

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.

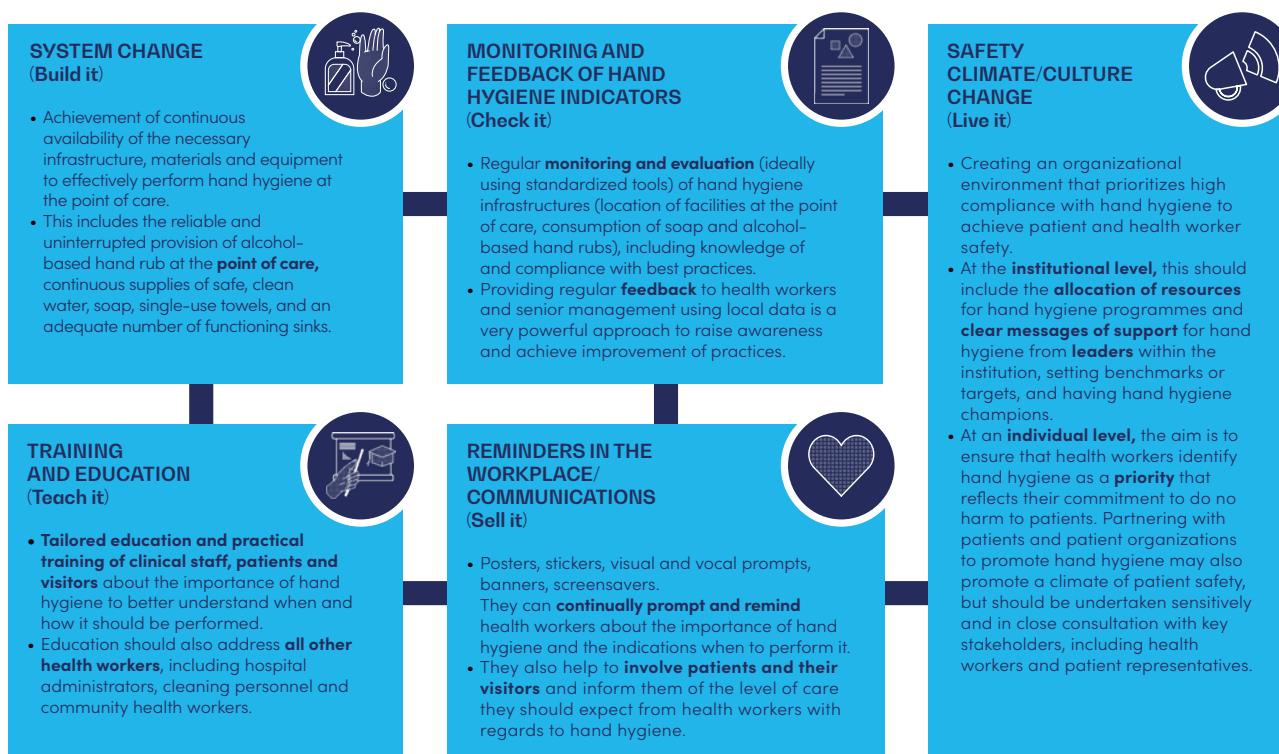
The provision of water, sanitation and hygiene (WASH) in health care facilities provides the necessary infrastructure, materials and equipment (system change) to enable the implementation of infection prevention and control (IPC) practices, including hand hygiene.

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.



Strengthening hand hygiene improvement through the Water and Sanitation for Health Facility Improvement Tool (WASH FIT)

The MMIS is an important part of supporting hand hygiene through WASH FIT. This means:

- having the infrastructure and resources required to perform hand hygiene at the point of care and point of entry to the health care facility (system change);
- having people trained in the why, when and how of hand hygiene (education and training);
- having in place checks to monitor whether hand hygiene is being, and can be, performed at the right time and in the right way, with timely feedback so that corrective action can be taken (monitoring and feedback);
- taking action to remind people to perform hand hygiene at the right time and in the right way (reminders and communications); and
- facilitating a culture within the health care facility that values hand hygiene, especially through the support of senior managers (safety culture).

To understand how the MMIS will work within local improvement efforts, the following questions can be asked in the preparation phase.

- Can staff clean their hands easily at each (and every) point of care?
- Who needs to be trained and educated to address the identified gaps in knowledge and practice?
- Does training reinforce and embed the five moments for hand hygiene?
- Does the facility monitor hand hygiene perceptions and knowledge in a range of health workers?
- How is feedback given to support improvement? How will the facility know that an improvement has taken place (e.g. how regular are monitoring and feedback)?
- What is the best way to publicize actions to support improvement?
- Does the facility engage health care staff and others to help produce a range of hand hygiene reminders?
- How does the facility make and maintain hand hygiene as a facility priority? Is it discussed at senior management level?

Resource considerations should also be addressed. For example, some system change actions are necessary, including:

- ongoing maintenance budgets to support needs; and
- funds for human resources, water supply, soap and towels (or other hand-drying methods), and alcohol-based hand rub supplies.



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

| Step | Activity | Additional considerations |
|---|---|--|
| Step 1: Establish the team | 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). | Members of the team responsible for hand hygiene in health care should review the WASH FIT hand hygiene module before starting. |
| Step 2: Assess the facility | <p>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 <i>Guidelines on hand hygiene in health care</i> 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.</p> <ul style="list-style-type: none"> ▪ 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. | <p>Refer to WHO IPC assessment tools to undertake more detailed assessments on hand hygiene (see “Related tools and selected further reading”):</p> <ul style="list-style-type: none"> ▪ WHO hand hygiene observation form ▪ WHO hand hygiene perception survey ▪ WHO <i>Hand Hygiene Self-Assessment Framework</i> ▪ WHO <i>Infection prevention and control assessment framework at the facility level</i> |
| 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. | <i>A guide to the implementation of the WHO multimodal hand hygiene improvement strategy</i> provides in-depth information on how to review, adapt and continually improve hand hygiene. |

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.

| Element of the MMIS | Improvements |
|---|---|
| System change (infrastructure and resources) | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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. Suite of hand hygiene improvement tools. <https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene/tools-and-resources>
- WHO. OpenWHO infection prevention and control self-directed learning. <https://openwho.org/courses?ut-f8=%E2%9C%93&q=IPC>
- WHO (2016). Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level. <https://apps.who.int/iris/handle/10665/251730>
- WHO (2009). A guide to the implementation of the WHO multimodal hand hygiene improvement strategy. <https://apps.who.int/iris/handle/10665/70030>
- WHO (revised 2009). Hand hygiene observation form. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/hand-hygiene/monitoring/surveyform/observation-form.doc?sfvrsn=39b780c9_6](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/surveyform/observation-form.doc?sfvrsn=39b780c9_6)
- WHO (revised 2009). Hand hygiene perception survey. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/hand-hygiene/monitoring/surveyform/perception-survey-for-health-care-workers.doc?sfvrsn=8fa7cb79_2](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/surveyform/perception-survey-for-health-care-workers.doc?sfvrsn=8fa7cb79_2)
- WHO (2009). WHO guidelines on hand hygiene in health care. <https://apps.who.int/iris/handle/10665/44102>
- WHO (2021). Your 5 moments for hand hygiene care in a maternity unit. <https://apps.who.int/iris/handle/10665/331961?locale-attribute=fr&>
- WHO (2010). Hand Hygiene Self-Assessment Framework 2010. [https://cdn.who.int/media/docs/default-source/integrated-health-services-\(ihs\)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6](https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/hand-hygiene/monitoring/hhsa-framework-october-2010.pdf?sfvrsn=41ba0450_6)
- WHO (2018). Infection prevention and control assessment framework at the facility level. <https://apps.who.int/iris/handle/10665/330072>
- WHO (2021). Aide-memoire: respiratory and hand hygiene. <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/publications-and-technical-guidance/2021/aide-memoire-respiratory-and-hand-hygiene.-in-infection-prevention-and-control-guidance-to-action-tools-2021>
- WHO (2021). Resource considerations for investing in hand hygiene improvement in health care facilities (including an annex featuring the MMIS visual). <https://apps.who.int/iris/handle/10665/341128>
- WHO (2021). Seconds save lives: clean your hands [posters, focused on point of care]. <https://www.who.int/campaigns/world-hand-hygiene-day/2021>