO hand hygiene improvement strategy and that can be used to:</p> <ul style="list-style-type: none"> • train the trainers in order to make them aware of the essential learning objectives and key messages to be transmitted to health-care workers; • train the observers responsible for monitoring hand hygiene compliance at the health-care facility to understand the basic principles of hand hygiene and the aims and methods of hand hygiene observation; • provide comprehensive training for all health-care workers.
Why	Because trainers, observers and all health-care workers within the facility should understand the importance of hand hygiene, the “My 5 Moments for Hand Hygiene” approach and the correct procedures for hand rubbing and hand washing.
Where	<p>At training sessions organised by the facility for:</p> <ul style="list-style-type: none"> • training the trainers • training the observers • educating all health-care workers
When	<ul style="list-style-type: none"> • At the start of initiating a hand hygiene improvement strategy (step 1, section III.2.1) to train the trainers and the observers; • during regular training sessions for all health-care workers, including training for new starts and regular updates for previously-trained health-care workers (step 3, section III.2.3).
Who	<p>Users:</p> <ul style="list-style-type: none"> • hand hygiene programme co-ordinator • trainers <p>Targets:</p> <ul style="list-style-type: none"> • trainers • observers • health-care workers
How	A slide presentation in a single training session of approximately 2 hours (excluding the part for observers which requires at least one additional hour) or split into multiple shorter sessions depending on the local situation. More than one session is recommended, especially for the observers who should have an additional session. It is recommended that the hand hygiene training films are used during or following the education session, in which case the session duration increases.

Hand Hygiene Training Films and Accompanying Slides	
What	<ul style="list-style-type: none"> • A series of scenarios to help convey the “My 5 Moments for Hand Hygiene” approach and the appropriate technique for hand rubbing and hand washing; • a PowerPoint slide set to accompany the films and explain the content and educational messages of the different scenarios.
Why	Because trainers and observer should achieve a solid understanding of the “My 5 Moments for Hand Hygiene” approach and all health-care workers within a facility should receive regular training / education on the importance of hand hygiene, indications to perform it and the correct procedures for handrubbing and handwashing.
Where	During training sessions organised by the facility for all health-care workers.
When	<ul style="list-style-type: none"> • Following the presentation of the Education Sessions for Trainers, Observers and Health-Care Workers; • at any subsequent times deemed appropriate at local level; • during sessions to teach observers how to use the observation form and to validate their performance to record compliance while evaluating health-care worker hand hygiene practices.
Who	<p>Users:</p> <ul style="list-style-type: none"> • hand hygiene programme co-ordinator • trainers <p>Targets:</p> <ul style="list-style-type: none"> • trainers • observers • health-care workers
How	By trainers showing the films to health-care workers or observers during specific designated training sessions and providing further explanations.

Hand Hygiene Technical Reference Manual	
What	A manual introducing the importance of HCAI and the dynamics of cross-transmission and explaining in details the “My 5 Moments for Hand Hygiene” concept, the correct procedures for handrubbing and handwashing, and the WHO observation method.
Why	Because trainers should identify the key messages to be transmitted during educational sessions; all health-care workers within a facility should understand and comply with the “My 5 Moments for Hand Hygiene” approach and the correct procedures for handrubbing and handwashing; observers should learn to apply the basic principles of observation.
Where	To the clinical settings where the hand hygiene improvement strategy is being implemented.
When	Before or during training sessions (step 3, section III.2.3).
Who	This tool should be used by: <ul style="list-style-type: none"> • trainers • observers • all health-care workers
How	<ul style="list-style-type: none"> • The hand hygiene co-ordinator should distribute the manual to trainers and observers; • the trainers should distribute the manual to health-care workers during training sessions.

Hand Hygiene Why, How and When Brochure	
What	A brochure including the key educational messages related to why, how and when for hand hygiene that health-care workers can keep and refer to after the training sessions.
Why	Because all health-care workers within a facility should understand and comply with the “My 5 Moments for Hand Hygiene” approach and the correct procedures for handrubbing and handwashing.
Where	<ul style="list-style-type: none"> • In the clinical settings where the hand hygiene improvement programme is being implemented; • in clinical settings where training has already been given and short updates or reminders are deemed necessary.
When	During training sessions (step 3, section III.2.3).
Who	This tool should be used by all health-care workers in the clinical settings where the hand hygiene improvement programme is being implemented.
How	Describe and distribute the brochure during training sessions.

Frequently Asked Questions	
What	A question-and-answer document of some commonly-asked questions on hand hygiene.
Why	Because any professionals involved in the hand hygiene improvement programme are likely to have questions regarding the background of WHO Patient Safety in hand hygiene initiatives, hand hygiene and specific issues related to promotion as well as the WHO multimodal hand hygiene improvement strategy and on the “My 5 Moments for Hand Hygiene” approach.
Where	<ul style="list-style-type: none"> • In the trainers and observers training sessions to pre-empt common questions; • during the training / education sessions; • within a setting’s library / reference facility.
When	At any time, both proactively to train others on explanations to the “My 5 Moments for Hand Hygiene” and as required when questions arise,
Who	This tool should be used by: <ul style="list-style-type: none"> • hand hygiene programme co-ordinator, trainers and observers, to help them respond to potential queries from health-care workers; • all health-care workers.
How	<ul style="list-style-type: none"> • By presenting the document during training sessions; • by referring all health-care workers with access to the internet to the www.who.int/gpsc/en/ website where the Frequently Asked Questions are featured. This can be done by stating this in the facility’s documents on hand hygiene or by giving the web address during training / education sessions.

Key Scientific Publications	
What	A list of peer-reviewed publications to direct interested parties to noteworthy data and commentaries regarding hand hygiene
Why	Because there are many additional sources of information on hand hygiene that may be of interest or use during training / educating health-care workers
Where	<ul style="list-style-type: none"> • During training / education sessions; • within a setting's library / reference facility.
When	At any time, both proactively to support trainers in their task and to alert health-care workers to the background scientific information on hand hygiene as required when questions around the evidence base arise.
Who	This tool should be used by: <ul style="list-style-type: none"> • hand hygiene programme co-ordinator, trainers and observers; • all health-care workers interested in learning more about hand hygiene
How	<ul style="list-style-type: none"> • By presenting the list of key scientific publications during training sessions; • by referring all health-care workers with access to the internet to the www.who.int/gpsc/en/ website where the Key Scientific Publication's list is featured. This can be done by stating this in the facility's documents on hand hygiene or by giving the web address during training / education sessions.

Glove Use Information Leaflet	
What	A leaflet to explain the appropriate use of gloves with respect to the "My 5 Moments for Hand Hygiene" approach for presentation and / or distribution to health-care workers to keep and use as reference.
Why	Because all health-care workers need to understand how and when to correctly use gloves within the "My 5 Moments for Hand Hygiene" approach.
Where	<ul style="list-style-type: none"> • In organised training sessions; • in clinical settings where training has already been given and short updates or reminders are deemed necessary.
When	During training sessions (step 3, section III.2.3).
Who	This tool should be used by all health-care workers in the clinical settings where the hand hygiene improvement programme is being implemented.
How	Describe and distribute the leaflet during training sessions.

Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities	
What	Guidance for health-care facilities interested in enhancing and sustaining existing hand hygiene improvement by organising and using additional tools or activities as part of their long-term action plans.
Why	Because some health-care facilities already have well-established hand hygiene improvement strategies, with excellent resources and regular training and observation systems in place. For these health-care facilities, it is critical to maintain the momentum and sustain the improvements that have been made.
Where	In the management and infection control units of the health-care facility as part of the planning for additional activities.
When	Once health-care facilities have a well-established infrastructure and systems for training and evaluating hand hygiene and are looking for additional activities to sustain hand hygiene awareness and improvement (step 5, section III.2.5).
Who	This tool should be used by the hand hygiene programme co-ordinator or persons responsible for planning, implementing and maintaining hand hygiene improvement at a health-care facility.
How	The hand hygiene co-ordinator should review the tool for guidance and ideas on how to sustain the momentum and improvements in hand hygiene at the facility, integrate any selected activities into the local action plan for hand hygiene improvement and discuss it with senior managers and any other key professionals.

II.2.3. Using the tools for training and education – examples of possible situations at the health-care facility

Example 1: health-care facilities offering little or no hand hygiene training to health-care workers.

If your health-care facility offers little or no hand hygiene training to health-care workers due to constraints around implementation caused by limited or no resources, plans to address staff training should be included in an action plan in order to embed training / education within the facility's culture.

 At the very least, the action plan should feature:

- the infrastructural constraints to proceeding with an education programme (consider the tools for system change when documenting these constraints);
- the responsibility for finalising the training / education tools to be used locally (based on the tools described in this section);
- the steps to be taken to identify the trainers;
- the priority health-care workers (areas of the facility, professional categories) to receive training;
- the requirements for targeted, priority health-care worker training / education (use the hand hygiene knowledge questionnaire in the tools for evaluation and feedback section to support this);
- a timeframe for initiation and completion of training of trainers, observers and health-care workers;
- secured time for health-care workers to undertake training;
- incorporation of the training programme into the facility's financial plan.

 When these parts of the action plan are in place, the first steps in enhancing staff competence by providing basic training to every existing and new member of staff should include the following:

- training and discussion sessions for trainers led by the hand hygiene co-ordinator;
- use of the [Education Sessions for Trainers, Observers and Health-Care Workers](#) to undertake training sessions with integration of
 - local data on the burden of HCAI where available
 - other information on the main infection control measures that should be applied locally;
- focus on the “My 5 Moments for Hand Hygiene” approach and on how to perform hand hygiene during sessions by utilising the following as a minimum:
 - [Hand Hygiene Training Films and Accompanying Slides](#)
 - [Hand Hygiene Technical Reference Manual](#)
 - [Hand Hygiene Why, How and When Brochure](#)
 - [Your 5 Moments for Hand Hygiene Poster](#)
 - [How to Handwash and How to Handrub Posters](#)
 - [Glove Use Information Leaflet](#).

Example 2: health-care facilities where basic staff education is well-established that are looking to introduce additional activities for sustaining hand hygiene compliance.

 If your health-care facility has well-established infrastructure and systems for training and evaluating hand hygiene, the following additional activities should be considered to sustain hand hygiene awareness and improvement:

- education of all health-care workers within the facility on an on-going basis, checking their competence at the same time;
- training new trainers and observers at a range of levels;
- basing education on feedback of evaluation data detected in all areas on a regular basis;
- ways in which to reliably present their validated hand hygiene compliance data against HCAI rates;
- reviewing and refreshing training / education materials at least annually;
- developing new and innovative ways to train and educate (see [Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities](#));
- sharing successes with other facilities and publishing findings; and
- reviewing and refreshing action plans on a more regular basis with findings presented to all senior management teams.

Accessing the Tools

www.who.int/gpsc/en/

II.3. EVALUATION AND FEEDBACK

II.3.1. Evaluation and feedback – definitions and overview

 Evaluation and repeated monitoring of a range of indicators reflecting hand hygiene practices and infrastructures as well as of knowledge and perception of the problem of HCAI and the importance of hand hygiene at the health-care facility is a vital component of the strategy to improve hand hygiene. Indeed, it should not be seen as a component separated from implementation or only to be used for scientific purposes, but rather as an essential step in identifying areas deserving major efforts and in feeding crucial information into the action plan for local implementation of the most appropriate interventions. Continuous monitoring is very helpful in measuring the changes induced by implementation (e.g. alcohol-based handrub consumption trends following system change) and to ascertain whether the interventions have been effective in improving hand hygiene practices, perception and knowledge among health-care workers and in reducing HCAI.

 The WHO multimodal hand hygiene improvement strategy recommends monitoring and evaluation of the following indicators:

- hand hygiene compliance through direct observation;
- ward infrastructure for hand hygiene;
- health-care worker knowledge on HCAI and hand hygiene;
- health-care worker perception of HCAI and hand hygiene;
- soap and alcohol-based handrub consumption.

 Conducting a baseline evaluation (see step 2, section III.2.2) is important across all levels of the hand hygiene improvement continuum, but it is particularly crucial for a facility where a hand hygiene improvement programme is being implemented for the first time. It is needed in order to collect information that realistically reflects current hand hygiene practices, knowledge, perception and infrastructure. Following the baseline evaluation, the surveys carried out using the tools described below should be repeated post-implementation (see step 4, section III.2.4) to follow-up progress and confirm that implementation of the hand hygiene initiatives translates into improvements in hand hygiene and reduction of HCAI at the facility. Repeating the surveys will ensure consistency, comparison of results and measurement of progress.

 In facilities where hand hygiene promotion is permanently in place, following the initial implementation period, the WHO multimodal hand hygiene improvement strategy requires at least annual cycles of evaluation in order to achieve sustainability. Monitoring and evaluation with feedback therefore continues over a period of years, with the frequency determined by the co-ordinator and key players of the hand hygiene programme.

 Data entry and analysis are an important part of the overall evaluation. If the facility does not have an epidemiology/statistics unit where the data can be managed, it will be necessary to identify a person to whom this task can be allocated. The appointed person should be able to use basic computer programmes (e.g. Microsoft Office) and ideally have some basic statistical analysis / epidemiology skills.

The WHO surveys are usually carried out by using hard copies of the related forms; electronic forms are not available but can be created locally. A specific [Data Entry and Analysis Tool](#) is available for each survey and includes a pre-prepared framework for data analysis. Detailed [Instructions for Data Entry and Analysis](#) are also available. Learning how to use the available databases requires some training and time, but it is considered relatively easy.

After data entry into the specific database, the hard / electronic copies must be kept by the hand hygiene programme co-ordinator to be made available if checks need to be performed.

The best strategy for data entry is to start this process as soon as each tool has been used and when completed forms are available.

 Feedback of the results of these investigations is an integral part of evaluation and makes the evaluation meaningful. Indeed, after the baseline evaluation (see step 2, section III.2.2) in a facility where the hand hygiene improvement programme is being implemented for the first time, data indicating gaps in good practices and knowledge, or a poor perception of the problem, can be used to raise awareness and convince health-care workers that there is a need for improvement. On the other hand, after implementation (see step 4, section III.2), follow-up data are crucial in order to demonstrate improvement and thereby sustain the motivation to perform good practices and to make continuous individual and institutional efforts. These data are also very useful for identifying areas where further efforts are needed (e.g. certain professional categories that demonstrated limited or no improvement in hand hygiene compliance and/or other indicators; certain hand hygiene indications where health-care workers hardly improved).

 The results of the surveys can be either disseminated in written reports or other means of internal communication or shown during educational and data feedback sessions. The [Data Summary Report Framework](#) tool helps to organize the figures resulting from the analysis and to prepare slides to present the results.

Other means of feedback also exist, and each facility should decide how best to communicate the results of the data analysis.

 A successful strategy would see improvements across all measured activities, behaviours and also health-care worker perception.

Key success indicators

- increase in hand hygiene compliance
- improvement in infection control / hand hygiene infrastructures
- increase in usage of hand hygiene products
- improved perception of hand hygiene
- improved knowledge of hand hygiene

II.3.2. Tools for evaluation and feedback – tool descriptions



The range of tools available to support the implementation of evaluation and feedback is represented in the figure below.

Hand Hygiene Technical Reference Manual	Observation Tools: Observation Forms and Compliance Calculation Forms	
Ward Infrastructure Survey	Soap / Handrub Consumption Survey	
Perception Survey for Health-Care Workers	Perception Survey for Senior Managers	
Hand Hygiene Knowledge Questionnaire for Health-Care Workers		
Protocol for Evaluation of Tolerability and Acceptability of Alcohol-based Handrub in Use or Planned to be Introduced: Method 1	Protocol for Evaluation and Comparison of Tolerability and Acceptability of Different Alcohol-based Handrubs: Method 2	
Data Entry and Analysis Tool	Instructions for Data Entry and Analysis	Data Summary Report Framework

The **Data Entry and Analysis Tool**, the **Instructions for Data Entry and Analysis** and the **Data Summary Report Framework** are not described in detail in this guide.

Ward Infrastructure Survey – described in the section related to system change.

Soap / Handrub Consumption Survey – described in the section related to system change.

Protocols for Evaluation of Tolerability and Acceptability of Alcohol-based Handrubs – Methods 1 and 2 – described in the section related to system change.

Hand Hygiene Technical Reference Manual – described in the section related to education.

Hand Hygiene Observation Tools	
What	<p>A set of tools is available to conduct direct observation of hand hygiene practices and thus assess compliance:</p> <ul style="list-style-type: none"> an Observation Form – to be used to collect data on hand hygiene performance while observing health-care workers during routine care. It also includes summary instructions for use; two Compliance Calculation Forms (basic and optional) – to help staff calculate compliance rates easily, based on the data collected in the observation form. <p>These are linked to some tools for education (see section III.2.2) to help the observer acquire the necessary basic knowledge and understanding of the principles and methods of observation. These are:</p> <ul style="list-style-type: none"> the Hand Hygiene Technical Reference Manual – a comprehensive training manual to understand the basic principles of hand hygiene and in particular the “My 5 Moments for Hand Hygiene” approach and to explain in details the direct method for observation proposed by WHO; and the Hand Hygiene Why, How and When Brochure – a handout summarizing key principles on why, how and when to perform hand hygiene and on correct glove use.
Why	Compliance with hand hygiene, when it is indicated during routine care, is the most valid indicator of health-care workers’ behaviour related to hand hygiene. It is therefore one of the most important success indicators for the hand hygiene improvement strategy.
Where	In all clinical settings where the hand hygiene improvement programme is being implemented.
When	<p>Assess baseline hand hygiene compliance in the clinical settings where the improvement strategy will be implemented. Baseline observations must occur prior to implementation.</p> <ul style="list-style-type: none"> During the follow-up evaluation (step 4, section III.2.4), observation serves to assess the impact of implementation on hand hygiene compliance. Observations should then be repeated regularly, at least annually, to monitor sustained improvement and to identify areas that need further interventions. <p>Since it is very important that during repeated monitoring the observations take place in the same setting as in the baseline evaluation, it is recommended that a list of the observed settings is kept.</p>

Hand Hygiene Observation Tools	
Who	<p>These tools should be used by the observer.</p> <p>The observer should ideally be a professional who has experience in delivering health care at the bedside. The observer must be trained to identify the hand hygiene indications according to the “My 5 Moments for Hand Hygiene” approach and to use the tool. After training, the observer should be evaluated regarding his or her capacity to detect hand hygiene compliance correctly (see education, section II.2).</p>
How	<p>The Hand Hygiene Technical Reference Manual clearly explains how to use the observation and calculation forms. Summary instructions for use are also included on the back page of the observation form.</p> <p>In general, between 150 and 200 opportunities for hand hygiene should be observed in each surveyed unit (department, service or ward).</p>

Perception Survey for Health-Care Workers	
What	<p>A perception questionnaire about the impact of HCAI, the importance of hand hygiene as a preventive measure and the effectiveness of the different elements of the multimodal strategy.</p> <p>The questionnaire is available in baseline and follow-up versions. The follow-up version is a slightly-modified form of the baseline version and includes new questions relating to the impact of some interventions, such as the introduction or modification of the alcohol-based handrub, the posters and leaflets displayed or distributed at the facility, and the education materials.</p>
Why	<p>It is important to measure health-care workers' perception about the importance of hand hygiene in health care, as this has been shown to influence their willingness to embrace improvements. Feedback on this piece of information may be useful in demonstrating that the actual perception does not correspond to the real burden of HCAI and the importance of hand hygiene.</p>
Where	<p>Across all clinical settings participating in implementation of the improvement strategy.</p>
When	<ul style="list-style-type: none"> • During the time allocated for baseline evaluation (step 2, III.2.2), to assess the baseline perception of HCAI and hand hygiene among health-care workers before implementing any improvement intervention; • during the follow-up evaluation (step 4, III.2.4) to assess the impact of implementation on health-care workers' perception.
Who	<p>User: the programme co-ordinator or any person in charge of distributing and collecting the questionnaire.</p> <p>Population of the survey: health-care workers in the clinical settings where the hand hygiene programme is being implemented.</p>
How	<ul style="list-style-type: none"> • Anonymous distribution of the questionnaire; • ideally through random distribution; • if randomization is not feasible: <ul style="list-style-type: none"> – if only a few wards are involved, the questionnaire should be distributed to all health-care workers within a 1-week period and the completed questionnaires should be collected 4–5 days later; – if the programme involves many wards or the entire health-care facility, the questionnaire should be distributed to all health-care workers present at work on one specific day; it will therefore be handed out in the morning and collected at the end of that same day.

Health-Care Workers Knowledge Survey	
What	A questionnaire with technical questions to assess actual knowledge of the essential aspects of hand transmission and hand hygiene during health care. The knowledge needed to answer these questions correctly will only be acquired by undertaking education and training activities.
Why	Hand hygiene is a simple measure, but its improvement is based on the understanding of the means of germ transmission in the health-care setting and of key indications. It is important to assess knowledge among health-care workers at baseline and after educational and training activities.
Where	In clinical settings where education and training activities take place.
When	The questionnaire can be distributed: <ul style="list-style-type: none"> – for the baseline assessment <ul style="list-style-type: none"> • either during the period immediately before starting any educational activity and intervention; or • at the beginning of each training session (i.e. during the beginning of the implementation period). – for the follow-up assessment <ul style="list-style-type: none"> • either at the beginning of each training session; or • during the follow-up evaluation period (step 2, see section III.2.4).
Who	User: the trainers or any person in charge of distributing and collecting the questionnaire. Population of the survey: health-care workers who will be the target of education and training sessions about hand hygiene.
How	The trainer should distribute it. If the results are intended to remain anonymous, instructions to create an identity code should be given to each health-care worker to allow for self-assessment after training has taken place. The identity code can be known either to the user only or both to the user and the trainer, according to locally-established privacy requirements.

Perception Survey For Senior Managers	
What	A questionnaire to measure senior executive managers' perception about the impact of HCAI, the importance of hand hygiene as a preventive measure, the different elements of the multimodal strategy and their vital role in promoting hand hygiene in an institutional safety climate.
Why	Senior managers' awareness and commitment substantially contribute to the creation of an institutional safety climate and their support is crucial for building the basis and acquiring the resources for the implementation of a hand hygiene improvement programme. For this reason it is important to assess their perception of the importance of hand hygiene in health care and to identify key messages that must be communicated in advocacy activities.
Where	In the management unit of the facility.
When	<ul style="list-style-type: none"> • During the facility preparedness phase (step 1, section III.2.1) or during the baseline period; • during the follow-up period (step 4, section III.2.4) to assess the impact of implementation on senior managers' perception.
Who	User: the programme co-ordinator or any person in charge of distributing and collecting the questionnaire. Population of the survey: the senior executive managers of the facility.
How	Anonymous distribution of the questionnaire. The completed questionnaires should be collected 4–5 days later.

II.3.3. Using the tools for evaluation and feedback – examples of possible situations at the health-care facility

Example 1: health-care facilities embarking on a new hand hygiene improvement programme.

 The immediate priority of these facilities is to collect baseline information on the indicators relevant for evaluation of hand hygiene infrastructures, practices and knowledge as well as perception of the problem of HCAI and the importance of hand hygiene at the health-care facility. This is of the utmost importance for identifying the resources needed and for establishing priorities for the hand hygiene improvement programme. To gather a comprehensive picture, all the surveys indicated above should ideally be undertaken during the preparedness and baseline periods. The sub-subsequent step for measuring the same indicators is the follow-up evaluation, where measuring the same indicators helps in assessing the impact of the strategy.

Considering that this plan entails the allocation of adequate time and staff to these activities in settings with limited resources and having other priorities, the conducting of all surveys might be not feasible. In these cases, the surveys could be limited to using the following tools:



Tool	When to be used
Perception Survey for Health-Care Workers	at least at baseline
Ward Infrastructure Survey	at baseline and follow-up
Soap / Handrub Consumption Survey	monthly or every 3–4 months (ongoing)
Observation Form	at baseline and follow-up

These facilities may not have reached the stage where implementation of regular evaluation, including observations and feedback is achievable. However, a time frame for evaluation should be considered in long-term action plans.

Example 2: health-care facilities where a hand hygiene improvement programme is already established.

These facilities are already supposed to have undertaken baseline and follow-up evaluations of the recommended indicators and to have supportive infrastructure and an ongoing education programme in place. Monitoring and evaluation remain an important feature of the enhancement or reinvigoration of an existing improvement strategy and will provide on-going data on the progress of the strategy.

 These facilities will have to focus more on regular monitoring of knowledge, perception, infrastructures and performance of hand hygiene through observations in all areas of the facility, with regular reports and feedback to health-care workers on the results along with information on the improvements being made in hand hygiene.

 The frequency of conducting these surveys depends on local priorities. Observations of hand hygiene practices should be carried out at least annually, but ideally monthly. Hand hygiene product consumption, especially alcohol-based handrub, should be recorded monthly or at time intervals that allow annual trend calculations (e.g. every 3–4 months). For a sustained improvement, a minimum 5-year cycle of review and action planning is recommended.

 It is more likely that these facilities will also undertake monitoring and feedback of HCAI. Indeed, some facilities may already have a well-established and valid surveillance system. If this is the case, it will provide valuable information on the most reliable indicators for assessing the effectiveness of a hand hygiene improvement strategy. The measurement of monthly incidence trends for at least 1 year, both before and after implementation of the hand hygiene improvement strategy, would be ideal. Depending on the scope of the programme, prevalence surveys in the areas where hand hygiene promotion takes place, before and after implementation, may also be suitable provided that an adequate sample size calculation is performed.

A system to monitor HCAI rates should be considered and included in the action plan. Specific targets for improvement in HCAI rates at the facility should be agreed upon by the hand hygiene team along with senior management and included in the action plan.

If local HAI rates are available, it should be possible to calculate the cost-effectiveness of introducing alcohol-based handrub and possibly also of the entire improvement strategy.

Sharing lessons learned with WHO Patient Safety

WHO Patient Safety are interested in receiving feedback from the hand hygiene co-ordinators on the process of implementation of a hand hygiene action plan and also in receiving data on improvements made.

Contact details and an area for posting case studies on best practice can be found on WHO Patient Safety's website at www.who.int/gpsc/en/.



Accessing the Tools

www.who.int/gpsc/en/

II.4. REMINDERS IN THE WORKPLACE

II.4.1. Reminders in the workplace – definitions and overview

 Reminders in the workplace are key tools to prompt and remind health-care workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it. They are also means of informing patients and their visitors of the standard of care that they should expect from their health-care workers with respect to hand hygiene.

Posters are the most common type of reminder. The implementation toolkit includes three WHO-branded standard posters to visualize the “My 5 Moments for Hand Hygiene” approach and the correct procedure to perform handrubbing and handwashing.

Other types of reminders are pocket leaflets that individual health-care workers can carry in their pockets, stickers posted at the point of care, special labels including prompting slogans stuck on alcohol-based handrub dispensers and gadgets such as badges with the hand hygiene logo.

 Reminders in the workplace should be a feature of the action plans for facilities implementing hand hygiene improvement programmes at all levels. Reminders should be used and displayed in all clinical settings of the health-care facility during the implementation phase (step 3, section III.2.3) and should be updated or refreshed regularly. Reminders can be directed at health-care workers, patients and visitors.

 Local adaptation of the WHO reminders and development of new ones visualizing the WHO recommendations on hand hygiene certainly facilitates local uptake of the strategy by using the best terminology and images according to the culture.

Health-care workers will also have access to local hand hygiene guidelines or standard operating procedures to inform and remind them of what good hand hygiene practice means at their place of work.

II.4.2. Tools for reminders in the workplace – tool descriptions

 The range of tools that can be used as reminders in the workplace is represented in the figure below.

Your 5 Moments for Hand Hygiene Poster	How to Handrub Poster	How to Handwash Poster
Hand Hygiene: When and How Leaflet		
SAVE LIVES: Clean Your Hands Screensaver		

Your 5 Moments For Hand Hygiene Poster	
What	Poster visualizing the five moments (indications) when to perform hand hygiene during health-care delivery.
Why	Because all health-care workers need to visualize and endorse the key messages on hand hygiene, i.e. when to perform it.
Where	To be displayed at the point of care and prominent areas throughout the health-care facility.
When	To be displayed during the implementation step (step 3, section III.2.3), to be kept at all times and replaced / refreshed as necessary.
Who	User: the programme co-ordinator or any person in charge of displaying the posters in all clinical settings. Targets: all health-care workers having direct contact with patients; the patients and their visitors to be aware of best hand hygiene practices.
How	Display the posters at the point of care and refresh when necessary, according to the action plan.

How to Handrub and How to Handwash Posters	
What	Posters explaining the correct procedures for handrubbing and handwashing that are designed to remind health-care workers to perform hand hygiene.
Why	Because all health-care workers need to understand the correct procedures for handrubbing and handwashing.
Where	To be displayed throughout the health-care facility in prominent areas where care takes place. The How to Handrub Poster will be best placed at each point of care; the How to Handwash Poster should be displayed beside each sink (which ideally should coincide with each point of care).
When	To be displayed during the implementation step (step 3, section III.2.3), to be kept at all times and replaced / refreshed as necessary.
Who	User: the programme co-ordinator or any person in charge of displaying the posters in all clinical settings. Targets: all health-care workers having direct contact with patients; the patients and their visitors to be aware of best hand hygiene practices.
How	Display the posters at the point of care and refresh when necessary, according to the action plan.

Hand Hygiene: When and How Leaflet	
What	A pocket leaflet summarizing the key messages related to when and how hand hygiene should be performed
Why	Because all health-care workers within a facility should understand and comply with the “My 5 Moments for Hand Hygiene” approach and the correct procedures for handrubbing and handwashing
Where	To be distributed in the clinical settings where the hand hygiene improvement programme is being implemented.
When	To be displayed during the implementation step (step 3, section III.2.3), ideally during training sessions.
Who	This tool should be used by all health-care workers in the clinical settings where the hand hygiene improvement programme is being implemented.
How	Distribute the leaflet during training sessions for the health-care workers to keep as a personal tool and reference.

SAVE LIVES: Clean Your Hands Screensaver	
What	A screensaver for computer screens.
Why	To remind health-care workers to perform hand hygiene at the appropriate moments.
Where	To be displayed on computers used by health-care workers at the facility.
When	At all times.
Who	This tool should be used by all health-care workers with access to a computer in the clinical settings where the hand hygiene improvement programme is being implemented.
How	Replace the current screensaver with the SAVE LIVES: Clean Your Hands Screensaver to remind all health-care workers to perform hand hygiene.

II.4.3. Using the tools for reminders in the workplace – examples of possible situations at the health-care facility

Example 1: facilities embarking on a new hand hygiene improvement programme and/or with limited resources.



Key actions:

- Evaluate current resources, including local expertise, available for investing in reminding health-care workers about hand hygiene.
- Establish the requirements and consider a timeframe for addressing these requirements.
- Consider the potential costs in the financial plan and secure a budget.
- In the first instance, having to commit to many actions in order to implement a new hand hygiene improvement programme, these facilities might decide to use the tools already available in the WHO implementation toolkit without any adaptation.

Example 2: facilities where the hand hygiene improvement programme is already well established.



Key actions:

- Consider the adaptation of reminders to the national / local culture, including images, a priority in the facility action plan.
- Ensure that the reminders displayed are always in good condition.
- Include in the facility long-term action plan a requirement to refresh the reminders by changing the images and the slogans regularly.
- Local adaptation of the reminders could best be achieved by challenging health-care workers to draw images for them. This process could be facilitated with the support of a professional designer who would capture the health-care workers’ ideas. This activity would help generate individual participation in the programme and inspire discussions about the key messages for hand hygiene.
- Use reminders other than posters.

Sharing lessons learned with WHO Patient Safety

WHO Patient Safety is interested in seeing locally-produced reminders.

Contact details and instructions for posting your reminders can be found on WHO Patient Safety’s website at www.who.int/gpsc/en/



Accessing the Tools

www.who.int/gpsc/en/

II.5. INSTITUTIONAL SAFETY CLIMATE

II.5.1. Institutional safety climate – definitions and overview

 The institutional safety climate refers to creating an environment and the perceptions that facilitate awareness-raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all levels, including

- active participation at both the institutional and individual levels;
- awareness of individual and institutional capacity to change and improve (self-efficacy); and
- partnership with patients and patient organizations.

 At the institutional level, this component of the hand hygiene improvement strategy represents the foundation for implementing and sustaining the hand hygiene improvement programme which must be embedded in a climate that understands and prioritizes basic safety issues.

 At the individual level, this component of the strategy is important with respect to advocacy of hand hygiene by all health-care workers as a priority and for their motivation to practice optimal hand hygiene as an act showing their commitment to do no harm to patients. Through the creation of an institutional safety climate, both the institution and each health-care worker become aware of their capacity to make a change and catalyse improvement across all indicators.

 The creation of an institutional safety climate must be a priority for all hand hygiene promotion, regardless of the level of progress in hand hygiene improvement at the facility, and is essential during any implementation phase of the programme. Much effort must be made at the beginning to create the motivation for embarking on hand hygiene promotion (step 1, facility preparedness phase, section III.2.1). It is important that decision-makers and influential people are engaged in the planning process at the earliest possible stage and that this engagement continues during implementation and beyond.

On a continuum of progress, other areas of patient safety should be simultaneously or subsequently explored, and the safety climate must become deeply-rooted in the institutional tradition and approach. This requires continuous progress in the development of stable systems for adverse event detection and quality assessment, hand hygiene being one of the key indicators.

Influential health-care workers and individuals can contribute greatly to the successful development of a safety climate. In addition to professionals belonging to the facility, these influential people may come from external organizations, non-government organizations and professional bodies that can give advice on effective strategies to improve patient safety.

 In settings where hand hygiene promotion is very advanced, senior managers and leaders will have repeatedly demonstrated full commitment to hand hygiene by long-term allocation of resources and will be proud of the excellent standards achieved at their facility. Hand hygiene will be used as a quality indicator on a regular basis. In these settings, all health-care workers will be committed to hand hygiene and will be fully accountable for their compliance with the “My 5 Moments for Hand Hygiene” approach.

 Particularly but not only in these settings, patients will be involved in the creation of an institutional safety climate. Patient awareness and understanding of hand hygiene are indeed important aspects to be considered in the action plans of a multimodal hand hygiene improvement programme. Positive encouragement by patients of health-care workers to motivate them to implement good hand hygiene could improve compliance with the “My 5 Moments for Hand Hygiene” approach. Performing correct hand hygiene in view of the patient can promote patient confidence and partnership between patients and health-care workers to make care safer.

II.5.2. Tools for institutional safety climate – tool descriptions

 The range of tools that can be used as reminders in the workplace is represented in the figure below:

Template Letter to Communicate Hand hygiene Initiatives to Managers	Template Letter to Advocate Hand Hygiene to Managers
Guidance on Engaging Patients and Patient	
Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities	
SAVE LIVES: Clean Your Hands Promotional Video	

Template Letter to Advocate Hand Hygiene to Managers	
What	A template letter for use and adaptation by a local hand hygiene co-ordinator to aid initial dialogue with key decision makers concerning investment in hand hygiene improvement.
Why	To help a local hand hygiene programme co-ordinator or person(s) interested in introducing or reinvigorating hand hygiene improvement initiatives within a health-care facility, to advocate and encourage commitment, support and investment from key decision makers within the facility.
Where	In the hospital management unit of the health-care facility.
When	At the initial stages of the implementation of a hand hygiene improvement programme (step 1, section III.2.1).
Who	User: a local hand hygiene programme co-ordinator or person(s) interested in introducing or reinvigorating hand hygiene improvement initiatives within a health-care facility. Targets: senior managers of the health-care facility.
How	The user can insert local information or modify the text of the template letter to reflect local style and send it. A similar template letter is also available to help communicate important messages concerning the improvement initiatives to key senior managers/leaders (Template Letter to Communicate Hand Hygiene Initiatives to Managers).

Template Letter to Communicate Hand Hygiene Initiatives to Managers	
What	A template letter for use and adaptation by a local hand hygiene co-ordinator to convey clear messages concerning the improvement initiatives and state explicitly where action is required and by whom.
Why	To help a local hand hygiene programme co-ordinator or person(s) interested in introducing or reinvigorating hand hygiene improvement initiatives within a health-care facility, to communicate important messages concerning the improvement initiatives to key senior managers/leaders.
Where	In the hospital management unit of the health-care facility.
When	At the initial stages of a hand hygiene improvement programme (step 1, section III.2.1).
Who	User: a local hand hygiene programme co-ordinator or person(s) interested in introducing or reinvigorating hand hygiene improvement initiatives within a health-care facility. Targets: senior managers of the health-care facility.
How	The user can insert local information or modify the text of the template letter to reflect local style. A similar template letter is also available to help in advocating and encouraging commitment, support and investment in the initiative from key decision makers within the health-care facility (Template Letter to Advocate Hand Hygiene to Managers).

Guidance on Engaging Patients and Patient Organizations in Hand Hygiene Initiatives	
What	Guidance on empowering patients, engaging with patient organizations and developing a programme to educate patients and inspire patient advocacy for hand hygiene improvement in health care.
Why	Because WHO Guidelines on Hand Hygiene in Health Care encourage partnerships between patients, their families and health-care workers to promote hand hygiene in health-care settings and their input can have a positive effect on improvement.
Where	In the hospital management unit of the health-care facility.
When	Once health-care facilities have a well-established hand hygiene improvement programme (consider it for long-term plans development during step 5, see section III.2.5).
Who	This tool should be used by the hand hygiene programme co-ordinator in facilities where it is planned to empower and engage patients or patient organizations in hand hygiene initiatives.
How	The hand hygiene programme co-ordinator can review the tool for guidance and ideas on how to engage patients and patient organizations, and integrate any selected activities into their long-term action plan for hand hygiene improvement.

Sustaining Improvement – Additional Activities for Consideration by Health-Care Facilities	
What	Guidance for health-care facilities interested in enhancing existing hand hygiene improvement on additional tools or activities that the facility could organise as part of their long-term action plans to maintain momentum and continue to improve (or at least maintain) hand hygiene improvement.
Why	Because for health-care facilities already having well-established hand hygiene improvement strategies, with excellent resources and regular training and observation systems in place, it is critical to maintain the momentum and sustain the improvements achieved.
Where	In the hospital management unit of the health-care facility.
When	Once health-care facilities have well-established infrastructure and systems for training and observing hand hygiene (especially for long-term plans development during step 5, see section III.2.5).
Who	This tool should be used by the hand hygiene programme co-ordinator, senior managers, or persons responsible for planning, implementing and maintaining hand hygiene improvement at a health-care facility.
How	The hand hygiene programme co-ordinator should review the tool for guidance and ideas on how to sustain the momentum and improvements in hand hygiene at their facility, and integrate any selected activities into their long-term action plan for hand hygiene improvement.

SAVE LIVES: Clean Your Hands Promotional DVD	
What	A short film with powerful imagery to promote hand hygiene and the SAVE LIVES: Clean Your Hands initiative.
Why	To inspire all health-care workers to advocate and perform optimal hand hygiene during health-care delivery and motivate patients to participate in hand hygiene improvement initiatives.
Where	To be shown at meetings, educational sessions and public areas in a facility where patient empowerment is promoted, as an impactful way to inspire and advocate hand hygiene.
When	At the opening and closure of meetings in which a clear message is required regarding the importance of hand hygiene (e.g. education sessions, training sessions, team meetings, advocacy meetings, staff briefings).
Who	Users: the hand hygiene programme co-ordinator, senior managers, trainers.
How	Show the short film to health-care workers or the public before providing more details on hand hygiene initiatives to provide context and a powerful message about hand hygiene in health care.

II.5.3. Using the tools for institutional safety climate – examples of possible situations at the health-care facility

Example 1: health-care facilities embarking on a new hand hygiene improvement programme.

 Key actions:

- Identify a co-ordinator for the hand hygiene improvement programme and ideally a deputy and, where possible, a dedicated hand hygiene team/committee.
- Prepare for publicizing the hand hygiene improvement initiatives across the facility.
- Identify internal stakeholders, senior managers, key individuals or groups who will need to be aware of the hand hygiene initiatives implemented at the health-care facility.
- Use template letters to seek the support of senior managers and communicate with them and health-care workers.
- In particular, obtain finance, staff resource, support to organize education activities from senior managers.
- Identify at least one member of staff on each ward, or in each department (senior doctors and/or chief nurses) to be fully informed, at the correct time, of the initiation of a hand hygiene improvement strategy and, if possible, to be trained in general infection control.
- Make the [WHO Guidelines on Hand Hygiene in Health Care](#) or their executive summary available in clinical settings.
- Consider a timeframe for initiating future discussions with patient organizations or engaging patients.
- Start by placing WHO posters in key places to enhance awareness.

Example 2: health-care facilities where the hand hygiene improvement programme is already well established.

 Key actions:

- Prepare a long term plan featuring key actions that will ensure that the institutional safety climate fully reflects hand hygiene.
- Establish hand hygiene on the list of indicators for assessment of quality of health care delivered at the facility.
- Set annual goals for hand hygiene improvement (e.g. improving hand hygiene compliance above certain rates, according to the local situation).
- Establish reward schemes for health-care workers for optimal compliance with the “My 5 Moments for Hand Hygiene” approach or protocol for hand hygiene based on the [WHO Guidelines for Hand Hygiene in Health Care](#).
- Review any existing activity involving patients / patient organizations in health-care improvement and make a plan for hand hygiene improvement.
- Implement activities involving patients in hand hygiene promotion. This could include the following:
 - patient surveys to gain their perspective on the best way to participate in hand hygiene promotion;
 - development and dissemination of information leaflets / posters for patients to inform; them of the hand hygiene initiatives and how they can encourage and support them;
 - initiatives (stands at the facility entry, activities at ward level) to catalyse patient advocacy for hand hygiene promotion;
 - education of patients to identify the moments when health-care workers should perform hand hygiene;
 - collaboration with patient organizations to assist with patient advocacy or education, or to lobby for funding or improved facilities.

 **Accessing the Tools**

www.who.int/gpsc/en/

PART III

Part III of the Guide to Implementation provides the following additional elements to help the implementation of the WHO multimodal hand hygiene improvement strategy:

- a template action plan listing what actions should be undertaken in order to achieve the implementation of each component of the strategy in facilities at both basic and advanced level of progress in hand hygiene promotion; and
- a step-wise approach as a model for implementation in health-care facilities newly committing to hand hygiene improvement.

III.1. PREPARING AN ACTION PLAN



The **Template Action Plan** is proposed to help prepare the local action plan. It is very comprehensive but it does not take into account local issues. Therefore, health-care facilities should identify elements that apply to their local situation and amend the template by adding further activities to reflect local needs. The template is not intended to indicate a chronological order for undertaking the actions proposed but to give an overview of all actions necessary to secure the implementation of each strategy component, according to the details given in Part II of the guide. It covers a wide range of actions as regards progress of hand hygiene at facility level: from basic actions to be undertaken to inaugurate a hand hygiene programme to advanced activities indicated in facilities where hand hygiene promotion is very advanced. The template also helps to identify roles and responsibilities, to establish a time line for action execution and budget implications and to track progress.



Overall Template Action Plan

Action	Lead person	Time frame (start and end dates)	Budget (if applicable)	Progress (include review and completion dates)
General				
Access to the WHO Guidelines on Hand Hygiene in Health Care on the WHO Patient Safety website				
Adapt WHO Guidelines for local applicability while ensuring consistency with recommendations				
Access the implementation toolkit of the WHO multimodal hand hygiene improvement strategy on the WHO Patient Safety website				
Identify a co-ordinator for the hand hygiene improvement programme and a deputy co-ordinator				
Identify and establish a team/committee to support the hand hygiene co-ordinator				
Identify any prior initiatives or plans on hand hygiene improvement / infection control within the facility				
Contact the CEO/director and senior managers of the hospital to discuss actions and activities to be implemented in line with the current progress of hand hygiene/ infection control promotion at facility level and with the WHO Guidelines				

Action	Lead person	Time frame (start and end dates)	Budget (if applicable)	Progress (include review and completion dates)
Agree on the scope and extent of the activities to be acted on				
Match required activity to available human resources				
If policies, standards, protocols, standard operating procedures, care bundles, etc are currently used in the facility, ensure one is focused on hand hygiene and plan for dissemination to all clinical settings/ health-care workers				
System change				
Review existing hand hygiene compliance and/or HCAI information available to direct the hand hygiene improvement programme				
Analyse the current structures and resources				
Ward Infrastructure Survey				
Soap / Handrub Consumption Survey				
Discuss with CEO/director/senior managers how to improve infrastructures, with a long-term aim to provide a sink in each room, complete with safe, running water, soap and hand towels (this will most likely link with wider/national plans)				
Discuss with CEO/director/senior managers how to address availability of, and improving access to, resources (to provide alcohol-based handrub at each point of care)				
Decide whether to produce or procure alcohol-based handrub				
Arrange purchase from the (local) market, taking into account availability, efficacy, tolerability and cost				
Review the Guide to Local Production of Alcohol-based Handrub				
Discuss with relevant persons/experts the feasibility and actions required to produce WHO alcohol-based handrubs within the facility, particularly affordability and safety issues				
Use the Alcohol-based Handrub Planning and Costing Tool to develop a budget spreadsheet for production of WHO-recommended alcohol-based handrub				
Explore with CEO/director/senior managers the national or regional plans to provide alcohol based handrubs to try to establish				
Undertake tolerability and acceptability exercises using protocols for evaluation				
Make a financial plan of costs necessary to address water, sinks, soap, towels and handrub deficits and attempt to secure an adequate annual budget for this				

Action	Lead person	Time frame (start and end dates)	Budget (if applicable)	Progress (include review and completion dates)
If required, explore with CEO/director/senior managers the possibility of further funding assistance to support short, medium and long term plans e.g. via national ministry of health funding/donor funds/ donations from industry/ other donations				
Training / Education				
Establish requirements for health-care worker training based on local numbers, needs and any other issues				
Review/design a training / education programme based on WHO training tools				
Identify the trainers (at least one per facility)				
Identify the observers (at least one per facility)				
Secure time, with support from senior managers, for trainers and observers to be trained and perform in their allocated roles, e.g. written agreement				
Carry out training of trainers				
Carry out training of observers (trainers and observers can receive the same basic training in the same sessions before observers receive additional specific training)				
Set the plan, including timeframe, for initiating, conducting and evaluating training for health-care workers				
Communicate the time commitment required for training of health-care workers to all managers and staff				
Establish a system for reporting on training sessions to senior managers including an action plan for addressing poor or non- attendance				
Incorporate the training programme into the overall facility financial plan				
Establish a system for updating training and competency checks of trainers, e.g. annually				
Establish a system for update training and competency checks of all health-care workers, e.g. annually				
Plan to produce supplementary training materials or organize additional activities to maintain momentum and motivation (e.g. organise lunchtime debates on hand hygiene issues for health-care workers; produce e-learning materials; establish a buddy system to educate new starters on hand hygiene) in the longer term				
Establish a system for updating training materials				

Action	Lead person	Time frame (start and end dates)	Budget (if applicable)	Progress (include review and completion dates)
Evaluation and feedback				
Design or review evaluation and feedback activities including				
Hand hygiene observations				
Ward infrastructure surveys				
Soap / handrub consumption surveys				
Perception surveys for health-care workers				
Perception surveys for senior managers				
Health-care workers knowledge surveys				
Tolerability and acceptability alcohol-based handrub exercises				
Set the plan, including timeframe, for initiation of evaluation and feedback activities				
Include identification of all expert support that might be required, e.g. epidemiologist, data manager				
Incorporate the evaluation and feedback activities into the overall facility financial plan				
Establish an overall system for reporting on evaluation results to senior managers including an action plan for addressing poor compliance, knowledge and infrastructures				
Utilise the hand hygiene technical reference manual to produce plans for observations				
Identify candidates to be observers (if not already done so)				
Establish a system for on-going training and competency checks of observers, e.g. annually				
Conduct baseline evaluations and feed back to key health-care staff, consider using				
Data entry and analysis tool and instructions for data entry and analysis				
Data summary report framework				
Prepare and disseminate a plan for on-going observations according to an agreed schedule, e.g. annually but ideally bi-monthly				
Present results of observations each quarter or to an agreed schedule to hand hygiene implementation team and senior management				
Set annual targets for improvement in hand hygiene compliance based on agreement from all key staff and taking into account current evidence on hand hygiene compliance rates				
Assess current information on HCAI rates at the facility				

Action	Lead person	Time frame (start and end dates)	Budget (if applicable)	Progress (include review and completion dates)
Establish a system to monitor HCAI rates on an on-going basis alongside hand hygiene compliance rates				
If possible, perform cost-effectiveness analysis to inform senior managers and secure future investment in hand hygiene				
Consider preparing a case study of improvements in hand hygiene at the facility for publication locally, regionally or nationally and on the WHO Patient Safety website				
Consider publishing data on hand hygiene improvement and HCAI rates at the facility in a peer-reviewed journal, trade journal or internal newsletter				
Consider presenting data on hand hygiene improvement and HCAI rates at the facility at local, national or international conferences				
Reminders in the workplace				
Evaluate available resources including existing reminders and local expertise to invest in reminders health-care workers about hand hygiene				
Establish requirements for updating or providing new reminders				
Establish costs and source funding where required				
Access and save posters and leaflets on the WHO Patient Safety website and investigate costs of reproduction				
Provide and/or display posters in all clinical settings				
Ensure posters are in a good condition and clearly displayed in suitable places, e.g. at the point of care, above hand wash basins				
Distribute leaflets to all health-care workers during training and display in all clinical settings				
Plan to produce supplementary or refreshed reminders on an on-going basis, including innovative ideas other than posters and leaflets				
Institutional safety climate				
Clarify that all other actions for ensuring system change, training /education, evaluation and feedback and reminders in the workplace are taking place				
Identify and secure on-going support from key senior managers and facility managers				
Prepare and send letter to advocate hand hygiene to managers to encourage senior managers to continue investment in hand hygiene				

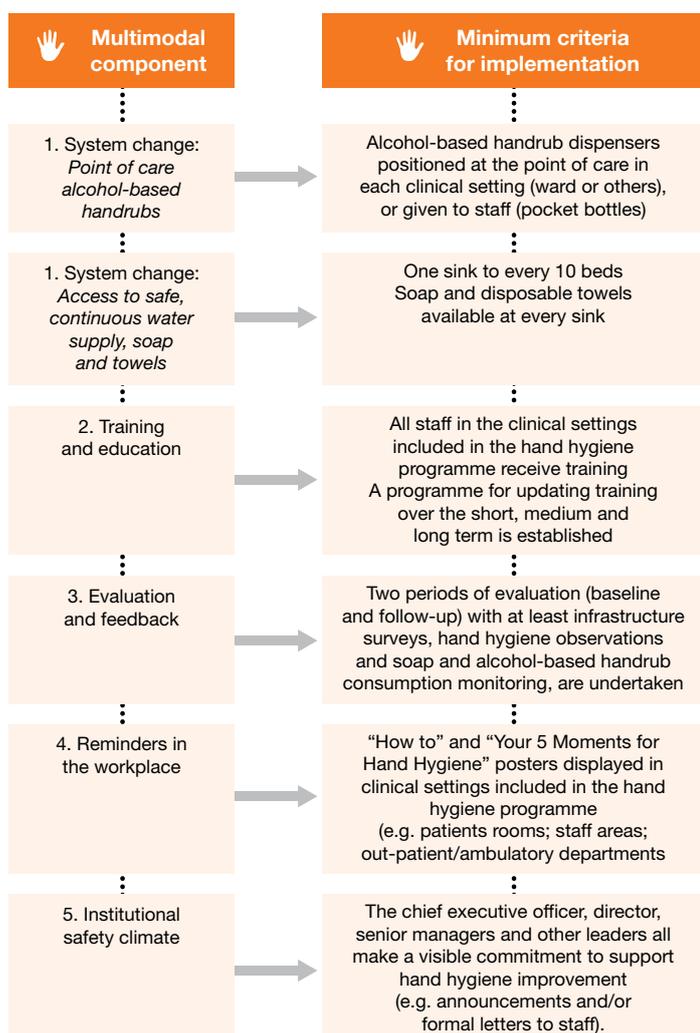
Action	Lead person	Time frame (start and end dates)	Budget (if applicable)	Progress (include review and completion dates)
If possible, prepare a business case and present to senior managers to secure continued investment in hand hygiene				
Prepare and send letter to communicate hand hygiene initiatives to managers				
Establish a committee to implement the facility action plan				
Establish regular meetings to feedback and revise the action plan accordingly (an already-established committee may be chosen as the vehicle to address hand hygiene improvement)				
Prepare a plan to publicise hand hygiene activities across the facility – where available use internal communications expertise				
Establish key staff in all areas that can be updated and continue to publicise news of hand hygiene activities on an on-going basis				
Review existing involvement of patients / patient organizations in health-care improvement activities and consider timeframe for initiating on-going discussions/ collaborations with patient organizations				
Utilize the guidance on engaging patients and patient organizations in hand hygiene initiatives				
Consider undertaking patient surveys				
Initiate patient advocacy activities (e.g. provide hand hygiene information leaflets to patients and plan for education sessions)				
Consider implementing initiatives to reward or acknowledge good hand hygiene compliance by specific health-care workers, wards or departments				
Embed hand hygiene within facility indicators and annual goals				
Plan to produce supplementary training materials or organising additional activities to maintain momentum and motivation (e.g. organise lunchtime debates on hand hygiene issues for health-care workers; produce e-learning materials; establish a buddy system to educate new starters on hand hygiene, use the SAVE LIVES: Clean Your Hands promotional DVD				

III.2. IMPLEMENTING THE STEP-WISE APPROACH

 The step-wise approach helps to develop and plan the hand hygiene improvement programme over time and according to a rational sequence of activities. Indeed, the components of the strategy are suitable for implementation in different steps according to their features.

This approach is proposed for consideration especially by facilities newly implementing a hand hygiene improvement programme based on the WHO multimodal strategy. In a defined sequential order, it walks the reader through the path to be followed to implement the strategy with a wide range of activities and the support of all tools of the WHO implementation toolkit. Although testing showed that this step-wise approach is very comprehensive and provides helpful guidance, it may appear heavy and very engaging. Professionals and institutions committing to hand hygiene improvement should be aware that hand hygiene promotion is actually an engaging and challenging task, but on the other hand it results in a lot of progress in enhancing patient safety overall. The work load to implement a hand hygiene improvement programme depends on its scope; focusing on minimum requirements, the burden of activities, nonetheless, can be downsized at the start and scaling up can be undertaken gradually.

 Minimum criteria for implementation of the WHO multimodal hand hygiene improvement strategy are listed in the figure below:



III.2.1. Step 1: Facility preparedness – readiness for action

 Step 1 is meant to ensure the overall preparedness of the facility to put in place a hand hygiene improvement programme. This includes getting the necessary resources (both human and financial) and infrastructure in place along with the key leadership for the hand hygiene improvement programme, including a co-ordinator and his/her deputy. Proper planning must be done to map out a clear strategy for the entire programme.

Activities to take place in step 1 are related mainly to plans and actions to achieve the objectives of the strategy components 1 (system change), 3 (education) and 5 (institutional safety climate).

 Please refer to the sections dedicated to these strategy components to gather more information and to be directed to the available tools.

This step is meant to last 2 months on average.

 Facilities are recommended to consider implementing initially in wards where motivation and interest are high and the health gain is likely to be substantial and subsequently have an impact on others.

 High consideration should be given to the feasibility of matching required activities to available human and financial resources. In order to demonstrate the economic benefit of the intervention and to ascertain what funding will be required to implement the action plan to improve hand hygiene, it may be necessary to perform an economic analysis and formalise a financial plan at this early stage in establishing the scope and extent of the intervention.

 In summary, step 1 should include:

- convincing high level senior managers and key professionals at the facility that patient safety is a crucial issue and hand hygiene improvement is of utmost importance to ensuring safe care;
- identifying the key people to be involved in the programme implementation; selecting a co-ordinator, a deputy co-ordinator and possibly a team/committee supporting them; assigning individual tasks and deliverables;

Hand hygiene programme co-ordinator:

Profile: a professional who should have an understanding of hand hygiene and infection control issues and ideally a broader experience on quality and safety; he/she should be well-respected and able to access high-level management staff within the facility.

Tasks: to propose a consistent action plan to implement the hand hygiene improvement strategy according to the [WHO Guidelines on Hand Hygiene in Health Care](#) and in line with the current progress of hand hygiene promotion at the facility level; to discuss it with senior managers and to coordinate its implementation at all stages; in addition, to lead the training of trainers and observers.

Hand hygiene team/committee

Profile: a group of key internal stakeholders and in particular influential leaders (head nurses, chief doctors, leads from other disciplines, senior managers) along with those involved in infection prevention and control.

Tasks: to support the co-ordinator and share decision making; to meet regularly (at least monthly at the beginning of the programme; then less frequently) to oversee progress, to highlight any issues or concerns, propose solutions, and review the emerging data.

- establishing a plan to achieve the implementation of all the strategy components or of those that are considered to be key features at the facility level (especially for settings where hand hygiene promotion is already in place);
- deciding about the scope of and the extent of the implementation (either focus on a limited number of areas or facility-wide);
- creating the conditions to make system change happen (e.g. actions plans to make the alcohol-based handrub available and/or ensure its appropriate location at the point of care);
- identifying the trainers and the observers;

Trainer

Profile: a professional preferably with experience of education and of delivering health care at the bed side. Ideally he/she should be an influential leader (chief nurse/matron/doctor) or the official deputy of an influential leader and already have good knowledge of infection control.

Tasks: to train health-care workers on hand hygiene during step 3.

Observer:

Profile: a professional with experience in delivering care at the bed-side and knowledge and understanding of the hand hygiene improvement strategy.

Tasks: openly and objectively to observe hand hygiene practices and to gather data on compliance using the “My 5 Moments for Hand Hygiene” approach and the WHO method; to provide feedback on the results to health-care workers, senior managers and other key individuals / groups involved in the hand hygiene programme.

- building the necessary knowledge and expertise (train the trainers and the observers) to carry out activities related to the strategy components 2 (education) and 3 (evaluation) planned to be implemented in steps 2 (baseline evaluation), 3 (implementation) and 4 (follow-up evaluation);
- reviewing all tools for evaluation and feedback, assign tasks and make plan for carrying out the surveys in step 2;
- developing a plan on how and to whom information concerning the action plan and improvement will be communicated;

Possible methods of communication:

- Word of mouth
- Electronic (email) if available
- Newsletter or similar bulletin
- Formal and informal training
- Posters / reminders
- Presentations in medical and nursing staff meetings
- CEO address to health-care staff

- preparing the necessary resources and supports to implement all the strategy components, especially two (education) and four (reminders); and
- identifying staff in charge of making data entry and analysis.

Human resources required/key players involved in step 1:

- Hand hygiene programme co-ordinator
- Deputy co-ordinator
- Trainers
- Observers
- Senior managers/health-care facility administrators
- Infection prevention and control professionals
- Head nurses, chief doctors, leads from other disciplines
- Central purchasing department staff, pharmacist
- Hand hygiene committee/team (including the above key players, when appropriate)

Your action checks – step 1

Have the following actions occurred?	Yes/No
Coordinator appointed	
Practicalities of implementing the multimodal strategy assessed	
Key individuals and groups identified and support secured (team/committee established)	
Roles to ensure action plan completion assigned	
Action plan agreed among all key players including senior managers	
Agreement reached on hospital-wide versus specific wards-only implementation	
Letters to advocate and communicate about hand hygiene sent to senior managers	
Budget analysis undertaken	
Necessary funds procured to make alcohol-based handrub available or improve its availability at the point of care as well as other resources including human-resources	
Decision made re: whether to purchase handrubs commercially or manufacture in-house	
Trainers and observers identified	
Training of trainers and observers undertaken	

III.2.2. Step 2: Baseline evaluation – establishing knowledge of the current situation

 Step 2 is meant to be focused mainly on conducting baseline evaluation of hand hygiene practice, perception, knowledge and the infrastructures available. It is very important to assess the current situation at the facility level in order to tailor and refine action plans for implementation. Activities taking place in step 2 are vital also because they will provide reference information for any comparison and assessment of progress as the multimodal strategy is being implemented. During this step, specific actions that are scheduled in step 1 could also be continued and/or take place to prepare for the implementation phase (preparation of training, procurement or production of the alcohol-based handrub).

Activities scheduled to take place in step 2 are related mainly to plans and actions to achieve the objectives of strategy component 3 (evaluation and feedback).

 **Please refer to the section dedicated to this strategy component to gather more information and to be directed to the available tools.**

This step is meant to last 3 months on average.

 The table below proposes, only as an indication, a sequential programme for conducting the surveys at the facility level. The indicated time lines are only approximate, and they will depend on the scope of implementation at the facility level.

Ward infrastructure survey (baseline)	Week 1–2				
Senior executive managers perception survey (baseline)		Week 3			
Health-care workers perception survey (baseline)			Week 4–5		
Hand hygiene observations (baseline)				Week 6–8	
Soap/handrub consumption survey (baseline)					End of Step 2; then monthly or every 3–4 months
Health-care workers knowledge survey (baseline)					Last week or immediately before education session

 In summary, step 2 should include:

- conducting the infrastructure, perception and knowledge surveys and collecting hand hygiene observation and soap/handrub consumption data according to the plans;
- conducting the tolerability and acceptability survey if the alcohol-based handrub was newly introduced or to compare different products;
- performing data entry and analysis as soon as each survey is completed;

- evaluating the results and making sure that they are reliable;
- disseminating the results among key players in the hand hygiene improvement programme;
- evaluating how to use the results during step 3 (e.g. how to present data during educational sessions, what specific actions should be made to improve infrastructure);
- evaluating HCAI rates related to the last 6 months/1 year if a local surveillance system is in place or conducting a prevalence survey in the clinical settings included in the hand hygiene improvement programme;
- concluding any training for the trainers;
- preparing additional training material, including the baseline evaluation data;
- reviewing the training material and making precise plans for the educational sessions for health-care workers;
- getting ready for any promotion activity to be launched during step 3;
- finalizing the process of procuring or locally producing the alcohol-based handrub; and
- getting ready for any additional system change (e.g. sink installation, soap/disposable towels procurement, increase and/or change of alcohol-based handrub dispensers).

Human resources required/key players involved in step 2:

- Hand hygiene programme co-ordinator
- Deputy co-ordinator
- Trainers
- Observers
- Central purchasing department staff, pharmacist
- Epidemiologist, data manager
- Hand hygiene committee/team (including the above key players, when appropriate)

Your action checks – step 2

Action	Yes/No
Ward infrastructure survey undertaken	
Senior managers perception survey undertaken	
Health-care workers perception survey undertaken	
Consumption data collected	
Hand hygiene observations completed	
Health-care workers knowledge survey undertaken	
Data input accomplished	
Data analysed and interpreted	
Availability of alcohol-based handrub secured	
Actions taken for any other planned system changes	
Training of the trainers concluded	
Educational material ready	

III.2.3. Step 3: implementation – introducing the improvement activities

 Step 3 is the key phase to achieve improvement and it consists of implementing all the interventions planned in step 1 and using the core findings from step 2 to motivate improvement. Its importance is vital for raising awareness of the burden of HCAI and the importance of hand hygiene, to improve knowledge, to put in place elements of system change and eventually to catalyze behavioural change.

Activities that take place in step 3 are related mainly to plans and actions to achieve the objectives of the strategy components: 1 (system change), 2 (education), 4 (reminders in the work place) and 5 (institutional safety climate). However, some evaluation activities are also meant to take place.

 **Please refer to the section dedicated to these strategy components to gather more information and to be directed to the available tools.**

This step is meant to last 3 months on average.

 In summary, step 3 should include:

- holding a well-publicized official event launching the promotional activities and involving endorsement and/or symbolic signatures of commitment from leaders and individual health-care workers;
- distributing the alcohol-based handrub at the point of care in all clinical settings involved in the programme;
- displaying posters and distributing other reminders at the point of care and to health-care workers in all clinical settings involved in the programme;
- distributing the [WHO Guidelines on Hand Hygiene in Health Care](#) or their summary in clinical settings involved in the programme;
- organizing the educational sessions for all health-care workers working in the clinical settings involved in the programme, including distributing educational material, as well as practical training on the how to perform hand hygiene;
- conducting the knowledge test together with the educational sessions, if not having been carried out already in step 2;
- ensuring that feedback of baseline evaluation data is performed (either during educational sessions or through reports and other means of communication);
- monitoring monthly alcohol-based handrub consumption;
- undertaking monthly hand hygiene observations, if feasible;
- organizing regular meetings of the team/committee to monitor the implementation progress, overcome potential obstacles, and adjust plans if necessary;
- getting prepared to undertake the evaluation activities planned in step 4.

Human resources required/key players involved in step 3:

- Hand hygiene programme co-ordinator
- Deputy co-ordinator
- Trainers
- Observers
- Senior managers/health-care facility administrators
- Infection prevention and control professionals
- Head nurses, chief doctors, leads from other disciplines
- Central purchasing department staff, pharmacist
- Hand hygiene committee/team
- Patients, patient organizations
- Ministerial authorities, government representatives

Your action checks – step 3

Have the following actions occurred?	Yes/No
Action plan, developed in step 1, used to guide implementation	
Baseline data and analysis fed back to staff	
WHO Guidelines on Hygiene in Health Care distributed	
Posters, other reminders and promotional materials distributed	
Educational materials distributed	
Alcohol-based handrub distributed	
Education and training sessions undertaken	
Monthly measurement of consumption undertaken	
Alcohol-based handrub tolerability and acceptability surveys undertaken	
Monthly hand hygiene compliance observations undertaken (where feasible)	
Regular review meetings held	

Pictures showing examples of initiatives undertaken and tools produced by health-care facilities during the implementation step while testing the WHO multimodal hand hygiene improvement strategy are accessible at: www.who.int/gpsc/en/

III.2.4. Step 4: follow-up evaluation – evaluating the implementation impact

 Step 4 has very important aims: to follow-up progress and confirm that implementation of the hand hygiene initiatives translates into improvements in hand hygiene. The surveys carried out for baseline evaluation during step 2 should be repeated to obtain follow-up data adequate to compare the periods pre- and post-implementation. It is, however, important to understand that since it will be carried out shortly after implementation, this evaluation will provide information only about the immediate impact of the programme. To gather long-term impact data it is necessary to undertake further evaluation on the basis of a longer follow-up and to invest in continuous monitoring of key indicators. Short-term impact information is, however, very crucial to aiding future decisions and actions (step 5). It is also important to acknowledge that during step 4, hand hygiene improvement activities should continue according to the local action plan.

Activities to take place in step 4 are related mainly to plans and actions to achieve the objectives of strategy component 3 (evaluation and feedback). However, all activities aimed at hand hygiene improvement inaugurated in step 3 should be maintained and continued to be promoted.

 **Please refer to the section dedicated to this strategy component to gather more information and to be directed to the available tools.**

This step is meant to last 2 months on average.

 Only as an indication, the table below proposes a sequential order for conducting the surveys at the facility level. The indicated time lines are only approximate and they may vary based on the scope of implementation at the facility level.

Ward infrastructure survey (follow-up)	Week 1–2				
Senior executive managers perception survey (follow-up)		Week 3			
Health-care workers perception survey (follow-up)			Week 4–5		
Hand hygiene observations (follow-up)				Week 6–8	
Soap/handrub consumption survey					Monthly or every 3–4 months
Health-care workers knowledge survey (follow-up)					First week if not carried out in step 3

 In summary, step 4 should include:

- conducting the infrastructure, perception and knowledge surveys and collecting hand hygiene observation and soap/handrub consumption data according to the plans;
- performing data entry and analysis as soon as each survey is completed;
- evaluating the results and making sure that they are reliable;
- maintaining activities aimed at hand hygiene improvement inaugurated in step 3 (availability of alcohol-based handrub and products for handwashing, reminders, concurrent education sessions, etc) according to the local needs and plans.

Human resources required/key players involved in step 4:

- Hand hygiene programme co-ordinator
- Deputy co-ordinator
- Observers
- Central purchasing department staff
- Hand hygiene committee/team

Your action checks – step 4

Have the following actions occurred?	Yes/No
Ward infrastructure survey undertaken	
Senior executive managers perception survey undertaken	
Health-care workers perception survey undertaken	
Consumption data collected monthly	
Hand hygiene observations completed	
Health-care workers knowledge survey undertaken (if applicable)	
Data input accomplished	
Data analysed and interpreted	
Activities aimed at hand hygiene improvement ongoing	

III.2.5. Step 5: ongoing planning and review cycle – developing a plan for the next 5 years

💡 Step 5 is a crucial step for reviewing the entire cycle of implementation put in place during the previous steps and for developing long-term plans to ensure that improvement is sustained and progresses. Developing and implementing action plans while ensuring that there is a constant review cycle is essential if the overall aim to embed hand hygiene as an integral part of the health-care facility culture is to be achieved long-term. Implementation plans must be designed with the aim of achieving sustainable hand hygiene improvement kept in mind at all times.

💡 Hand hygiene improvement is not a time-limited process: hand hygiene promotion and monitoring should never be stopped once implemented.

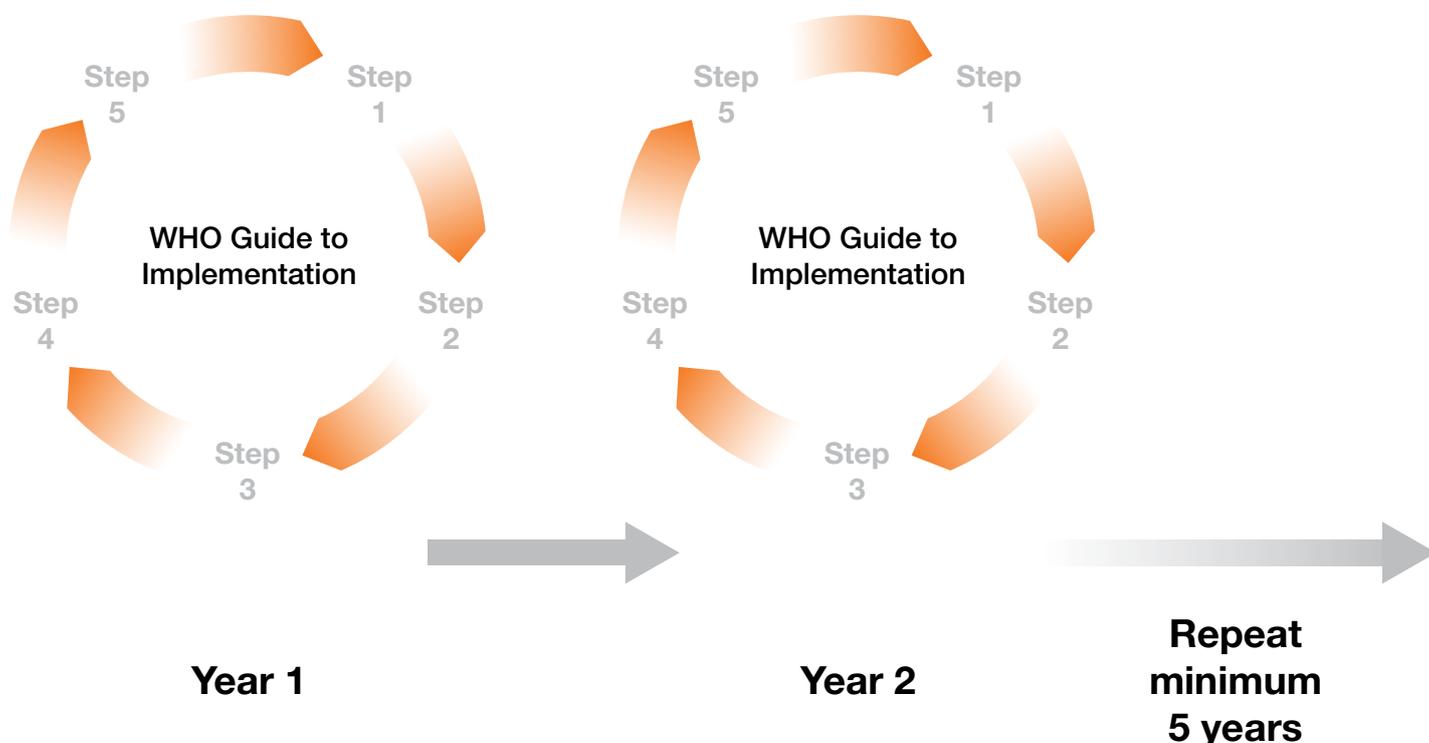
💡 Planning and reviewing are crucial to the success of any programme of work. Key actions throughout can be helpful in ensuring that progress with plans is maintained and changes to plans are adopted when necessary to ensure the best outcome for hand hygiene improvement. A hand hygiene improvement strategy cannot remain static and must be rejuvenated at set intervals, with plans to ensure this built in from the outset. With the appropriate changes according to the long-term action plan, the entire cycle using the step-wise approach should be repeated over a minimum of 5 years, as represented in the figure below.

Most projects are reviewed at some point to ensure that they are likely to be delivered on time and that they meet the objectives set within the budget allocation. Therefore, by adopting the action planning and review cycle approach from the outset, the hand hygiene programme can take the lead in providing such information rather than being asked for it.

Activities to take place in step 5 are related mainly to plans and actions to achieve the objectives of strategy components 3 (evaluation and feedback; in particular data analysis and interpretation) and 5 (institutional safety climate).

📄 Please refer to the sections dedicated to these strategy components and to the overall action plan to gather more information and to be directed to the available tools.

This step is meant to last 2 months on average.





In summary, step 5 should include:

- reviewing the follow-up evaluation results and evaluating the impact on key success indicators;
- identifying areas that need further improvement as well as lessons learned in order to feed this information into future action plans;
- deciding how to disseminate impact results to all health-care workers (e.g. formal event, final written report);
- preparing a report detailing the entire roll out of the programme, its impact and lessons learned;
- engaging senior managers and others with long-term programme implementation planning to advocate further hand hygiene improvement and gather their support and input;
- establishing the available resources and matching these to the implementation plan;
- preparing, finalising and gaining approval for action plan(s), including from those persons who will fully support execution of the plan(s). Plans should include actions in relation to the strategic components (see template action plan) according to local priorities and progress;
- preparing, finalising and gaining approval for the programme budget;
- establishing the process for considering unexpected changes to the plan(s) and budget;
- establishing a clear frequency for conducting evaluation surveys;
- establishing a system for data evaluation to support development of additional, targeted action plans, including deciding which staff/committee/groups will be the key players and what is expected of them, e.g. careful, expert review to reveal what the results mean in terms of the impact of hand hygiene improvement;
- establishing agreed review points (including programme progress and assessment reports at specific set times);
- establishing a system for reporting at agreed review points, including deciding which staff/committees/groups will be the key players and determining what is expected of them;
- establishing additional groups/meetings involving a range of staff from the facility to analyse and reflect on all progress and data and that ensure they feel ownership of the facility plan to improve and sustain hand hygiene;
- identifying key staff and planning to work with those from any discipline who present themselves as role models in order to use their motivation to lead and encourage others;
- establishing a plan to network with other facilities, regionally, country-wide or internationally, in order to share successes and solutions and catalyse scaling-up;
- identifying those who will help publicize the programme's successes and answer enquiries about the programme from external sources, e.g. the media, for example, and local/facility communications experts.



The following table provides a range of examples of specific hand hygiene activities that can be considered in step 5 as part of supporting long-term plans and sustainability.

Component	Activity
System change	<ul style="list-style-type: none"> • Establish plans for completing the ward infrastructure survey at regular, pre-determined time intervals, reporting results to the identified groups/meetings and revising actions plans as necessary. • Establish a system to ensure that products for hand hygiene are permanently available at the point of care. • Consider if any improvement is still required to make products for hand hygiene, especially alcohol-based handrubs, available at each point of care throughout the entire facility.
Training / education	<ul style="list-style-type: none"> • Establish an action plan for health-care workers to check each others' competence following training sessions and disseminate this plan to identified clinical settings, while building in a review of this process. • Establish a system for identifying new trainers and observers, for example ask senior nurses to communicate the names of health-care workers who are motivated and who act as good role models. • Set regular meetings for review of available evaluation data in order to revise and target training / education sessions, up-dating these are required. • Gather information on ways to present data and discuss these with health-care staff to ensure the best method is displayed and understood in different clinical settings. • Engage input from external partners such as training /education experts and patients/patient organizations to evaluate the programme and to help support development of new and innovative training / education methods.
Evaluation and feedback	<ul style="list-style-type: none"> • Prepare a plan for regular, preferably monthly, monitoring of knowledge, perception, infrastructures and performance through observations in all areas of the facility. This should include regular reports and feedback of results to health-care workers along with information on how improvements are being made in hand hygiene. • Establish measurement of monthly HCAI incidence trends using a valid surveillance system if one is not already in place. • Conduct HCAI prevalence surveys annually in the areas where hand hygiene interventions are taking place. This will be suitable providing that an adequate sample size calculation is performed. • Establish a system for continuous recording and reporting hand hygiene product consumption monthly, especially alcohol-based handrub, to enable annual trend calculations.

Component	Activity
Reminders in the workplace	<ul style="list-style-type: none"> Gather suggestions concerning adaptations of and ideas for new reminders from a range of motivated staff and/or patient/patient organizations and make a new action plan for development and review of these. Include a local designer in this process if possible and allocate budget to this service if necessary. Identify a range of staff in clinical settings who will take ownership of refreshing posters and ensuring they are in good condition.
Institutional safety climate	<ul style="list-style-type: none"> Establish hand hygiene on the list of indicators for assessment of quality of health care delivered at the facility by preparing a report featuring background information on the necessity for a hand hygiene improvement, the programme plans, evaluation data results and the potential benefits of having hand hygiene as a quality indicator. Establish a system for setting and reviewing annual goals for hand hygiene improvement at facility, department and clinical setting/ward level and include patients/patient organization opinion in this process. This should also include how and where evaluation data results will be posted. Prepare a schedule of presentations and/or initiatives (e.g. stands, promotions, rewards, etc) on hand hygiene improvement and the reasons for successes, including patients/patient organizations where relevant. Ensure these presentations are given to all groups within the facility to build on their understanding of why hand hygiene is important for ensuring a safety climate. Gather quotes and messages from a range of staff within the facility on an on-going basis to demonstrate the commitment and motivation of everyone to ensuring a safety climate by improving hand hygiene practices and preventing HCAI.



Your action checks – step 5

Have the following actions occurred?	Yes/No
Review of follow-up data performed. Schedule for presentation of data results prepared and shared to include all staff in formal or informal meetings or events	
Areas that need further improvement and lessons learned identified and discussed	
Feedback to and discussion with identified, relevant groups/teams on follow-up data performed	
Report prepared	
Dissemination of impact results to all health-care workers performed	
Finalised and approved long-term action plan(s) in place	
Process for considering unexpected changes to the plan(s) and/or budget in place	
Programme review points approved and shared with all relevant groups/teams	
Template for progress reports/programme assessment reports finalised and approved	
Action plan review times documented, based on the plans for reviewing evaluation data results	
Meeting dates scheduled for the coming year and shared with relevant groups/teams	
Promotional activities and interventions scheduled for the coming year and shared with relevant groups	
System for identifying new trainers, observers, role models, reminders' placement support staff established and shared, with an identified review date to ensure staff are still active in their roles	
Plan for networking with other facilities, regionally, country-wide or internationally, established for the coming year	
Ideas for scale-up and sustainability presented and consensus approved for inclusion in a longer-term action plan	
A 5-year action plan developed, following the evaluation, implementation and review cycle described throughout this guide	

Human resources required/key players involved in step 5:

- Hand hygiene programme co-ordinator
- Deputy co-ordinator
- Trainers
- Observers
- Epidemiologist, data manager
- Senior managers/health-care facility administrators
- Infection prevention and control professionals
- Head nurses, chief doctors, leads from other disciplines
- Hand hygiene committee/team

APPENDIX

Examples of useful websites to support implementation:

General websites

www.hopisaffe.ch/

The University of Geneva Hospitals' hand hygiene improvement programme.

www.cdc.gov/cleanhands/

The site contains advice from the US Centers for Disease Control and Prevention (CDC) on various aspects of hand hygiene.

www.theifc.org/

The International Federation of Infection Control (IFIC) is an umbrella organization of societies and associations of healthcare professionals in infection control and related fields worldwide.

www.apic.org/

Association for Professionals in Infection Control and Epidemiology is an international US-based organization involved in infection prevention, control and hospital epidemiology in healthcare settings around the globe.

www.ihl.org/IHI/Topics/HealthcareAssociatedInfections/

The Institute for Healthcare Improvement (IHI) is an independent not-for-profit US-based organization helping to lead the improvement of health care throughout the world.

www.shea-online.org/

Society for Healthcare Epidemiology of America is an international US-based organization focusing on a variety of disciplines and activities directed at preventing and controlling infections and adverse outcomes and enhancing the quality of care.

www.ips.uk.net/

Infection Prevention Society is involved in promoting the advancement of education in infection control and prevention, and in particular the provision of training courses, accreditation schemes, education materials, meetings and conferences.

National and sub-national hand hygiene campaigns

www.hha.org.au/

The National Hand Hygiene Initiative in Australia.

portal.health.fgov.be/portal/page?_pageid=56,11380441&_dad=portal&_schema=PORTAL

Belgium's national hand hygiene campaign.

www.handhygiene.ca/

Canada's national hand hygiene campaign.

www.binasss.sa.cr/seguridad

Costa Rica's national hand hygiene campaign.

www.sante-sports.gouv.fr/dossiers/sante/mission-mains-propres/mission-mains-propres.html

French campaign "Mission Mains propres"

www.calidad.salud.gob.mx/

Mexico's national hand hygiene campaign.

www.renomsorg.no

Norway's national hand hygiene campaign.

www.justcleanyourhands.ca/

Ontario's hand hygiene campaign.

www.washyourhandsofthem.com

Scotland's national hand hygiene campaign.

www.swissandhygienecampaign.ch and
www.swiss-noso.ch/

Switzerland's national hand hygiene campaign.

www.npsa.nhs.uk/cleanyourhands/

England, Northern Ireland and Wales' hand hygiene campaign.

Others

www.who.int/patientsafety/patients_for_patient/en/

Patients for Patient Safety (PFPS) is one of the global programmes of the World Alliance for Patient Safety emphasizing the central role patients and consumers can play in efforts to improve the quality and safety of healthcare around the world.

SAVE LIVES

Clean **Your** Hands



World Health
Organization

Patient Safety

A World Alliance for Safer Health Care