

Table 1. Descriptors by Healthcare Workers of their Skilled Nursing Facility

Descriptors Mentioned in Descending Frequency
"Family"
"Good place"
"Teamwork"
"Attachment to residents"
"Everyone helps"
"Resources available"

interviews with management (N = 5), nursing staff (N = 6), and certified nursing assistants (N = 6) at a vSNF in the Chicago region (Illinois) between September 2018 and November 2018. More than 11 hours of semistructured interviews were collected and transcribed. Data collection and analysis focused on identifying healthcare worker experiences during an infection control intervention. Transcriptions of the data were analyzed using thematic coding aided by MAXQDA qualitative analysis software. **Results:** Healthcare workers described the facility using language associated with a "family" environment (Table 1). Furthermore, healthcare workers demonstrated motivation to implement infection control policies (Table 2). However, healthcare workers expressed cultural and structural challenges encountered during implementation, such as their belief that some infection control measures discouraged maintenance of a home-like environment, lack of time, and understaffing. Some healthcare workers perceived that alcohol-based hand rub was ineffective over time and left unpleasant textures on the skin. Additionally, some workers did not trust the available gown and gloves used to prevent transmission. Lastly, healthcare workers typically did not prefer 2% CHG wipes over soap and water, citing residual resident postbathing smell as one indicator of CHG ineffectiveness. **Conclusions:** In a vSNF we found both considerable support and challenges implementing a CRE prevention bundle from the healthcare worker perspective. Healthcare workers were dedicated to recreating a home-like environment for their residents, which sometimes felt at odds with infection control interventions. Residual misconceptions (eg, alcohol-based hand rub is not effective) and negative worker perceptions (eg, permeability of contact precaution gowns and/or residue from alcohol-based hand rub) suggest that ongoing education and participation by healthcare workers in evaluating infection control products for interventions is critical.

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Healthcare Worker Perceptions of Germs and Personal Hygiene Routines in a Ventilator-Capable Skilled Nursing Facility (vSNF)

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Background: During a 2017–2019 intervention in Chicago-area vSNFs to control carbapenem-resistant *Enterobacteriaceae*, healthcare worker adherence to hand hygiene and personal protective equipment was stubbornly inadequate (hand hygiene adherence, ~16% and 56% on entry and exit), despite educational and monitoring efforts. Little is known about vSNF staff understanding of multidrug-resistant organism (MDRO) transmission. We conducted a qualitative analysis of staff members at a vSNF that included assessment of staff perceptions of personal MDRO acquisition risk and associated personal hygiene routines transitioning from work to home. **Methods:** Between September 2018 and November 2018, a PhD-candidate medical anthropologist conducted semistructured interviews with management (N = 5), nursing staff (N = 6), and certified nursing assistants (N = 6) at a vSNF in the Chicago region (Illinois) who had already received 1 year of MDRO staff education and hand hygiene adherence monitoring. More than 11 hours of semistructured interviews were collected and transcribed. Data collection and analysis included identifying how staff members related to their own risk of MDRO acquisition/infection and what personal hygiene routines they followed. Transcriptions of the data were analyzed using thematic coding aided by MAXQDA qualitative analysis software. **Results:** Staff members at all levels were able to describe their

Table 1. Staff Member Perceptions of Germs and Germ Theory

Representative Perceptions of Germs and Germ Theory
"You touch the doors, and everywhere you go are germs. Even as I lean here, I know I'm leaning on germs [laughter]. There are germs everywhere. I'm touching everything, and then I go touch the patients, I'm taking germs to them. That's why, as we go in, we'll disinfect." -Nurse
" Germs basically grow —wouldn't it be that germs come out if someone's coughing, or if they leave food laying around, getting rotten and stuff like that. Those are germs." -Management
"Hand washing is very important because you go to an isolation room, having not washed your hands, then go to another patient room, and you are touching them after you just left the isolation room. That's how germs spread. " -CNA
"If you don't have your contact precautions on and you have somebody with something respiratory and they cough on your uniform, you could inadvertently touch or spread that because it's airborne." -Management
"Germs are basically— they are bad for our health. They could make you sick." -Nurse
"Germs are invisible microorganisms that contain the potential to make someone very ill. They can be transferred from person-to-person, surface-to-surface, depending on the organism. Those are pretty rampant and prevalent in this facility." -Management

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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