infection ratios (SIRs) were calculated for central line-associated bloodstream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs) and standardized utilization ratios (SURs) for Foley catheter use. SIRs and SURs <1 met HAI performance goals. Hand-hygiene compliance was captured via secret-shopper methods and ≥75% used as the cut-off for meeting compliance goals. Unit-aggregated survey responses were compared between units that did vs. did not meet SIR, SUR goals for the year, and HH goals for the quarter, prior to survey distribution, using two-sample t-tests.

Results. Fewer HCW on low-HH compliance units (i.e., <75%; n = 179 units) responded positively to questions pertaining to overall perception of safety, frequency of events reported, supervisor/manager expectations/actions promoting safety, organization learning, teamwork within units, communication openness, and nonpunitive response to errors, than HCW on high-compliance units (i.e., >75%; n = 69 units; P < 0.05). More HCW on units with CAUTI SIR <1 (n = 40 units) responded positively to supervisor/manager expectations/actions promoting safety, teamwork across units, and hospital handoffs, compared with HCW on units with SIR ≥1 (n = 20; P < 0.05). Fewer HCW on units with Foley SUR <1 (n = 27 units) responded positively to questions on supervisor/manager expectations/actions promoting safety and teamwork within units, than HCW on units with SUR ≥1 (n = 22; P < 0.05). We observed no associations between CLABSI SIR performance and AHRQ safety survey responses.

Conclusion. HCW perceptions of unit safety culture can be associated with HAI and HH compliance performance. Unit performance/compliance was most commonly associated with supervisor expectations suggesting a key managerial component to promoting safety culture.

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

458. Using a Humanoid Robot to Improve Hand Hygiene Compliance

Bráulio Couto, PhD[1]; André Alvim, MSc[2]; Bruna Mendes, Nurse Student[1]; Isadora Oliveira, Nurse Student[1]; Mário Horta, MSc[3]; Joaquim José Cunha Júnior, PhD[3] and Carlos Starling, MD[2]; [1]Centro Universitário de Belo Horizonte – UniBH, Belo Horizonte, Brazil, [2]Hospital Lifecenter, Belo Horizonte, Brazil, [3]Centro Universitário de Belo Horizonte, Belo Horizonte, Brazil

Session: 58. Healthcare Epidemiology: Advances in Hand Hygiene
Thursday, October 4, 2018: 12:30 PM

Background. in a similar way that the *Aedes aegypt* mosquito is a vector for diseases as dengue fever, and zika, healthcare workers can be vectors for hospital infections! Despite the fact that handwashing is the single most effective measure to prevent the transmission of disease, make handwashing a habit among healthcare workers remains a major challenge. Here we investigated whether or not it is possible to adapt a toy robot as a tool for continuous education of healthcare workers in the context of hand hygiene compliance. The objective was to answer two questions: (a) How to adapt a robot as MeccaNoid G15KS to be an instrument of health training and continuous education of healthcare workers? (b) What is the effectiveness of the use of a humanoid robot on the compliance with hand hygiene?

Methods. we got to adapt a toy programmable robot named Ozires, as an instrument of health training to improve the compliance with hand hygiene. The robot was adapted with mini projector, spy camera, an automatic alcohol hand sanitizer dispenser, a cell phone and a cell phone support and an audio amplifier. Ozires, accompanied by infection control practitioners, performs short video-lecture presentations and own reports of the institution's data regarding infections and the hand hygiene rate, working from 10 to 15 minutes in each target sector.

Results. After the insertion of Ozires in three ICUs, hand hygiene rate increased from about 36%, between January and July, to 65% in August–November 2016. In all months of 2017, consumption of alcohol preparation remained above 20 mL/patient-day, the minimum expected consumption recommended by the World Health Organization.

Conclusion. We succeeded in adapting a toy robot as instrument of continuous education of healthcare workers, creating a new education tool, the robot tutor. Hand hygiene compliance raised significantly after the intervention. We also achieved a consumption of alcohol preparation rate above the minimum expected rate by WHO, sustained and durable. With the continuing education approach based on Ozires, it is not necessary to withdraw healthcare workers from their work area, which can be a novel education strategy, more interactive, that can really personalize health education.

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

459. Patient-Based Surveys to Better Understand Patients' Perceptions of Healthcare Providers' Hand Hygiene Practices and if Patient Responses Validate Secret Observers' Hand Hygiene Compliance Reporting

Andrew Skinner, MD[1]; Catherine Lenz, BSN, MS[2]; Kathleen Fujiu, RN, BSN, MBA, OCN[2]; Beatrice Probst, MD[2]; Sylvia Suarez-Ponce, BSHCL, RN, CIC[2]; Michelle Harnell, BSN, MBA[2]; Emily Silzer, BS[2]; Kevin R Smith, MD[2] and Jorge P Parada, MD, MPH[2]; [1]Infectious Disease, Loyola University Stritch School of Medicine, Maywood, Illinois, [2]Loyola University Medical Center, Maywood, Illinois

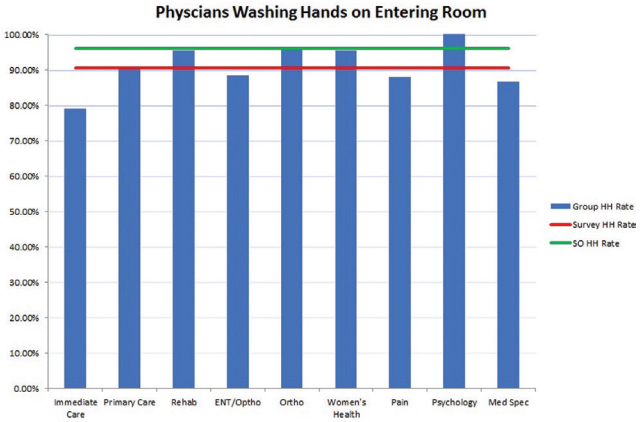
Session: 58. Healthcare Epidemiology: Advances in Hand Hygiene
Thursday, October 4, 2018: 12:30 PM

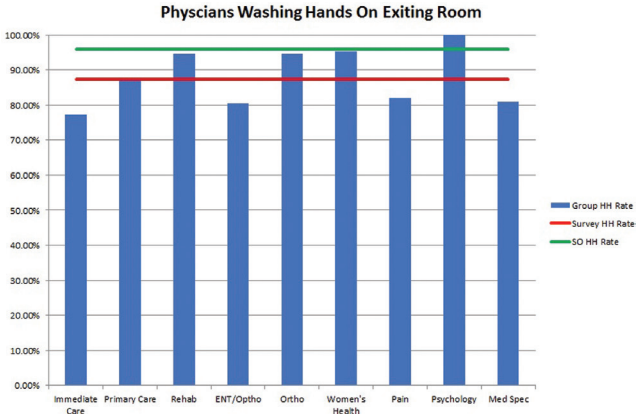
Background. Hand hygiene (HH) is one of the simplest and most effective methods to decrease healthcare-associated infections (HAIs). However, in outpatient settings, it is difficult to audit HH practices as patient-healthcare provider (HCP) interactions take place behind closed doors. Within our system, secret observers (SO) monitor HCPs HH, which is routinely reported at near 100%. We wished to determine patient's perception of their HCP's HH and see how well it matched SO HH observations.

Methods. We developed an anonymous two-question survey which queried patients if their HCP performed HH upon entering and exiting the room. Both questions had a three choice/one answer categorical responses choices: (yes) (no) (I didn't notice/I do not remember). The survey took place at two large outpatient facilities with multiple medical subspecialties, primary care groups, and surgical specialties. The facilities were surveyed in October 2017 and March 2018, respectively. No patient or HCP-specific identifiers were obtained through the surveys.

Results. A total of 1,268 surveys were collected over two separate time periods. Overall, HCP HH compliance was high both upon room entry and exit (90.4% and 87.4% "yes" responses, respectfully). Our SO HH observation compliance was 96% during these periods. Orthopedics was the top preforming subgroup (289/301, 96.0% and 285/301, 94.7% HH on room entry and exit). The immediate care center was the lowest preforming subgroup (135/171, 79.0% and 132/171, 77.2% HH on room entry and exit), with other groups' (primary care medicine, subspecialty medicine, women's health, Ears-Nose-Throat, ophthalmology, rehabilitation, psychology, and pain clinic) HH practices falling somewhere in between.

Conclusion. HH is a cornerstone for preventing HAIs. Our survey revealed that ambulatory care HCP HH practices are perceived by patients to be quite high, and to a large extent supports reported HH observations by SO. Service-based variability in HH practices can be used as for positive reinforcement for the highest achieving practices, and to challenge poorer performing groups to improve their HH practices. Using patient-based audits of HCPs HH practice is a viable alternative method of HH compliance data collection/monitoing.





Disclosures. **J. P. Parada**, Merck: Speaker's Bureau, Speaker honorarium.

460. Teaching an Old Dog New Tricks—Environmental Cleaning Services Not So Set in Their Ways That They Can't Be Taught Better Hand Hygiene Practices

Jorge P Parada, MD, MPH; Ashley Boldyga, BSHSM; Dominique Wright, MPH; Ayat Abuihmoud, MS, CIC and William Fischer, BS; Loyola University Medical Center, Maywood, Illinois

Session: 58. Healthcare Epidemiology: Advances in Hand Hygiene
Thursday, October 4, 2018: 12:30 PM

Background. Hand hygiene (HH) is the single most important practice in the prevention of healthcare-associated infections (HAIs). However, HH is commonly suboptimal, with compliance often only 30–60%. In 2010, the Joint Commission Center for Transforming Healthcare launched the *Targeted Solutions Tool (TST) for Hand Hygiene* to aid institutions to increase HH compliance. After successfully deploying the TST at our medical center in 2015, we noted a remarkable improvement in overall HH. Unfortunately, improvements in HH across services were not uniform. Some services, like the environmental services (EVS), remained set in their old ways and continued to perform suboptimal HH.

Methods. We continued to engage staff using the TST model and just-in-time coaching (JITC) to encourage best HH practices. In addition, we often met with small groups for HH huddles, and reinforced the importance of EVS staff and their HH in helping to