

versus multibed room or open pod. **Results:** We audited HHOs for 146 hours including 26 at site A and 120 at site B. Overall, 804 HHOs (69.2%) occurred during weekdays and 739 (63.6%) occurred during day shifts from 7:00 A.M. to 7:00 P.M. The most frequent moments of hand hygiene were moment 1 (47.8%, before contact) and moment 4 (36.8%, after contact). The average numbers of HHOs were 7.8 per hour overall, 7.6 per hour on weekdays, 7.7 per hour on weekends, 8.8 per hour on day shifts, and 6.8 per hour on night shifts. The breakdown of HHOs by profession was 92.8% nurses, 0.6% physicians, 4.5% allied health, and 2.1% for others. **Discussion:** The rate of HHOs in NICU varied over a 24-hour period and was similar between 2 different NICUs. Evenings and weekends had considerably fewer average HHOs, and peaks were observed following nursing shift changes. The rate of HHOs may be influenced by other factors including unit design, patient acuity, and use of transmission-based precautions. Further analysis using a Poisson regression model will help to explore these factors and to calibrate electronic monitoring for this population.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s70–s71

doi:10.1017/ash.2023.319

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Hand Hygiene

Functional dependence as a contributing factor for patient hand contamination by multidrug-resistant organisms in acute care

Trenton Behunin; Julia Mantey; Marco Cassone and Lona Mody

Background and objectives: Patients with functional disabilities are at higher risk of adverse outcomes, including infections. Although healthcare worker hand contamination has long been recognized as an important source of pathogen acquisition, the role of patient hands has been less clearly defined. We sought to determine whether the presence of functional disabilities is correlated with patient hand contamination by multidrug-resistant organisms (MDROs) and thus a potential target for patient hand hygiene (PHH) interventions. **Methods:** Case-control study of hand contamination with methicillin-resistant *S. aureus*, vancomycin-resistant enterococci, and gram-negative bacilli resistant to cephalosporins, fluoroquinolones, and/or carbapenems in 2 acute-care hospitals in southeastern Michigan. Cases (n = 40) and controls (n = 359) were defined as patients with or without hand contamination by MDROs, respectively. We assigned 3 exposure categories based on Katz activities of daily living scores: no functional disabilities (independent, reference group), 1–3 functional disabilities (partially dependent), and 4+ functional disabilities (dependent).

We used stepwise logistic regression to identify confounding variables. Logistic regression was then used to establish the relationship between a patient’s functional dependence level and their hand contamination by MDROs. **Results:** The distribution of hand contamination of each target MDRO by level of patient dependence is shown in the Table. Overall, methicillin-resistant *Staphylococcus aureus* (MRSA) was the most represented, followed by resistant gram-negatives and vancomycin-resistant enterococci (VRE). Hospital site, sex, and history of MDROs were included in the model based on stepwise regression. The odds ratio (OR) of MRSA hand contamination in the dependent category was 3.19 (95% CI, 1.18–5.54) compared to the independent category, and for any MDRO the

Table. Distribution of Hand Contamination with MDROs by Level of Independence

	Independent (n = 298)	Partially Dependent (n = 45)	Dependent (n = 56)
Any MDRO	26 (8.7)	3 (6.7)	11 (19.6)
MRSA	11 (3.7)	2 (4.4)	7 (12.5)
RGNB	13 (4.4)	0 (0.0)	1 (1.8)
VRE	4 (1.3)	1 (2.2)	3 (5.4)

Data is presented as no. (%).

Abbreviations: MDRO, multi-drug resistant organism; MRSA, methicillin-resistant *Staphylococcus aureus*; RGNB, resistant gram-negative bacteria; VRE, vancomycin-resistant *Enterococci*.

Figure 1. Odds Ratios of Dependency vs. Hand Contamination by Organism

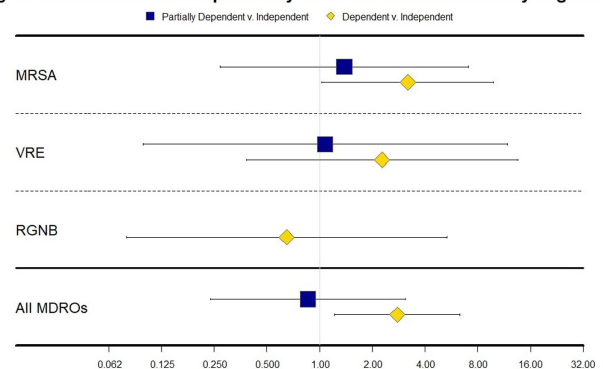
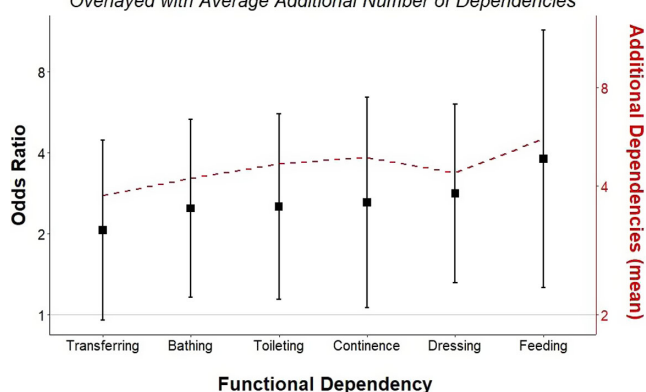


Figure 2. Functional Disability vs. Hand Contamination
Overlaid with Average Additional Number of Dependencies



OR was 2.77 (95% CI, 1.22–6.32) (Fig. 1). The OR of MRSA hand contamination in the partially dependent category was 1.38 (95% CI, 0.27–7.07) compared to the independent group, and for any MDRO the OR was 0.86 (95% CI, 0.24–3.10) (Fig. 1). Feeding dependence had the highest single association with hand contamination (OR, 3.79, 95% CI, 1.26–11.43), with dressing dependence having the second highest association with hand contamination (OR, 2.82; 95% CI, 1.31–6.05) (Fig. 2). **Conclusions:** Patients with more functional dependencies were more likely to have MDRO hand contamination. This finding suggests a need for targeted PHH interventions in patients with functional disabilities to help prevent the spread of MDROs in the acute-care setting.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s71–s72

doi:10.1017/ash.2023.320

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Hand Hygiene

Addressing frontline healthcare worker perspectives on hand-hygiene monitoring badges

Tucker Smith; Olivia Hess; Rachel Pryor; Michelle Doll and Gonzalo Bearman

Background: Hand-hygiene technology (HHT) intends to monitor and promote hand washing by healthcare workers, a critical measure of infection control. Healthcare worker noncompliance with HHT is a major limitation to its implementation and utility in clinical settings. We assessed perspectives on HHT in an academic hospital system. **Methods:** Hand-hygiene team members created an anonymous, 37-question, Likert-scale survey to assess healthcare worker attitudes toward HHT. Surveys targeted nursing staff, advanced practice providers, care partners, and internal medicine physicians. Clinical coordinators from 5 distinct nursing units and 1 physician department emailed surveys to eligible employees. Research coordinators and clinical coordinators also posted a QR code for survey fliers at nursing stations. **Results:** Overall, 120 surveys were completed. Most surveys were completed by nurses and physicians (66.4% and 14.0%). Most respondents (67.5%) do not find HHT useful. Additionally, 78.3% of respondents believe that HHT does not accurately record hand-washing events. Most (78.3%) do not like using HHT, and 75.8% find it annoying. Only 10.8% believe that patient care suffers because of HHT. **Conclusions:** Most healthcare workers dislike the HHT badges, primarily due to perceived inaccuracies, lack of utility, burden of use, and pressure to comply. Distrust and effect on patient care do not appear to be substantial factors contributing to negative perceptions of HHT. Weaknesses of the study include overrepresentation of nursing staff and

Table 1. Survey Responses

Question	Responses		
	Agree	Disagree	Neither agree nor disagree
1. I find HHT useful in my job	13% (16/120)	67% (81/120)	20% (24/120)
2. I belong to a socially cohesive team, capable of holding one another accountable for proper hand hygiene regardless of HHT use.	80% (96/120)	13% (16/120)	8% (9/120)
3. The HHT adequately records hand-washing events within their necessary clinical context (i.e. before and after a patient encounter)	10% (12/120)	78% (94/120)	12% (12/120)
4. Patient care in my unit suffers because of HHT use	11% (13/120)	52% (62/120)	38% (46/120)
5. I like using HHT	8% (10/120)	78% (94/120)	14% (17/120)
6. HHT annoys me	76% (91/120)	10% (12/120)	15% (18/120)
7. I have felt pressured to utilize HHT devices	57% (68/120)	25% (30/120)	19% (23/120)
8. I can trust the HHT	11% (13/120)	24% (28/120)	65% (78/120)
9. I can trust those who utilize and interpret HHT data (i.e. the infection prevention team and hospital epidemiologists)	42% (50/120)	28% (33/120)	32% (38/120)
10. I am worried that someone may use the HHT data against me.	38% (46/120)	17% (20/120)	46% (55/120)

potential bias because respondents may have provided exceptionally negative responses believing it could lead to the removal of HHT.

Disclosures: None

Antimicrobial Stewardship & Healthcare Epidemiology 2023;3(Suppl. S2):s72

doi:10.1017/ash.2023.321

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: Hand Hygiene

Longitudinal effects of direct observation of hand hygiene practices and monitoring of alcohol-based handrub consumption

Retsu Fujita; Rika Yoshida and Satoshi Hori

Background: In healthcare facilities, hand hygiene is important for infection control. The WHO recommends monitoring the consumption of alcohol-based handrub (ABHR) and direct observation of hand hygiene practices to ensure compliance with hand hygiene practices. Monitoring of ABHR is widely used, but direct observation is not widely performed, particularly in small facilities and non-acute-care facilities. We evaluated the effects of direct observation of hand hygiene practices and monitoring of ABHR consumption, with feedback to staff, on ABHR consumption and hand hygiene compliance. **Methods:** We conducted a prospective intervention study over a 4-year period. Monitoring of ABHR consumption and direct observation of hand hygiene practices, with periodic feedback to staff, was implemented in 17 facilities of varying types: 5 large-scale acute-care facilities, 6 middle-to-small-scale acute-care facilities, and 6 non-acute-care facilities. Statistics for ABHR consumption were calculated before and after the implementation of direct observation of hand hygiene practices, and the change in ABHR consumption was calculated. The paired *t* test was used to assess the statistical significance of changes. A generalized linear mixed model analysis was performed to assess factors associated with ABHR consumption. **Results:** The total observation time was 1,225 months (625 months before direct observation, 600 months after direct observation), and the average observation time per facility was 36.0 months (\pm 27.5). All facilities implemented ABHR consumption