Conclusion. Contaminated white coats may be an under-appreciated source for transmission of healthcare-associated pathogens. Our results provide support for the bare below the elbows policy, but also highlight the potential for indirect transfer of pathogens from other sites on white coats.

Figure. Frequency and distribution of sites of direct and indirect contact between physicians' white coats and patients or the environment

Disclosures. All authors: No reported disclosures.

1143. Epidemiologic Characteristics of Outbreaks Associated With the Healthcare Environment
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Background. The healthcare environment serves as a reservoir or a source for outbreaks. Single outbreaks via an environmental reservoir have often been described in healthcare settings, while the trend of these multiple outbreaks has not been understood well. Here, we investigated the epidemiologic features of outbreaks associated with the healthcare environment.

Methods. Structured data on environmental sources from Outbreak Database based on information from articles published worldwide were extracted. A total of 317 articles of outbreaks associated with the healthcare environment (e.g., environmental surfaces, patient care items, water and water-related appliances, and air and ventilation systems) in 48 countries during 1965–2016 were analyzed.

Results. Of the 317 outbreaks reviewed, 295 (93%) were monophasic. One hundred sixty-one outbreaks (51%) occurred in an ICU setting. The 6,317 infected patients and 338 healthcare personnel were involved in 317 healthcare-associated outbreaks via the environment. Two hundred fifty-one patients (4%) died of an infection. Two hundred sixty-five outbreaks (84%) caused at least one infection among patients involved, including 112 pneumonias (35%) and 104 bloodstream infections (33%) (Figure 1). Bacteria (N = 244, 77%) were the most frequent pathogen, followed by fungi (N = 49, 15%) and mycobacteria (N = 15, 5%) (Figure 2). Of the bacteria, nonfermenting Gram-negative bacilli (N = 100, 41%) was the most common, followed by Legionella (N = 56, 23%), Enterobacteriaceae (N = 35, 14%), and multidrug-resistant organisms (N = 31, 13%). One hundred thirty-six outbreaks (43%) were obviously transmitted by contact, followed by inhalation and invasive technique. Genotyping was performed in 66% of outbreaks (N = 209). Key control measures included modification of care/equipment (N = 181, 57%) and improved disinfection/sterilization (N = 170, 54%). Forty-seven (15%) and 5 (2%) outbreaks led to closure of the affected location and restriction of work, respectively (Figure 3).

Conclusion. This study characterized epidemiologically outbreaks associated with healthcare environment, demonstrating the environmental role in healthcare-associated outbreaks. Analysis of structured data on multiple outbreaks can help develop infection prevention strategies in healthcare facilities.

Fig. 1. Infection types of outbreaks associated with the hospital environment
Six hospital systems reported leech-related *Aeromonas* resistant to one or more antimicrobials, totalling 15 isolates. Three systems only reported data from the last year. Four systems used FQ and two used SXT as prophylaxis. Fifteen of 15 were either FQ resistant or intermediate, and four of 15 were SXT resistant. Three of 10 isolates tested for ceftriaxone (CRO) susceptibility were resistant. Five of 15 of the isolates were resistant to two or more agents. Of the two leech quality control isolates, 2/2 were FQ resistant and 1/2 was FQ, SXT and CRO resistant. Only three isolates, each from a different, geographically distinct hospital system, had been retained. PFGE analysis indicated 2/3 are closely related (Figure 1).

**Conclusion.** Our preliminary investigation suggests that the presence of FQ and SXT resistance in leech-related *Aeromonas* might be more common than previously suspected, and that such resistance might originate from a common source. A broader study of the molecular epidemiology of leech-related *Aeromonas* is warranted.

**Disclosures.** All authors: No reported disclosures.

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1144. Modern Problem, Medieval Cure-Resistant *Aeromonas* in Medicinal Leeches
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**Background.** Medical leeches are used primarily in plastic and reconstructive surgery when venous congestion threats tissue viability. The associated infection risk ranges from 4.1 to 20%. Prophylactic antimicrobials such as fluoroquinolones (FQ) or trimethoprim-sulfamethoxazole (SXT) are recommended and target commonly isolated pathogen and gut symbiont, *Aeromonas*. However, resistance to these agents has been reported and detected in leeches, including at hospital systems across Canada that acquire their stock from the same supplier. Our objective was to describe the local epidemiology of leech-related *Aeromonas* resistant to one or more commonly used prophylactic agents, and determine if such resistance originates from the common supplier.

**Methods.** Six hospital systems across Canada using leech therapy, purchased from the same supplier, were surveyed. A 5-year retrospective review of all antimicrobial resistant leech-related *Aeromonas*, derived from clinical, leech, and tank fluid specimens was performed. All *Aeromonas* resistant to either FQ or SXT were included, and retained frozen isolates from each system were analysed by pulse-field gel electrophoresis (PFGE) using a published *Aeromonas* protocol.

**Results.** All six hospital systems reported leech-related *Aeromonas* resistant to one or more antimicrobials, totalling 15 isolates. Three systems only reported data from the last year. Four systems used FQ and two used SXT as prophylaxis. Fifteen of 15 were either FQ resistant or intermediate, and four of 15 were SXT resistant. Three of 10 isolates tested for ceftriaxone (CRO) susceptibility were resistant. Five of 15 of the isolates were resistant to two or more agents. Of the two leech quality control isolates, 2/2 were FQ resistant and 1/2 was FQ, SXT and CRO resistant. Only three isolates, each from a different, geographically distinct hospital system, had been retained. PFGE analysis indicated 2/3 are closely related (Figure 1).

**Conclusion.** Our preliminary investigation suggests that the presence of FQ and SXT resistance in leech-related *Aeromonas* might be more common than previously suspected, and that such resistance might originate from a common source. A broader study of the molecular epidemiology of leech-related *Aeromonas* is warranted.

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1145. Sparring With Spores: Ultrasounds as a Vector for Pathogen Transmission in the Intensive Care Unit
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**Background.** Portable equipment that is shared among patients can be a potential source of pathogen dissemination. In busy healthcare settings, cleaning of shared medical equipment may be suboptimal. In addition, equipment such as ultrasound probes presents a challenge because sporidical cleaning solutions such as bleach cannot be used.

**Methods.** We conducted a culture survey of ultrasounds in 15 intensive care units (ICUs) at a large tertiary care referral center, including medical, surgical, neurology, cardiology, and cardiovascular ICUs. Multiple high-touch surfaces on different types of ultrasound equipment used in the ICUs were swabbed to assess the presence of *Clostridium difficile* and antibiotic-resistant Gram-negative bacilli. To assist cleaning, a fluorescent marker visible only under UV light was placed on high-touch surfaces on each of the cultured ultrasounds and a black light was used to determine if the marker was removed after 24 hours and again after 1 week.

**Results.** Of 15 ultrasounds cultured, 7% were contaminated with *C. difficile* spores and 7% were contaminated with Gram-negative bacilli. Based on fluorescent marker removal, only 28% of the ultrasounds were cleaned within 24 hours and only 31% were cleaned within 1 week. Ultrasounds with touchscreen were cleaned more frequently than those with no touchscreen. For equipment with a combination of touchscreen features and knobs, the touchscreens were cleaned more often than the knobs which often had residual marker even after 7 days.

**Conclusion.** Ultrasound equipment can be a vector for transmission of *C. difficile* and other pathogens in critical care settings. In our facility, cleaning of ultrasound equipment was suboptimal, particularly for ultrasounds that did not have a touchscreen interface. Since ultrasounds are being employed in critical care settings with increasing frequency, there is a need for improved methods for cleaning and disinfection.

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