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Reduction of MDRO Colonization in Nursing Home Residents with Routine Use of Chlorhexidine Bathing and Nasal Iodophor (Project PROTECT)

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### 1386. Reduction of MDRO Colonization in Nursing Home Residents with Routine Use of Chlorhexidine Bathing and Nasal Iodophor (Project PROTECT)

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**Background.** Nursing homes have a high prevalence of residents colonized with multidrug-resistant organisms (MDROs). These patients are at high risk for subsequent infections with these pathogens. Recent trials have demonstrated that decolonizing ICU patients reduces infections. However, the impact of decolonization on other high-risk populations is poorly understood.

**Methods.** From June 2015 to March 2016, we performed a 9-month pilot (3 month baseline, 3 month phase-in, 3 month intervention) project in 3 nursing homes to study the impact of routine chlorhexidine (CHG) bathing/showering combined with use of nasal iodophor × 5 days on admission followed by every other week. Our primary outcome was body colonization with 4 MDROs, methicillin-resistant *S. aureus* (MRSA), vancomycin-resistant *Enterococcus* (VRE), extended spectrum beta-lactamase + (ESBL), and carbapenem-resistant *Enterobacteriaceae* (CRE). We performed 6 sweeps of a random sample of 50 residents in both baseline and intervention periods, surveying skin (for MDROs) and nares (for MRSA). We also swabbed a standardized set of 5 commonly touched fomites in rooms of MDRO+ residents for MDRO environmental contamination.

**Results.** During the baseline period, 272/605 (45%) of residents were colonized with MDROs. After intervention implementation, there were significant ( $P < 0.05$ ) decreases in prevalence of MRSA (29% to 19%), VRE (12% to 4%), and ESBL (15% to 9%). CRE prevalence was rare (1%). Presence of any MDRO was reduced from 45% to 29% ( $P < 0.001$ ). In a multivariate model, clearance of MDROs was strongly associated with the intervention period (OR 0.41 [95% CI 0.36–0.55]) when adjusting for clinical characteristics (table). Residents tolerated the products well and staff acceptance was high. Contamination on >1 fomite in rooms of MDRO carriers was 88% before the intervention and 82% afterwards.

**Conclusion.** Routine use of CHG and nasal iodophor was pragmatically adopted into routine care within 3 months and associated with a marked reduction in MDRO prevalence among nursing home residents.

Factors Associated with MDRO Colonization During Study, OR [95% CI]

Intervention Period

0.41 [0.37–0.55]

Bed Bound Status

1.64 [1.23–2.20]

Incontinence

1.37 [1.09–1.71]

Foley Present

1.91 [1.38–2.64]

**Disclosures.** L. Miller, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Clorox: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product J. A. Mckinnell, Theravance Pharmaceuticals: Consultant and Speaker's Bureau, Research support and Speaker honorarium R. Singh, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Clorox: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product A. Gombosev, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Molnlycke: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Clorox: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product T. Dutciuc, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product D. Kim, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Clorox: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product M. Estevez, Sage Products: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product Clorox: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product 3M: Conducting studies in healthcare facilities that are receiving contributed product, Conducting studies in healthcare facilities that are receiving contributed product S. S. Huang, Sage Products: Conducting studies in which participating healthcare facilities are receiving contributed product (no contribution in submitted abstract), Participating healthcare facilities in my studies received contributed product Molnlycke: Conducting studies in which participating healthcare facilities are receiving contributed product (no contribution in submitted abstract), Participating healthcare facilities in my studies received contributed product Clorox: Conducting studies in which participating healthcare facilities are receiving contributed product (no contribution in submitted abstract), Participating healthcare facilities in my studies received contributed product