Table 2. Staff member Personal Hygiene Routines related to Preventing Acquisition of MDROs

Personal Hygiene Activities Transitioning from Work to Home
Using antiseptic wipes (e.g., on phone, identification badges, shoes, car steering wheel)
Using hand sanitizer (e.g., in car, before entering home)
Washing work clothes separately; changing clothes after a shift
Leaving work shoes at work, in car, or outside entry of home
Washing hands or bathing at home before interacting with others (e.g. grandchildren)

perceptions related to the risk of acquiring an MDRO and personal hygiene in great detail. The risk of acquiring an MDRO was perceived as a constant threat by staff members, who described germs as "bad" and "everywhere" (Table 1). The perceived threat of MDRO acquisition was connected to individual personal hygiene routines (eg, changing shoes before leaving work), which were considered important by staff members (Table 2). Nursing staff and certified nursing assistants noted that personal hygiene was a critical factor keeping their residents, themselves, and their families free from MDROs. **Conclusions:** In the context of a quality improvement campaign, vSNF healthcare workers are aware of the transmissibility of microscopic MDROs and are highly motivated in preventing transmission of MDROs to themselves. Such perceptions may explain actions such as why workers may be differentially adherent with infection control interventions (eg, more likely to perform hand hygiene leaving a room rather than going into a room, or less likely to change gowns in between residents in multibed rooms if they believe they are already personally protected with a gown). Our findings suggest that interventions to improve staff adherence to infection control measures may need to address other factors related to adherence besides knowledge deficit (eg, understaffing) and may need to acknowledge self-protection as a driving motivator for staff adherence.

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Healthcare-Associated Infection Decisions of Antibiotic-Resistant Organisms: A Data Quality Review

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Background: Infection Prevention and Control (IPC) for Alberta Health Services and Covenant Health in the province of Alberta, Canada conducts surveillance for methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococcus (VRE) on all individuals admitted to acute-care and acute tertiary-care rehabilitation care facilities. **Objective:** The objective of this study was to determine the consistency and accuracy of infection decisions for MRSA and VRE. **Methods:** Surveillance cases of antibiotic-resistant organisms (AROs) collected using the provincial data entry surveillance platform between April 1, 2015, and March 31, 2017, across the province were reabstracted by infection control professionals and physicians using the NHSN infection definitions and compared to the original case severity decisions. Interrater agreement (Cohen's κ) and validity (sensitivity, specificity and predictive values) were calculated to compare the original and reabstracted infection decisions. **Results:** Collectively, 97% (87 of 90) of the IPC program staff and physicians who were initially invited re-abstracted 264 MRSA cases and 103 VRE cases within the review period. Provincially, 20% of the ARO cases reviewed (74 of 367) differed from the original infection decision. Among these 74 cases, 46 cases (34 MRSA and 12 VRE cases) changed from infection (original decision) to colonization (reabstracted decision) and 28 cases (21 MRSA and 7 VRE cases) changed from colonization to infection. The Cohen κ values for MRSA and VRE were 0.55 and 0.56, respectively, suggesting a moderate level of agreement for decisions made among IPC program staff. The sensitivity of the infection decision was higher with MRSA (86.5%) than for VRE (74.1%), meaning that there were more MRSA cases than VRE cases classified as infection in the original decision that remained infection following the review. **Conclusions:** Observed discordances on infection decisions were identified and may be attributed (1) to variations in the interpretation of the NHSN definitions, (2) to additional information that may have been available in the re-abstracted review compared to the original review, or (3) a difference in the information that was accessed to perform the original review compared to the reabstraction. This data-quality review provided an opportunity for IPC staff and physicians to become more familiar with infection definitions and such reviews will continue to be a regular process used to assess data quality within the IPC department.

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Healthcare-Associated Infections: Enterobacteriaceae Bloodstream Infections in the ICU Settings

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Table. 1 Resistance of the studied Enterobacteriaceae to a selected group of antibiotics in surgical and non-surgical settings

Antimicrobial category	Antibiotic agent	Resistance range by wards n=333	
		surgical n=121	non-surgical n=212
β-lactams	Ampicilin (AMP10)	35-73 (47-100%)	79-121 (91-97%)
	Ampicillin-sulbactam (SAM20)		
	Amoxicillin-clavulanic acid (AMC30)		38-75 (44-60%)
	Piperacillin-tazobactam (TZP36)	10–14 (19-21%)	19-27 (22%)
Cephalosporins	Cefuroxime IV (CXM30)	16-27 (34-43%)	30-56 9 (34-45%)
	Ceftazidime (CAZ10)		
	Cefotaxime (CTX5)		
	Cefepime (FEP30)		
	Cefoperazone-sulbactam (SCF105)	2–10 (4-14%)	6–11 (7-9%)
Carbapenems	Ertapenem (ETP10)	1–2 (1-2%)	1–2 (1-2%)
	Imipenem (IPM10)		
	Meropenem (MEM10)		
Fluoroquinolones	Ciprofloxacin (CIP5)	29-39 (53-62%)	46-75 (53-60%)
Aminoglycosides	Gentamicin (CN10)	9–27 (19-40%)	12–56 (14-45%)
	Amikacin (AK30)		
	Tobramycin (TOB10)		
Others	Trimethoprim-sulfamethoxazole (SXT 25)	26–41 (55%)	43–60 (48-49%)

Table 1.

Laboratory of Ruda Slaska KORLAB; Dorota Romaniszyn, Jagiellonian University Medical School; Agnieszka Chmielarczyk, Jagiellonian University Collegium Medicum; Jadwiga Wojkowska-Mach, Jagiellonian University Medical School

Background: Bloodstream infections (BSIs) are one of the most frequently observed hospital-acquired infections (HAIs). **Objectives:** We aimed to describe the epidemiology and drug resistance of hospital-acquired Enterobacteriaceae BSIs and to check for any correlation with the type of hospital care. **Methods:** In 2015–2018, 333 Enterobacteriaceae isolates were collected from hospitalized internal medicine and surgical patients. The drug-resistance testing was conducted according to the EUCAST recommendations, using the disc-diffusion method to determine resistance to penicillin, cephalosporins, carbapenems, aminoglycosides, fluoroquinolones, and sulfamethoxazole with trimethoprim. Tests confirming the presence of extended-spectrum β-lactamases (ESBLs) and KPC, NDM, and OXA-48 carbapenemases were performed. We determined the minimum inhibitory concentration (MIC) values (mg/L) for selected antibiotics. To detect the resistance genes, a single PCR reaction, a multiplex PCR, and a real-time PCR were conducted. **Results:** The prevalence rate of Enterobacteriaceae bacilli in BSIs was 23.5%. Penicillin resistance remained at a very high level of almost 100%, with only the piperacillin-tazobactam resistance remaining at 19%–22%. The same was true for cephalosporins: the bacilli have only shown a high susceptibility to cefoperazone with sulbactam (4%–14% of them were resistant). Ciprofloxacin (53%–62%) and sulfamethoxazole with trimethoprim (48–55%) have proven highly resistant. Carbapenems were the only antibiotics with susceptibility at 98%–99%. No difference was found between the types of hospital care (surgical vs nonsurgical) and the levels of antimicrobial resistance in the studied Enterobacteriaceae isolates (Table 1). **Conclusions:** The high prevalence of Enterobacteriaceae bacilli in BSI is particularly worrying, as is the high rate of resistance to cephalosporins and aminoglycosides, which are often used in the empirical therapy. Unfortunately, our results indicate the need to base the empirical therapy on carbapenems.

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Healthcare-Associated Pneumonia in a Mexican Tertiary Care Center Micro to Systemic Analysis: A 2017–2019 Case Series Study

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Objectives: The aim of this study was to identify the biological, microbiological, and healthcare factors related to the occurrence of nosocomial pneumonia in our confirmed cases during 2017–2019. **Methods:** We conducted a case series study. For the selection of the cases we used the CDC criteria for hospital-acquired pneumonia, we collected cases from the data set for healthcare-associated infections from a tertiary-care hospital in Mexico City. For the quantitative analysis, we used Stata v14 software, and we obtained frequencies, proportions, accumulated incidence rate, lethality rate, central tendency, and dispersion metrics. This study was a secondary data set analysis; we obtained signed authorization for the use of the data from the Epidemiological Surveillance Unit. **Results:** During our analysis period (January 2017 to June 2019), we identified 107 cases that fulfilled the CDC criteria:

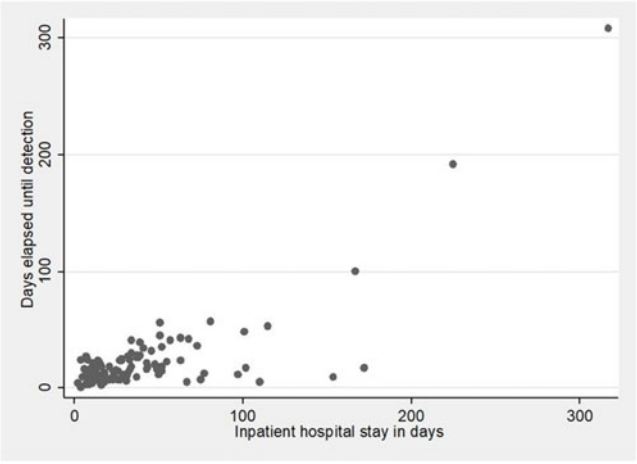

Fig. 1.