



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



## Editorial

### Hand hygiene: a COVID beneficiary?



In November 2020 we published an editorial entitled ‘Antimicrobial stewardship: a COVID casualty?’ to coincide with World Antimicrobial Awareness Week [1]. Six months on, in this issue we mark the WHO ‘SAVE LIVES: Clean Your Hands’ annual global campaign by considering whether one legacy of the COVID-19 pandemic might be a beneficial effect on hand hygiene compliance by healthcare workers (HCW).

In this issue we publish a paper by Huang *et al.* that partly answers the question, but doesn’t necessarily give us the answer that we might be hoping for [2]. The authors used an automatic monitoring system to monitor hand hygiene compliance from September 2019 through to November 2020, and found that the HCW hand hygiene rate on room entry actually decreased over time. Compliance on room exit increased by 13.73% during the first wave of COVID-19, decreased by 9.87% during the post-lockdown period, then rebounded by 2.82% during the second wave of the epidemic. The authors concluded that HCW hand hygiene behaviour was related more to self-protection rather than patient protection.

Meda *et al.* recently reminded us of the possible consequences for patients arising from the change in infection prevention focus from patient protection to self-protection. They reported that decreased hand hygiene compliance, together with sessional use of personal protective equipment, was associated with higher rates of environmental contamination and central venous catheter infections with enteric Gram-negative bacilli [3].

This year’s WHO SAVE LIVES: Clean Your Hands campaign focuses on hand hygiene at the point of care [4]. Hand hygiene has never been more important than in 2021. Not only is hand hygiene crucial in protecting HCW and patients from the ongoing risk of transmission of COVID-19 [5], but as nations begin to emerge from the pandemic and tackle the growing backlog of elective treatments, hospitals will become busier than ever [6]. We need to be sure that pre-pandemic standards of hand hygiene compliance are sustained or improved, and that hand hygiene does not become perceived as less of a priority in busy hospitals where HCW may feel that their personal safety has been improved by immunization [7].

Whilst provision of hand hygiene at the point of care is vital, especially in the context of providing protection from COVID-19, it is clear that we cannot assume that the pandemic will change the attitudes of most HCW to hand hygiene. As such, monitoring of hand hygiene compliance will remain important with direct observation (DO) currently the most prevalent

method used [8]. However, this strategy is made more difficult by the need to ensure social distancing for control of COVID-19. DO of hand hygiene at the point of care is also more difficult than observing compliance at centralized hand hygiene facilities.

Interestingly, the *Journal of Hospital Infection* has recently published a number of papers addressing the feasibility of electronic hand hygiene monitoring systems. Cawthorne and Cooke reported that 58% of 1120 UK HCW surveyed did not strongly endorse DO. However, the same respondents were open to innovative technologies [9]. In another study of attitudes towards electronic reminder systems, Swedish HCW were favourably disposed to continuous monitoring, with the proviso that feedback should be provided at group, rather than individual, level [10]. Finally, Tarantini used in-depth interviews to investigate attitudes of French HCW to electronic hand hygiene monitoring, and reported a less positive attitude [11]. It is therefore not at all clear that alternatives to DO are acceptable to HCW, let alone effective. In a separate article, Cawthorne and Cooke called for urgent cost-effectiveness studies to determine whether the high costs of implementation can be justified [12].

Unfortunately, the limited data available so far suggest that the experience of HCW during the COVID-19 pandemic will not revolutionise their attitudes towards hand hygiene. Robust and longer-term clinical- and cost-effectiveness studies are required to allow a full assessment of the impact of interventions that improve hand hygiene, and to show that any benefits are sustainable. Most hand hygiene studies to date have used only rates of hand hygiene compliance as the primary outcome measure [13]. This will not be enough to justify investment in improving hand hygiene during the challenging times that lie ahead.

### Ethical statement

N/A.

### Conflicts of interest

Katie Prescott, Nikunj Mahida, Martyn Wilkinson and Jim Gray are all current members of the Editorial Team for the *Journal of Hospital Infection*, the official journal of the Healthcare Infection Society. The authors have no conflicts of interest to declare.

### Funding sources

Katie Prescott is funded by the Healthcare Infection Society as a Graham Ayliffe Training Fellow, GATF/2019/002. The

Healthcare Infection Society had no input into the content of this article.

## References

- [1] Lynch C, Mahida N, Gray J. Antimicrobial stewardship: a COVID casualty? *J Hosp Infect* 2020;106:401–3.
- [2] Huang F, Armando M, Dufau S, Florea O, Brouqui P, Boudjema S. Covid-19 outbreak and health care worker behavioral change toward hand hygiene practices. *J Hosp Infect* 2021;111:27–34.
- [3] Meda M, Gentry V, Reidy P, Garner D. Unintended consequences of long-sleeved gowns in a critical care setting during the COVID-19 pandemic. *J Hosp Infect* 2020;106:605–9.
- [4] Allegranzi B, Tartari E, Pittet D. "Seconds save lives – clean your hands": the 5 May 2021 World Health Organization SAVE LIVES: Clean Your Hands campaign. *J Hosp Infect* 2021;111:1–3.
- [5] Kampf G, Brüggemann Y, Kaba HEJ, Steinmann J, Pfaender S, Scheithauer S, et al. Potential sources, modes of transmission and effectiveness of prevention measures against SARS-CoV-2. *J Hosp Infect* 2020;106:678–97.
- [6] Carr A, Smith JA, Camaradou J, Prieto-Alhambra D. Growing backlog of planned surgery due to covid-19. *BMJ* 2021;372:n339.
- [7] Gagneux-Brunon A, Detoc M, Bruel S, Tardy B, Rozaire O, Frappe P, et al. Intention to get vaccinations against COVID-19 in French healthcare workers during the first pandemic wave: a cross-sectional survey. *J Hosp Infect* 2021;108:168–73.
- [8] Vermeil T, Peters A, Kilpatrick C, Pires D, Allegranzi B, Pittet D. Hand hygiene in hospitals: anatomy of a revolution. *J Hosp Infect* 2019;101:383–92.
- [9] Cawthorne K-R, Cooke RPD. Healthcare workers' attitudes to how hand hygiene performance is currently monitored and assessed. *J Hosp Infect* 2020;405:705–9.
- [10] Blomgren P-O, Lytsy B, Hjelm K, Swenne CL. Healthcare workers' perceptions and acceptance of an electronic reminder system for hand hygiene. *J Hosp Infect* 2021;108:197–204.
- [11] Tarantini C, Brouqui P, Wilson R, Griffiths K, Patouraux P, Peretti-Watel P. Healthcare workers' attitudes towards hand-hygiene monitoring technology. *J Hosp Infect* 2019;102:413–8.
- [12] Cawthorne K-R, Cooke RPD. Are electronic hand hygiene monitoring systems cost-effective? Stepped wedge cluster randomized controlled trials are needed to assess their impact on reducing healthcare-associated infections. *J Hosp Infect* 2020;106:200–1.
- [13] Seo H-J, Sohng K-Y, Chang SO, Chaung SK, Won JS, Choi MJ. Interventions to improved hand hygiene compliance in emergency departments: a systematic review. *J Hosp Infect* 2019;102:394–406.

K. Prescott\*  
N. Mahida  
M. Wilkinson  
J. Gray

*Healthcare Infection Society, Montagu House, Wakefield Street, London, WC1N, UK*

\* Corresponding author. Address: Nottingham University Hospitals NHS Trust, Department of microbiology, Queen's Medical Centre, Derby Road, Nottingham NG72UH, United Kingdom.

*E-mail address:* [katie.prescott@nuh.nhs.uk](mailto:katie.prescott@nuh.nhs.uk) (K. Prescott)

Available online 22 March 2021