TECHNICAL FACT SHEET 5

Hand hygiene improvement: a multimodal approach

While working in health care facilities and during care delivery, the hands of health workers may be contaminated by potentially harmful microbes from different sources. Some of these microbes can potentially cause disease outbreaks, and some bacteria may be resistant to antibiotics. Hand hygiene can reduce the spread of these microbes – it protects patients, their families and staff. Across all health care facilities, from high- to low-income countries, hand hygiene compliance is often below 40%, and can be as low as 0%. Achieving higher adherence rates remains a challenge. Infrastructure and resources must be in place to ensure that people perform hand hygiene at the right time, every time.

The provision of water, sanitation and hygiene (WASH) in health care facilities provides the necessary infrastructure, materials and equipment (system change) to enable the implementation of infection prevention and control (IPC) practices, including hand hygiene.

Countries are working to improve access to hand hygiene facilities, along with the other elements of WASH, through a number of national and facility actions.

Hand hygiene is a modifiable behaviour that is facilitated by a known multimodal improvement strategy (see below), which includes addressing system change.

Multimodal improvement strategy for hand hygiene

Investment in the drivers and facilitators of hand hygiene action to ensure that it occurs at the point of care and at other critical moments requires a multidisciplinary, multifaceted approach. WHO calls this the multimodal improvement strategy (MMIS). The MMIS comprises five elements (see figure). All elements are essential and complementary.

**SYSTEM CHANGE**

(***Build it***)

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

**MONITORING AND FEEDBACK OF HAND HYGIENE INDICATORS**

(***Check it***)

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

**SAFETY CLIMATE/CULTURE CHANGE**

(***Live it***)

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

**TRAINING AND EDUCATION**

(***Teach it***)

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

**REMINDERS IN THE WORKPLACE/COMMUNICATIONS**

(***Sell it***)

- Posters, stickers, visual and vocal prompts, banners, screensavers. They can continually prompt and remind health workers about the importance of hand hygiene and the indications when to perform it.
- They also help to involve patients and their visitors and inform them of the level of care they should expect from health workers with regards to hand hygiene.
The point of care – where three elements occur together: (1) the health worker, (2) the patient, (3) care or treatment involving touch. Hand hygiene infrastructure, including products (e.g. alcohol-based hand rub if available, water, soap, sinks), should be in place and easily accessible to enable health workers to clean their hands at the right moments.
## Hand hygiene considerations within the WASH FIT cycle

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<th>Step</th>
<th>Activity</th>
<th>Additional considerations</th>
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<td><strong>Step 1: Establish the team</strong></td>
<td>Ensure that the WASH FIT team includes members with expertise in quality improvement activities and methodologies, and IPC (e.g. microbiology, cleaning, hand hygiene, health care waste management).</td>
<td>Members of the team responsible for hand hygiene in health care should review the WASH FIT hand hygiene module before starting.</td>
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| **Step 2: Assess the facility** | A number of WASH FIT indicators and targets help facilities to achieve the minimum requirements needed for a safe and clean environment; these are based on the WHO Guidelines on hand hygiene in health care and the WHO core components for IPC programmes. These indicators relate to each element of the MMIS for hand hygiene improvement; examples include the following. | Refer to WHO IPC assessment tools to undertake more detailed assessments on hand hygiene (see “Related tools and selected further reading”):  
  - WHO hand hygiene observation form  
  - WHO hand hygiene perception survey  
  - WHO Hand Hygiene Self-Assessment Framework  
  - WHO Infection prevention and control assessment framework at the facility level |
  - **System change.** Functioning hand hygiene stations are available at all points of care, including the delivery room.  
  - **Education and training.** All new auxiliary staff, including waste handlers and cleaners, receive appropriate WASH and IPC training, tailored and appropriate to their job function (including hand hygiene).  
  - **Monitoring and feedback.** In advanced settings, hand hygiene compliance activities are undertaken regularly, at least annually (refer to WHO hand hygiene observation form).  
  - **Reminders and communications.** Hand hygiene promotional materials are displayed and clearly visible in all wards and treatment areas.  
  - **Safety culture.** Staff are regularly appraised on their performance; high-performing staff are recognized and rewarded, and those who do not perform well are supported to improve. |
| **Step 3: Risk assessment** | Identify problems related to hand hygiene improvement; the WHO Hand Hygiene Self-Assessment Framework can support this. This will enable the team to identify risks that affect patient and health worker safety, and will flag where health workers cannot clean their hands at points of care. Such problems should be given a higher score in the risk assessment. | Use the completed Hand Hygiene Self-Assessment Framework to inform and target improvement action plans. Once completed, this will indicate the appropriate risk score. For example, if no hand hygiene stations exist, the severity of risk would be high (8–10 out of 10). |
| **Step 4: Develop and implement incremental improvement plan** | Include in the improvement plan specific actions that address hand hygiene at the point of care and in other critical places, including in toilets and waste management areas, in support of patient and health worker safety. These actions include providing alcohol-based hand rub and products for handwashing, providing reminders, using targeted training sessions and sharing feedback from audits. Hand hygiene actions will be an important part of the WASH FIT improvement plan. | Read the WHO aide-memoire on respiratory and hand hygiene. |
| **Step 5: Monitor, review, adapt, improve** | Hand hygiene improvement needs constant work. Continue to regularly review all results and the impact on the overall improvement you expected to see (e.g. improvement of 10% in hand hygiene compliance compared with baseline). A report of the entire programme roll-out, its impact, and lessons learned for all senior managers and leaders may be useful. | A guide to the implementation of the WHO multimodal hand hygiene improvement strategy provides in-depth information on how to review, adapt and continually improve hand hygiene. |
Improvements

The following actions related to hand hygiene improvement are applicable to all health care settings. These actions will influence IPC-related outcomes and impacts, including reduction in health care–associated infections, reduction in antimicrobial resistance, safe pregnancy and childbirth, and fewer disease outbreaks.

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<th>Element of the MMIS</th>
<th>Improvements</th>
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| **System change** (infrastructure and resources) | • Understand the numbers of products (e.g. soap and towels) that are required, as well as the distribution process.  
• Provide up-to-date policies and standard operating procedures that include hand hygiene actions in a format that makes them easily accessible and understood.  
• Identify and secure budgets for targeted training, monitoring and reminders.  
• Put in place annual water service plans in settings where water access and quality are an issue (e.g. for functioning sinks).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| **Education and training**         | • Allocate responsibility for checking that current training and education programmes include the correct, up-to-date hand hygiene recommendations.  
• Carry out training needs assessments across different disciplines and levels within the health care facility; other assessment results (from monitoring activities) can also be used to inform training plans.  
• Identify the required expertise to conduct targeted training and answer questions on hand hygiene improvement. This may mean enlisting external experts.  
• Deliver targeted training to staff, including refresher courses, using different practical approaches (see WASH FiT training manual and module on hand hygiene).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| **Monitoring and feedback**        | • Identify trained staff to undertake monitoring activities specifically on hand hygiene at the point of care, using validated tools (i.e. WHO observation form and perception survey), and put in place a reporting and feedback plan to support real-time improvement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| **Reminders and communications**   | • Source, develop or adapt accurate reminders (e.g. posters) and involve staff in deciding which reminders to use. Ensure appropriate placement of reminders and refresh them regularly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| **Safety culture**                 | • Leaders and managers should show commitment to, and prioritize time for, targeted training. Training plans should be agreed for all levels of staff.  
• Identify hand hygiene role models and ensure that staff know who they are (they may be from different settings, including health care or community leaders). Ask staff which role models they would best respond to.  
• Promote and support staff motivational activities (e.g. an award that is announced publicly to encourage staff to adhere to hand hygiene practices).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |


Related tools and selected further reading


WHO. OpenWHO infection prevention and control self-directed learning. https://openwho.org/courses?ut-f8=%E2%9C%93&q=IPC


WHO (2016). A guide to the implementation of the WHO multimodal hand hygiene improvement strategy. https://apps.who.int/iris/handle/10665/251730


WHO (2021). Seconds save lives: clean your hands [posters, focused on point of care]. https://www.who.int/campaigns/world-hand-hygiene-day/2021