

# Hand hygiene practices in healthcare: measure and improve

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Last year marked the 150th anniversary of the publication of Ignaz Semmelweis' landmark monograph on hand hygiene – at the time hand disinfection with chlorinated lime solution – as a means to prevent nosocomial infections [1]. All the necessary scientific evidence that improved hand hygiene practices in healthcare indeed reduce healthcare-associated infections and patient-to-patient transmission of microorganisms is available [2,3]. Moreover, several studies have shown that hand hygiene promotion programmes are cost-effective [3]. Still, in 2012, hand hygiene cannot be taken for granted in healthcare institutions in Europe and worldwide.

Since 2005, the World Health Organization (WHO) has been promoting good hand hygiene practices in healthcare through its First Global Patient safety Challenge 'Clean Care is Safer Care' [4]. Extensive guidelines on hand hygiene in healthcare have been developed [3]. Tools for evaluation and feedback are available from the WHO website [5]. These include a hand hygiene technical reference manual for healthcare workers, trainers and observers of hand hygiene practices [6]. WHO also developed a guide to the implementation of its multimodal strategy to improve hand hygiene [7].

During the past decade, many but not all European countries have implemented national hand hygiene campaigns; many following the momentum created by WHO. Such national campaigns in Europe and worldwide have been reviewed by Magiorakos et al. [8] and Mathai et al. [9], in 2009 and 2011, respectively. Key factors of successful national campaigns include governmental support, standardised indicators and evaluation of practices, as well as the momentum and the facilitating role of the WHO initiative and materials [9,10]. In this issue of *Eurosurveillance*, Costers et al. report on the experience and success of four consecutive multifaceted campaigns to promote hand hygiene in Belgian hospitals and highlight the importance of repeating campaigns to sustain and further improve compliance [11].

"If you cannot measure it, you cannot improve it." These words from Irish physicist Lord Kelvin (1824-1907) are often quoted in public health to justify the need for reliable surveillance data to evaluate the extent of a health issue and the impact of interventions for its prevention and control. While the citation certainly applies to hand hygiene, measurement of compliance with hand hygiene practices requires a specific method. This is because surveillance of consumption of alcohol hand rubs – although an obvious first step in monitoring practices – only represent a surrogate indicator, does not allow matching opportunities for hand hygiene with practices, and therefore cannot identify target practices to further improve compliance.

Repeated surveys using direct observation represent the preferred method for monitoring hand hygiene compliance of healthcare workers and are an essential component of multimodal hand hygiene promotion programmes such as the one reported by Costers et al. [11]. A method for such surveys has been developed by the WHO [12] and is explained in detail in the hand hygiene technical reference manual [6]. The method, however, suffers several limitations. Observational surveys are time-consuming and costly. In addition, direct observation may affect the behaviour of the observed healthcare workers. Finally, inter-observer differences in rating practice are unavoidable. Emerging technologies such as wireless locating systems and electronic sensors are likely to provide alternative solutions in the future [13]. Improving the quality of studies evaluating interventions to improve hand hygiene compliance in healthcare is also a challenge. In the recent update of their review of such interventions, Gould et al. reminded us that the quality of published studies remains disappointing: only four studies could be included and the remaining 129 studies had to be excluded from the review [14] because they did not fulfil criteria for inclusion as defined by the Cochrane Effective Practice and Organisation of Care (EPOC) Group [15]. Readers who are planning an intervention to improve compliance with hand hygiene or any other patient care practice in their institution may benefit

from consulting information from the EPOC Group [15] and related articles [16,17].

5 May 2012 corresponds to the launch of the 2012 edition of the WHO hand hygiene campaign ‘SAVE LIVES: Clean Your Hands’ [18]. The European Centre for Disease Prevention and Control (ECDC) supports this WHO initiative, which contributes to raising awareness about hand hygiene in Europe and worldwide. 5 May 2012 is also the day ECDC launches the third and last wave of data collection for the point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals. The protocols, forms, software and corresponding manual for this survey are available for download from the ECDC website [19]. The results of this first Europe-wide survey are expected to be available in the spring of 2013.

Hand hygiene is a general measure that contributes to the prevention and control of communicable diseases. In healthcare settings, improved hand hygiene practices reduce cross-transmission of multidrug-resistant microorganisms, prevent healthcare-associated infections and save costs. Let us make hand hygiene an immediate priority for Europe!  
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