Value and Evidence Base for Universal Decolonization in Nursing Homes

Decolonization refers to the use of topical products to reduce germs on the body that can produce harmful infections. In healthcare, this often includes chlorhexidine gluconate (CHG) soap for bathing and showering plus nasal decolonization with an antibiotic or antiseptic product such as 10% iodophor (povidone-iodine).

Benefits proven in large clinical trials

Decolonization has been proven in large clinical trials to reduce infection in high-risk groups, such as critically ill patients, those with medical devices, and recently discharged MRSA carriers. As a result, CHG has been the gold standard for bathing in hospital ICUs for over a decade.

Decolonization success in nursing homes

More than half (65%) of nursing home residents are colonized with a multidrug-resistant organism (MDRO). The adoption of universal decolonization by nursing homes through the AHRQ-funded Protect Trial and a large, CDC-funded regional collaborative called SHIELD Orange County resulted in **protection of nursing home residents from infection, hospitalization, and serious antibiotic-resistant pathogens.**

Product safety

CHG soap and iodophor are available over the counter and have been safely used for over 70 years in healthcare. Many nursing homes in Southern California have been using these products for 7 years with an excellent safety record.

Decolonization Benefits in Nursing Homes

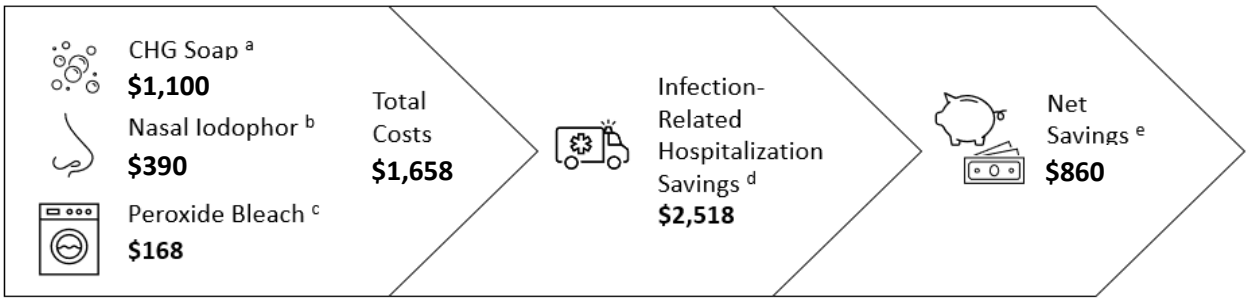
The below results are from the Protect Trial and were redemonstrated during the SHIELD regional intervention, both of which involved pragmatic adoption of decolonization in nursing homes.

Residents less colonized by MDROs	***Residents less likely to be hospitalized***
✓ Any MDRO **30% reduction** ✓ MRSA **27% reduction** ✓ VRE **71% reduction** ✓ ESBL **50% reduction**	✓ Overall hospitalization rate **18% reduction** ○ 1 hospitalization prevented for every 9 residents treated ✓ Infection hospitalization rate **31% reduction** ○ 1 infection-related hospitalization prevented for every 10 residents treated
Decolonization results in fewer MDROs, less MDRO colonization, and fewer residents on contact precautions	**Decolonization prevents 1.9 infection-related hospitalizations *per month* per 100 beds**

For toolkit documents, see:
https://www.ucihealth.org/shield/nursing-home-decolonization-toolkit

Decision Making and Costs

Estimated Monthly Savings for a 100-Bed Nursing Home = $860



a. **Switching from regular soap to CHG soap**
   - Assumes baseline use of 50 gallons regular soap/month at $20/gallon (gal) = $1,000/mo
   - Assumes 35 gal of CHG at $60/gal = $2,100/mo (CHG protocol uses less volume of soap)
   - Difference = $1,100 added product cost/month

b. **Purchasing nasal iodophor.** $6.95 for box of 50 swabs. At perfect compliance, a 100-bed nursing home uses: 2 swabs (one/nostril) x 2 times/day x 10 days/month x 100 residents = 4,000 swabs (80 boxes). Studies suggest 70% compliance, at cost of $390/mo.

c. **Switching from chlorine to peroxide bleach.** Estimated costs are for 20 gal/month. Chlorine bleach: $65/5-gal or $260/mo. Peroxide: $107/5-gal or $428/mo. Difference per month is $168. Some laundry contracts with a fixed price per bed do not incur additional cost when switching from chlorine to peroxide bleach.

d. **Decolonization prevents 1.9 infection-related hospitalizations per month per 100 beds.** A 100-bed nursing home would save $2,518 per month by preventing 5.3 bed-hold days per hospitalization at $250 per day.

e. **A 100-bed nursing home saves an estimated $860/month by adopting decolonization.**