5th May 2021
High-level meeting
WHO multimodal improvement strategy (MMIS)

Prof Benedetta Allegranzi, MD
Infection Prevention and Control Clinical and Technical Hub
Integrated Health Services, World Health Organization (WHO) HQ

https://www.who.int/teams/integrated-health-services/infection-prevention-control
1. Worldwide spread – adoption & adaptation

Countries with health-care facilities registered for SAVE LIVES: Clean Your Hands global campaign

As of 3 May 2021

Numbers of registered health-care facilities per 10,000 population:
- <9
- 9-33
- 34-92.5
- >92.5
- No data
- Not applicable

- 24,815 facilities
- 184 countries
- 14 million staff
- 5.4 million beds
2. Effectiveness of the WHO multimodal hand hygiene improvement strategy

Allegranzi B et al, Lancet ID 2013

Global implementation of WHO's multimodal strategy for improvement of hand hygiene: a quasi-experimental study

Summary
Background
Health-care-associated infections are a major threat to patient safety worldwide. Transmission is mainly via the hands of health-care workers, but compliance with recommendations is usually low and effective improvement strategies are needed. We assessed the effect of WHO's strategy for improvement of hand hygiene in five countries.

Methods
We did a quasi-experimental study between December 2006 and December 2009, at six pilot sites (43 departments in 6 hospitals) in Costa Rica, Italy, Mali, Pakistan, and South Africa (table 1). We implemented WHO's strategy and accompanying implementation strategy and monitoring tools for hand hygiene, which were piloted in hospitals in five countries. Compliance of health-care workers with best practice varied depending on setting and country, and is usually low.

Results
Meta-analysis from 22 studies confirmed that the WHO hand hygiene improvement strategy is effective at increasing health care workers compliance.


Luangasanatip N et al, BMJ 2015

Comparative efficacy of interventions to promote hand hygiene in hospital: systematic review and network meta-analysis

Results of 19 studies showed reduction of healthcare-associated infections.

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Results of 19 studies showed reduction of healthcare-associated infections.
3. Cost-effectiveness of hand hygiene improvement strategies

- Total costs of the Geneva HH campaign in 2001 averaged US$ 2.30 per admission = ~ 1% of costs attributable to nosocomial infections (Pittet et al,)
- Cost of local production of ABHR in Mali: 0.30 $US/100 ml = 0.006% of the total annual hospital budget (Bengaly et al, 2010)
- Implementation of hand hygiene policies can generate economic savings averaging 16 times the cost of their implementation (OECD, 2018)
- WHO systematic review 2021 on IPC interventions: HH among the most cost-effective interventions to prevent infections due to S. aureus, MRSA, multiple microorganisms

Resources considerations to achieve effective hand hygiene at point of care

NEW!

Use the five elements to drive improvement

All elements are essential and complementary.

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

Track progress

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

Improving hand hygiene through a multimodal strategy

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

- Feedback of hand hygiene indicators (Check it)
  - Regular monitoring and evaluation (ideally using standardized tools) of hand hygiene indicators, location of facilities at the point of care, concentration of soap and alcohol-based hand rubs, including knowledge and compliance rates with the steps.
  - Providing regular feedback to health workers to support management using local data as a powerful approach to ensure awareness and facilitate improvement of positions.

- Training and education (Teach it)
  - Tailored education and practical training of staff, patients and visitors about the importance of hand hygiene, how to perform it and when 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)
  - Promote, stickers, visual and verbal reminders, posters, and screens.
  - They can continually prompt and remind health workers about the importance of hand hygiene and the indicators when to perform it.
  - They also help to involve patients and their visitors and inform the level of care they should expect from health workers with regard to hand hygiene.

- Safety/culture change (Live it)
  - Creating an organizational environment where prioritizing high standards of hand hygiene is 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 inclusively, in collaboration with key stakeholders, including health workers and patient representatives.

https://www.who.intteams/integrated-health-services/infection-prevention-control
4. Multimodal thinking applied to any IPC improvement strategy

In other words, the WHO multimodal improvement strategy addresses these five areas:

1. Build it (system change)
   - What infrastructures, equipment, supplies and other resources (including human) are required to implement the intervention?
   - Does the physical environment influence health worker behaviour? How can ergonomic and human factors approaches facilitate adoption of the intervention?
   - Are there certain types of health workers needed to implement the intervention?

2. Teach it (training & education)
   - Practical example: when implementing hand hygiene interventions, ease of access to hand sanitiser at the point of care and the availability of WASH infrastructures (including water and soap) are important considerations. Are these available, affordable and easily accessible in the workplace? If not, action is needed.

3. Check it (monitoring & feedback)
   - How can you identify the gaps in IPC practices or other indicators in your setting to allow you to prioritize your intervention?
   - How can you be sure that the intervention is being implemented correctly and safely, including at the bedside? For example, are there methods in place to observe or track practices?

4. Sell it (reminders & communications)
   - Practical example: when implementing surgical site infection interventions, the use of visual cues to action, promotional & reminder messages, and planning for periodic campaigns are important considerations.

5. Live it (culture change)
   - Is there demonstrable support for the intervention at every level of the health system? For example, do senior managers provide funding for equipment and other resources? Are they willing to be champions and role models for IPC improvement?
   - Are teams involved in co-developing or adapting the intervention? Are they empowered and do they feel ownership and the need for accountability?

Practical example: when implementing hand hygiene interventions, the way that a health facility approaches this as part of safety and quality improvement and the value placed on basic hygiene improvement as part of clinical workflow are important considerations.

https://www.who.int/publications/m/item/who-multimodal-improvement-strategy
### ELEMENTS OF THE MULTIMODAL STRATEGY - THE "HOW OF IMPROVEMENT"

<table>
<thead>
<tr>
<th>SYSTEM CHANGE ('built it')</th>
<th>TRAINING AND EDUCATION ('teach it')</th>
<th>MONITORING AND FEEDBACK ('check it')</th>
<th>COMMUNICATIONS AND REMINDERS ('sell it')</th>
<th>SAFETY CLIMATE AND CULTURE CHANGE ('live it')</th>
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<tbody>
<tr>
<td>• Include clear instructions about SAP discontinuation within the locally adapted SAP protocol.*</td>
<td>• Put in place/improve a sustainable system to ensure that SAP orders are not continued after the operation (connected to electronic patient records, if existing).</td>
<td>• Put in place/improve a reliable mechanism for producing/using updated training resources and information for staff (surgical team, nursing staff and pharmacy) on appropriate SAP according to the local protocol, with an emphasis on the need for SAP discontinuation, including the available evidence.</td>
<td>• In collaboration with staff, develop/adapt reminders and agree upon their most relevant placement to highlight discontinuation of SAP. Develop in various formats targeted to individuals (or teams) who consistently prolong SAP.</td>
<td>• Engage leaders and champions among surgical and anaesthesiology staff to drive change on SAP discontinuation. • Organize meetings and focus group discussions with all the right people to discuss the reasons for discontinuing SAP in the context of the local protocol. • Engage senior management to issue messages on a regular basis to support SAP discontinuation that are also linked to reducing AMR in the facility.</td>
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* SAP: Sterile Antiseptic Preparations
5. Multidisciplinary teams embedding MMIS within the clinical patient journey

https://www.who.int/teams/integrated-health-services/infection-prevention-control/surgical-site-infection