Exploring the Infections campaign goal

Nimalie D. Stone, MD,MS
Division of Healthcare Quality Promotion
Centers for Disease Control and Prevention

Advancing Excellence Webinar
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Webinar Objectives

- Introduce the infections goal
- Briefly describe national initiatives which align with the goals of the infections goal
  - Discuss the LTCF Chapter of the National Action Plan
  - Describe the CDC’s National Healthcare Safety Network (NHSN) reporting option for long-term care facilities (LTCFs)
- Review the definitions used in the infections goal
- Describe the resources available to support nursing homes working on this goal
- Demonstrate the data collection tool
- Wrap-up / Q&A
Infections

Deciding what you want to change is the first step of the quality improvement cycle. These goal descriptions provide general information about the goal and its benefits to share with your team.

Nursing home residents are at increased risk of infections for many reasons. As more people enter nursing homes following hospital stays, nursing homes are providing more hands-on, complex medical care to residents, such as wound care and maintenance of indwelling devices, which can lead to increased exposure to bacteria and infection. The shared living environment of a nursing home can allow the spread of easily transmissible viral infections which cause respiratory or...
Why infection prevention?

- Nursing home residents are more vulnerable to severe and complicated infections
  - Increases in post-acute care residents introduce the risk factors typically associated with hospital-onset infections, such as, indwelling medical devices, wounds, antibiotics
  - Frailty, malnutrition, and other underlying medical conditions contribute to the increased risk of infections in this population
  - Infections can be more severe in the frail older adult resulting in more hospitalizations and deaths
  - Living in a community environment with shared spaces can allow for easier spread of infections between residents, staff and visitors
Why infection prevention?

- Greater attention on infection prevention and reporting in healthcare
  - Hospitals, long-term care hospitals, inpatient rehab facilities all have infections included in quality reporting programs

- Increased awareness of the role of infections in nursing homes
  - Driver of antibiotic use and antibiotic resistant bacteria
  - Primary cause of transfers to hospital (30-day readmission)

- Heightened surveyor awareness of infection prevention programs in nursing homes
  - Significant revision to F441 interpretive guidance in Fall 2009
  - F441 citations are among the most frequent deficiencies identified
Why infection prevention?

- **Individuals overseeing infection prevention in nursing homes have limited time/support**
  - Most have multiple roles/responsibilities in the facility,
  - Rarely receive dedicated training on infection control

- **Many infection prevention guidelines focus on the needs of hospitals**
  - Need more infection prevention guidance/resources specifically for nursing home providers

- **This goal provides an opportunity to raise awareness and create resources to fill the infection prevention needs of nursing homes**
Why focus on *Clostridium difficile* (aka C.diff) ?

- *C. difficile* infection (CDI) has become the leading cause of acute diarrhea in nursing home residents.
- Deaths, severe disease, and hospitalizations from CDI occur more among people over age 65 years than in other age groups.
- The prevention activities, like hand hygiene, which can help prevent spread of *C. diff* will also reduce other infections.
- Reducing CDI in healthcare is a national priority identified in the National Action Plan to Prevent Healthcare-Associated Infections.
HHS National Action Plan

National Action Plan to Prevent Healthcare-Associated Infections: Roadmap to Elimination

- Action Plan Development
- Phase 1: Acute-Care Hospitals
- Phase 2: Ambulatory Surgical Centers, End-Stage Renal Disease Facilities, and Increasing Influenza Vaccination Among Healthcare Personnel
- Phase 3 Long-Term Care Facilities
  - Public Comment Instructions
- Final list of HAI Action Plan Target and Metrics
- State HAI Prevention Plans

Action Plan Development

In recognition of healthcare-associated infections (HAIs) as an important public health and patient safety issue, the U.S. Department of Health and Human Services (HHS) convened the Federal Steering Committee for the Prevention of Healthcare-Associated Infections (originally called the HHS Steering Committee, but was changed to reflect the addition of agencies outside of HHS). The Steering Committee’s charge is to coordinate and maximize the efficiency of prevention efforts across the federal government. Members of the Steering Committee include clinicians, scientists, and public health leaders representing:

http://www.hhs.gov/ash/initiatives/hai/actionplan/index.html
Priority areas for skilled nursing facilities and nursing homes

- Increasing National Healthcare Safety Network Enrollment
- Tracking *Clostridium difficile* Infections (CDI) in NHSN
- Tracking Urinary Tract Infections (UTI) in NHSN
- Increasing Resident Influenza and Pneumococcal Vaccination reported by MDS 3.0
- Increasing Healthcare Personnel Influenza Vaccination reported in National Health Interview Survey data
National infection reporting system

- CDC managed web-based data system designed for healthcare facility reporting of infections
  - NHSN evolved from several voluntary HAI reporting systems; primarily focused on acute care settings
  - Data used by facilities for surveillance, benchmarking, and internal quality improvement
- Uses standardized infection definitions to focus on specific high risk events
  - Device-related (central line or catheter-associated);
  - Procedure-related (surgical site);
  - Important pathogens (multidrug-resistant organisms and C. difficile)
NHSN Long-term Care Facility Component

- Launched in Sept 2012
- Specifically created for use by LTCFs

National Healthcare Safety Network (NHSN)

Tracking Infections in Long-term Care Facilities

Eliminating infections, many of which are preventable, is a significant way to improve care and decrease costs. CDC’s National Healthcare Safety Network provides long-term care facilities with a customized system to track infections in a streamlined and systematic way. When facilities track infections, they can identify problems and track progress toward stopping infections. On the national level, data entered into NHSN will gauge progress toward national healthcare-associated infection goals.

NHSN’s long-term care component is ideal for use by: nursing homes, skilled nursing facilities, chronic care facilities, and assisted living and residential care facilities.

To report C. difficile, MRSA, and other drug-resistant infections, click here.
- Enrollment into NHSN
- Forms
- Protocols

To report urinary tract infections, click here.
- Enrollment into NHSN
- Forms
- Protocols

www.cdc.gov/nhsn/ltc
Targeted LTC Settings

Facilities eligible for enrolling in NHSN LTCF Component

- Certified skilled nursing facilities and nursing homes
- Intermediate/chronic care facilities for the developmentally disabled
- Assisted living facilities and residential care facilities
  - Currently limited to Prevention Process Measures
Modules & Events

- **Healthcare Associated Infection Module**
  - Urinary tract infection (UTI) events
    - Both catheter- and non-catheter-associated

- **Laboratory Identified (Lab-ID) Event Module**
  - *C. difficile* infections (CDI)
  - Multidrug-resistance Organisms (MDRO)

- **Preventions Process Measures Module**
  - Hand hygiene adherence based on observations
  - Gown and glove use adherence based on observations
Tracking CDI using positive lab tests

- **Laboratory Identified (Lab-ID) CDI events**
  - Laboratory cultures used as a proxy for surveillance
  - Definitions will match the Lab-ID event criteria being applied across healthcare settings

- **This method is based solely on laboratory data and limited resident admissions/transfer data**
  - This includes results of testing performed on residents while at the facility
  - Clinical evaluation of resident is not required, and therefore this surveillance option is less labor intensive
NHSN CDI Definitions

- **C. difficile positive laboratory assay:** A positive result for a laboratory test detecting presence of either of the following:
  - *C. difficile* toxin A or B (e.g., enzyme immunoassay or EIA test), OR
  - A toxin-producing *C. difficile* organism detected in the stool specimen by culture or other laboratory means (e.g., nucleic acid amplification testing by polymerase-chain reaction, or PCR).

- **Duplicate C. difficile positive assay:** Any *C. difficile* positive laboratory test from the same resident following a previous *C. difficile* positive test within the past 2 weeks
CDI LabID Event: All non-duplicate C. difficile positive laboratory assays obtained while a resident is receiving care in the LTCF.

- Lab results from outside facilities, before a resident’s admission, should not be included in LabID event reporting.

<table>
<thead>
<tr>
<th>Date of Positive C. difficile lab tests for a resident</th>
<th>Duplicate?</th>
<th>Enter as a CDI LabID Event?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3/2012</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>1/7/2012</td>
<td>Yes</td>
<td>No (within 2 weeks of positive test 1/3/2012)</td>
</tr>
<tr>
<td>1/20/2012</td>
<td>Yes</td>
<td>No (within 2 weeks of positive test 1/7/2012)</td>
</tr>
<tr>
<td>2/1/2012</td>
<td>Yes</td>
<td>No (within 2 weeks of positive test 1/20/2012)</td>
</tr>
<tr>
<td>2/23/2012</td>
<td>No</td>
<td>Yes</td>
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</tbody>
</table>
CDI LabID Events are categorized further by the NHSN system:

- **Incident CDI LabID Event**: The first LabID Event ever entered or a subsequent LabID Event entered > 8 weeks after the most recent LabID Event reported for an individual resident.

- **Recurrent CDI LabID Event**: Any LabID Event entered > 2 weeks and ≤ 8 weeks after the most recent LabID Event reported for an individual resident.

**Remember, duplicate C. difficile positive laboratory tests for a resident should NOT be entered as LabID events.**
Identifying a NHSN CDI LabID Event

**LAB ID EVENT:** Complete Form

- Resident with positive CDI test result
- Prior CDI positive in last 2 weeks?

**Incident**
- No previous positive, OR
- Prior positive > 8 weeks

**Recurrent**
- Prior positive > 2 and ≤ 8 weeks

**Duplicate-Not LabID Event**
CDI LabID Events are put into categories based on the date of current admission to facility and the date specimen collected:

- **Community-onset LabID Event:** Date specimen collected $\leq 3$ calendar days after current admission to the facility (i.e., days 1, 2, or 3 of admission)

- **Nursing home-onset LabID Event:** Date specimen collected $> 3$ calendar days after current admission to the facility (i.e., on or after day 4).
### Example: Classification of Lab ID Events as Community-onset or Nursing home-onset

<table>
<thead>
<tr>
<th>Admission date</th>
<th>June 4th</th>
<th>June 5th</th>
<th>June 6th</th>
<th>June 7th</th>
<th>June 8th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community-onset</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home-onset</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **June 4th**: Day 1
- **June 5th**: Day 2
- **June 6th**: Day 3
- **June 7th**: Day 4
- **June 8th**: Day 5
Implementing the AE Infection goal

- **Working group established**
  - Members with nursing home expertise in infection prevention, clinical care, and quality improvement
  - Included consumer advocate, ombudsmen, medical directors, infection prevention researchers, directors of nursing
  - Federal representatives from Centers for Medicare/Medicaid Services, Administration for Community Living and CDC

- **Decisions based on working group consensus**
  - Input from front-line providers was obtained throughout process
  - Definitions were aligned with other CDI reporting initiatives
Infection goal outcome measure

- Monthly rate of nursing home onset, incident CDI events/10,000 resident days
  - Uses same metric as the HHS Action Plan
  - Definition of a nursing home onset, incident event aligns with NHSN LTCF Component LabID event definitions
- Numerator: # of nursing home onset, incident CDI events
- Denominator: Monthly resident days
  - Average daily census * number of days in the month
- Additional information about monthly admissions and residents admitted to nursing home on CDI therapy also tracked (provides context for nursing home rates)
Infection goal prevention strategies

- Four prevention strategies identified for process improvement
  - Early diagnosis/rapid containment of CDI
  - Hand hygiene
  - Environmental cleaning/disinfection
  - Antibiotic stewardship

- Successful implementation of many of these strategies will reduce spread of other infections in the nursing home in addition to C. diff
Resources to support the AE Infection goal

- Fact sheets about *C. difficile* infection prevention
  - Consumers; nursing home staff, leadership
- Assessment checklists for each of the 4 prevention strategies with questions assessing
  - Knowledge and competency
  - Infection prevention policies and infrastructure
  - Monitoring practices
- Links to websites with tools and resources to help address gaps identified by the assessment checklists
  - Resources identified by working group members through on-line searches
  - New resources could be developed with provider input
### Assessment of Current Activities:

**EARLY IDENTIFICATION AND CONTAINMENT OF CDI**

Advancing Excellence in America’s Nursing Homes is a national campaign that began in November 2005. Our goal is to improve the quality of care and life for the 1.5 million people served by nursing homes in the United States. Nursing homes and their staff, along with residents and their families and consumers can join in this effort by working on the campaign goals that are designed to improve quality. We do this by providing tools and resources to help nursing homes achieve their quality improvement goals. To learn more about the campaign, visit [www.nhqualitycampaign.org](http://www.nhqualitycampaign.org).

### Background/Rationale:

*C. difficile* infection (CDI) has become the most common cause of acute diarrhea in the nursing home setting. Individuals with CDI can serve as a source for bacterial spread to other individuals in the nursing home, through the contamination of caregiver hands and shared equipment. Contamination of a resident’s skin and environment with *C. difficile* is greatest during the time when a resident has diarrhea from CDI but hasn’t started on appropriate treatment. Early identification of CDI using diagnostic tests of stool can limit the spread of *C. difficile* by reducing the time from symptom onset to starting therapy. Rapid containment through implementation of contact precautions for symptomatic residents can reduce contamination. Contact precautions include use of gowns/gloves and dedicated equipment during care of residents with new diarrhea. Inappropriate use of *C. difficile* diagnostic testing can lead to excessive antibiotic use for residents who do not have active CDI and may only be colonized with the organism. Extending or initiating therapy for *C. difficile* colonization can prevent the healing and re-establishment of normal bacterial flora in the intestinal tract and lead to unnecessary use of contact precautions.

### Current activities survey:

**SECTION 1. KNOWLEDGE AND COMPETENCY**

<table>
<thead>
<tr>
<th>Early identification</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do direct care personnel identify and communicate new or worsening diarrhea?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do nursing personnel know when to obtain a stool specimen for <em>C. difficile</em> testing?</td>
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<td></td>
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<tr>
<td>Q3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do nursing personnel know the appropriate way to collect and submit a stool specimen for <em>C. difficile</em> testing?</td>
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</tbody>
</table>
Data collection tool -- DEMO
Benefits to getting involved now

- Infection prevention awareness among residents, families, staff and surveyors continues to grow
  - Facilities involved in infection prevention activities will be identified as community leaders
  - Resident and family satisfaction will increase from your nursing home’s commitment to safe healthcare

- Reducing infections is cost-effective
  - Better resident outcomes; decreased costs of care; reduced hospitalizations

- Engaged nursing homes will be prepared for future regulatory or incentive programs
  - Data for QAPI programs; Quality reporting programs; Available for partnerships like accountable care organizations
Benefits (continued)

- Several national initiatives are promoting CDI tracking and prevention in nursing homes
- Participating in the infections goal will help you build a stronger infection prevention program
- Your feedback will help inform new resources and tools which are needed to support infection prevention nursing homes
- Other state and national partners are available to support your infection prevention efforts....
CDC website for State HAI Prevention

Healthcare-Associated Infections: Recovery Act

The American Recovery and Reinvestment Act of 2009, Public Law 111-5 (ARRA) was signed into law on February 17, 2009. The Recovery Act is designed to stimulate economic recovery in various ways including strengthening the Nation’s healthcare infrastructure and reducing healthcare costs. Within the Recovery Act, $50 million was authorized to support states in the prevention and reduction of healthcare associated infections (HAI). The HAI Recovery Act funds will be invested in efforts that support surveillance and prevention of HAIIs, encourage collaboration, train the workforce in HAI prevention, and measure outcomes. Many of these funds will be used to support activities outlined in the HHS Action Plan to Prevent Healthcare-Associated Infections. This webpage provides information on obtaining funding through the Epidemiology and Laboratory Capacity (ELC) and Emerging Infections Program (EIP).

Newsletters

Toward Elimination

- Volume 7, June 2010 [PDF - 384 KB]
- Volume 6, May 2010 [PDF - 384 KB]

http://www.cdc.gov/hai/recovery_act
State HAI prevention programs for nursing home providers

http://www.cdc.gov/hai/stateplans/states-w-LTC-collaborative.html
Thank you!!

Email: nstone@cdc.gov with questions/comments

For more information please contact Centers for Disease Control and Prevention
1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.