Fig. 2. Pathogens causing outbreaks associated with the hospital environment

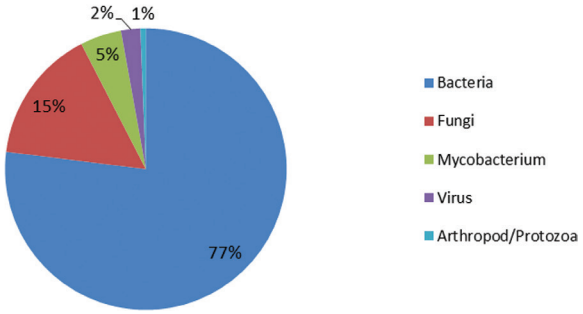
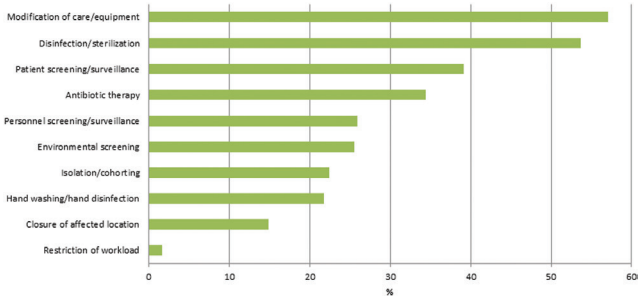


Fig. 3. Control measures for outbreaks associated with the hospital environment



Disclosures. **D. Weber**, PDI: Consultant, Consulting fee. **W. Rutala**, PDI: Consultant and Speaker's Bureau, Consulting fee and Speaker honorarium.

1144. Modern Problem, Medieval Cure-Resistant *Aeromonas* in Medicinal Leeches

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Background. Medicinal leeches are used primarily in plastic and reconstructive surgery when venous congestion threatens 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.

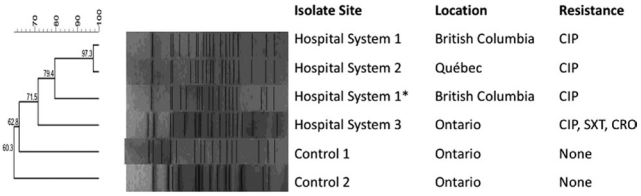

Figure 1 – *Aeromonas* Typing by PFGE
CIP = ciprofloxacin; SXT = trimethoprim-sulfamethoxazole; CRO = ceftriaxone
*Two isolates from hospital system 1 were submitted each derived from the same clinical specimen.

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

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 probe heads present a challenge because sporicidal 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 for the presence of *Clostridium difficile* and antibiotic-resistant Gram-negative bacilli. To assess 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 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 20% of the ultrasounds were cleaned within 24 hours and only 31% were cleaned within 1 week. Ultrasounds with touchscreens 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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