



## Hand hygiene: Sounds easy, but not when it comes to implementation



Hand hygiene is an action, and ultimately, an important behaviour for people both providing or receiving care. At first glance, it sounds easy to implement across all healthcare settings and systems, irrespective of cultural, geographical or resource backgrounds. However, hand hygiene is not inherent to human nature, and challenges to hand hygiene implementation have been recognised [1]. Success relies on a multimodal approach to implementation across different healthcare settings, staff categories, ward type, health systems and countries [2,3]. The annual World Hand Hygiene Day is facilitated by the World Health Organization (WHO) and commemorated on and around every 5th of May since 2009. Each year, the WHO SAVE LIVES: *Clean Your Hands* campaign has a different theme aimed at engaging people in patient and health worker safety. Its main objective is to drive the momentum around infection prevention and control (IPC) more generally, and in particular, to sustain awareness for continuous hand hygiene improvement. This year, the 5 May theme is “Clean care for all – it’s in your hands”.

Timely and appropriate hand hygiene action prevents avoidable harm and saves lives through reducing healthcare-associated infections (HAI), and saving resources [1]. The systematic recourse to alcohol-based handrubbing, at key moments during patient care has proven to be critical for patient safety. Faced with the ever-increasing burden of antimicrobial resistance, the impact of a seemingly simple gesture needs to be emphasized, considering its potential to limit the use of antibiotics by reducing cross-transmission and limiting the resistance reservoir [4]. In addition, the link to this year’s 5th of May campaign theme, the universal health coverage (“health for all”) agenda, provides an opportunity to further demonstrate that IPC measures, and hand hygiene in particular, are cornerstone to safe, quality health care delivery.

Considering all the recognized advantages of implementing hand hygiene, and its critical role in safe, quality healthcare delivery, one would assume that such a life-saving intervention would be applied universally, at appropriate times [5] using the recommended technique [6]. This is however not the case. Even in situations when the majority of the elements of the multimodal strategy for behaviour improvement are in place, the omission of a single element can result in defective, or at the least suboptimal, hand hygiene action [7].

### The WHO approach

The WHO multimodal improvement strategy (MMIS) includes both individual and collective aspects of behaviour and infrastructure changes, and has proven successful in a large range of

healthcare settings [2]. It comprises five elements which both introduce and subsequently support sustained behaviour change, namely; (1) system change, (2) training and education, (3) monitoring and performance feedback, (4) reminders in the worker places, and (5) institutional safety climate/culture change (Fig. 1).

System change needs to enable IPC practices and therefore should include aspects to improve infrastructure, equipment, supplies and additional resources, in the right places and the right times [5]. System change must be achieved in order for all actors to view hand hygiene as “easy” to do in their routine healthcare practices. System change means that alcohol-based handrub must be available at the point of patient care, i.e. within an arm’s reach for the health worker.

Training and education aims to improve health care worker knowledge [7]. These actions play a key role in increasing hand hygiene compliance. At the facility level, team and task based strategies should be regular, participatory and include bedside and simulation training to ensure that hand hygiene improvement affects the risks of HAI and antimicrobial resistance.

Monitoring and performance feedback assesses the problem at hand, drives appropriate change and can ensure documentation of practice improvement to track progress over time. This has been demonstrated through many aspects of IPC, and was recently outlined at the global level through the publication on two surveys where healthcare facilities completed the WHO hand hygiene self-assessment framework [8]. It has been acknowledged that positive feedback can be an incentive for healthcare workers, as evaluating the performance of IPC programmes in a non-punitive way supports the right institutional culture for improvement.

Reminders in the workplace and communications aim to promote the WHO 5 Moments for Hand Hygiene and desired healthcare worker behavior [5]. It is important to note that all elements of the promotion strategy are important, and that workplace reminders will not work if the other elements of the strategy are not in place.

Achieving an institutional safety climate, and a positive safety culture change within healthcare facilities means that the organization must value the intervention and needs to focus on involvement of senior managers, champions or role models. This last point is often the most challenging, but essential to allow for lasting behaviour change. It is often dependent on deep local understanding of how to influence healthcare worker behaviour. Healthcare facilities that demonstrate leadership qualities, and enhance the safety culture must also include patient involvement and empowerment [9].



Fig. 1. WHO multimodal improvement strategy.

Essentially, in order to affect behaviour it is not enough to make a task easier; the task must become as natural as possible within healthcare practices and ultimately must be adopted as a norm by all involved.

### A focus on affecting behaviour

Modification of habits, in particular in the field of healthcare, is at the heart of a relatively new discipline in medicine: the science of implementation. Implementation science can be defined as “the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care” [10]. Studies conducted in this field, show the advantages of using psychological basis in implementation programmes that aim to introduce new behaviour [11].

According to WHO, it is important to consider the psychological and behavioural aspects in order to facilitate a lasting change [1]. There are multiple levels to be considered: individual, inter-individual or collective. It explains why programmes that target only the individual level, with only information or training for example, give only moderate results.

Another problem highlighted by studies focusing on the psychological aspect of hand hygiene is that the action is not a totally new behaviour for the care givers. Indeed, the foundations of this behaviour already appeared during childhood and are associated with a concept of self-protection against what is seen as “dirty” [1,12]. Therefore, without a focused health care implementation programme, a caregiver will clean their hands only if they consider that their gesture performed or the area they have touched is unclean. Often, simple daily gestures, such as checking the pulse

of a patient or fixing the patient's bed sheets, will not be considered as dirty, and, thus, would not induce hand hygiene behaviour (Moment 1 of the 5 Moments for Hand Hygiene). Consideration of “what is clean” and “what is not clean” depends on multiple components such as culture, education, habits and life events, with all of this being different for each person.

### Conclusion

Hand hygiene is a beneficial practice at multiple levels. Improvement can be achieved by applying a multimodal behaviour change improvement strategy. This year's WHO hand hygiene annual day focuses on quality health care for all. It is a strong and timely reminder of the need to constantly take steps to improve and this needs multifaceted action. Hand hygiene actions and changing behaviours are not easy, but very worthy of attention when considering the lives that can be saved and improved.

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