

Washing Away Antimicrobials

Following a scientific statement against commonly used antimicrobials, Practice Greenhealth and Health Care Without Harm are supporting members with the Hand Soaps Challenge.

BY K.F. MITCHELL



ANTIMICROBIALS HAVE proven effective in preventing and controlling infection, especially in the hospital environment. However, questions regarding the safety and effectiveness of certain chemicals in antimicrobial soaps have culminated in a strong call for greener and more health-conscious alternatives.

Industry and governmental guidelines suggest that protocols eliminating the antimicrobial agents triclosan and triclocarban from hand soaps used for general handwashing would better protect patients and health care workers — and early adopters say it could also cut costs. Practice Greenhealth and Health Care Without Harm are developing a Hand Soaps Challenge dedicated to helping members follow suit.

Rallying the Health Care Industry

The effort to eliminate these antimicrobials from routine handwashing was spurred by the scientific community after questions were raised about the health and environmental impact of triclosan and triclocarban, typically used as antiseptics in hand soaps and lotions.

“Concerns about triclosan and triclocarban have been growing for many years,” explained Ted Schettler, MD, science director for the Science & Environmental Health Network and Health Care Without Harm adviser. “We know from published data that these two products or their byproducts are widely found throughout the environment. There is a lot of wildlife and aquatic life exposure, and humans are exposed mostly through consumer products.”

Efforts by Schettler and others, spearheaded by the Green Science Policy Institute in Berkeley, California, and working in concert with many other institutions, have led to the development of a consensus paper, known as the *Florence Statement on Triclosan and Triclocarban*, which was published in June and outlines the scientific rationale for eliminating these chemicals.

“These kinds of scientific statements are increasingly common for chemical substances around which there is clear evidence of concern,” said Rachel Gibson, Safer Chemicals Program director for Health Care Without Harm.

The U.S. Food and Drug Administration issued a statement last September banning

certain chemicals in consumer antibacterial soaps, including triclosan, triclocarban, and 17 other antiseptic compounds. (The FDA's ban of these agents from consumer products does not obligate hospitals to eliminate these chemicals from the supply chain, but it is telling that the consumer and hospital industries have coinciding goals to eliminate these chemicals of concern.) Its ruling, which goes into effect Sept. 6, 2017, states that these compounds are misbranded due to a lack of evidence proving their efficacy compared to regular handwashing, but that's not the biggest concern.

"We know from animal studies and laboratory studies that triclosan can interfere with both the estrogen and androgen systems, and it also disrupts thyroid function," said Schettler. "That's particularly concerning, because normal thyroid hormone levels are really important during fetal brain development."

Additionally, the FDA statement pointed to the role that inappropriate antimicrobial use could potentially be playing in bacterial resistance, such as in the case of methicillin-resistant staphylococcus aureus (MRSA).

Exceptions and Alternatives

Antimicrobials are not to be demonized. They remain an important ingredient in health care hygiene. There may even be some instances that call for the use of triclosan — such as in a toothpaste for patients with gingivitis, noted Schettler. However, the use of these chemicals needs to be backed by evidence.

Areas where antimicrobial hand soaps may stay are operating rooms and neonatal intensive care units. However, early adopters have also adapted their supply chains with alternative products that have been deemed appropriate. Chlorhexidine gluconate is just one of the alternatives being used in place of antimicrobial soaps with triclosan. According to the U.S. Centers for Disease Control and Prevention, chlorhexidine gluconate has long-lasting antimicrobial activity with a solid safety record and little to no absorption. Other possible alternatives are iodine and chloroxylenol.

In addition, according to CDC guidelines released in partnership with the Society for

Healthcare Epidemiology of America, the Association for Professionals in Infection Control and Epidemiology, and the Infectious Diseases Society of America, alcohol-based antimicrobial solutions are more effective than soap and water alone in all studies, and they are more effective in reducing bacterial counts than antimicrobial soaps in a majority of investigations.

Leading by Example

As an early adopter of the movement to eliminate antimicrobials, the Mayo Clinic successfully phased out triclosan from its hand hygiene products in 2010.

"We took a more opportunistic approach to eliminating antimicrobial hand soaps," said Amanda Holloway, sustainability project leader for the Mayo Clinic in Rochester, Minnesota. "Our product supply chain had launched a hand hygiene initiative to essentially review the products used in patient rooms and public areas. The original goal was to standardize products across our enterprise, reduce expenses, and create some efficiencies. In that process, we pulled together key stakeholders from the infection prevention and control group, and we had a physician champion who said, 'If you are going to be looking at purchasing, then let's look at products that contain antimicrobials,' and environmental services had a similarly opportunistic take on it."

This allied task force identified products of concern and began a detailed review process for new purchases. Each potential product was trialed by employees and verified for green certification and U.S. Department of Agriculture bio-based formulation, and all were required to be fragrance- and dye-free. After overhauling and streamlining the purchasing and supply of new hand hygiene products, the team found that it was saving the institution \$200,000 a year by going green and moving away from antimicrobials.

"There isn't necessarily just one way to do it," said Holloway. "We saw the train leaving the station, and we all jumped on together."

Advocate Health Care, the largest health care network in Illinois, was another early adopter. Advocate has been working for a number of years to eliminate chemicals of concern, including

"We know from animal studies and laboratory studies that triclosan can interfere with both the estrogen and androgen systems."

— TED SCHESSLER, MD, SCIENCE DIRECTOR,
SCIENCE & ENVIRONMENTAL HEALTH NETWORK

triclosan, which it successfully removed from its hand soaps throughout the organization last year.

"As much as possible, we work to reduce chemicals of concern throughout our health care environment, and removing triclosan from our hand soap is a great example of that. As an organization dedicated to the health of the communities we are privileged to serve, we see this work as an integral part of that overall mission of health," said Advocate Health Care Sustainability Manager Katie Wickman, who spoke on the topic at Practice Greenhealth's CleanMed in Minneapolis in May.

Meeting the Challenge

Practice Greenhealth and Health Care Without Harm are rolling out a Hand Soaps Challenge for Practice Greenhealth members this fall to help light a clear path toward the elimination of these chemicals from health care industry supply chains. The challenge will include a toolkit, webinars, and other resources.

The challenge will borrow from past supply chain successes such as the effort to eliminate flame retardants from furnishings and fabrics. Much science and product-specific work will be going into vetting new products. Organizations such as Greenhealth Exchange (www.greenhealthexchange.com) can also help members do this intricate work.

"The goal is to eliminate antimicrobial hand soaps containing triclosan and triclocarban throughout health care facilities — everywhere," said Gibson. 🌱