Enhanced Barrier Precautions in Skilled Nursing Facilities

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Objectives

- Describe Enhanced Barrier Precautions (EBP)
- Discuss why EBP are recommended to be used in nursing homes
- Explain methods for successful implementation of EBP
Standard Precautions and Contact Precautions
Standard Precautions

Used with all resident care based on an assessment of risk to protect healthcare providers and prevent spread of infection
Standard Precautions Practices

- Perform hand hygiene
- Use personal protective equipment (PPE) whenever there is expectation of possible exposure to infectious material
- Follow respiratory hygiene/cough etiquette
- Ensure appropriate patient placement
- Properly handle, clean and disinfect equipment, instruments, and devices
- Clean and disinfect environment appropriately
- Handle textiles and laundry carefully
- Follow safe injection practices
- Handle needles and sharps safely
Using PPE as Part of Standard Precautions

Used with all residents whenever there is an expectation of possible exposure to infectious material

- **Gloves**
  - Use when anticipating touching blood, body fluids, secretions, excretions, contaminated items, and touching mucous membranes or non-intact skin

- **Gown**
  - Use during any procedure and resident care activity when contact is anticipated with blood/body fluids, secretions, or excretions

- **Mask, goggles, or face shield**
  - Use during any activity likely to generate splashes or sprays with blood, body fluids, secretions, or excretions
Contact Precautions

- Used to prevent spread of germs via contact from individual with known or suspected infection
- Gown and gloves must be used for all room entries and care activities
- Room placement:
  - Single-person room is ideal*
  - Room restriction except for medically necessary care
- Intended to be time-limited to reduce transmission during limited infectious period

*If single-person rooms are not available, case-by-case decisions regarding placement should consider infection risks to other patients/residents in the room and available alternatives
Enhanced Barrier Precautions
What are Enhanced Barrier Precautions (EBP)?

A risk-based approach to PPE use designed to reduce the spread of multidrug-resistant organisms (MDROs)

The use of gown and gloves during high-contact resident care activities for residents at high risk of colonization* with an MDRO to disrupt spread

Expands the use of PPE beyond situations in which exposure to blood and body fluids is anticipated

Used in coordination with good infection prevention and control measures

*Colonization means that the organism can be found in or on the body, but it is not causing any symptoms or disease
What are High-Contact Resident Care Activities?

- Dressing
- Bathing/Showering
- Transferring
- Providing Hygiene
- Changing Linens
- Changing Briefs or Assisting with Toileting
- Device Care or Use
  - Indwelling catheter
  - Trach/vent
  - Central line
  - Feeding tube
- Wound Care
  - Generally defined as the care of any skin opening requiring a dressing
When Should I Use Enhanced Barrier Precautions?

Residents with any of the following:

- Infection or colonization with an MDRO when Contact Precautions do not apply
- Wounds
- Indwelling medical devices (e.g., central line, urinary catheter, feeding tube, tracheostomy, ventilator)
What Does “when Contact Precautions do not apply” Mean?

Contact Precautions should be used for all residents infected or colonized with an MDRO who also have:

- Presence of acute diarrhea
- Draining wounds or other sites of secretions or excretions that are unable to be covered or contained
- For a limited time period on units or in facilities during an investigation of a suspected or confirmed MDRO outbreak

Residents who have another infection or condition for which Contact Precautions is recommended on Appendix A
What MDROs are Included With EBP?

Examples of MDROs Targeted by CDC:
- Pan-resistant organisms
- Carbapenemase-producing carbapenem-resistant Enterobacterales
- Carbapenemase-producing carbapenem-resistant *Pseudomonas* species
- Carbapenemase-producing carbapenem-resistant *Acinetobacter baumannii*
- *Candida auris*

Additional epidemiologically important MDROs may include, but are not limited to:
- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- ESBL-producing Enterobacterales
- Vancomycin-resistant *Enterococci* (VRE)
- Multidrug-resistant *Pseudomonas aeruginosa*
- Drug-resistant *Streptococcus pneumoniae*
Enhanced Barrier Precautions (EBP)

Use EBP when performing high-contact resident care activities and for residents who meet criteria for the use of EBP

- Includes the use of gown and gloves
- Resident does not need a private room
- Resident may participate in communal activities and is not restricted to room
- Intended to be used for the resident’s entire length of stay in the facility
## Differences Between Contact Precautions and Enhanced Barrier Precautions

<table>
<thead>
<tr>
<th>Contact Precautions</th>
<th>Enhanced Barrier Precautions</th>
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</thead>
<tbody>
<tr>
<td>• Gown and gloves for all room entries and for all activities</td>
<td>• Gown and gloves only for high-contact resident care activities</td>
</tr>
<tr>
<td>• Private room ideal</td>
<td>• No private room</td>
</tr>
<tr>
<td>• Room restriction except for medically necessary care</td>
<td>• No room restriction and may participate in communal activities</td>
</tr>
<tr>
<td>• Recommended to be time limited</td>
<td>• Recommended for duration of stay</td>
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</table>
Infection Prevention and Control Measures
Infection Prevention and Control

- Hand Hygiene
- PPE Use
- Environmental Cleaning and Disinfection
- Auditing
- Communication
Hand Hygiene

Use Alcohol-Based Hand Sanitizer prior to and after performing any hands-on activity with resident

Including before and after donning and doffing gloves

Recommendation to use soap and water if hands are visibly soiled, before eating, and after using the restroom
PPE Use

• Ensure staff understand when and what types of PPE are recommended during activities with residents

• Ensure appropriate storage and accessibility of PPE at point of care locations
Environmental Cleaning and Disinfection

- Develop and maintain a “Who Cleans What” list
- Clean and disinfect high touch surfaces at least daily
- Reduce the number of products used for cleaning and disinfection
- Clean and disinfect reusable medical equipment after every use (i.e., vital sign machines, glucometers, transfer lifts)
• Monitor adherence to infection prevention and control (IPC) practices

• IPC practices include hand hygiene, putting on/taking off (don/doff) PPE, environmental surface and equipment cleaning and disinfection

• Can be either paper or electronic documentation

• Provide prompt (real-time) regular feedback on adherence and related outcomes to healthcare personnel and facility leadership
Communication

- Use appropriate and legible signs for precautions
- Maintain an up-to-date list of residents meeting criteria for precautions
- Notify internally (unit, floor) and externally (hospital, doctor’s office) about a resident’s MDRO status and precautions recommended to be used
Why Enhanced Barrier Precautions?
The Need For Enhanced Barrier Precautions

- High burden of MDRO colonization in nursing homes and with nursing home residents
  - Many facilities do not know which residents are colonized
  - Colonized residents are at increased risk of MDRO infection
- Provides a method for reducing the transmission or spread of MDROs without isolating the resident
Why Nursing Homes?

• Residents with complex medical needs are at higher risk for acquiring MDROs
• Standard Precautions often have not been successfully implemented in nursing home settings
• Allows for a more effective response to serious antibiotic resistant threats
• Reduces the necessity for Contact Precautions
Residents Have Higher Risks of Infection

- Age-related decrease in immune response
- Complex comorbid conditions
- Functional and cognitive deficits requiring high level of dependence
- Frequent antibiotic use
- Indwelling medical devices
High Prevalence of MDROs in Nursing Homes

- 48% of residents with MDRO
  - Only 4% had a known MDRO (shown in black)
  - 44% had MDRO only identified during screening (shown in blue)

- Factors associated with MDRO colonization:
  - Urinary catheters
  - Bed bound
  - Gastrointestinal devices

McKinnell, et al. 2020
MDRO Transmission Occurs Often During High-Contact Resident Care Activities

Highest risk activities for MDRO transmission

- Dressing resident
- Bathing/showering
- Transferring
- Providing hygiene
- Changing linens
- Diaper change/toilet assist
- Device care or use

Roghmann, et al. 2015
Blanco, et al. 2017
Targeted Gown and Glove Use to Reduce MDRO Transmission

- Adherence to gown and glove use by nursing home staff was excellent
- Using EBP, MDRO transmission decreased
- Results support EBP as an evidence-based approach to preventing transmission of MDROs with targeted gown and gloves use

Lydecker, et al., 2020
Maintains a Homelike Environment

- Allows group activity participation
- May use communal dining
- No room restrictions
EBP Balances Safety With Quality

- Resident Safety
- Quality of Life
- MDROs
Multidrug-resistant organism (MDRO) transmission is common in skilled nursing facilities, contributing to significant morbidity and mortality for residents and increased costs for the health care system.

Enhanced Barrier Precautions (EBP) is an approach of targeted gown and glove use during high contact resident care activities, designed to reduce transmission of S. aureus and MDROs.

EBP may be applied (when Contact Precautions do not otherwise apply) to residents with any of the following:
- Wounds or indwelling medical devices, regardless of MDRO colonization status
- Infection or colonization with an MDRO

Effective implementation of EBP requires staff training on the proper use of personal protective equipment (PPE) and the availability of PPE with hand hygiene products at the point of care.
Review Methods for Successful Implementation of Enhanced Barrier Precautions (EBP): Lessons Learned Through an EBP Pilot
EBP Pilot: The Basics (Criteria and Plan)

Criteria
- Colonization or infection with any MDRO
- Wounds and/or indwelling medical devices
- EBP implemented facility wide in a variety of different long-term care facilities

Project Plan
- 2-4 weeks for implementation
- 3 months of intervention
EBP Pilot:
The Basics
(Outcomes)

- Staff adherence to EBP
- Staff, resident, and family member feedback
- Description of residents meeting EBP criteria
- Change in hospitalization and infection rates
- Burden, including cost
Implementation Plan Step 1 - Developing Buy-In

• Essential
  • Corporate clinical and operational leaders
  • Facility medical, clinical, and operational

• Staff
• Held meetings
• Explained what EBP is and rationale
• Benefits – reduction of MDROs
  • Residents
  • Admissions – reduced cohorting issues and bed lock
    • Colonization pressure
  • Cost – infections and hospital transfers

• Impact
Dear Medical Provider,

We want to inform you that our center is participating in a collaborative project with the CDC to learn best practices for implementing Enhanced Barrier Precautions (EBP). EBP expands the use of personal protective equipment (gowns and gloves) beyond situations in which exposure to blood and body fluids is anticipated to use during high contact resident care activities (for example, bathing, incontinence care, transfers, device/wound care) that provide opportunities for transfer of MDROs to staff hands and clothing.

During the project, which runs until the end of March 2020, you will likely see more precautions signs and PPE carts in the center. The focus is on containing carbapenemase-producing organisms, but we are also trialing EBP use with common MDROs such as MRSA, VRE, and ESBL.

If you have any questions or concerns, please reach out to us.

 Regards,
Implementation Plan Step 2 – Selecting Implementation Method

Methods of introducing new practices
- Read and sign
- On unit brief inservice
- Group inservice
- Quality Improvement initiative

The PDSA Cycle for Learning and Improvement

- **Plan**
  - Objective
  - Questions & predictions
  - Plan to carry out: Who? When? How? Where?

- **Do**
  - Carry out plan
  - Document problems
  - Begin data analysis

- **Study**
  - Complete data analysis
  - Compare to predictions
  - Summarize

- **Act**
  - Ready to implement?
  - Try something else?
  - Next cycle

- **What’s next?**
- **What will happen if we try something different?**

- **Let’s try it!**
- **Did it work?**
Implementation Plan Step 3 – Develop Implementation Plan

- Planning
- Training and Education to staff
- Education for residents, families, and visitors
- Communication
- Ordering/stocking Precautions signs
- Supply of PPE and isolation carts
- Location sites for isolation carts
- Locations of ABHR dispensers
- Locations of disinfectant wipes
- Implementation as a standing item in QAPI
- Identify residents with qualifying characteristics for placement on EBP
  - Maintain this list
- Placement of residents on EBP or Contact Precautions
- Documentation - line list, care plan
Example of the PPE Section of Implementation Plan

- Determine current PPE on hand (gowns – in universal and extra large size, gloves – all sizes, face protection – masks, goggles, face shields)
- Review current storage of PPE in central supply space. Is the space adequate for larger quantities of PPE – gowns specifically?
- Determine who will stock the PPE to the carts on the units and frequency to ensure products are available each shift.

9. Walk the halls. Determine location sites for isolation/PPE carts on each unit based on the location of patients placed on Enhanced Barrier or Contact Precautions
   - Determine the frequency, process, and person(s) responsible for cleaning and disinfection the isolation carts in between patient use
   - Determine need to purchase additional PPE carts on wheels and schedule of purchasing

10. Determine locations of ABHR dispensers in patient rooms and/or in hallways for

| Consider egress in hallways, location of red emergency power outlets in determining location of carts |
| PPE must be readily (immediately) accessible to staff |
| Carts must be on wheels, so are not permanent fixtures in the hallway, but are easily movable |
| Consider ease of use and workflow |
Welcome to Our Center!

We are committed to a culture of patient safety in this facility, from the nursing staff, to the administrative office, to the environmental services department. The infection prevention and control department would like to share with you some of the clinical practices we use to prevent the spread of germs here, all based on nationally recognized standards of care.

You will notice that our staff may wear personal protective equipment, or PPE, such as gowns and gloves for patient care, such as bathing, dressing, grooming, toileting and changing linens.

This is in accordance with CDC recommendations for certain standards of patient care and also as a result of a deeper commitment to protecting you or your loved one from the germs of the patient we last cared for.

Our staff take care of many patients, and like honeybees, if we are not careful, can transfer germs from patient to patient, just like a honeybee pollinates flowers in a field. We don’t want to be honeybees. We want to provide safe, effective and competent care for you or your loved one, by wearing the proper PPE to prevent the risk of transmission.

If you have any questions about this practice, please ask to speak to your nurse or the Infection Preventionist for this facility.

Thank you!
Talking Points for State Surveyors

• We just wanted to inform you that our center is currently collaborating with the Center for Disease Control and Prevention (CDC) regarding Enhanced Barrier Precautions

• Facilities should contact their local state survey agency when implementing Enhanced Barrier Precautions

• The purpose of the collaboration, which will last through the end of March 2020, is to establish best practices for the implementation of Enhanced Barrier Precautions to be used as a standard of practice rather than just for containment
Common Issues – Isolation Carts

- Re-stocking of PPE
- Number of carts needed
- Concerned about egress
- Fear carts would be considered “stationary” by surveyors since not moved frequently
- Clutter in hallways - carts and other equipment, especially during AM care (lifts, linen carts)
- No room for residents to sit in the hallway if they wanted to
- Carts – identified a generic cart from a national retail chain that was slimmer and wider, could accommodate twice the PPE
- **Always use carts on wheels**
- **Best Practice:** 1 cart per 2-4 rooms worked best, depending on style of cart
Life Safety Code

The Life Safety Code and health care corridor width

According to NFPA 101, Life Safety Code, new health care facilities are required to have corridors 8 feet (2.4 meters) “in clear and unobstructed width.” This has long been an issue in health care occupancies, where medical equipment and other items are often found in corridors or hung from corridor walls. The 2012 edition of the Life Safety Code made some significant changes regarding placement and use of items in corridors in health care occupancies, which was done to improve the quality of life, particularly in nursing homes, and to recognize the operational needs in hospitals.

The code now allows groups of furniture in corridors, provided the corridor is at least 8 feet wide. This allows for seating areas that can be used by residents and visitors, and as “rest stops” for occupants who cannot walk far without needing a rest. This allowance for furniture in the corridors also helps nursing homes provide a more home-like and friendlier environment. The furniture must be secured to the wall or floor, arranged so it leaves at least 8 feet (1.8 meters) clear in the corridor, and located only on one side of the corridor. Each grouping of furniture can be no larger than 50 square feet (4.6 square meters), and each grouping must be separated by at least 10 feet (3 meters). Also, corridors within the smoke compartment either need to be protected with smoke detection, or the fixed furniture locations need to be visible from a nurses’ station.

The Life Safety Code also allows non-continuous projections from the walls up to 6 inches (15 cm) deep, provided these projections are a minimum of 38 inches (96 cm) above the floor, which elevates them above a caregiver and cart height. This allows for telephones, flat-screen charting stations, and other items to be mounted on the corridor walls.

The Life Safety Code also expanded its provisions for wheeled items in the corridor. Projections into the corridor for wheeled equipment are permitted under three conditions: where the equipment does not reduce the corridor width to less than five feet (1.5 meters), where the fire plan provides for the repositioning of the equipment in an emergency; and where the wheeled equipment is limited to equipment in use, emergency medical equipment such as crash carts or isolation carts, and patient lift and transport equipment. This last item is new. It is important that patient lift equipment be located nearby so staff can move patients as needed, and the facility will need to be careful with such equipment so that it does not block access to emergency equipment, fire and smoke door operation, or access to exits. Obviously, staff training will be important.
Alcohol-Based Hand Rub and Disinfectants

- ABHR in resident rooms
- Concern surveyors would issue citation
- Single-use packets for nurse procedures
- Products group to research tamper proof ABHR dispensers, if available
- Sent facilities life safety and other codes for amount and location of ABHR dispensers
- Institutional feel rather than home-like when adding more hallway ABHR dispensers
- Some facilities placed canisters of disinfectant wipes in the bottom drawer of the precaution carts making it easier for staff to disinfect equipment, etc.
- Two of these facilities went through annual survey and the surveyors found no issues with this practice
Placement of Hand Hygiene Dispensers

8.4.2 Alcohol-Based Hand Rub Dispensers. Alcohol-based hand rub dispensers shall be protected in accordance with 8.3.3, unless all of the following conditions are met:

1. Where dispensers are installed in a corridor, the corridor shall have a minimum width of 6 ft (1.82 m).
2. The maximum horizontal distance from the edge of the dispenser shall not exceed 6 ft (1.82 m) for dispensers in corridors, or 8 ft (2.44 m) for dispensers in areas of rooms.
3. When such containers are used, the minimum capacity of the annual supply of hand sanitizer shall be 1500 ml (50.7 fl oz).
4. Dispensers shall be equipped with push bars or levers that lock the dispenser face when the dispenser is not in use. (10.28.1.2)
5. Not more than an aggregate 0.8 g (28.7 mg) of alcohol-based hand rub solution or 1.0 mL (0.04 fl oz) of hand sanitizer in a container shall be used within a room if that room shall not be included in the aggregate exposure addressed in 10.4.1.2.
6. The storage of quantity greater than 3 g (10.6 fl oz) in a dispenser shall comply with the requirements of NFPA 30.
7. Dispensers shall not be installed in the following locations:
   a. Area in which an ignition source within 3 m (10 ft) and horizontal distance from the ignition source exceeds 6 ft (1.82 m)
   b. Near the edge of a large, horizontal display that is out of reach of the dispenser
   c. In an area where the dispenser is inoperable
   d. In an area where the dispenser is not in use.
8. Dispensers shall be located in a manner that promotes consistent use with the dispenser, such as in latch, grab, or push bar

CACY: http://www.who.int/infection-prevention/campaigns/clean-hands

ABHR is the most effective method for hand hygiene in health care facilities and least likely to lead to skin breakdown in health care workers. Hand hygiene is the cornerstone of infection control in health care settings.

IN LTCFs:

Ensure that the ABHR dispensers are widely available and easily accessible to residents and staff.

R dispensers at the entrance to each patient room. Ideally, dispensers are accessible to health care workers.

Provide compliance with the following:

1. Place ABHR dispensers near the nurses' station. Provide instruction in an otherwise empty pocket or clipped onto their person. Use hand hygiene in your locked units. Train staff on how to properly use individual demonstrated competency.
Common Issues – PPE

- Amount of cumulative time for staff to comply with donning/doffing PPE
- KEY- plan ahead and bundle care
- Vent unit Respiratory Therapists
- Vent center - increase garbage pick up
- Ordered larger trash cans with lids for resident rooms to accommodate more PPE
Staff Education and Notification

- EBP policy and procedure
- MDRO-EBP care plan developed and placed into EMR
- Incorporated education into general orientation
  - Completed competency testing on hand hygiene and donning/doffing PPE for all new hires
- Developed and delivered discipline specific education
- Obtained EBP sign for doors
- One center used a yellow highlighter on the CNA kardexes
- Yellow dots on room nameplates
Center Infection Preventionist Constraints

• Challenge to implement for some IPs due to competing demands:
  • Plans of Correction
  • Influenza program implementation
  • Staffing
  • Expecting state survey at any time
  • One DON took charge of implementing as she shared IP with another center
## Observation Tool: Enhanced Barrier Precautions / Contact Precautions

<table>
<thead>
<tr>
<th>Center:</th>
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</table>

<table>
<thead>
<tr>
<th>Staff Type* &amp; Date</th>
<th>Type of Opportunity</th>
<th>HI Performed?</th>
<th>Enhanced Barrier (E) or Contact Precautions (C)</th>
<th>Gown and Gloves Used?</th>
<th>Gown/Gloves Changed Between Patients?</th>
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<tbody>
<tr>
<td>MD</td>
<td>Room Entry</td>
<td>No HH Done</td>
<td>E</td>
<td>Both</td>
<td>Yes</td>
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**Process Surveillance**
Staff and Resident Comments

November
“I’m always going to have to put this one? It’s too much to put on each time.”

CNA “Time consuming, takes away from prompt response and time with residents.”
CNA “No residents voicing complaints – residents and families do not have a problem voicing concerns.”
IP “Feels like everyone being admitted has an MDRO.”

December
IP “No residents refused; they like the extra protection. Staff have incorporated into their workflow.”

January

February
CNA “In the beginning, it was hard, had to go in-and-out of room because I forgot something. But then I got used to it and it makes me plan ahead – what am I going to need, not it’s not bad and it’s not adding time.”

February
IP “Resident’s families coming in expecting precautions because used in hospital”
Resident “Staff wears gowns and gloves during care, doesn’t make me feel bad.”
Resident “Doesn’t bother me. Did request clarification again as to why staff wearing PPE.”
## Staff Adherence to EBP PPE

<table>
<thead>
<tr>
<th>PPE</th>
<th>Nurse Aide</th>
<th>Nursing (LPN, nurse, RN)</th>
<th>Clinical (MD, NP)</th>
<th>Respiratory Therapy</th>
<th>Rehab</th>
<th>Environmental Services</th>
<th>Grand Total</th>
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<tbody>
<tr>
<td><strong>Gown and Gloves</strong></td>
<td>n: 87</td>
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<td>n: 52</td>
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<td><strong>Gloves only</strong></td>
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Hand Hygiene Performance

- Total = 246 observations
  - Nurse Aides: 86% (91)
  - Nursing: 75% (51)
  - Clinical: 60% (6)
  - Rehab: 86% (12)
  - Respiratory Therapy: 100% (25)
  - Environmental Services: 75% (12)
Why Did Residents Meet Criteria For EBP?

<table>
<thead>
<tr>
<th>Indication</th>
<th>Number of EBP Residents Total = 319</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wounds</td>
<td>138</td>
<td>43%</td>
</tr>
<tr>
<td>Indwelling Device</td>
<td>149</td>
<td>47%</td>
</tr>
<tr>
<td>Novel/Target Organism</td>
<td>12</td>
<td>4%</td>
</tr>
<tr>
<td>Any other MDRO</td>
<td>141</td>
<td>44%</td>
</tr>
</tbody>
</table>
Proportion of Residents Meeting EBP Criteria in Different Facilities

<table>
<thead>
<tr>
<th>Center Description</th>
<th>Met EBP Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Center #1:</strong></td>
<td></td>
</tr>
<tr>
<td>• Mostly long-stay residents</td>
<td>66/238 = 28%</td>
</tr>
<tr>
<td>• Short-stay unit</td>
<td>• MDRO = 36 (55%)</td>
</tr>
<tr>
<td>• CENSUS = 238</td>
<td>• Wound = 29 (44%)</td>
</tr>
<tr>
<td></td>
<td>• Device = 23 (35%)</td>
</tr>
<tr>
<td></td>
<td>*20 (30% met &gt;1 criteria)</td>
</tr>
<tr>
<td><strong>Center #2:</strong></td>
<td>10/110 = 9%</td>
</tr>
<tr>
<td>• Short-stay only</td>
<td>• MDRO = 2 (20%)</td>
</tr>
<tr>
<td>• Average LOS ≤ 2 weeks</td>
<td>• Wound = 1 (10%)</td>
</tr>
<tr>
<td>• CENSUS = 110</td>
<td>• Device = 7 (70%)</td>
</tr>
<tr>
<td></td>
<td>*No residents met &gt;1 criteria</td>
</tr>
<tr>
<td><strong>Center #3:</strong></td>
<td>54/130 = 42%</td>
</tr>
<tr>
<td>• Provides <strong>ventilator services</strong></td>
<td>• MDRO = 32 (59%)</td>
</tr>
<tr>
<td>• Mix of long- and short-stay residents</td>
<td>• Wound = 24 (44%)</td>
</tr>
<tr>
<td>• CENSUS = 130</td>
<td>• Device = 29 (54%)</td>
</tr>
<tr>
<td></td>
<td>*27 (50% met &gt;1 criteria)</td>
</tr>
</tbody>
</table>
Cost

• Increase in cost associated with more use of PPE
  • Start-up costs greater than maintenance costs
    • PPE storage carts, ABHR, gowns, gloves
  • Costs may differ from actual use
  • Challenging to predict PPE use
  • Supply purchases may have been an overestimate

• Recommendations from Administrators
  • Spread out implementation if challenges arise
  • Increased trash pickup was an unexpected increased cost
What We Learned

- Enhanced Barrier Precautions can be successful
  - Having an implementation plan is essential
  - Promoting education plays a critical role
  - Communication with everyone
- EBP use will differ across facilities
  - This number will vary based on facility population and criteria for EBP
- Ventilator-capable nursing homes had higher costs
Please type all your questions in the Q & A or Chat Section
EBP Resources Coming Soon!
Resources

**Enhanced Barrier Precautions**

Implementation of Personal Protective Equipment (PPE) Use in Nursing Homes to Prevent Spread of Multidrug-resistant Organisms (MDROs)

[https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html](https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html)

Frequently Asked Questions (FAQs) about Enhanced Barrier Precautions in Nursing Homes

[https://www.cdc.gov/hai/containment/faqs.html](https://www.cdc.gov/hai/containment/faqs.html)

Considerations for Use of Enhanced Barrier Precautions in Skilled Nursing Facilities

[https://www.cdc.gov/hicpac/workgroup/EnhancedBarrierPrecautions.html?msclkid=39038417aed311ec8c868e1e03c50297](https://www.cdc.gov/hicpac/workgroup/EnhancedBarrierPrecautions.html?msclkid=39038417aed311ec8c868e1e03c50297)

Enhanced Barrier Precautions Sign

[https://www.cdc.gov/hai/pdfs/containment/enhanced-barrier-precautions-sign-P.pdf](https://www.cdc.gov/hai/pdfs/containment/enhanced-barrier-precautions-sign-P.pdf) (English)

Resources

Educational Resources

Project Firstline
https://www.cdc.gov/infectioncontrol/projectfirstline/healthcare/videos-graphics.html

CDC Train: Infection Preventionist Training Course
https://cdc.train.org/cdctrain/welcome

Infection Prevention and Control Assessment Tool for Long-Term Care Facilities
https://www.cdc.gov/infectioncontrol/pdf/icar/ltcf.pdf
Resources 1

Hand Hygiene

Hand Hygiene and Standard Precautions Course
https://www.cdc.gov/handhygiene/training/interactiveEducation/

Clean Hands Count for Healthcare Providers
https://www.cdc.gov/handhygiene/providers/index.html
Resources 2

Personal Protective Equipment

Burn Rate Calculator – Version 2

NIOSH PPE Tracker App
https://www.cdc.gov/niosh/ppe/ppeapp.html
Resources 3

Environmental Cleaning and Disinfection

CDC Environmental Cleaning Checklist
https://www.cdc.gov/hai/pdfs/toolkits/Environmental-Cleaning-Checklist10-28-2010.doc

CDC Environmental Checklist for Monitoring Terminal Cleaning
https://www.cdc.gov/hai/pdfs/toolkits/Environmental-Cleaning-Checklist-10-6-2010.pdf

CDC Environmental Cleaning Evaluation Worksheet (Excel)
https://www.cdc.gov/hai/pdfs/toolkits/Environmental-Cleaning-Eval-Worksheet-10-6-2010.xls
Resources 4

Communication

Interfacility Transfer Form
https://www.cdc.gov/hai/pdfs/toolkits/Interfacility-IC-Transfer-Form-508.pdf?msclkid=0dd6df40ac5911ec9ad0153afa2f9e30

Contact Precautions Sign
https://www.cdc.gov/infectioncontrol/pdf/contact-precautions-sign-P.pdf (English)
https://www.cdc.gov/infectioncontrol/pdf/spanish-contact-precautions-sign-P.pdf (Spanish)
Resources 5

State-Based Resources

State-based HAI Prevention Activities
https://www.cdc.gov/hai/state-based/index.html
References


References 2


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https://tceols.cdc.gov/

For more information, contact CDC
1-800-CDC-INFO (232-4636)

Please visit TCEO@cdc.gov for more information