



Fig. 2.

testing, policies for other diagnosis and treatment stewardship techniques were much less commonly employed. Future work will compare the results of this survey to a set of similar questions on a statewide microbiology laboratory survey, assess best practices, and form consensus recommendations on stewardship practices for the state.

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# **Presentation Type:** Poster Presentation

Health Department Authorities to Assist Healthcare Facilities with Outbreaks or High HAI Rates—Preliminary Assessment, 2018

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Background: Health departments have been increasingly called upon to monitor healthcare associated-infections (HAIs) at the hospital- or facility-level and provide targeted assistance when high rates are identified. Health department capacity to effectively respond to these types of signals depends not only on technical expertise but also the legal and regulatory authority to intervene. Methods: We reviewed annual reports describing HAI and antibiotic resistance (HAI/AR) activities from CDC-funded HAI/AR programs for August 2017 through July 2018. We performed a qualitative data analysis on all 50 state health department responses to a question about their regulatory and legal authority to intervene or assist facilities without invitation when outbreaks are suspected (as determined by the health department) or high HAI rates have been identified (eg, based on NHSN data). Results: When an outbreak is identified, 31 health departments (62%) indicated that they have the authority to intervene without invitation from a facility and 8 (16%) did not specify. Among the 11 health departments (22%) that indicated that they do not have this authority, 5 (45%) states noted that they operate under decentralized systems in which the local health department can intervene in outbreak situations and the state health department is available to assist. When a health department identifies high HAI rates, 14 health departments (28%) indicated that they have the authority to intervene without invitation, 22 (44%) indicated that they do not, and 14 (28%) did not specify. Among those in the latter categories, 3 stated they can work through their local health departments, which do have this authority and 8 described working

through partners (eg, State Hospital Association, n=3 or State Healthcare Licensing Agency, n=5). **Discussion:** Assistance from state health departments (eg, HAI/AR programs) in the context of outbreaks and high HAI rates has value that is usually well recognized and welcomed by healthcare facilities. Nonetheless, there are occasions when a health department might need to exert its authority to intervene. The preliminary analysis described here indicated that this authority was more commonly self-reported in the context of outbreaks than when high HAI rates are identified. These 2 situations are connected, as high rates might be indicative of unrecognized or unreported outbreak activity, and these issues may benefit from further analysis.

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### **Presentation Type:**

Poster Presentation

# Healthcare Worker Experiences Implementing CRE Infection Control Measures at a vSNF—A Qualitative Analysis

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Background: During 2017–2019 in the Chicago region, several ventilator-capable skilled nursing facilities (vSNFs) participated in a quality improvement project to control the spread of highly prevalent carbapenem-resistant *Enterobacteriaceae* (CRE). With guidance from regional project coordinators and public health departments that involved education, assistance with implementation, and adherence monitoring, the facilities implemented a CRE prevention bundle that included a hand hygiene campaign that promoted alcohol-based hand rub, contact precautions (personal protective equipment with glove/gown) for care of CRE-colonized residents, and 2% chlorhexidine gluconate (CHG) wipes for routine resident bathing. We conducted a qualitative study to better understand the ways that vSNF employees engage with the implementation of such infection control measures. Methods: A PhD-candidate medical anthropologist conducted semistructured



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

Descriptors Mentioned in Descending Frequency	7
"Family"	
"Good place"	
"Teamwork"	
"Attachment to residents"	Ξ
"Everyone helps"	
"Resources available"	Т

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 alcoholbased 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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## Presentation Type:

Poster Presentation

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

# "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