Categories were not mutually exclusive. Bivariate and multivariate analyses were performed to describe risk factors for colonization with these categories. **Results:** In total, 775 hospitalized adults and 357 community participants were enrolled, with a median age of 60 years (IQR, 42–72) and 55 years (IQR, 48–62) years, respectively. Among hospitalized participants, the prevalence of colonization with FQ- or 3GC-resistant GNB was 47% (95% CI, 43%–50%) and 41% (95% CI, 38%–45%), respectively, whereas the prevalence of MDR-GNB colonization was 27% (95% CI, 24%–31%). In the community setting, the prevalence of colonization with either FQ-, 3GC-resistant GNB, or MDR-GNB was 40% (95% CI, 34%–45%), 29% (95% CI, 24%– 34%), and 5% (95% CI, 3%–8%), respectively. Independent risk factors for hospital MDR-GNB colonization included the hospital of admission, unit of hospitalization (intensive care units carried the highest risk), in-hospital antimicrobial exposure, comorbidities (Charlson index), and length of stay. In the community setting, recent antibiotic exposure (<3 months) predicted colonization with either FQ- or 3GC-resistant GNB, and alcohol consumption was inversely associated with MDR GNB colonization. **Conclusions:** A high burden of colonization with AR-GNB was observed in this sample of hospitalized and community-dwelling adults in Chile. The high burden of colonization with GNB resistant to commonly used antibiotics such as FQ and 3GC found in community dwellers, suggests that the community may be a relevant source of antibiotic resistance. Efforts to understand relatedness between resistant strains circulating in the community and the hospital are needed.

Funding: None
Disclosures: None
Doi:10.1017/ice.2020.706

Presentation Type:
Poster Presentation

Comparative Evaluation of the Microbicidal Activity of Low-Temperature Sterilization Technologies to Steam Sterilization

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Background: Most medical and surgical devices used in healthcare facilities are made of materials that are sterilized by heat (ie, heat stable), primarily steam sterilization. Low-temperature sterilization methods developed for heat and moisture sensitive devices include ethylene oxide gas (ETO), hydrogen peroxide gas plasma (HPGP), vaporized hydrogen peroxide (VHP), and hydrogen peroxide plus ozone. This study is the first to evaluate the microbicidal activity of the FDA-cleared VHP sterilizer and other methods (Table 1) in the presence of salt and serum (10% FCS). **Methods:** Brushed stainless steel discs (test carriers) were inoculated with test microbes (Table 1) and subjected to 4 sterilization methods: steam, ETO, VHP and HPGP. **Results:** Steam sterilization killed all 5 vegetative and 3 spore-forming test organisms in the presence of salt and serum (Table 1). Similarly, the ETO and the HPGP sterilizers inactivated the test organisms with a failure rate of 1.9% for each (ie, 6 of 310 for ETO and 5 of 270 for HPGP). Although steam had no failures compared to both ETO and HPGP, which demonstrated some failures for vegetative bacteria, there was no significant difference comparing the failure rate of steam to either ETO ($P > .05$) or HPGP ($P > .05$). However, the VHP system tested failed to inactivate all the test organisms in 76.3% of the tests (206 of 270; $P <$

Table. Comparative evaluation of the microbicidal activities of sterilization technologies in the presence of salt and serum

Organism	Mean Carrier Quantitation (Day of Run)	Percentage Failure (carriers positive/carriers tested)			
		Steam	ETO	HPGP	VHP
Vegetative Cells (total)		0 (0/140)	3 (6/220)	3 (5/180)	72 (129/180)
PA	$2.0x10^6$	0 (0/30)	0 (0/50)	0 (0/40)	13 (5/40)
EC	$3.4x10^6$	0 (0/30)	4 (2/50)	3 (1/40)	75 (30/40)
VRE	$2.8x10^6$	0 (0/30)	8 (4/50)	10 (4/40)	93 (37/40)
SA	$2.3x10^6$	0 (0/30)	0 (0/40)	0 (0/30)	93 (28/30)
MT	$5.2x10^4$	0 (0/20)	0 (0/30)	0 (0/30)	97 (29/30)
Spores (total)		0 (0/80)	0 (0/90)	0 (0/90)	86 (77/90)
BA	$1.2x10^5$	0 (0/30)	0 (0/30)	0 (0/30)	83 (25/30)
GS	$5.1x10^4$	0 (0/30)	0 (0/30)	0 (0/30)	73 (22/30)
CD	$4.4x10^4$	0 (0/20)	0 (0/30)	0 (0/30)	100 (30/30)
Overall		0 (0/220)	2 (6/310)	2 (5/270)	76 (206/270)

Abbreviations: PA-*Pseudomonas aeruginosa*, EC-*Escherichia coli*; VRE-vancomycin-resistant enterococci; SA-*Staphylococcus aureus*; BA-*Bacillus atropheaus* spores; GS-*Geobacillus stearothermophilus* spores; CD-*Clostridioides difficile* spores; MT-*Mycobacterium terrae*; ETO-ethylene oxide; ND-not done; Veg-vegetative cells

.00001) (Table 1). **Conclusions:** This investigation demonstrated that steam sterilization was the most effective method, followed by ETO and HPGP and, lastly, VHP.
Funding: None
Disclosures: Dr. Rutala was a consultant to ASP (Advanced Sterilization Products)
Doi:10.1017/ice.2020.707

Presentation Type:
Poster Presentation

Comparison of Bacterial Contamination in a Children's Outpatient Clinic: General Medicine Versus Pulmonary Units

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Background: The bacteria that inhabit outpatient healthcare facilities influence patient outcomes and recovery, although the diversity and quantity of these bacterial communities is largely unknown. Whether differences in bacterial presence exist in individual medical specialty units of an outpatient clinic is also largely unknown. The purpose of this study was to compare bacterial species found in the general medicine and pulmonary units of an outpatient children's clinic associated with a teaching hospital. **Methods:** In total, 6 locations (4 floor sites, counters, air ducts) were sampled in 3 rooms in the pulmonary (PUL) unit and 3 rooms in the general medicine (GM) unit on 13 days over a 6-month period. Sterile double transport swabs were utilized, transported on ice to a microbiology lab, and used to inoculate Hardy Diagnostics Cdiff Banana Broth (for *Clostridium difficile*), CHROM MRSA agar (for methicillin-resistant *Staphylococcus aureus* [MRSA]), eosin methylene blue (Levine-type, for Lac+ gram negatives [GN]), and *Pseudomonas* isolation agar (for *Pseudomonas* spp and *P. aeruginosa* [PS and PSA]). Media were incubated for 48 hours at 37°C and were scored for bacterial presence based on colonial observation. **Results:** The presence of bacteria isolated from GM and PUL units differed by species and location. Based on the percentage of positive swabs, the presence of GN was widespread in both units (Fig 1). Additionally, bacterial presence was greatest on the floors (GN ranged from 72% to 85% on floors in the 2 units), whereas counters had fewer positive swabs (GN ranged from 23% to 38% on counters), and swabs from return air ducts rarely led to bacterial growth. The 1 case in which swabs from the PUL unit resulted in higher levels of bacterial growth than for the GM unit was for PSA (GM, 8%; PUL, 13%). *C. difficile* detection was the same on both units (ie, 35% of floor samples showed contamination). **Conclusions:** The levels of environmental bacterial presence observed for these clinic units differed in some cases by unit and ranged from not detectable to very high levels. Detection of *C. difficile* on 35% of floor samples in both units could be problematic. Additionally, for the PUL unit, contamination of 13% of floor samples by PSA should raise concerns because many patients in this clinic have cystic fibrosis (CF). Although many CF patients are colonized by PSA, others may potentially contract an infection by this pathogen from the clinical environment. This observation supports current infection control recommendations for CF patients in outpatient settings.
Funding: None
Disclosures: None
Doi:10.1017/ice.2020.708

Fig. 1.

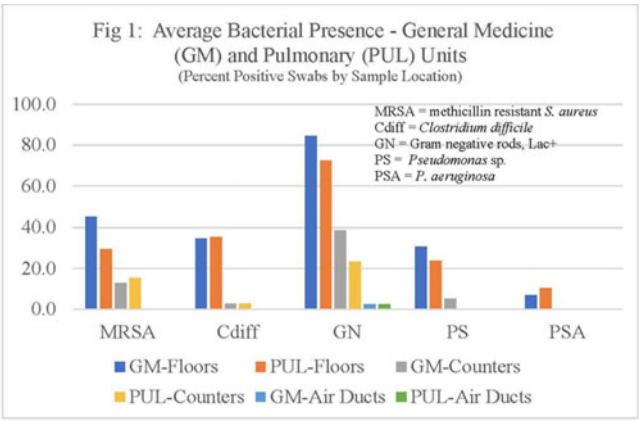

Fig. 2.

Presentation Type:
Poster Presentation

Comparison of Matched Patient Data for SSIs following Total Hip and Total Knee Arthoplasty: IPC Versus NSQIP Surveillance

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Background: In Alberta, Canada, surgical site infections (SSIs) following total hip and knee replacements (THRs and TKRs) are reported using the infection prevention and control (IPC) surveillance system, which surveys all THRs and TKRs using the NHSN definitions; and the National Surgical Quality Improvement Program (NSQIP), which uses different definitions and sampling strategies. Deterministic matching of patient data from these sources was used to examine the overlap and discrepancies in