Decolonization QAPI Program (Quality Assurance and Performance Improvement)



[Facility Name]

PROGRAM OVERVIEW & PURPOSE

PROGRAM name: Decolonization QAPI Program (SHIELD: Shared Healthcare Intervention to Eliminate Life-threatening Dissemination of Multidrug-Resistant Organisms (MDROs))

Problem to be solved:

- Healthcare-associated infections (HAIs) due to MDROs are a recognized public health threat.
- U.S. nursing home residents experience nearly 3 million HAIs each year, leading to 150,000 hospitalizations and over 350,000 deaths.
- Nursing home residents have more than 5-fold the amount of MDROs, such as MRSA, as compared to hospitals.¹⁻⁵ Carriage with MDROs is associated with infection.
- Recent estimates show that 64% of nursing home residents harbor at least one MDRO.³

Background:

- To address the threat of MDROs in our nursing home, we are adopting a decolonization strategy that has been *proven to reduce MDROs and HAIs* in large scale clinical trials and are considered a common set of activities to address high MDRO prevalence.⁶⁻⁹
- Decolonization includes use of antiseptic soap for bathing and showering and topical iodine in the nose to protect residents from MDROs. These products are available over-the-counter and have been safely used in healthcare for over 60 years.
- This strategy is not novel. Currently, 80-90% of U.S. hospitals use universal decolonization in their ICUs as standard nursing protocols.
- We view this strategy as a broad solution to prevent transmission of MDROs among residents in our nursing home and to reduce bacterial infections.
- This is a minimal risk strategy that our facility is approving as a *standing nursing protocol for all residents* as part of the admission agreement.
- We see this infection prevention and control quality improvement program as responsive to the Centers for Medicare and Medicaid Services (CMS) QAPI requirement and as an opportunity to reduce MDROs in our nursing home.

Goal(s) for this program:

- Reduce multi-drug resistant organisms (MDROs) in our nursing home
- Protect our residents from infection

Scope and Protocol:

- We are adopting an evidence-based preventative decolonization protocol as a quality improvement initiative approved by our nursing home leadership and Quality Assessment and Assurance (QAA) committee.
 - Our facility uses the following products to protect all residents during their stay:
 - ✓ Antiseptic over-the counter soap called chlorhexidine (CHG) for all bathing and showering needs, starting on admission
 - ✓ Iodophor nasal product to remove bacteria from the front of the nose on admission and every other week after admission. This helps remove MRSA and other organisms that commonly cause infection. The swabs are given for 5 days twice a day and keep nasal germs away for about a week.
- This QAPI activity will be integrated across all care and service areas
- Refer to SHIELD Nursing Protocol

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PROGRAM APPROACH

PROGRAM Timeline:

Program Phase	Activities	Date(s)
Baseline Assessment	Measure baseline prevalence of HAIs	
QAA Approval	This project is approved as a QI project involving a standing nursing protocol. Approval is documented in our meeting minutes.	
Resident	Discussion at Resident's Council meeting	
Communications	Ombudsman notification	
communications	Resident Admission Packet letter	
Staff Training	Direct-to-staff training with post-test	
Protocol	Switch to antiseptic soap for bathing/showering	
	Launch nasal decolonization protocol	
	Measure and assess protocol adherence. Our goal	
Implementation	for protocol adherence is 85%.	
	Monitor and assess product acceptance and	
	tolerability. Report side effects.	
Final Assessment	Measure prevalence of HAIs	

Program Team and Responsibilities:

Role(s)	Person(s) Assigned	
Facilitate data collection	 Director of Staff Development and 	
 Inform and speak to residents 	Director of Nursing	
Oversee staff training		
Oversee protocol adherence		

Resources:

- SHIELD Standardized Nursing Protocol
 SHIELD Training Module with Post-Test
 SHIELD Training Video for Nurses

Anticipated Barriers:

What could get in the way of success?	Possible Solutions	
Acceptance of product	 ✓ Provide information letter on admission (in admit packet) ✓ Use Resident Talking points ✓ Discuss at Resident's Council ✓ Discuss with individual residents and ombudsman 	
Low adherence of program protocols	 ✓ Measure/analyze adherence ✓ Continuous staff education 	

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REFERENCES

- Reynolds C, Quan V, Kim D, et al. Methicillin-resistant Staphylococcus aureus (MRSA) carriage in 10 nursing homes in Orange County, California. Infect Control Hosp Epidemiol. 2011; 32(1):91-3.
- McKinnell JA, Miller LG, Singh R, et al. Prevalence of and Factors Associated With Multidrug Resistant Organism (MDRO) Colonization in 3 Nursing Homes. Infect Control Hosp Epidemiol. 2016 Dec;37(12):1485-1488. Epub 2016 Sep 27.
- 3) Singh RD, Jernigan JA, Slayton RB et al. The CDC SHIELD Orange County Project– Baseline MDRO Prevalence in a Southern California Region. 2017 IDWeek abstract
- 4) Mody L, Kauffman CA, Donabedian S, Zervos M, Bradley SF. Epidemiology of Staphylococcus aureus colonization in nursing home residents. Clin Infect Dis. 2008 May 1;46(9):1368-73. doi: 10.1086/586751.
- 5) Pineles L, Morgan DJ, Lydecker A, et al. Transmission of methicillin-resistant Staphylococcus aureus to health care worker gowns and gloves during care of residents in Veterans Affairs nursing homes. Am J Infect Control. 2017 Apr 18. pii: S0196-6553(17)30200-6.
- Huang SS, Septimus E, Kleinman K, et al. the CDC Prevention Epicenters Program; the AHRQ DECIDE Network and Healthcare-Associated Infections Program. Targeted versus Universal Decolonization to Prevent ICU Infection. N Engl J Med. 2013 Jun 13;368 (24):2255-65.
- 7) Climo MW, Yokoe DS, Warren DK, et al. Effect of daily chlorhexidine bathing on hospitalacquired infection. N Engl J Med. 2013 Feb 7;368(6):533-42.
- Milstone AM, Elward A, Song X, et al. Daily chlorhexidine bathing to reduce bacteraemia in critically ill children: a multicentre, cluster-randomised, crossover trial. Lancet. 2013;381(9872):1099-106.
- 9) Huang SS, Singh S, McKinnell JA, et al. Decolonization to Reduce Postdischarge Infection Risk Among MRSA Carriers. N Engl J Med 2019; 380:638-50.
- 10) Miller LG, McKinnell JA, Singh R, et al. Reduction of MDRO Colonization in Nursing Home Residents with Routine Use of Chlorhexidine Bathing and Nasal Iodophor (Project PROTECT). IDWeek (5th Annual Joint Meeting of IDSA, SHEA, HIVMA, and PIDS), October 26-30, 2016 (New Orleans, LA).