

of “recommending universal pediatric seasonal influenza vaccine.”² This means if the HCP is vaccinated, it is likely that he or she will educate the parent and patient and recommend that they get the vaccine. Nevertheless, there is a previous report indicating highly educated parents have a trend of negative attitude towards vaccination.³ An interesting question is whether the education of the parents affects the perception on this specific issue or not.

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Sim Sai Tin, MD,¹
Viroj Wiwanitkit, MD²

Affiliations: 1. Medical Center, Shantou, China; 2. Visiting professor, Hainan Medical University, China

Address correspondence to Sim Sai Tin, MD, Medical Center, Shantou, China (simsaitin@gmail.com).

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SHEA’s White Paper on Electronic Surveillance Data Requirements

To the Editor—It is extremely disappointing that SHEA’s White Paper in discussing validation makes no mention of Washington State’s work.¹ Last year in SHEA’s own journal, Washington State was recognized by leaders from several divisions of the American Society for Quality as the only one doing reporting validation of healthcare-associated infections by a protocol consistent with American (Department of Defense MIL-STD-105 and American National Standards Institute Z1.4) and international (International Organization for Standardization

2859) standards for acceptance sampling.² Throughout 5 years of continual operation, the Washington State Department of Health’s Healthcare Associated Infections Program annual validation protocol has proven practical for infection control programs in hospitals of all sizes, credible to certified quality professionals by virtue of respecting their profession’s long-established generic standards, sustainable, and scalable.^{3,4} A technical reference manual, fully detailing all aspects of theory and practice, has been freely available since 2010.⁵ Conversely, the other approaches cited by Woeltje et al¹ variously fail to document underlying statistical theory such that their sample size appears arbitrary (thus lack statistical power details); oversample large hospitals while exempting smaller ones (thus may not build overall public confidence nor ensure all facilities subject to public comparisons are on a level playing field); fail to set and enforce a prespecified level of sensitivity and specificity performance (thus do not accomplish the quality assurance that validation is understood to provide in all other industries); and appear to require larger workloads than the method used by Washington State (thus may not be the most cost-effective). In my own experience, it is essential to review each entire clinical and laboratory record for “external” validation of sampled cases, best done on a site visit, and then discuss results with local program leadership, rather than to rely solely on laboratory information systems or remote access for “external” validation. Furthermore, it is not logical or reasonable for electronic surveillance oversight to exempt itself from the generic validation methodologic standards respected in all other industries. Fortuna et al² suggest that a naïve and narrow understanding of validation among epidemiologists is due to quality assurance being an unfamiliar statistical specialty. Like Washington State’s program, in matters of validation SHEA should be collaborating with the expertise of certified quality engineers, certified quality managers, and certified quality auditors of pertinent American Society for Quality divisions (eg, its healthcare, biomedical, statistics, and government divisions).

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David Birnbaum, PhD, MPH¹

Affiliations: 1. Applied Epidemiology, British Columbia, Canada

Address correspondence to David Birnbaum, PhD, MPH, Applied Epidemiology, 609 Cromar Road, Sidney, British Columbia, V8L 5M5, Canada (david.birnbaum@ubc.ca).

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Is It Necessary to Perform Hand Hygiene for Healthcare Workers Before Initial Patient Environment Contact?

To the Editor—Hand hygiene is considered the simplest, most effective way to prevent healthcare-associated infections and stop the spread of pathogens.¹ In recent years, more and more attention has been given to hand hygiene, and many guidelines already have been developed to improve hand hygiene practices in healthcare settings.^{2,3}

According to the WHO Guideline on Hand Hygiene in Health Care 2009, the indications for hand hygiene were divided into 5 groups: (1) before touching a patient, (2) before a clean/aseptic procedure, (3) after body fluid exposure risk, (4) after touching a patient, and (5) after touching patient surroundings.⁴ It was especially noted that hand hygiene is not required before touching items in the patient zone but is required before direct contact with the patient.⁵

According to the *Guideline for Hand Hygiene in Healthcare Settings*, which was issued by the Healthcare Infection Control Practices Advisory Committee of the Hospital Infection Control Practices Advisory Committee/Society for Healthcare Epidemiology of America/Association for Practitioners in Infection Control/Infectious Diseases Society of America (HICPAC/SHEA/APIC/IDSA) Hand Hygiene Task Force in 2002, the indications for hand rubbing with an alcohol-based hand rub or hand washing with soap and water were consistent with those of the World Health Organization (WHO).

Meanwhile, in *Best Practices for Hand Hygiene in All Health Care Settings*,⁶ which was developed by the Provincial Infectious Diseases Advisory Committee (PIDAC) of Canada, there

are 4 moments when hand hygiene is performed: (1) before initial patient or patient environment contact, (2) before an aseptic or clean procedure, (3) after body fluid exposure risk, and (4) after patient or patient environment contact.

So, is it necessary for healthcare workers to perform hand hygiene before initial contact with the patient environment? These hand hygiene guidelines are significantly different.

During healthcare delivery, a patient's hands often directly touches the surfaces and substances in his or her immediate environment. With each patient-to-environment contact, a bidirectional exchange of microorganisms occurs between the patient and the touched items.¹ Therefore, the patient and his/her immediate environment, also known as the patient zone, form an organic whole. This so-called patient zone includes some surfaces and items that are temporarily and exclusively dedicated to this patient. These surroundings include all inanimate surfaces that are contacted by or are in direct physical contact with the patient, such as the call button, remote control, bed rail, bedside table, bed linen, infusion tubing, and other medical equipment as well as personal items. Importantly, this zone contains surfaces frequently touched by healthcare workers while caring for the patient, such as knobs, equipment buttons, monitors, and other touchable surfaces.⁵

Healthcare workers' hands can become increasingly colonized by germs and potential pathogens during daily practice.^{7,8} If healthcare workers do not perform hand hygiene before touching patients, the germs and potential pathogens on their hands can be transmitted to the patients. When healthcare workers perform procedures without hand hygiene prior to entering a patient's surroundings, the surfaces and items the healthcare worker touches can be also be contaminated by germs and potential pathogens colonized on the healthcare worker's hands. These germs and potential pathogens can then be transmitted to the patients through the patient's contact with these surfaces and items.⁹ Potential pathogens on surfaces in the surrounding environment can be eliminated by cleaning and disinfection;¹⁰ however, those surfaces that are frequently touched by healthcare workers' hands may be quickly recontaminated.

In conclusion, healthcare workers should perform hand hygiene immediately before entering the patient zone, which includes both a patient and his or her surroundings.

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Rong-hui Liu, MD, PhD;¹
Duo-shuang Xie, MD, PhD²

Affiliations: 1. Department of Infection Control, the First College of Clinical Medical Science, China Three Gorges University & Yichang Central People's Hospital, Yichang, Hubei, China; 2. Department of Infection Control, Taihe Hospital, Hubei University of Medicine, Shiyan, Hubei, China