



Building Capacity to Implement Infection Prevention and Surveillance

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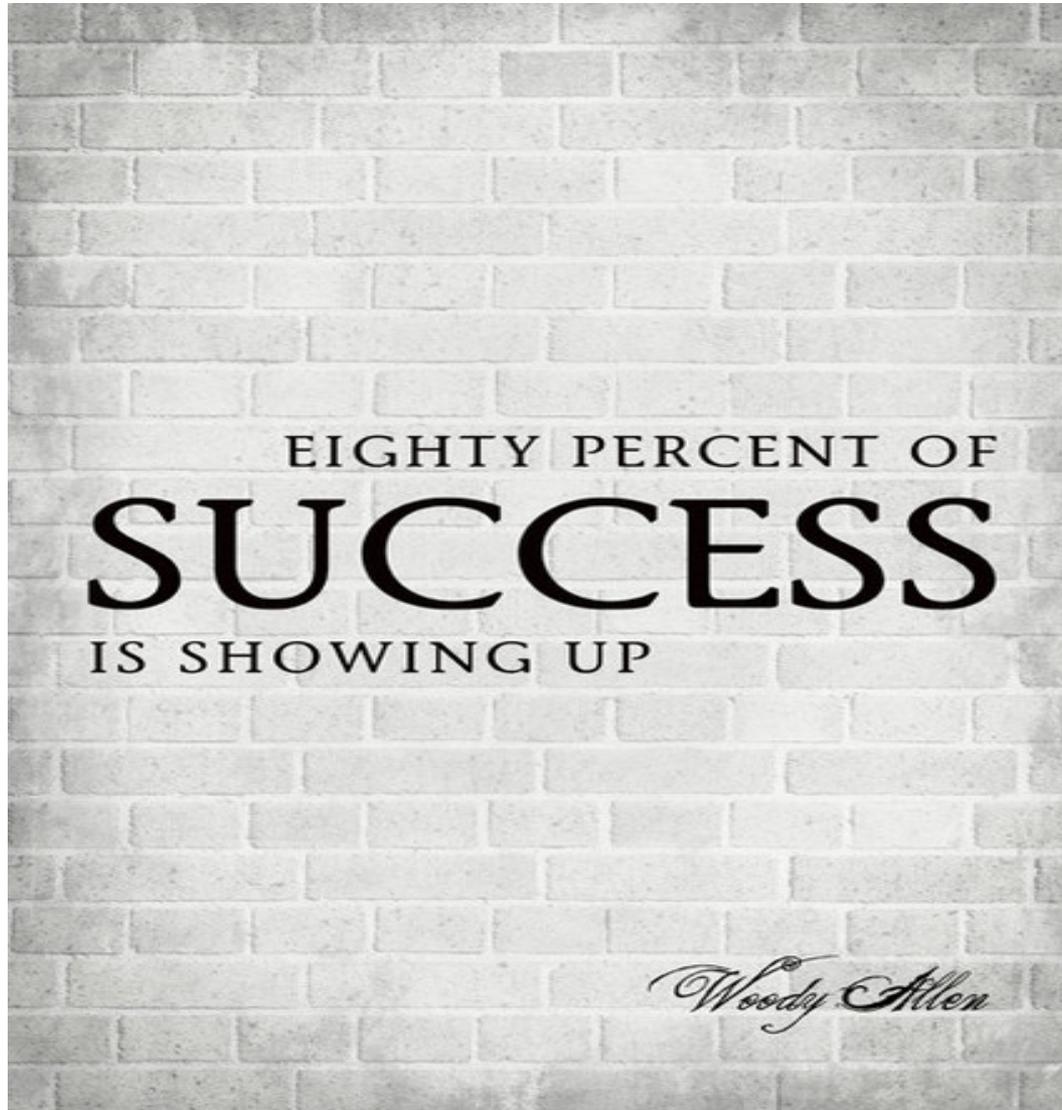
LTC Team Lead, Prevention and Response

Division of Healthcare Quality Promotion

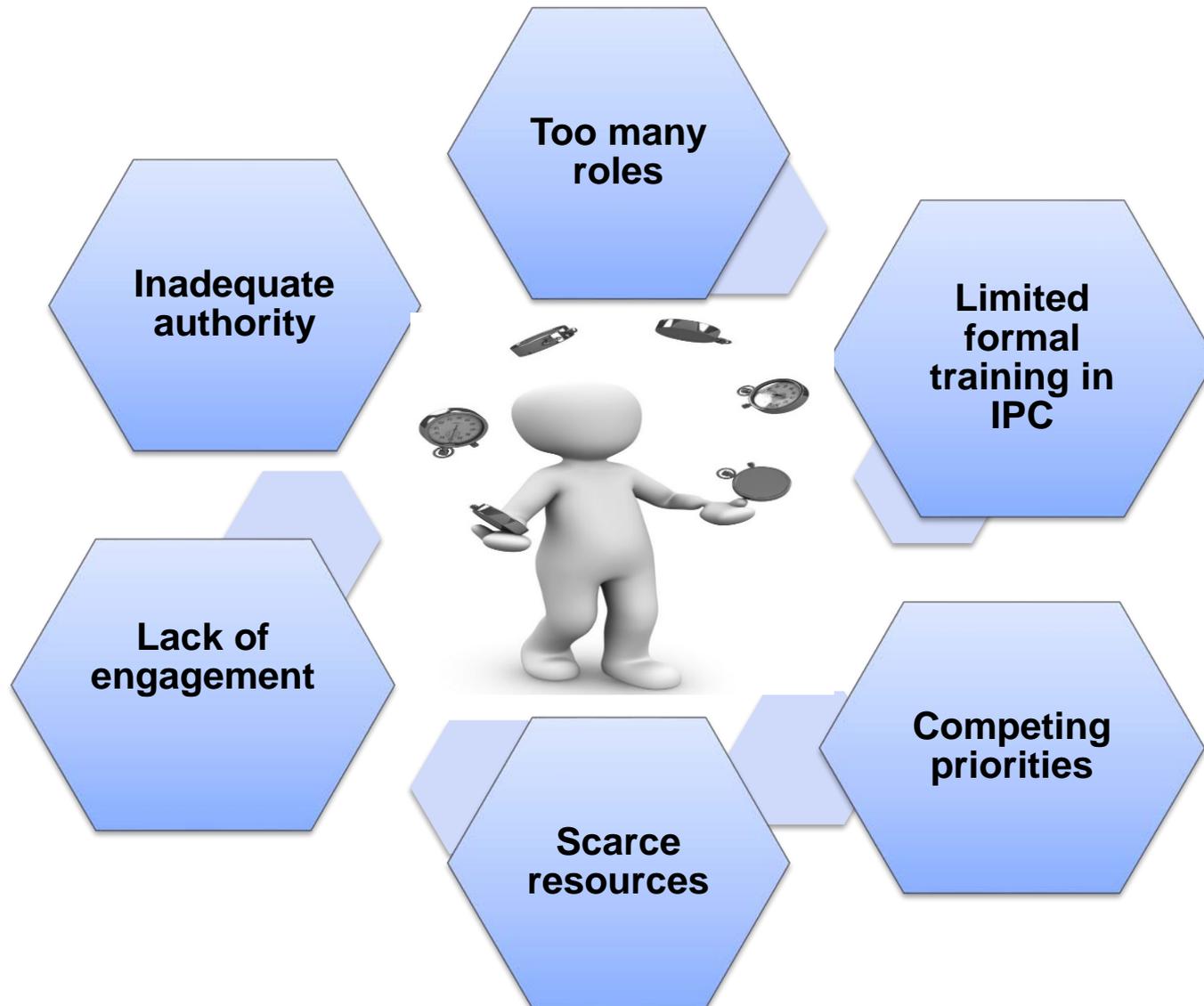
NHSN LTC Annual Training

July 11, 2019

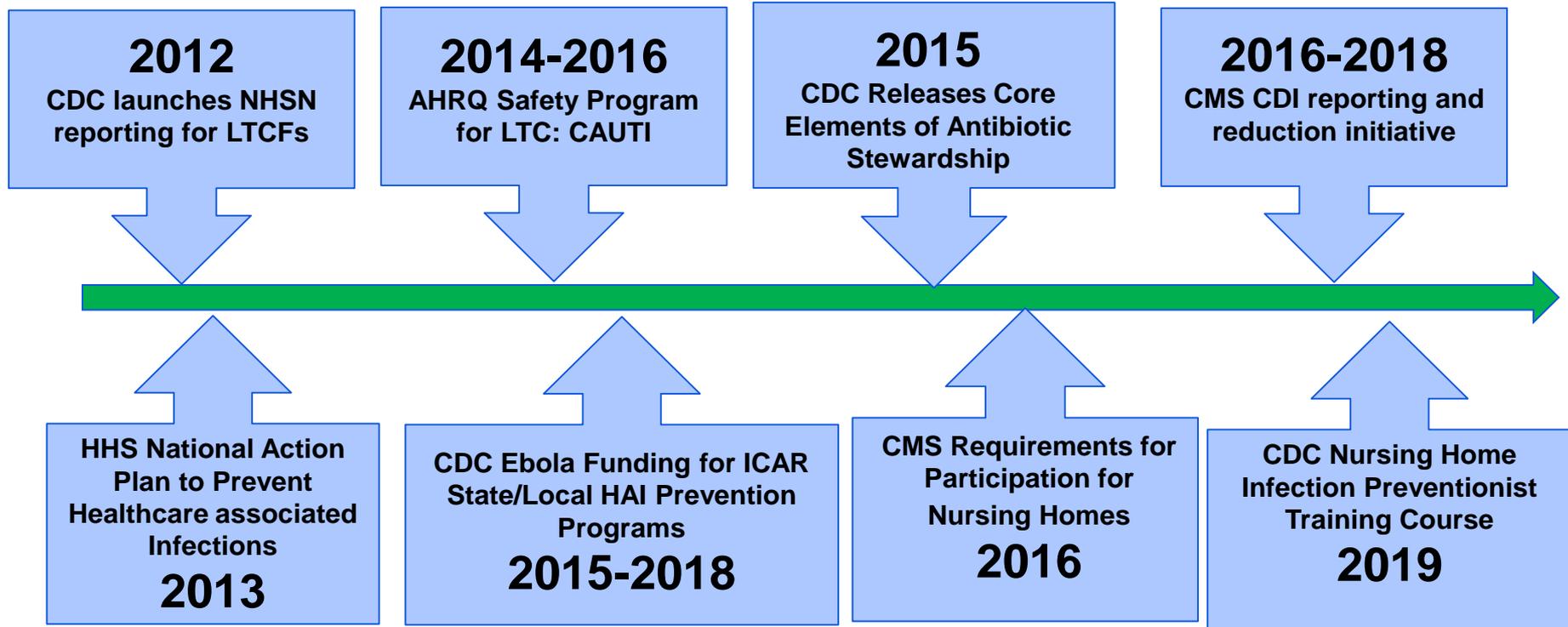
Thank you for your commitment



Challenges for the nursing home infection preventionist (IP)



National infection prevention and antibiotic stewardship initiatives for nursing homes



AHRQ Safety Program for LTC: CAUTI

Primary goal:

- Reduction of catheter-associated UTI rates based on NHSN surveillance definitions

Clinical interventions

- General infection prevention strategies
- Education for infection preventionists and frontline staff
- CAUTI prevention-specific strategies

Cultural interventions

- Enhancing the overall structure, process, and practice of infection prevention and resident safety in nursing homes

<p><u>Agency for Healthcare Research and Quality (AHRQ)</u> (funder)</p> <p><u>Health Research & Educational Trust (HRET) – National Project Team</u> <u>Responsibilities*</u></p> <ul style="list-style-type: none">• Program coordination• Organizational lead recruitment• Adapt materials for use in the nursing home setting• Develop tools and materials to support program implementation

<p><u>Organizational Lead</u> <u>Responsibilities</u></p> <ul style="list-style-type: none">• Facility lead recruitment• Ensure facility team attendance at educational sessions• Ensure facilities submit data• Monitor data• Coach facility leaders and team members to encourage staff engagement throughout the program period• Disseminate program-related information, materials, and resources
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<p><u>Facility Lead</u> <u>Responsibilities</u></p> <ul style="list-style-type: none">• Sharing program education and resources,• Participate in monthly coaching sessions via teleconference or webinar• Collect and submit facility data• Communicate with residents and families about the program.

CAUTI Prevention Resources

Infections are a leading cause of illness and death in long-term care facilities.

REMEMBER C.A.U.T.I. TO PREVENT CAUTI

These infections include catheter-associated urinary tract infections (CAUTIs).

C
Catheter Removal

Think about catheters in any of your residents. Are the catheters really necessary?

Remove the catheter if there is no good indication for it (see below).

Every resident deserves a catheter to be catheter-free and infection-free.

A
Aseptic Insertion

Only trained personnel should insert catheters.

Use hand hygiene, and insert using aseptic technique.

Use the smallest catheter size that will allow good drainage for the resident.

Avoid contamination of the catheter.

Use catheter securement devices.

U
Use Regular Assessments

Insert new urinary catheters only when there is a good indication. Incontinence is NOT an appropriate indication for an indwelling urinary catheter.

Consider alternatives to using a urinary catheter.

Use a bladder to guide male catheter insertion.

Implement a catheter care protocol.

T
Training for Catheter Care

Train staff, resident, and family.

Maintain a closed drainage system, and maintain aseptic technique.

I
Incontinence Care Planning

Consider alternatives to urinary catheters for individual residents.

Appropriate Indications for an Indwelling Urinary Catheter

To assist in healing of open sacral or perineal wounds in incontinent residents

Source: Centers for Disease Control and Prevention. Healthcare Infection Control Practices Advisory Committee. Outbreaks of Catheter-associated Urinary Tract Infections, 2008. http://www.cdc.gov/hicpac/08_cauti/08_cauti08_040608.pdf

The AHRQ Safety Program for Long-Term Care: HAIs/CAUTI provides guidance for residents. Visit <https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/cauti-implementation/guide.html>

Topics Programs Research Data Tools Funding & Grants News About

Home > Programs > Quality & Patient Safety > Quality Measure Tools & Resources > Tools & Resources

Clinicians & Providers
Education & Training
Hospitals & Health Systems
Prevention & Chronic Care

Educational Bundles

Toolkit To Reduce CAUTI and Other HAIs in Long-Term Care Facilities

Educational bundles provide evidence-based prevention practices and strategies to reduce catheter-associated urinary tract infection (CAUTI) and other HAIs in the long term care (LTC) setting. The bundles include slide sets and accompanying training video (when applicable), as well as supplemental materials such as case scenarios, activities, quizzes with answer keys, and answers to frequently asked questions. An LTC facility educator can use these customizable educational materials for in-service training of facility staff, and when appropriate, residents and families, on infection prevention and safety culture topics. The materials also can be found in the [Resources section](#).

Communication and Teamwork

- Communication Strategies**
Describes how barriers to effective communication can impact the safety culture in an LTC facility, and provides TeamSTEPS® tools and strategies to improve communication and resident safety.
PowerPoint Slide Set (PowerPoint, 1.62 MB; HTML)

Infection Prevention

The [Take the Pledge](#) poster encourages all LTC facility staff to commit to basic infection prevention principles. The educational bundles below address hand hygiene, environment and equipment, and standard- and transmission-based precautions. In addition, [A Unit Guide To Infection Prevention for Long-Term Care Staff](#) provides frontline and other staff with basic knowledge about LTC facility infection prevention guidelines.

- Hand Hygiene**
Hand hygiene is one of the most effective skills staff can perform to prevent infections and improve resident safety. The module highlights basic hand hygiene principles and best practices to reinforce with frontline staff, including the products, procedures, and strategies to implement and sustain hand hygiene programs. Supplemental materials include hand hygiene activities to perform with staff, and a quiz and answer key.
Training Video
PowerPoint Slide Set (PowerPoint, 1 MB; HTML)
Tools
Activity (Word, 869 KB; HTML)
Skills Test (Word; 868 KB; HTML)
Skills Answer Key (Word, 869 KB; HTML)

Catheter-Associated Urinary Tract Infection (CAUTI) Case Review

Resident Label: _____

Date: _____ Catheter last inserted on: _____ Location/Room number: _____

Reviewers: _____ Date of first sign or symptom of infection: _____ Signs and symptoms of infection: _____

Date of positive urine culture: _____ Organism(s): _____

Date of positive blood culture, if applicable: _____ Antibiotic(s): _____ Sensitive: Y - N

Number of days of therapy: _____ Catheter removed / replaced / N/A

Contributing Factors	YES	NO	If NO, how could this factor have contributed to the development of a CAUTI?
Was the catheter inserted for a clinically indicated reason? • Acute urinary retention or bladder outlet obstruction • To assist in healing in stage III or IV open sacral or perineal wounds in incontinent residents • To improve comfort for end-of-life care	<input type="checkbox"/>	<input type="checkbox"/>	
Was catheter necessity reviewed per facility policy and documented?	<input type="checkbox"/>	<input type="checkbox"/>	
Does the catheter and balloon size match the prescribing order?	<input type="checkbox"/>	<input type="checkbox"/>	
Was the catheter inserted using aseptic technique?	<input type="checkbox"/>	<input type="checkbox"/>	
Did the inserting provider complete a catheter insertion competency training?	<input type="checkbox"/>	<input type="checkbox"/>	
Was catheter care followed per facility policy?	<input type="checkbox"/>	<input type="checkbox"/>	
Was catheter care documented?	<input type="checkbox"/>	<input type="checkbox"/>	
Did the frontline staff complete catheter care competency training?	<input type="checkbox"/>	<input type="checkbox"/>	
Was a securement device used?	<input type="checkbox"/>	<input type="checkbox"/>	
Was a closed system maintained?	<input type="checkbox"/>	<input type="checkbox"/>	
Was the drainage/leg bag kept below the level of the catheter insertion site?	<input type="checkbox"/>	<input type="checkbox"/>	

<https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/cauti-ltc/modules/implementation/guide.html>

<https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/cauti-ltc/education-bundles.html>

Perceived benefits of CAUTI project participation

- Increased awareness of CAUTI management and prevention
 - Increases in evaluation of early catheter removal
 - Staff became better equipped to identify CAUTI symptoms,
 - Staff more comfortable asking physicians about the need for indwelling catheters, use of antibiotics, and urine cultures
- Willingness to modify current practice and educate other team members
 - Increased appropriate collection of urine cultures
 - Provided better catheter maintenance care
 - Increased use of catheter alternatives
 - Sustaining best practices through monitoring and randomly auditing staff on insertion and maintenance procedures
 - Expanded CAUTI education to all staff (e.g., housekeeping, dietary) because ***“all staff members have a role to play in prevention”***
- Expanding education on infection prevention to residents and families

CDC Infection Control Assessment and Response (ICAR) Activity, 2015-2018

Elements within each Infection Prevention practice domain:

- Policies/procedures
- Staff training and education
- Auditing/monitoring adherence to policies
- Providing feedback on staff adherence
- Availability of supplies

The screenshot shows the CDC website page for "Infection Control Assessment Tools". The page is titled "Healthcare-associated Infections (HAIs)" and "Infection Control Assessment Tools". It includes a navigation menu on the left with categories like "Healthcare-associated Infections", "Data and Statistics", "Types of Infections", "Diseases and Organisms", "Preventing HAIs", "Targeted Assessment for Prevention (TAP)", "State Policy Resources", "ELC Activities", "Guidelines and Recommendations", "Toolkits", "Basic Infection Control and Prevention Plan for Outpatient Oncology Settings", "Outpatient Care Guide", "Tools for Protecting Healthcare Personnel", "Infection Control Assessment Tools", "CDC HAI Commentaries", "Map: HAI Prevention Activities", "Research", "Patient Safety", "Outpatient Settings", and "Laboratory Resources". The main content area features a "Print page" button, social media icons for Facebook, Twitter, and YouTube, and a "Get email updates" form. The "Infection Control Assessment Tools" section describes the tools and lists four PDF documents: "Infection Control Assessment Tool for Acute Care Hospitals" (433 KB), "Infection Control Assessment Tool for Long-term Care Facilities" (253 KB), "Infection Control Assessment Tool for Outpatient Settings" (337 KB), and "Infection Control Assessment Tool for Hemodialysis Facilities" (278 KB). A note at the bottom states that the Outpatient Settings tool and its companion Checklist have been revised and made consistent with the Outpatient Settings Infection Control Assessment Tool.

<http://www.cdc.gov/hai/prevent/infection-control-assessment-tools.html>

CDC ICAR: Nursing Home IPC Infrastructure

- 49 State and local health departments worked with 2378 NHs;
- Most assessments occurred during 2016-2017

Infection Control Program and Infrastructure	% YES
A. Specified a person responsible for coordinating the IPC program. <i>Mean staff hours on IPC activities per week: 15</i>	97
B. The person responsible for the IPC program has received IPC training	51
C. Process for reviewing IPC activities (e.g., shared with QA committee).	97
D. Written IPC policies and procedures are available and based on evidence-based guidelines, regulations, or standards.	91
E. Written IPC policies and procedures are reviewed at least annually and updated if appropriate.	79
F. The facility has a written plan for emergency preparedness	92

Summary of ICAR NH Assessment Experience

Common findings and themes

- Leadership investment/support for IPC highly variable
- Staff overseeing IPC programs lacked IPC training and dedicated time
- Policies often in place, but routine auditing and feedback of staff adherence to policies and procedures not consistently implemented

Benefits from the activity

- New relationships between health dept. and providers
- Improved communication between providers and HDs (e.g., more requests for technical assistance during outbreak response)
- Positive learning experience for providers and health dept.
- Provided immediate IPC education and technical assistance to support nursing home providers
- Identified and lead to development of training and resources

CMS QIN-QIO C. difficile reporting and reduction project, 2016-2018

- QIN-QIO programs working with nursing homes – launched at end of May 2016
- Recruited 2300 NHs to enroll and report CDI into the NHSN
- CMS/CDC and National Coordinating Center collaboration to support QIN-QIOs
- Developed trainings and resources to facilitate NHSN engagement and promote CDI prevention in participating facilities

The screenshot shows the website for the National Nursing Home Quality Improvement Campaign, specifically the section for C. difficile & Antibiotic Stewardship. The header includes the National Nursing Home Quality Improvement Campaign logo and navigation links for NEWSLETTER, SEARCH, SIGN IN, REGISTER, PARTICIPANTS, RESOURCES, GOALS, ABOUT, and CONTACT US. The main heading is "C. DIFFICILE & ANTIBIOTIC STEWARDSHIP". Below this, a paragraph states: "We've gathered resources from four national initiatives to support your work on C. difficile and Antibiotic Stewardship. The tools, educational opportunities and other resources from these four initiatives are complementary, so mix and match to make the package that works best for you. Not finding what you need? Please let us know at Help@nhQualityCampaign.org." A yellow button with the text "Start here with a 7 minute introductory video" is positioned below the paragraph. The page is divided into two columns. The left column features the "National Nursing Home Quality Care Collaborative Quality Improvement Organizations" logo and a yellow arrow pointing to the text "FREE CEUs for online education sessions". Below this, a paragraph reads: "Nursing homes across the country are working with the CMS National Nursing Home Quality Care Collaborative and their local Quality Improvement Organizations to implement antibiotic stewardship and prevent and manage C. difficile infections." The right column features the "Centers for Disease Control & Prevention (CDC) National Health Safety Network (NHSN)" logo and the heading "C. difficile (CDI) Reporting". Below this, a paragraph reads: "CDC's National Healthcare Safety Network (NHSN) is the nation's most widely used healthcare-associated infection tracking system. NHSN provides long-term care facilities with a customized system to track infections in a streamlined and systematic way. When

CMS *C. difficile* reporting and reduction: Training resources

- NHSN Training
- NHSN Demo +
- Resources for Users New to NHSN +
- NHSN Analysis
- Biovigilance Component
- Dialysis Component
- Healthcare Personnel Safety Component
- Long-term Care Facility Component**
- Patient Safety Component
- Continuing Education +
- Request CDC Led Training +

 **Get Email Updates**

To receive email updates about this page, enter your email address:

Long-term Care Facility Component Training



Expand All +

Collapse All -

2017 NHSN LTCF Training Sessions

 Infection Surveillance and Prevention in Long-term Care: A National Perspective

- YouTube Link [Video - 26 min]
- Slideset  [PDF - 2 MB]

 Overview of Using NHSN to Track and Report Infections in LTCF

- YouTube Link [Video - 42 min]
- Slideset  [PDF - 3 MB]

 Using the LTCF LabID Event Module for *C. difficile* Infection Surveillance

- YouTube Link [Video - 55 min]
- Slideset  [PDF - 5 MB]

 Using the LTCF LabID Event Module for MDRO Surveillance and Reporting

- YouTube Link [Video - 44 min]
- Slideset  [PDF - 5 MB]

Nursing Home Training Sessions Introduction

1. TeamSTEPPS® in LTC: Communication Strategies to Promote Quality and Safety

2. Exploring Antibiotics and their Role in Fighting Bacterial Infections

3. Antibiotic Resistance: How it Happens and Strategies to Decrease the Spread of Resistance

4. Antibiotic Stewardship

5. Clostridium difficile Part One: Clinical Overview

6. Clostridium difficile Part Two: Strategies to Prevent, Track, and Monitor *C. difficile*

Nursing Home Training Sessions Introduction



*We hope that you find these training tools and resources helpful in your work to implement antibiotic stewardship and prevent *C. difficile* infections in your residents. All are welcome to explore this site and use the information as applicable to you and your organization. Thank you for your dedication to preventing infections in residents (and staff, too) and promoting appropriate antibiotic use.*

Training sessions and resources for nursing homes to support:

- Implementation of principles and practices of antibiotic stewardship
- Prevention and management of *Clostridium difficile* infections
- TeamSTEPPS® communication strategies and tools to promote quality and safety

***C. difficile* harms residents!**

- *C. difficile* caused almost half a million infections among patients in the US in 2011. More than 80%

<https://www.cdc.gov/nhsn/training/ltc/index.html>

<https://qioprogram.org/nursing-home-training-sessions>

Qualitative Assessment of NHSN Experience

- Guided interviews with 42 staff from 14 nursing homes
- Topics included
 - Information about the respondent's role and the facility
 - Participation in state initiatives
 - Familiarity with NHSN
 - Perceived outcomes from NHSN enrollment
- Respondent's roles administrative (64%) or clinical (29%)
- Average years at facility: 11
- Percent time/week devoted to IPC: 24% (~10 hours)

Table 2
Characteristics of participating NHs

Facility characteristics	N (%)
NHSN enrollment	
Consistent reporter	3 (21.4)
Inconsistent reporter	2 (14.3)
Inactive	3 (21.4)
Newly enrolled in 2016	4 (28.6)
Nonenrolled	2 (14.3)
Region	
California	2 (14.3)
West of Mississippi (excluding California)	3 (21.4)
New York	3 (21.4)
East of Mississippi (excluding New York)	6 (42.9)
Other NH characteristics	
Size, <100 beds	6 (42.9)
Hospital-based	2 (15.4)
Government-owned	3 (21.4)
Not-for-profit	6 (42.9)
Total NHs	14 (100.0)

NH, nursing home; NHSN, National Healthcare Safety Network.

Qualitative Assessment of NHSN Experience

Process of NHSN reporting was improving awareness of infection prevention

Questions about data quality, and definitions being different from MDS

Concerns about data integrity if reporting were required

Quality improvement could occur by sharing data with QIOs and public health

Lack of feedback on reporting accuracy and performance

Benchmarking could encourage best practices

Reporting takes time away from staff... “takes a lot of hours”

Value of QIN-QIO support and participating in learning collaboratives

A motivated staff member is needed to ensure successful enrollment and sustained reporting

Dedicating someone to infection control would be more of a benefit

Theme	Description
Benefits of NHSN	NHSN allows quality and process improvement by benchmarking against other NHs as well as assessing facility and regional trends.
External support and motivation	Federal and state resources and regulations are important in facilitating infection prevention education and enrollment in and reporting to NHSN, focusing on infection prevention and antibiotic stewardship.
Need for a champion	A champion is needed to drive the culture to improve infection prevention surveillance and antibiotic stewardship.
Barriers	Enrollment and reporting take time and resources without short-term benefit or feedback.
Risk adjustment	Concern about a facility getting a poor reputation or poor quality rating because of being benchmarked without sufficient risk adjustment.
Data integrity	Concern about data integrity as related to possible mandated NHSN enrollment.

NH, nursing home; *NHSN*, National Healthcare Safety Network.

Impact by the numbers



- CAUTI rates decreased from a baseline of 6.42 to 3.33/1,000 catheter-days in a cohort of 400 nursing homes across the US
- 49 state/local health departments supported over 2,300 nursing homes in assessing and improving their IPC programs
- Over 3,000 nursing homes have enrolled into NHSN
 - More than 2,000 nursing homes have reported CDI data into NHSN during 2017 and 2018

Common themes across initiatives

Direct benefits to facility IPC programs

- Highlights the value of the infection preventionist
- Cultivates leadership awareness and engagement in infection prevention
- Provides infection prevention education and implementation resources

Importance of National Collaborations and Local Partnerships

- Developed education and resources on a large-scale
- Facilitated solutions to implementation challenges
- Provided local resources for facility programs
- Sustained ongoing engagement with providers

Assessing Nursing Home IPC Infrastructure

- Responses from 990 of 2514 (39%) CMS certified NHs surveyed in 2014
- 34 questions covering IP staffing, resources, challenges, turnover

IPC staffing	
RN responding	84%
Mean years experience in IPC-related activities	11 years
Any specific training in IPC <ul style="list-style-type: none">• CIC certification: 3%	39%
Received financial resources to obtain IP education	50%
Mean hours/week on IPC	12 hours
>=2 additional responsibilities other than IPC	54%
Facility had >=3 people in IP position within past 3 years	41%

Nursing Home IPC Infrastructure and Citations

- 960 responses linked with CMS data on certification assessments including Infection Control deficiency citations
- 36% (364) received an IC citation during 2013

Factors associated with no infection control citation (n=614)

More years experience in the facility

Received specific Infection Prevention training

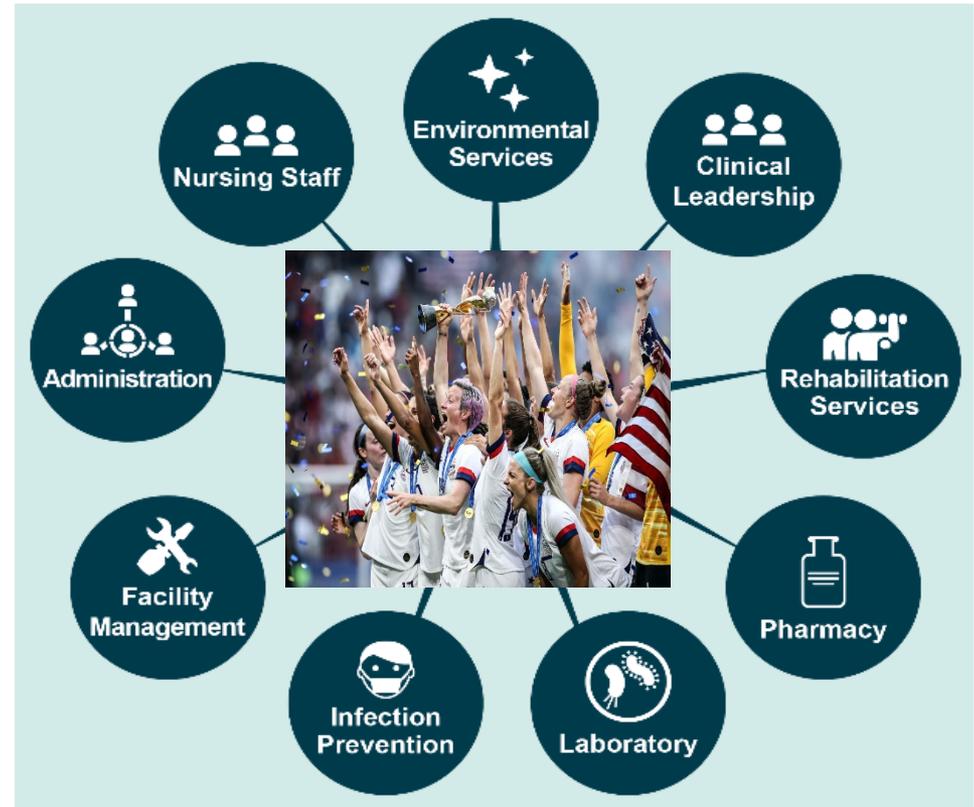
Received financial resources to obtain IP education

Physician involvement in Infection Control committee

Less turnover among DON and Facility administrators

Infection prevention is TEAM sport

- Leadership commitment and support for IPC is critical
- Engage expertise from across the organization to solve problems
- Sharing the work will increase accountability
- Everyone has a role in infection prevention



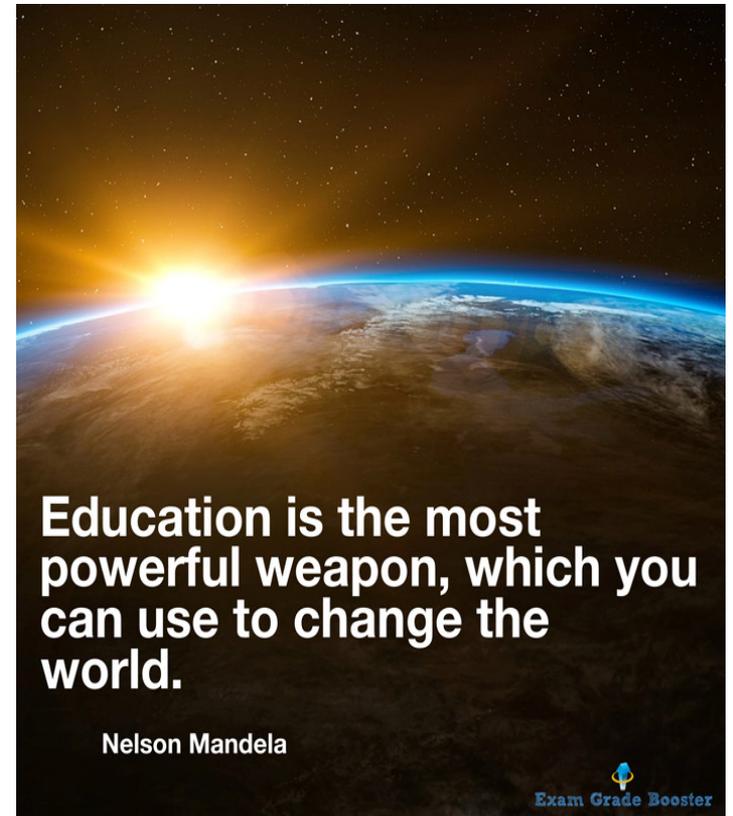
Promote IP Champions

- Provide staff with dedicated time and opportunities for education
- Support the IP to implement surveillance using systems that promote consistency in data collection and analysis
- Empower the IP to assess current prevention practices, respond to barriers impacting staff adherence and implement changes



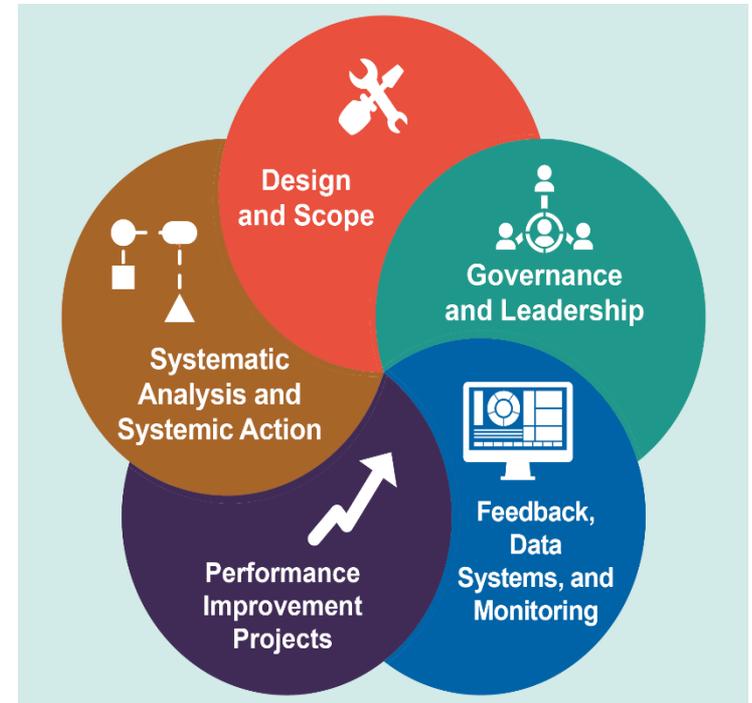
Invest in Education

- CDC training provides free IPC education and resources to support nursing home programs
 - Over 9,000 registered learners since release
- Over 20 HDs developed or expanded infection prevention trainings for nursing homes as a result of the ICAR work
- Many nursing home and infection prevention partners also host NH IP education



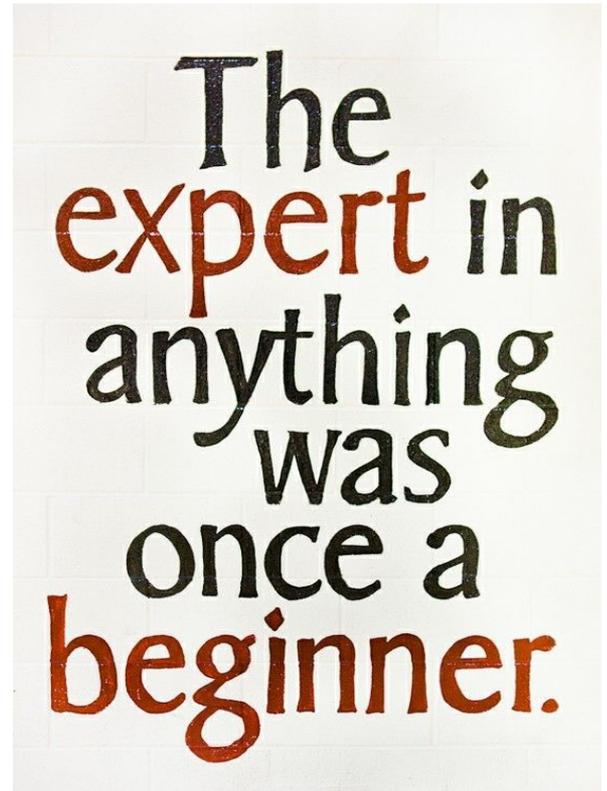
Build on Existing Programs and Systems

- IPC and antibiotic stewardship programs align with QAPI
 - Prioritize activities based on risk assessment
 - Use **data** to monitor impact of prevention and improvement efforts
 - Allocate resources to making practice improvements



Take advantage of state/national IP initiatives

- Facilities leveraging support from external partners received resources to implement improvements
 - Provided access to national IPC expertise and resources
 - Improved communication and support from health departments and QIN-QIOs
 - Provided access to educational materials and one-on-one technical guidance
 - Facilitated and sustained engagement in infection prevention initiatives



Thank you!!
nstone@cdc.gov

Nursing Homes and Assisted Living (Long-term Care Facilities [LTCFs])



Nursing homes, skilled nursing facilities, and assisted living facilities, (collectively known as long-term care facilities, LTCFs) provide a variety of services, both medical and personal care, to people who are unable to manage independently in the community. Over 4 million Americans are admitted to or reside in nursing homes and skilled nursing facilities each year and nearly one million persons reside in assisted living facilities. Data about infections in LTCFs are limited, but it has been estimated in the medical literature that:

- 1 to 3 million serious infections occur every year in these facilities.
- Infections include urinary tract infection, diarrheal diseases, antibiotic-resistant staph infections and many others.
- Infections are a major cause of hospitalization and death, as many as 380,000 people die of the infections in LTCFs every year.



CLINICAL STAFF INFORMATION

Fact sheets, guidelines, reports, and resources

RESIDENT INFORMATION

Fact sheet, patient safety and other information

PREVENTION TOOLS

Checklists, fact sheet, toolkits, and additional links



The Core Elements of Antibiotic Stewardship for Nursing Homes



The Department of Health and Human Services has developed a strategy to address infections in Long-term Care Facilities in Phase 3 of the National Action Plan to Prevent Health Care-Associated Infections. Road Map to Elimination ¹²

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

<https://www.cdc.gov/longtermcare/index.html>

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.