

MRSA clones in both the ACH and ILTCFs. Hospital stay >14 days and exposure to percutaneous devices were additional risk factors for CC22 colonization in the ACH and ILTCFs, respectively. Pre-emptive contact precautions for prior MRSA-carriers on admission and active screening for long-stayers in the ACH could prevent intra- and interinstitutional MRSA transmission.

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### Presentation Type:

Poster Presentation

### Multidisciplinary Central-Line Bundle Audit Rounding: A Strategy to Reduce CLABSIs

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**Background:** Central venous catheter (CVC) maintenance bundle elements, including labeling IV tubing and dressings, consistently changing them, intact dressings, and dry healthy insertion sites, together have been shown to reduce risks of developing central-line-associated bloodstream infections (CLABSIs).<sup>1,2</sup> CLABSIs are a significant, but preventable, cause of mortality among critically ill patients.<sup>3</sup> In the last 12 months, the 16-bed medical intensive care unit (MICU) at a large, urban, academic facility had 2,621 central-line days, presenting many opportunities for CLABSI prevention. During that time, weekly observations assessed compliance with CVC maintenance bundle elements. **Interventions:** Multidisciplinary rounds were conducted to monitor nursing staff adherence to CVC maintenance bundle elements. The following bundle elements observed during rounds: (1) Is central-line dressing occlusive/intact? (2) Is CVC insertion site healthy with no redness/drainage? (3) Is CVC dressing labeled with insertion date? (4) Date/time of last dressing change adheres to policy? (4) All CVC tubing is labeled with date/time? (5) All CVC tubing dates adhere to policy? (6) If stopcock is present, is cap present over unused port? “Just-in-time” staff coaching was employed when noncompliance was observed. Findings were sent to leadership for manager follow-up. Staff were informed about products available within the hospital, which can improve dressing adherence and mitigate insertion-site bleeding. Education was provided to staff defining exact requirements for CVC dressings. The acronym “IDOL” was used to help remind staff of these fundamentals: (1) Intact dressing borders are well adhered, with <50% of the white border detached. (2) Drainage should be within the chlorhexidine square. (3) Occlusive means no bubbles, kinks, or wrinkles in the dressing. (4) Labeling is required and must include insertion date, date/time of change, and initials. **Results:** In the first 2 months of rounds, overall compliance averaged 85%. Compliance increased to an average of 91% during the subsequent 10 months. Early on, most fallouts were found with dressings not occlusive or intact and excessive drainage from insertion sites. Initially, 71% of sites were without excess drainage, and 57% of dressings were occlusive or intact. These measures increased to 83% and 89%, respectively, after the interventions. A 50% decrease in the number of CLABSIs was observed during the observation period, compared to the previous 12-month period. **Conclusions:** Consistent use

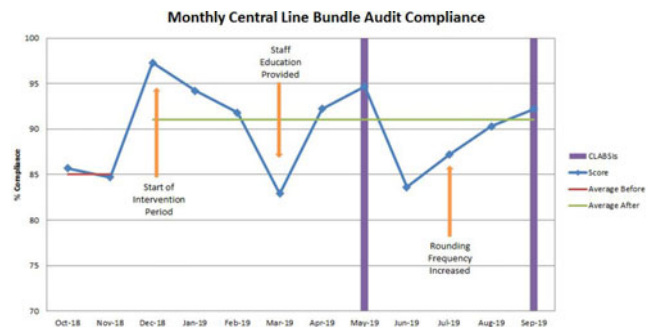


Fig. 1.

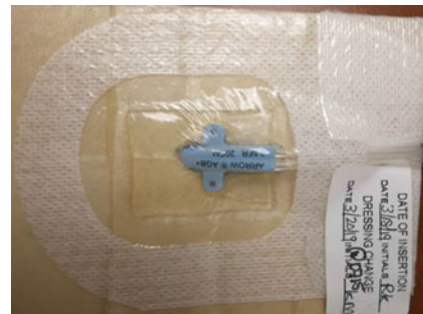


Fig. 2.

of bundles has been shown to significantly improve patient outcomes with regard to hospital-acquired infections (HAIs).<sup>3</sup> Frequent observations, education to define staff expectations, and holding staff accountable have all helped improve compliance with maintenance bundle elements. Preventing CLABSIs is not only important for patient safety and quality of care. Regulatory and accrediting agencies are now increasing their focus on infections and are tying them to reimbursement.

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### Multi-Facility Reduction in Hospital-Acquired Infections (HAIs) Through Real-Time Feedback and Individual Accountability

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**Background:** Hospital-acquired infections (HAIs) are a leading cause of healthcare morbidity and cost for the health community. It is widely recognized that hand hygiene is the leading contributor infections, but hand hygiene still remains a major problem for nearly all healthcare systems. A longitudinal study was conducted over a 4-year period in a community-based health system. **Methods:** An electronic hand hygiene reminder system was installed in 2 different facilities including both critical care and noncritical units. This system collects data on individual healthcare provider hand hygiene and provides a real-time voice reminder in the event that a provider forgets to perform hand hygiene. The primary study was designed to investigate the impact of a real-time voice reminder to improve hand hygiene. A baseline period of hand hygiene was established prior to the interventions after installing the system without any access to data reporting or the voice reminder. Each of the hospitals had the voice reminder turned on and off 3 times. The baseline HAI rates were established by comparing in each facility for the 12 months prior to the implementation of the system. During the study period, there were no significant changes to other common infection control practices. **Results:** In both facilities, every time the voices were turned on, hand hygiene improved significantly and each clinical unit saw a >200% improvement in hand hygiene within 3 months of turning the voice reminder. HAIs fell by a statistically significant in all clinical areas by 51%. After a period of stabilization, the voice reminder was turned off hand hygiene compliance fell and HAI rates then increased. The voice reminder was then turned back on and off 2 more times. In every case, hand hygiene rates fell back to the baseline and HAIs returned to their baseline. When the voice reminder was then turned back on, HAIs dropped to 54%–81% of the baseline in each of the clinical units. The system also captured individual providers' hand hygiene performance data and displayed it in a simple and engaging way, allowing managers easily understand who was struggling with hand hygiene. These data were then leveraged through a series of competitions to systematically drive hand hygiene performance improvement. These included traditional interventions to address an education issue in addition to interventions to identify workflow problems. **Conclusions:** Using this highly targeted approach, the leadership were able to efficiently drive sustained hand hygiene improvement and a further reduction in HAIs.

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#### **Multidisciplinary Response to Nosocomial Influenza**

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**Background:** Nosocomial influenza infections can be caused by direct patient-to-patient transmission, as well as bidirectionally between patient and healthcare workers (HCWs). Lapses in infection control practices (droplet precautions), and HCWs who come to work despite influenza-like illness (ILI, ie, "presenteeism") can potentiate transmission. Cocirculation of >1 strain of influenza may complicate efforts to track infections. We describe a multidisciplinary response that helped control a late winter nosocomial influenza outbreak at a time when both influenza A/H3 and A/

H1(2009) were prevalent in the community. **Methods:** Infection control practitioners detected a potential cluster of influenza A/H3 cases on an adult general medicine unit during the middle of March. The patients were spread out in nonadjacent rooms in a 30-bed unit, which suggested a possible common shared source. Further investigation revealed other potential clusters. Hospital incident command (HIC) was deployed to assess and respond to the outbreak; the incident commander was the chief medical officer (CMO) and the hospital epidemiologist was the subject matter expert. Other HIC roles were manned by nursing leadership, hospital administration, employee health, and the clinical laboratory. The group met at least daily (teleconference on weekends) until the extent of the outbreak was known and no new cases were identified. **Results:** A multipronged approach was used to control the outbreak. HCWs who reported to work with ILI symptoms were referred to employee health, tested with a PCR-based influenza screening panel, and sent home. Inpatients with ILI symptoms were tested with a comprehensive respiratory virus panel that could distinguish influenza A/H1(2009) from A/H3. Inpatients who were newly positive for influenza were evaluated to determine whether they were epidemiologically linked to an existing cluster, represented a new case of nosocomial acquisition, or were presumed to be community-acquired. The outbreak involved separate clusters caused by A/H3 and A/H1(2009) that affected 40 patients on 9 clinical units. **Conclusions:** A key component of the response was implementation of a local "mask rule": all physicians, nurses, other employees, students, and visitors were required to wear surgical masks on affected floors regardless of their vaccination status. In addition, the hospital IT team developed a dynamic spreadsheet that listed information about all nosocomial cases (location, date of onset, etc), as well as ILI call-ins for HCWs. A password-protected version was posted on the hospital intranet and facilitated cohorting of infected patients. Additionally, it allowed timely discontinuation of the local mask rule on specific units, once 2 incubation periods concluded without new cases.

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#### **Multidrug-Resistant Organism Carriage in Wisconsin Children**

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**Background:** Children attending daycare are at increased risk of carrying multidrug-resistant organisms (MDROs) compared to children not attending daycare. Carriage of MDROs greatly increases the risk of infection, not only in the child but also for others living in the household. Understanding the epidemiology of MDRO carriage in children is essential to devising effective containment strategies. Here, we present the findings from a cross-