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INSIDE THE CURRENT ISSUE

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Infection Connection

Hand-hygiene formula: 2 clean hands 4 good health

by Susan Cantrell, ELS

Hand hygiene is virtually the first chapter and first verse of the healthcare worker (HCW)'s bible; yet it remains an issue. All agree it's a crucial step in preventing spread of infection; yet, compliance is low, an embarrassing overall average of 40% according to the Centers for Disease Control and Prevention (CDC)'s "Guideline for Hand Hygiene in Health-Care Settings."¹

It's not that HCWs don't want to comply; it's that there are legitimate obstacles, complicated challenges, and valid complaints. Suzanne M. Pear, RN, PhD, CIC, healthcare epidemiologist, associate director for infection prevention practices, scientific affairs and clinical education, [Kimberly-Clark Health Care](#), Roswell, GA, agreed: "Hand-hygiene compliance is more complex than it would seem on the surface. Reported barriers are numerous and seemingly impossible to eliminate completely,^{2,3} but it's a challenge in which we must all continuously engage."

Obstacles, challenges, complaints





Ecolab's new FlexMount dispenser may be mounted either vertically or horizontally

The reasons for lack of compliance to such a simple and basic tenet of healthcare are many, noted Alecia Cooper, RN, BS, MBA, CNOR, vice president, clinical services, [Medline Industries Inc.](#), Mundelein, IL. "We believe the many reasons can be summed up into three categories: lack of education, behavioral challenges, and poor skin condition."

Indeed there sometimes is a lack of knowledge as to when and how to sanitize hands and the appropriate procedures to follow when hand sanitation is performed; thus the need for constant reinforcement through education. Education is an area in which vendors are investing deeply.

Pear explained that, whereas "a single education intervention doesn't often sustain behavior change, education is the initiator of behavior change and the foundation upon which conscious behavior changes are maintained.⁴ Education about the patient consequences of poor hand-hygiene compliance and the essentials of hand-hygiene technique and frequency are critical components of an ongoing multimodal, multidisciplinary hand-

hygiene compliance program.⁵ We're learning by trial, error, and methodological research about what works and what doesn't to alter HCW behavior, even adopting industry's social marketing techniques to help effect these critical practice changes."⁶

Kimberly-Clark demonstrates the connection between healthcare-acquired infections (HAIs) and hand hygiene in a very personal way, hopefully making an indelible impression upon listeners. Pear said: "Kimberly-Clark Health Care's clinical education goals help to put a face on the devastating issue of HAIs by providing grants that fund speakers such as Victoria Nahum, whose life and family were irrevocably damaged by these preventable harms, at clinical education venues such as the 'Safe Care Campaign.' This program has helped healthcare administrators and clinicians connect the clinical dots between non-compliance to evidence-based practices and catastrophic patient outcomes."

Cooper highlighted an appalling obstacle in the category of behavior: "Behavioral challenges include the realization that there are no measurable consequences to the HCW who does not follow procedures." Incredible, but true. Hands harboring pathogens can be lethal weapons but are seldom viewed in that light. This perhaps is due partly to lack of positive examples, of which there is a dearth, noted Cooper: "Physicians are the least compliant, and other HCWs follow their lead."

As for the third category, the CDC's handwashing guideline¹ states: "...approximately 25% of nurses report symptoms or signs of dermatitis involving their hands, and as many as 85% give a history of having skin problems (249). Frequent and repeated use of hand-hygiene products, particularly soaps and other detergents, is a primary cause of chronic irritant contact dermatitis among HCWs (250)."¹



Georgia-Pacific's enMotion towel dispenser

The more handwashing is performed, the more likely hands become dry, cracked, and painful and the less likely those hurting are to comply. Cooper added: "Healthcare workers may put on and take off gloves as many as 30 times per shift, also leading to skin irritations. All combined effects lead to less compliance."

Other reasons for noncompliance were outlined by Cheryl A. Littau, PhD, senior scientist, skin care innovation, [Ecolab Healthcare](#), Eagan, MN: "For some, it's lack of time due to understaffing or critical patient needs, whereas others do not recognize the situation as an opportunity that requires hand washing. For example, an HCW may touch a piece of equipment that is contaminated, although not visibly soiled, and therefore may not perceive a need to wash his or her hands. Other common reasons include sinks or sanitizer dispensers that are not in close proximity to the patient."

Products offer a helping hand



*STERIS Corporation's Kindest Kare
hand-hygiene line of products*

Hand hygiene is big business. Companies are constantly striving to develop products that offer solutions to the compliance problem. Jeanne Medvick, BAMS (ASCP), MBA, CIC, manager of clinical studies, [STERIS Corporation](#), Mentor, OH, offered advice for purchasers and users of hand-hygiene products: "Hand-hygiene products should be formulated to offer the customer three benefits: clean the hands of visible soil, assure antimicrobial efficacy to kill transient microorganisms, and be mild to the skin so that skin health is not put at risk. In today's world, a hand-hygiene product has to do more than clean skin and kill microorganisms. Healthcare workers who know that a product will cause dryness and irritation will be reluctant to use it and are less likely to be in compliance

with good hand-hygiene practices if their skin hurts. STERIS conducts clinical studies to prove both antimicrobial efficacy and mildness."

Peter Gordon, vice president of marketing and co-founder of [Germgard Lighting LLC](#), Dover, NJ, told Healthcare Purchasing News that Germgard is developing an innovative new product for hand hygiene; actually, it's glove hygiene. They expect their shoebox-sized device to affect skin health positively because the HCW's gloves are sanitized rather than their bare hands. GloveGard is based on the company's proprietary UVC light technology. Gordon claimed that GloveGard has demonstrated a greater than 99.99% kill of infectious pathogens, including methicillin-resistant *Staphylococcus aureus* and *Clostridium difficile* spores, on the external surface of gloves, after only 3 seconds of exposure to the device.

Gordon added: "This product enables multiple hand sanitations conveniently at the point of care rather than relying solely on bare-hand hygiene compliance between patient visits." Because the glove is sanitized rather than the HCWs' hands, there is no skin irritation. "It adds a tremendous margin of safety for both patients and nurses."

[Georgia-Pacific Professional](#), Atlanta, GA, is a provider of hygienic dispensing systems, towels, soaps, and sanitizers. "For example," said Jacquell Kelly, senior market development manager, "our enMotion Touchless Automated Dispenser offers hygienic towel dispensing, which helps to reduce cross-contamination. Our Pacific Garden antibacterial soap kills most common disease-causing germs and contains a skin-conditioning agent to help prevent dry, damaged skin. To complement the handwashing and drying regimen, our line of Pacific Garden hand sanitizers kills up to 99.99% of most disease-causing germs." Georgia-Pacific has a new moisturizing towel, enMotion with Lotion, designed to reduce irritation caused by frequent hand washing. The lotion in the towel is activated by moisture. Used with the dispenser, the towels comply with Georgia-Pacific Professional's Green by

Design program, with the source reduction benefits the enMotion brand is known for offering.



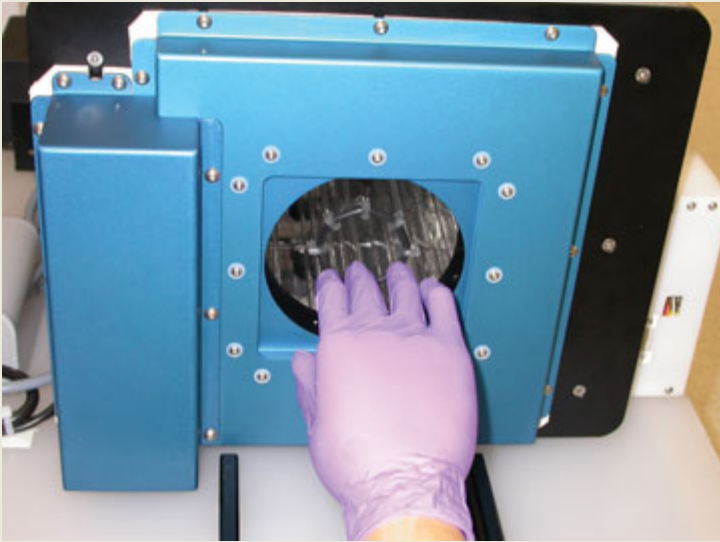
Kathy Stoessel, senior manager of clinical education, presenting a clinical education course on the Kimberly-Clark HAI Education Bus

Education programs raise compliance rates

Vendors see the importance of offering more than products. Many have excellent programs available to help facilities in educating their employees on the importance of hand hygiene, skin care, and compliance.

STERIS offers "All Hands Clean" (www.steris.com/healthcare/view_product_page.cfm?productid=3404), which highlights the connection between clean hands and lower infection rates. Their brochure points out that "since nearly one third of HAIs are preventable through proper hand hygiene, the benefits can be substantial." The "All Hands Clean" solution provides products, educational materials for the entire hospital community, and an intervention measurement program for tracking and benchmarking compliance.

Medline's Hand Hygiene Compliance Program (www.medline.com/handhygiene) is a comprehensive educational program bundled with hand sanitation products and exam gloves. The program provides eight educational sessions plus measurement and documentation tools. "Participants are awarded with four CE credits, a certificate of completion, and a Professional Hand Care lapel pin," explained Cooper. "Placards are provided for use as reminders throughout the facility to perform hand hygiene. An educational pamphlet is provided for patients and their families so that they are also informed and educated to perform appropriate hand hygiene."



Germgard's gloved-hand sanitizer inactivates MRSA and C difficile in 3 seconds

Littau described Ecolab's program as useful in meeting national patient safety goals: Ecolab's multi-modal Hand Hygiene Compliance Monitoring program helps hospitals to address the U.S. Joint Commission's National Patient Safety Goal 7A to comply with the CDC and World Health Organization (WHO) hand-hygiene guidelines. The patient empowerment aspect, "It's OK to Ask" (www.ecolab.com/Businesses/Healthcare/education_infection.asp), helps hospitals address the

Joint Commission's National Patient Safety Goal 13, to encourage patients' involvement in their own care. The program also includes products that support skin health and a product-volume measurement process that helps establish baseline compliance and compliance associated with ongoing intervention. "The measurement piece helps quantify compliance results and provides feedback to staff on their efforts," said Littau, "while the patient-empowerment program and skin-friendly products boost, improve, and sustain hand-hygiene compliance rates." Littau cited a study by McGuckin et al, which showed a 34% improvement in hand-hygiene compliance after 6 weeks of interventions like the ones found in Ecolab's program.⁷

McGuckin Methods International reports hand-hygiene statistics and generates detailed monthly reports. If you're interested in joining their hand-hygiene benchmarking and measurement studies, go to www.hhreports.com/index.htm. You also may view a sample of a monthly aggregate report for hand-hygiene compliance and an individual monthly report showing how the healthcare facility's hand-hygiene compliance is measured and reported.

Knowledge Network, Kimberly-Clark's clinical education division, develops or sponsors clinical education solutions involving hand hygiene. "For example," explained Pear, "our pre-recorded and live clinical presentations about HAIs discuss hand hygiene as the foundation of infection prevention. These are accredited CE and CME programs. Knowledge Network faculty, on-line webinars, and the touring Infection Prevention Bus were viewed by over 12,000 clinicians around the world in just the first 6 months of 2008. Additionally, the new 'Infection Prevention Communication Toolkit' offers healthcare facilities the opportunity to customize HAI education programs, including hand-hygiene educational brochures instructing patients and clinicians about WHO's 'Five Moments of Hand Hygiene' and the eight steps of proper hand-hygiene technique. Also included in the toolkit are washroom decals for reminding staff and visitors to wash their hands and posters reiterating WHO's hand-rub and handwash guidelines for display in lounges

and break rooms. Kimberly-Clark's recently launched www.HAIwatch.com website provides additional updates, education, and resource links about HAI prevention as well."

Patients: Do your part

Until recently the burden of hand-hygiene compliance has rested solely on the HCW. Currently, healthcare advisory and regulatory agencies, healthcare facilities, and the hand-hygiene industry are encouraging patients to assume more responsibility for their healthcare. One way patients can do this is by questioning HCWs as to whether they've practiced hand-hygiene. This is a new concept to many patients, one that makes some uneasy. This fact was highlighted in a study by Marella et al⁸, which found that, whereas approximately 91% of patients would feel comfortable asking for clarification on their care, only about 26% would ask a caregiver if they had washed their hands. Fear of confrontation was the reason cited for their reluctance.



Medline's Hand Hygiene Compliance Program Kit combines products and education

All of us, sooner or later, are patients or have loved ones who are patients. Don't be too intimidated to ask about hand hygiene; there is too much at stake. This small action really can make the difference between life and death. Look at it this way: If a HCW came to your hospital room with his or her hands covered in feces, urine, pus, and blood and wanted to examine you, what would you do? Would you smile and cooperate or scream bloody murder and head for the hills? Of course you'd be alarmed. The comparison may sound extreme, but the same pathogens found in feces, urine, pus, or blood may very well be lurking on the caregiver's hands. Just because you can't see them doesn't mean they aren't there. Just because hands look clean doesn't mean they are. So, don't be shy, ask.

To encourage patients who are reluctant to remind healthcare givers to wash their hands, the Association for Professionals in Infection Control and Epidemiology (www.apic.org), the CDC (www.cdc.gov), and the Safe Care Campaign (www.safecarecampaign.org) have developed a DVD, "Hand Hygiene Saves Lives," to help patients to learn how to approach the topic with their caregivers. The DVD, funded by Kimberly-Clark, is being shown to patients upon admission as well as in lobbies and waiting rooms. The information in the DVD helps patients to make the connection between HAIs and hand hygiene. This knowledge should impress upon patients and their families the need to take a more active role in their healthcare.

"Hand Hygiene Saves Lives" DVDs, posters, and brochures are free and available in English and Spanish. For information on ordering, to download materials, or to view the video, visit www.cdc.gov/handhygiene. **HPN**

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