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Hand Hygiene Programs Prove Successful but Widespread Work Still Needed

Michelle Beaver
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Hand hygiene is more complex than meets the eye, but ironically the most complex aspect of this practice involves getting people to follow it in the first place. The simple question is: what prevents some healthcare workers (HCWs) from following proper hand hygiene 100 percent of the time?

According to the Association of Professionals in Infection Control and Epidemiology (APIC), HCWs cite the following reasons for poor hand hygiene:

- Hand dryness and irritation that can stem from over-washing
- Time constraints from working in an intensive care unit
- A lack of soap and/or paper towels
- The belief that gloves replace the need for washing
- Sinks being far away

Representatives from national healthcare alliance VHA, Inc., studied hospitals in 13 states to discover how these catalysts could be countered and found that team coaching, education sessions and individual consultations improved basic hand hygiene practices by more than 52 percent.¹

Hospitals nationwide are generally allocating more time and money to infection control, VHA researches announced in late 2006. More needs to be done, however, for HCWs are still far from 100 percent compliant in hand hygiene. "Observation of basic handwashing practices revealed that nurses (86 percent) and respiratory therapists (84 percent) were more likely to follow CDC guidelines for hand hygiene after direct patient contact than physicians (60 percent)," the researchers state.

Post observation, VHA teams helped facility staffs implement better infection control practices, and saw a decrease in ventilator-associated pneumonia by more than 10 percent.²

According to APIC, HCWs should wash hands with plain or antimicrobial soap before they eat or handle food, after they use a restroom, when hands are visibly dirty, contaminated with proteinaceous material, blood or body fluids.

As for alcohol handrubs, APIC researchers suggest that HCWs use these products before direct patient contact when the hands are not visibly soiled, before donning sterile gloves to insert central intravascular lines, before inserting urinary catheters, other IV catheters, or invasive devices that do not require surgical placement, after removing gloves, and after contact with objects in the patient's environment.²

Successful Campaigns

Motivating staff members to be hygiene compliant doesn't have to involve one juggernaut approach. It can instead comprise lots of small and medium measures, as the team at Highland Hospital in Rochester, N.Y., discovered. Highland officials measured the amount of gel and hand soap that was used on each unit and discovered that after an education campaign was carried out, 20 percent more gel and soap was used, says Ann Marie Pettis, RN, BSN, CIC, the infection control practitioner at Highland Hospital.

"Every six months our infection control liaison nurse committee takes on a project to raise staff awareness and hopefully compliance with hand hygiene," Pettis says. "The most successful one to date was piggybacking on (The Joint Commission's) 'Speak Up' campaign where they encourage patients to be their own advocates," she says. "We developed buttons for all staff to wear for a month that said 'ask me if I washed my hands.' We made the distribution in to a fun time with balloons, cookies etc."

The Joint Commission's 'Speak Up' program encourages patients to get more involved with the healthcare they receive by asking questions and expecting quality.

"Doctors, nurses, dentists and other healthcare providers come into contact with lots of bacteria and viruses," program literature states. "So before they treat you, ask them if they've cleaned their hands. Healthcare providers should wear clean gloves when they perform tasks such as taking throat cultures, pulling teeth, taking blood, touching wounds or body fluids, and examining your private parts. Don't be afraid to gently remind them to wear gloves."

Making alcohol dispensers more accessible by putting them in public areas such as next to entrances and elevators is a big help in the battle against bacteria, says Linda Greene, RN, MPS, CIC, infection control manager at Rochester General Hospital in Rochester, N.Y.

"One of our most successful campaigns was our "follow the leader" campaign which included actual pictures of our

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top leadership and chiefs practicing hand hygiene," Greene says. "We posted these pictures on all our units. These leaders served as role models."

The Rochester General staff found peer reviews to be advantageous wherein liaison nurses collected data and then got together to share the results.

They are also fans of the "Ask me if I've washed my hands," approach.

"One of the main issues with hand hygiene campaigns is sustainability," Greene says. Clearly, most successes that we have found depend on rotating ideas and themes."

Motivating patients to ask their healthcare provider, "Have you washed your hands," is indeed an effective approach, according to Carolyn Twomey, RN, vice president of clinical and technical affairs at Mólnlycke Health Care. "Having been involved in a number of forums where this very (hand hygiene) discussion has taken place, the most common threads are pay-for-performance (including the CEO level where awareness is essential and enforcement needs to be addressed) and mandating practice," Twomey says. "Think about other scenarios where mandates made the difference as in seat belts and air bags."

Facilities are certainly seeing success in their fight against improper hygiene, says Susanne Pear, PhD, RN, CIC, associate director for infection control practices in the scientific affairs and clinical education department of Kimberly-Clark Health Care. "We're seeing some very excellent hand hygiene campaigns being conducted," Pear says. "ICPs around the world are recognizing that providing hand gel isn't enough. Without training and routine re-training, HCWs are not disinfecting their hands adequately when they do use the waterless products."

In terms of public education campaigns, creativity is helpful, says Joe Kingsley, president of Glo Germ Co. He cites a Massachusetts program that introduced a big bar of soap, "Super Soapy," — a mascot who visits school children and teaches them to wash hands properly. Kingsley also refers to a Canadian calendar filled with hand hygiene information and trivia that explores the topics of plaque, aseptic technique, preventing infection, etc.

"Today, a group of Canadian companies being organized by Doug Summerfield plan another national campaign later this year centered around drug stores and pharmacies," Kingsley says. "And of course, 'Handwashingforlife' under the leadership of Jim Mann is growing internationally as a non-profit organization contributing to better understanding and awareness."

Due Diligence

While many HCWs are compliant 100 percent of the time, it only takes a few to spoil the bunch and introduce insidious materials to dozens of surfaces. Even HCWs who are compliant can stand to learn more, Twomey asserts. "I believe every HCW can and should take (hand hygiene) more seriously," she says. "It is easy in the pressures of today's healthcare environment to push so hard to get everything accomplished and the priority of hand hygiene can sometimes take a back seat to other seemingly more important tasks."

"I find HCWs are surprised about the evidence in the literature linking poor hand hygiene or infrequent hand hygiene with transmission of infectious disease," she adds. "I also find that there are those who believe a glove is a cure-all when the evidence is clear that the use of exam gloves is no replacement for good hand hygiene."

There is certainly room for improvement, Kingsley says. "I think those who remember on a daily basis that 85 percent of infectious diseases are passed by the hands do take hand hygiene serious," he says. "Unfortunately, handwashing correctly takes time and doing (this) often becomes a significant part of the day. As shown by the rising nosocomial infections resulting in thousands of deaths, the problem is getting worse, not better... There has been a significant awareness and improvement in attitude toward infection control practitioners which in time will result better hand washing practices."

Alcohol

Alcohol has proved to be an ally in overall hand hygiene and reduces the number of microorganisms on the skin, but the extent to which it should be used — and how much of a product it should compose — is controversial. In the U.S. alcoholbased hand rubs usually contain 60 percent to 95 percent ethanol or isopropanol.²

Applying small amounts of alcohol to the hands is not more effective than washing hands with plain soap and water, according to the Healthcare Infection Control Practices Advisory Committee (HICPAC) and the Hand Hygiene Task Force, which is formed by members of HICPAC, the Society for Healthcare Epidemiology of America (SHEA), Infectious Diseases Society of America (IDSA) and APIC.

"The ideal volume of product to apply to the hands is not known and may vary for different formulations," the committee and task force members write. "However, if hands feel dry after rubbing hands together for 10-15 seconds, an insufficient volume of product likely was applied. Because alcohol-impregnated towelettes contain a limited amount of alcohol, their effectiveness is comparable to that of soap and water."

Several factors determine the success of alcohol-based products including the type used, the concentration, amount of contact time, and the condition of the hands when the product was applied.³

Alcohol-based products often cause drying, but this consequence can be mitigated by emollients, humectants, and other skin conditioners including 1 percent to 3 percent glycerol.³

Hand lotions and creams are advisable and can "increase skin hydration and replace altered or depleted skin lipids that contribute to the barrier function of normal skin," committee and task force members state. "Several controlled trials have demonstrated that regular use (twice a day) of such products can help prevent and treat irritant contact dermatitis caused by hand-hygiene products. In one study, frequent and scheduled use of an oil-containing lotion improved skin condition, and thus led to a 50 percent increase in handwashing frequency among HCWs."

Alcohol-based products have consequences besides leeching hydration. Even mild alcohol rubs can sting broken skin, and products with strong fragrances can irritate respiratory tracts. There are further concerns, Twomey says.

"I have long been concerned that the dramatic move to alcohol may prove deleterious in hindsight for two reasons," she says. "Many forget that alcohol does not clean your hands, it only dries your hands, and alcohol has to dry to be effective, but once it is dry it is gone. The very next thing one touches will contaminate your hands."

"So, you use the alcohol product outside your patient's door and the next thing you touch is the door, the chart, the side rail, your stethoscope, your pager or cell phone, the handle of your patient's water pitcher — all well documented contaminated items in the healthcare environment — and your hands are loaded with germs once again," Twomey continues. "Everyone needs to be using a product with continued killing power so that after you leave the sink or use the product, it keeps on killing for you so when you touch those contaminated items and pick



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up new microbes, they are killed by the product still working on your hands.”

Twomey believes that alcohol has served too big a role as the primary “de-germer” in healthcare. “Given the numerous multi-drug resistant organisms plaguing our healthcare system — and many of those are now rampant in the community — alcohol is not enough,” she says. “It is important to know when to wash and to use products with persistence and continued kill.”

Products

Hundreds, if not thousands of good hand hygiene products are available, but perhaps the best combination is also one of the most simple, says Kingsley. “Regular soap, warm water (and) 15 seconds or more (of washing) are still the best products for hand hygiene and fighting infections,” he says.

An important tool is a good dispensing system, according to Patty Taylor, vice president of healthcare marketing for GOJO Industries. “The PURELL® PORTAL™ Program is being used by hospitals across the country to help control the spread of infection,” Taylor says. “With regard to accessibility, this program puts fully ADA-compliant Purell dispensers throughout the hospital facility, thereby making the product readily accessible to staff, patients and visitors.

“Program support includes a full in-service program that includes training video and program outline,” she adds. “To encourage compliance, user-friendly products are needed to avoid chapped hands and/or contact dermatitis. However, these products should be broad spectrum, fast acting and non-irritating.”

Every product should address the fact that people are fallible, says Wayne Albright, president of Germ Pro Products, Inc. “The average healthcare worker has good intentions regarding hand hygiene, but busy schedules and dry, cracked hands make compliance difficult,” Albright says. “Addressing human obstacles is a must.”

Products that persistently kill germs on oft-touched areas are important in the fight against HAIs, according to Albright. “The fewer germs your hands pick up, the lower the possibility of infection transmission,” he says.

“Germ Pro’s persistent action plan (PAP) uses a combination of our persistent hand-sanitizing lotion and our persistent surface disinfectant to help prevent HAI’s by killing pathogens before they can become infections.

The hand sanitizing lotion also creates a hydrophobic layer that is not easily washed off, Germ Pro claims. “This layer helps heal the hands and protects them from the harsh effects of constant regular and alcohol washes, allowing better hand wash compliance with ... handwash guidelines,” Albright says.

Blast to the Past

Rinsing hands with water is likely as old as humankind itself, but the act of cleansing hands with an antiseptic seems to have started in the 19th century. “As early as 1822, a French pharmacist demonstrated that solutions containing chlorides of lime or soda could eradicate the foul odors associated with human corpses and that such solutions could be used as disinfectants and antiseptics,” the committee and task force members write. “In a paper published in 1825, this pharmacist stated that physicians and other persons attending patients with contagious diseases would benefit from moistening their hands with a liquid chloride solution.”

In 1846 in Vienna, an observant man named Ignaz Semmelweis noticed that many more women were dying in the maternity ward of one clinic than in another, and consequently developed some interesting theories. “He noted that physicians who went directly from the autopsy suite to the obstetrics ward had a disagreeable odor on their hands despite washing their hands with soap and water upon entering the obstetrics clinic,” the committee and task force members cite in their guidelines. “He postulated that the puerperal fever that affected so many parturient women was caused by ‘cadaverous particles’ transmitted from the autopsy suite to the obstetrics ward via the hands of students and physicians.

“Perhaps because of the known deodorizing effect of chlorine compounds, as of May 1847, he insisted that students and physicians clean their hands with a chlorine solution between each patient in the clinic,” the document continues. “The maternal mortality rate in the first clinic subsequently dropped dramatically and remained low for years.”

A few years earlier (in 1843) Oliver Wendell Holmes came to the conclusion that HCWs were spreading puerperal fever through their hands. He released advice on how proper hand hygiene could decrease the spread of fever, but the advice was not immediately heeded. Even so, the combination of theories from Semmelweis, Holmes and others eventually led to hand hygiene being highly regarded in the healthcare industry. 3

“In 1961, the U.S. Public Health Service produced a training film that demonstrated handwashing techniques recommended for use by HCWs,” the committee and task force members write. “At the time, recommendations directed that personnel wash their hands with soap and water for 1-2 minutes before and after patient contact. Rinsing hands with an antiseptic agent was believed to be less effective than handwashing and was recommended only in emergencies or in areas where sinks were unavailable.”

Guidelines

The Guideline for Hand Hygiene in Health-Care Settings Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force state that a chain-lapse in hand hygiene occurs when a HCW picks up organisms from patient skin or from something the patient touched, then fails to wash their hands or washes inadequately and comes in contact with another patient or with something another patient will touch.

Washing is much better than not washing, but does not always suffice, as is clear in a study that the committee and task force members re-viewed.

“Several investigators have studied transmission of infectious agents by using different experimental models,” they write. “In one study, nurses were asked to touch the groins of patients heavily colonized with gram-negative bacilli for 15 seconds — as though they were taking a femoral pulse. Nurses then cleaned their hands by washing with plain soap and water or by using an alcohol hand rinse.

“After cleaning their hands, they touched a piece of urinary catheter material with their fingers, and the catheter segment was cultured,” they continue. “The study revealed that touching intact areas of moist skin of the patient transferred enough organisms to the nurses’ hands to result in subsequent transmission to catheter material, despite handwashing with plain soap and water.”

APIC offers the following hand hygiene tips:

- Use warm (instead of hot) water to decrease the possible risk of dermatitis.

- Hands contaminated by dangerous bacterial spores should be washed with water and appropriate products — not treated with alcohol-based handrubs.
- Alcohol handrubs should contain 60-95 percent isopropanol, ethanol or n-propanol and 1-3 percent glycerol or other emollients.
- Alcohol-based products should be stored away from high temperatures, electrical outlets or oxygen receptacles.
- It is not recommended to routinely wash hands after application of alcohol-based handrubs.
- Moisturizers or barrier creams (that do not inhibit glove barriers) should be widely available.
- Antimicrobial-impregnated wipes are considered equivalent to handwashing, but should not be a substitute for alcohol handrubs or antimicrobial soap.

The Nitty Gritty

Members of the Healthcare Infection Control Practices Advisory Committee and the Hand Hygiene Task Force contend that a strong understanding of hand hygiene begins with knowledge that skin is a dynamic structure in which skin flora play an important role. Normal skin, of course, is covered with bacteria and different parts of the body are colonized by varying types.

“Transient flora, which colonize the superficial layers of the skin, are more amenable to removal by routine handwashing,” guideline authors state. “They are often acquired by HCWs during direct contact with patients or contact with contaminated environmental surfaces within close proximity of the patient. Transient flora are the organisms most frequently associated with healthcare associated infections. Resident flora, which are attached to deeper layers of the skin, are more resistant to removal ...”

Antiseptic agents that reduce the amount of microbial flora include alcohols, chlorhexidine, chlorine, hexachlorophene, iodine, chloroxylenol (PCMX), quaternary ammonium compounds, and triclosan.² Handwashing guidelines for HCWs in the surgical field have their own intricacies and sometimes involve scrubbing with a brush. This can lead to skin damage, however, and may be unnecessary, the committee and task force members write.

“Scrubbing with a disposable sponge or combination sponge-brush has reduced bacterial counts on the hands as effectively as scrubbing with a brush,” they claim. “However, several studies indicate that neither a brush nor a sponge is necessary to reduce bacterial counts on the hands of surgical personnel to acceptable levels, especially when alcohol-based products are used.”

- APIC lends the following surgical hand antisepsis tips:
 - “Remove rings, watches (and) bracelets before beginning surgical hand scrub.
 - Use a nail cleaner and running water to remove debris from under fingernails.
 - When using antimicrobial soap, scrub for at least 2-6 minutes, or as recommended by the manufacturer.
 - When using an alcohol-based surgical hand scrub product with persistent activity, prewash hands and forearms with a nonantimicrobial soap, then dry hands and forearms completely.” Apply alcohol-based product as recommended, allow hands and forearms to dry completely. Finally, don sterile gloves.
 - HCWs in any spectrum should carefully cleanse their fingernails, as this body part can host thousands of pathogenic organisms.
 - APIC recommends that HCWs, “clean areas under fingernails if they are visibly dirty, and pay special attention to these areas when you wash OR use alcohol handrubs for cleaning hands. Freshly applied nail polish does not increase the number of germs present, but chipped nail polish may harbor bacteria. Persons with artificial nails are more likely to harbor higher bacterial counts than those who do not wear them. For this reason, healthcare personnel who work in high risk areas should not wear artificial nails.”

Changes

Nationwide, people need to take greater action in favor of proper hand hygiene, all the way from personal practice to changing regulations, according to Kingsley.

“A partnership with Dial Soap, Sloan Valve, Georgia Pacific Paper Company, Glo Germ Co., and Kohler Sink was planned a few years ago to package a portable handwashing station for under \$100 to be placed in every occupied patient room so that all visitors and staff washed hands (upon) entering and leaving,” Kingsley says.

“It did not happen because the lawyers and risk management personnel were concerned of the liability issues — for the facilities which did not participate! In my opinion this is a ‘backdoor’ recognition of the importance of new technology towards hand washing products,” Kingsley adds. “The gels and wipes are also contributing to better awareness, as long as ... regular soap and warm water are used to wash one’s hands.”

Kingsley believes that compliance must be spurred not merely from healthcare professionals, but from the legal community as well. “I cannot tell you the number of times I have attended meetings in which risk management personnel equate costs of compliance to money, not the pain and suffering and deaths,” he says. “Therefore, the costs for non-compliance have to be monetarily expensive.” Kingsley looks for leadership from people like Atlanta’s Victoria Nahum, who co-founded Safe Care Campaign, an organization that works with corporations, advocacies, insurance companies and caregivers to invoke greater education about hand hygiene.

“Our goal is to instigate a crucial national culture change in ideology and practices within the healthcare environment in regard to hand hygiene,” Nahum says of Safe Care Campaign. “While (legislation) is not part of our mission statement, we would be in favor of ‘solutions with teeth’ in instances where the hand hygiene standard of care is obviously being deliberately or repeatedly ignored. Sloppy care is totally unacceptable and carries disastrous consequences for everyone.”

Safe Care Campaign members work toward a shift in healthcare ideology in hospitals, surgical centers and other facilities. Nahum has heard many excuses for not demonstrating proper hand hygiene, and says none of the excuses are good enough.

“(Excuses) make me think that (HCWs), whatever their titles, must somehow still not comprehend the enormity of the potentially tragic consequences of poor hand hygiene,” she says. “I cannot imagine that people who actually realize the profound adverse physical effects and needless deaths that sloppy care causes would actually choose to forego this fundamental step when administering care to patients who trust them.”

The problem will continue, however, until hand hygiene is at the forefront of every healthcare worker’s mind and until administrators offer better education campaigns and working conditions that are more conducive to frequent and proper handwashing.

References

1. Gentry L. VHA survey shows hospital infection control efforts are improving. Sept. 2006.

2. www.apic.org

3. Boyce J, Pittet D. Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. Oct.

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