

Clostridium difficile: What have we learned?

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WI HAI's In LTC 2017 Spring
Conference
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Objectives

- Discuss the burden of *C difficile* Infection (CDI) occurring in Wisconsin Long Term Care (LTC) facility participating in the initiative
- Review prevention measures to reduce the transmission of *C difficile*
- Review the core elements of Antibiotic Stewardship related to reduction of CDI



MetaStar represents Wisconsin in
Lake Superior Quality Innovation Network.

C. difficile – the organism

C. difficile

- First detected in 1935
- Identified in 1978 as primary cause of antibiotic associated diarrhea and pseudomembranous colitis in patients treated with antibiotics
 - Inflammatory condition of the colon that develops in response to the toxins produced by the organism
- Toxin variant known as B1/NAP/027 emerged in 2002, increased severity of disease

C. difficile (Transmission)

Spore forming bacillus

- Ability to form spores enables *C difficile* to survive for > five months on contaminated surfaces in the healthcare environment
- Direct and Indirect transmission possibility
- Very small infectious dose (five spores)
- Transmission occurs via fecal-oral route
- Incubation period is a median of only **two to three days after ingestion**

C. difficile (Latrogenic)

Produces toxins which cause diarrhea and colitis in susceptible patients whose normal colonic bacterial flora has been disrupted by prior antimicrobial treatment (usually quite recent)

- Clindamycin – chief culprit in past
- Third generation cephalosporins – have supplanted Clindamycin as highest risk
- Fluoroquinolones – emerging trend

Residents remain at risk for developing CDI for at least two months after antibiotic treatment

C. difficile

- Role of probiotics – needs more study, no recommendations (CDC, APIC, SHEA)
 - No harm?
 - Fungemia secondary to use of the probiotic in severely immunocompromised

[Veena Venugopalan Emerg, Infect Dis. 2010 Nov; 16\(11\): 1661–1665.](#)
- Surveillance
 - Include admissions on treatment for *C. difficile* on worksheet

Diagnostic Studies

- Testing should only be ordered on symptomatic residents
 - At least three unformed stools in a 24 hour period
 - Increase from baseline, no other identified cause*** (Resident not on laxative, tube feedings, chemotherapy, proton pump inhibitors, antacid therapy etc.)
- Repeat testing following a negative test is not recommended, current testing is very sensitive

Diagnostic Studies

- Do not perform “test of cure”
 - Presence of toxin (positive test) after successful treatment does not predict recurrence
- Not recommended to test for relapse of diarrhea
 - Assume it is *C. difficile*
 - Consider Infectious Disease consult
 - May indicate need to change treatment

CDI Burden

- One of the most common and costly healthcare-associated infections (HAIs)
 - CDI costs exceed 3 billion in extra healthcare costs annually Average cost for an inpatient CDI greater than \$35,000
- *C. difficile* has replaced Methicillin Resistant Staph Aureus (MRSA) as the most common HAI
- 92 percent of deaths from *C. difficile* occur among persons 65 years of age and older

CDI Burden



<https://www.cdc.gov/hai/pdfs/cdiff/CDiff-One-Pager.pdf>

CDI Burden

CDI by the numbers – US burden

- 453,000 cases
- 29,300 deaths (Lessa FC et al. N Engl J Med 2015; 372:825-83)
- Not just hospital onset....
- Over half of the 15,000 cases of CDI in Illinois hospitals reported to NHSN in 2015 were community onset (Illinois Department of Public Health)
- Nursing home onset – 263,000 cases, 16,500 deaths annually (Elixhauser (AHRQ) and Jhung CDC)

CDI Burden – LTC and Hospitals Share Patients and Infections

- 35 percent of CDI patients discharged to NH
- 66 percent of NH residents who developed CDI were recently discharged from hospital
- 26 percent of NH residents with CDI hospitalized

(Dr. Dumyati, Rochester Emerging Infection Program)

Hospitals ↔ Nursing Homes

How do we work together?

- Communication
- Inter-facility Infection Control Transfer Form
- <https://www.cdc.gov/hai/pdfs/toolkits/InfectionControlTransferFormExample1.pdf>

C difficile – What is the Burden in Wisconsin LTC facilities? Currently no National Baseline

LS-QIN/MetaStar Nursing Home *C difficile* Initiative

Participants in the initiative are submitting data to CDC via National Healthcare Safety Network (NHSN)

65 Wisconsin LTC facilities are actively participating and have entered data including resident days, number of admissions, number of admissions on treatment for *C. difficile* at time of admission and number of positive tests (events) on residents

Creation of National Baseline for Long Term Care Facilities

- Wisconsin data will be combined with data from LTC facilities reporting across the nation to determine a national baseline for comparison
- This baseline will likely not be released until early 2019
- What is the **preliminary** data from participating Wisconsin LTC facilities showing?

Preliminary Wisconsin Data

***Limitations: Small sample size, 6 month time frame, data is self reported and not validated.

- 65 facilities reported data
- October 2016 – March 2017
- Average number beds: 92 (range 28-210)
- Average number admissions/month: 1049
- Average number of those admissions being treated for CDI at time of admission: 2 percent

Preliminary Wisconsin Data October 2016 – March 2017

- Total Resident days: 644,013
- Number of positive tests (events): 43
- Rate of infection per 10,000 resident days
 - 0.67 per 10,000 resident days
- What does this mean?
- Baseline allows facility to measure progress over time and compare to group average
- No national comparison yet

Comparison to Hospital Data

Nationally: The reported incidence of *C. difficile* colitis among hospitalized inpatients ranges from 3.8 to 9.5 cases per 10,000 patient days.

Cleveland Clinic Disease Management, February 2013

Wisconsin (preliminary data provided by Wisconsin Department of Health Services)

- 2015 inpatient CDI incidence rate (Hospital onset) 7.59 per 10,000 patient days
- 2016 inpatient CDI incidence rate: 7.36 per 10,000 patient days

Preliminary Wisconsin Data – Current Status of Antibiotic Stewardship Practices

- Facilities have antibiotic “time out” in place: 42 percent
- Facilities receive antibiogram from the laboratory that performs cultures/susceptibility testing: 46 percent
- Facilities have policy in place that requires indication for antibiotic when ordered: 63 percent
- Facilities have provided education to clinicians and staff: 78 percent
- Facilities have access to individuals with expertise in antibiotic stewardship: 74 percent

Status of Antibiotic Stewardship in Participating Nursing Homes

- Facility has written statement of support from leadership: 59 percent
- Facilities had stewardship leader: 88 percent
 - Ideally not just IP: 12 percent
- Antibiotic use and resistance data is reviewed by leadership in quality assurance/performance improvement committee meetings: 90 percent
- Antibiotic usage information is given to providers: 63 percent

Status of Antibiotic Stewardship in Participating Nursing Homes

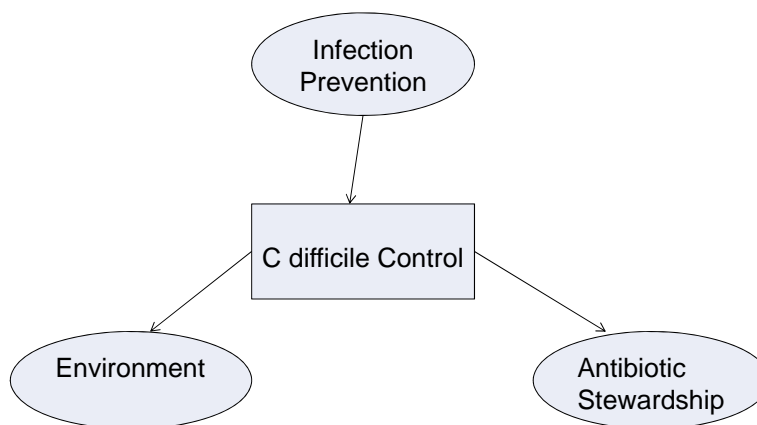
How does this compare to your facility?

First “snapshot” of Wisconsin data for LTC!

Please remember:

***Limitations: Small sample size, 6 month time frame, data is self reported and not validated

How do we stop the development and spread of *C. difficile* in the facility?



Infection Prevention & Environmental Measures to Reduce the Transmission of *C. difficile*

Infection Prevention Measures – Hand Hygiene

Is soap and water (S&W) the preferred method for hand hygiene (HH)?

- Neither S&W or alcohol based hand rub (ABHR) kill spores
 - It is the physical action, friction and rinsing, that makes S&W more effective
- How does change to S&W affect HH compliance?
- What are your options in your facility?

Infection Prevention Measures – Hand Hygiene

- Monitoring process
 - Who does it?
 - How often?
- Feedback to staff
 - Immediate feed back when indicated
 - Non-verbal sign
 - Posting of facility wide data
- Efforts to improve compliance
 - Feedback, contests, etc.

Infection Prevention Measures – Contact Precautions

- Presumptive Contact Precautions for all residents with new diarrhea
- Private room vs. Cohorting if necessary
 - Spatial separation / privacy curtain
 - Which resident uses commode?
 - Risk assessment, cohorting, who to move etc.
- Signage is posted
- Dedicated or disposable equipment

Infection Prevention Measures – Contact Precautions

Staff don gown and gloves for resident cares

- Put on gown and glove prior to room entry
- Remove gown and glove before exiting room
- **If cohorting is needed, change gown and gloves and perform HH after caring for one resident and prior to providing care to next resident**
- Have adequate supplies readily available
- Change gloves immediately if visibly soiled

Monitoring & Feedback of gown/glove use to staff?

Education

- Resident and family education can promote cooperation and compliance with Contact Precautions and Hand Hygiene.
- Consistency of staff practices
- <https://www.dhs.wisconsin.gov/hai/10-33attach.pdf>

Infection Prevention Measures – Cleaning / Disinfection

- **Cleaning:** physical removal of visible contamination (organisms) on a surface and the step that should precede disinfection
- **Disinfection:** process used to kill or render pathogenic organisms inert. An important factor in the disinfection process involves the time the disinfectant spends on the surface being disinfected (contact time).

2-step process

Infection Prevention Measures – Cleaning / Disinfection

- Environmental Protection Agency (EPA) approved products which kill spores, such as bleach, is used to clean surfaces and equipment that stays in room as well as any equipment moving in and out of room
 - K List: <https://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium>
- Ensure that staff allow adequate contact time
- If using wipes, instruct staff on how large an area can be disinfected with a single wipe

Infection Prevention Measures – Cleaning / Disinfection

- Frequency of cleaning/disinfecting high touch areas
 - Carts, bedrails, bedside table, stethoscope, thermometers, telephones, remote controls etc.
- Are computers and key boards (mobile/fixed) cleaned/disinfected on regular schedule?
Phones, iPad
- Handle linen as little as possible, bag for transport

Infection Prevention Measures – Cleaning / Disinfection

- Equipment going from resident to resident
- “Orphan” equipment – everyone thinks someone else cleans it
- Study assessing thoroughness of cleaning – 49 percent of surfaces cleaned (Carling P. AJIC 2013;S20-S25)

Ambulation

If resident is cognitively able to follow instruction, diarrhea is contained and they clean their hands with soap and water, and don clean clothing, and assistive devices such as walkers have been cleaned/disinfected, can they leave room for activities, therapy, meals etc.?

- Balance between infection prevention and maximizing residents rehabilitation goals, promoting independence and preserving dignity
- Resident to participate in group activities when possible

APIC Guide to Preventing Clostridium difficile Infections

When can Contact Precautions be Discontinued?

Again some variability

- No diarrhea for 48 hours
- Concern for room contamination, have all surfaces been cleaned with EPA approved products which kill spores (not vegetative form)?
 - Terminal cleaning vs. emptying trash

Changes during Outbreak?

- Ability to ambulate outside of room
- Time frame for removal of Contact Isolation
- Frequency of cleaning/disinfection – resident room
- Frequency of cleaning/disinfection – public areas

Antibiotic Stewardship

Antibiotics

- Most frequently prescribed medication in LTC
- 70 percent of residents received one of more courses of systemic antibiotics each year
- 40-75 percent of antibiotics may be unnecessary or inappropriate
- Harms, including CDI, are significant for the frail and older residents

Antibiotic Stewardship



www.cdc.gov/longtermcare/pdfs/infographic-antibiotic-stewardship-nursing-homes.pdf

Antibiotic Stewardship

- Antibiotic Stewardship refers to a set of commitments and activities designed to “optimize the treatment of infections while reducing the adverse events associated with antibiotic use”

CDC Core Elements of Antibiotic Stewardship for Nursing Homes

- Implementation of Antibiotic Stewardship is a long-term commitment to a process consisting of many steps.

CDC Seven Core elements of Antibiotic Stewardship in LTC

1. Leadership commitment
2. Accountability through identification of leaders responsible for promoting and overseeing stewardship
3. Expertise in antibiotic use and stewardship available to providers in facility
4. Action to implement recommended policies such as antibiotic “time-out” *

CDC Seven Core elements of Antibiotic Stewardship in LTC

5. Tracking measures of antibiotic use *
6. Reporting data on antibiotic prescribing *
7. Education for clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving use. *

*First steps – any size facility

Leadership Commitment

Leadership support and commitment to safe and appropriate antibiotic use in your facility

- Written statement
- Share with staff, residents and families
- Include stewardship related duties in job description for medical director, clinical nurse lead(s) and consultant pharmacists.
- Does leadership support efforts when providers push back?

Leadership Commitment

- Communicate the facility's expectations about use of antibiotics and the monitoring and enforcement of stewardship policies with providers and nursing staff
- Create a culture which promotes antibiotic stewardship through messaging, education and celebrating improvement

Accountability

Identify lead(s) responsible for promoting and overseeing antibiotic stewardship activities in your facility

- Team approach
- May include provider champion, pharmacy support, administration, Infection Prevention and Control, front line nursing staff etc.
- Should not just be responsibility of Infection Control

Accountability

Medical Director

- Empowered to set standards for antibiotic prescribing practices for all clinical providers credentialed to deliver care in the facility and is accountable to oversee adherence to policy
- Should review antibiotic use data and ensure best practices are followed
- **Expectations included in contract**

Accountability

Director of Nursing

- Sets standards for assessing, monitoring and communicating changes in residents condition

Nurses and Nurse aids

- Play key role in the decision-making process for starting an antibiotic (provide standard scripting to follow when alerting provider of change in resident condition)

Pharmacy

- provides medication regimen review and reports antibiotic use data to all stakeholders

Accountability

Infection Prevention & Control Officer

- Has key expertise and data to improve antibiotic use when they have training, dedicated time and resources to collect and analyze data to support antibiotic stewardship.

Laboratory

- Provides antibiogram (summary of antibiotic susceptibility patterns from organisms isolated in cultures) and alerts facility if certain multi-drug resistant organisms (MDRO) are identified.

Drug Expertise

Establish access to in-house or consultant pharmacists or other individual with experience or training in antibiotic stewardship for your facility.

- If you contract pharmacy services, make it part of the contract
- Partner with antibiotic stewardship leads at referring hospitals.
- Develop relationships with infectious disease consultants

Action – One Step at a Time

Implement at least one policy or practice to improve antibiotic use, once that practice is in place, implement another

- Antibiotic time-out
- Requiring providers to document reason for antibiotic order when placing order
- Tracking antibiotic starts in your facility
- Appendix A – Core elements of Antibiotic Stewardship for Nursing Homes
- <https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship-appendix-a.pdf>

Tracking

Monitor at least one process measure of antibiotic use and at least one outcome measure from antibiotic use in your facility.

- Process measure: tracking how and why antibiotics are prescribed
- Outcome measure: tracking the adverse outcomes (CDI rates)
- Appendix B – Core elements of Antibiotic Stewardship for Nursing Homes
- <https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship-appendix-b.pdf>

Reporting

Provide consistent feedback on antibiotic use and resistance to prescribing clinicians, nursing staff and other relevant staff such as pharmacy etc.

- Maintains awareness
- Acceptance of feedback may help change prescribing behavior

Education

Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use.

- Flyers, pocket guides, newsletters, emails
- Interactive, face to face workshops has the strongest evidence for improving medication prescribing practices
- Working with residents and their families will reduce their requests for inappropriate antibiotics

Education

Core Elements for Antibiotic Stewardship in Nursing Homes
What You Need to Know About Antibiotics in a Nursing Home

What are antibiotics?
Antibiotics are drugs used to treat infections caused by bacteria. They do not work for illnesses caused by viruses, like flu and most cases of bronchitis.

When are antibiotics necessary?
There are times when antibiotics are urgently needed, for example, to treat sepsis (e.g., when bacteria cause a severe infection of the bloodstream), pneumonia caused by bacteria, and meningitis caused by bacteria. Using antibiotics when they are not necessary increases the risk they will not work when needed most.

Can taking antibiotics be harmful?
Antibiotics, like any medications, can have either side effects like upset stomach or a rash, as well as serious allergic reactions or dangerous interactions with other medications a person is taking. In particular, antibiotics put people at risk for a deadly type of diarrhea caused by *C. difficile*. Frequent or excessive use of antibiotics leads to developing bacteria that are resistant to these antibiotics. Antibiotic-resistant bacteria are harder to kill, and can cause untreatable infections. A person also can carry resistant bacteria without feeling sick (this is called "colonization"), but if that bacteria causes an infection, it can require more complex treatments and transfer to the hospital.

What is antibiotic stewardship?
Antibiotic stewardship refers to a set of commitments and actions designed to make sure patients receive the right drug, of the right antibiotic, for the right amount of time and only when truly necessary. Improving antibiotic use will ensure that life-saving medications are effective and available when we need them.

Why is improving antibiotic prescribing practices important for nursing homes?
Nursing home residents have a higher risk of colonization with bacteria for many reasons. The presence of invasive devices such as urinary catheters and feeding tubes, wounds, and procedures that affect the bladder (e.g., diabetes or stroke) can all lead to colonization. Difficulties in separating colonization of bacteria from true illness in frail or older adults can lead to the overuse of antibiotics, which in turn drives antibiotic resistance.

continued on next page

<https://www.cdc.gov/longtermcare/pdfs/factsheet-core-elements-what-you-need-to-know.pdf>

Antibiotic Stewardship

- Timely and appropriate initiation of Antibiotics
- Appropriate administration and de-escalation
- Data monitoring, feedback
 - Utilization
 - Antibiogram: know your Resistance
 - CDI rates

Challenges to Implementing Antibiotic Stewardship

- Limited on-site physician or pharmacist presence
 - Decisions are often made over the phone based on the assessments communicated by front-line staff
 - Communication must be concise and should include option of “watchful waiting”; continued monitoring is not “doing nothing”
 - Scripting for staff for consistency

Challenges to implementing Antibiotic Stewardship

- Delays in obtaining labs, radiologic testing and microbiology results
 - Emphasis on symptoms, vitals, change from resident’s baseline
- Resident and Family expectations for antibiotics to be given
 - Initial and annual (?) education on dangers associated with unnecessary antibiotics

Challenges to implementing Antibiotic Stewardship

Changing prescribing antibiotics from a “just in case” attitude to “only when needed” mind set

- Resistance
- Lack of new antibiotics

Also changing mind set to “shorter courses” of antibiotics

Phillip Stone, McKnight's Long Term Care News

Where do I start?

Most important thing is to start!

What step(s) can you start today?

- Track antibiotic use and resistance (antibiogram)
- Provide that data to providers, leadership, staff
- Provide education to providers and nursing staff
- Provide education to residents and families

Next Steps

- Engage leadership
- Initiate antibiotic “time out”
- Require indication for antibiotic when ordering
- Work with your partners
- Build relationships

How can I use QAPI Reduce C. difficile Infections?

QAPI Elements

1. Design and Scope
2. Governance and Leadership
3. Feedback, Data Analysis and Monitoring
4. Performance Improvement Projects (PIP)
5. Systematic Analysis and Systemic Action

What is QAPI?

Quality Assurance vs. Performance Improvement

	QUALITY ASSURANCE	PERFORMANCE IMPROVEMENT
Motivation	Measuring compliance with standards	Continuously improving processes to meet standards
Means	Inspection	Prevention
Attitude	Required, reactive	Chosen, proactive
Focus	Outliers: "bad apples" Individuals	Processes or Systems
Scope	Medical provider	Resident care
Responsibility	Few	All

$$QA + PI = QAPI$$

QA and PI combine to form QAPI, a comprehensive approach to ensuring high quality care.

<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/Downloads/QAPIAtaGlance.pdf>

Elements of QAPI: Design and Scope

- Ongoing and comprehensive
- All departments
- Always include: clinical care, quality of life and resident choice
- Emphasis on autonomy and choice in daily life

Elements of QAPI: Governance and Leadership

- Governing body involves input from residents, all staff, and resident representatives
- Ensures resources exist to support QAPI efforts
- QAPI is a priority
- Set expectations regarding safety, rights, respect, and quality
- Create atmosphere where staff are accountable as well as comfortable to report opportunities for improvement

Mindset Matters

You could point the finger
& decide who's to blame...

or you could ask

“Why did this happen?”

(QAPI Hint:

Systems thinking means
no more blame game.)

<https://www.lsqin.org/>

Elements of QAPI: Feedback, Data Systems, and Monitoring

- Systems to monitor
- Draw data from multiple sources
- Actively incorporate input from staff, residents, and family
- Adverse event tracking
- Quality measures for benchmarking

Elements of QAPI: Performance Improvement Projects (PIPs)

- Concentrated effort on a particular concern area
 - Includes:
 - Gathering information
 - Intervening for improvement
 - Topic of PIPs varies
 - New Regulation requires at least one PIP per year (Phase 3, November 28, 2019)

Elements of QAPI: Systematic Analysis and Systemic Action

- Use of a systematic approach to fully understand the problem, its causes, and implications for change
 - Gather input from various sources
 - Root Cause Analysis
 - Looks at comprehensively across all systems to promote sustainment
 - Focus on continuous learning and continuous improvement

PIP: C difficile Reduction at Care Center ABC

- Diane, Facility Infection Prevention and Control Officer noted increase in *facility onset* C. difficile Infections (CDI) in April, 2017
- The rate of CDI had increased by 50 percent, per their data collected and entered into NHSN

NHSN Reports

National Healthcare Safety Network Rate Tables for CDI LabID Event Data Total CDI Rate

As of: March 22, 2017 at 8:41 AM

Date Range: LTCLABID_RATE SCDIF summaryYQ 2016Q4 to 2016Q4

summaryYM	location	ItcCDICount	numResDays	ItcCDIRate
2016M10	FACWIDEIN	1	3943	2.538
2016M11	FACWIDEIN	2	3513	5.693

PIP: C difficile Reduction at Care Center ABC

- IPCO, Diane, informed the medical director, NHA, and Director of Nursing
 - She proposed that this increase should be investigated as soon as possible
 - Diane set up a meeting with all department heads, the Medical Director, DON, some CNAs, three nurses and NHA to discuss the current state
 - Completed investigation in potential causes and agreed to two highly probable causes
 - Agreement to initiate a PIP

Completed a Fish Bone Diagram

Goal: We will reduce facility onset c. difficile infections from 10% in 5% by 10/1/17



PIP: C difficile Reduction at Care Center ABC

- PIP Meeting #1
 - April 1, 2017
- Team Composition
 - Diane, Infection Prevention & Control Officer
 - Sarah, Certified Nursing Assistant
 - Howie, Environmental Services
 - Dr. Brown, Medical Director
 - Marion, Resident on East Wing

PIP: C difficile Reduction at Care Center ABC

PIP Guide

Benefits:

- One document to use during course of project
- Keeps notes and thoughts organized

QAPI Tools:

- SMART Goal: Specific-Measurable-Attainable-Relevant-Time Bound Goals
- Root Cause Analysis (RCA)
- Plan-Do-Study-Act (PDSA)
- <https://www.lsqin.org/initiatives/nursing-home-quality/essentials/>

PIP: C difficile Reduction at Care Center ABC

PIP Guide

Performance Improvement Project (PIP) Guide

Start Date	Review Date(s)	Complete Date	PIP Squad Members
4/1/17	5/1/17, 6/1/17, 8/1/17, 10/1/17	10/1/17	1 Diane, IPCO
Project Leader:	Diane, IPCO		2 Sarah, CNA
Key Area for Improvement:	C diff reduction via Hand Hygiene Monitoring and Education to the Environmental Services Staff		3 Howie, Environmental Services
Goal: Specific Measurable Attainable Relevant Time-bound	Care Center ABC will reduce the percentage of facility onset C. difficile infections from 10% to 5% by October 1, 2017. Data Source: National Healthcare Safety Network (NHSN)		4 Dr. Brown, Medical Director
WHAT IS THE ROOT CAUSE(S) FOR THE PROBLEM? Ask 'why is this happening?' five times. If you removed this root cause, would the event have been prevented?			
We completed a fish bone diagram (attached) and found many potential causes. The entire team agrees that the following contribute: 1. Lack of an effective process to ensure Hand Hygiene is completed when indicated, 2. Environmental Services staff have not received training related to infection prevention and control.			

PIP: C difficile Reduction at Care Center ABC

Set a SMART Goal and “publicize” it



#1. Goal Setting Worksheet

This worksheet is intended to help teams establish specific goals for both individual measures and performance improvement projects. Use this worksheet to establish a goal by following the SMART formula outlined below. Note that setting a goal does not involve describing steps that will be taken to achieve the goal.

SMART

Define the goal in terms of 4 “W” questions:

Why: what do we want to accomplish?

Who: who will be involved/affected? Where and when will it take place?

ATTAINABLE

Defend the rationale for setting the goal measure:

Did you base the measure on a particular best practice/benchmark? Is the goal measure set too high/low?

RELEVANT

Is the goal relevant and realistic?

TIME-BOUND

What is the target date for achieving the goal?

Write a goal statement below. The goal should be descriptive, yet concise enough that it can be easily

PIP: C difficile Reduction at Care Center ABC

SMART GOAL

Specific **M**asurable **A**ttainable **R**elevant **T**ime-Bound

Care Center ABC will reduce the rate of facility onset *C. difficile* Infections from 10 percent to five percent by October 1, 2017.

PIP: C difficile Reduction at Care Center ABC

Strategy #1: Hand Hygiene Monitoring via iScrub App

- First, all employee education provided regarding hand hygiene
- Next iScrub App set up, equipment (one iPad), and training for pilot

iScrub App

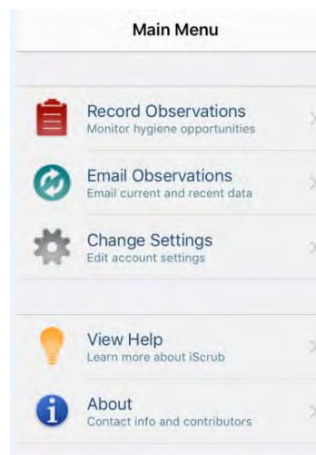
- Free app to monitor hand hygiene for iPhone/iPad
- Can designate different locations, floors, halls, etc.
- Can record different job classes, physician, RN, MA, etc.
- Download data at the end of designated period (month)

iScrub App



- <https://compepi.cs.uiowa.edu/iscrub/>
- iScrub 1.5 Lite is a free hand hygiene application for the Apple iPhone/iPod Touch. You may download the app directly from the iTunes app store via your device or by clicking [here](#) and installing through iTunes.

iScrub App Main Menu



Locations

< Main Menu Location Edit














WHERE WILL YOU BE OBSERVING?

- Dementia Unit >
- West Wing >
- East Wing >
- Dining Room >

Staff Type

< Location Job Role Done

DINING ROOM: 0 UNSENT OBS.

-  
-  Nurse 
-  Consultant 
-  Phys Ther 
-  Dietary Aide 
-  CNA 
-  Add new job role

iScrub Data

	B	C	D	E	F	G
1	location	HCW	opportunity	deviceName	note	HandHygiene Compliance
2	Dementia Unit	CNA	Out of Room	Emily's iPhone	C.N.A. (EN) did not complete HH after completing catheter care	Rub
3	Dementia Unit	CNA	Out of Room	Diane's iPhone	Medical Director did not complete HH after assessing pressure injury	Wash

PIP: *C. difficile* Reduction at Care Center ABC

Strategy #1: Additional Data Source

General Observations by involved Resident, Marion

- Noted and reported hand hygiene not completed in dining room
- Noted and reported hand hygiene not completed consistently with cares (PM shift pattern)
- Noted and reported consistent completion of HH for residents before lunch but not supper

PIP: *C. difficile* Reduction at Care Center ABC

Strategy #1: Interventions and Results

- Pilot-Started small on East Wing
- Sarah trained two Champion CNAs from each shift to completed observations, others have expressed interests
- Bi-weekly newsletter, informed all staff of project and iScrub monitoring

PIP: *C. difficile* Reduction at Care Center ABC

Strategy #1: Results

West Wing

How often is HH not completed when indicated?

May 2017

25%

June 2017

23%

July 2017

27%

Note: Diane provided West Wing HH education, 8/11/2017

August

20%

September

19%

PIP: *C. difficile* Reduction at Care Center ABC

CDI Infection Rate:

2016M07	FACWIDEIN	2	3894	5.136
2016M08	FACWIDEIN	1	4025	2.484

PIP: *C. difficile* Reduction at Care Center ABC

Next Steps:

- Convene PIP Squad Members and discuss what went well, what can be improved, next steps
- In this PIP, decided to *Adopt* the iScrub app and process for all units in the facility
 - Adopt: Yup, it works! Let's spread this practice
 - Adapt? It could work if we did _____
 - Abandon? No, this does not work at all. What else?? Re-group and continue discussion

Care Center ABC's PIP: QAPI

Lake Superior Quality Innovation Network (QIN)

Resources on Website

- <https://www.lsqin.org/initiatives/nursing-home-quality/essentials/>
 - Fillable forms/tools
 - Videos
 - QAPI Resources
 - Clinical Webinars

Resources

- APIC Text of Infection Control & Epidemiology, Chapter 72, October 3, 2014
- CDC Vital Signs March 2012
- CDC Core Elements of Antibiotic Stewardship for Nursing Homes 2014
- APIC Guide to Preventing *Clostridium difficile* Infections, 2013
- <https://www.cdc.gov/getsmart/index.html>

Questions?

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