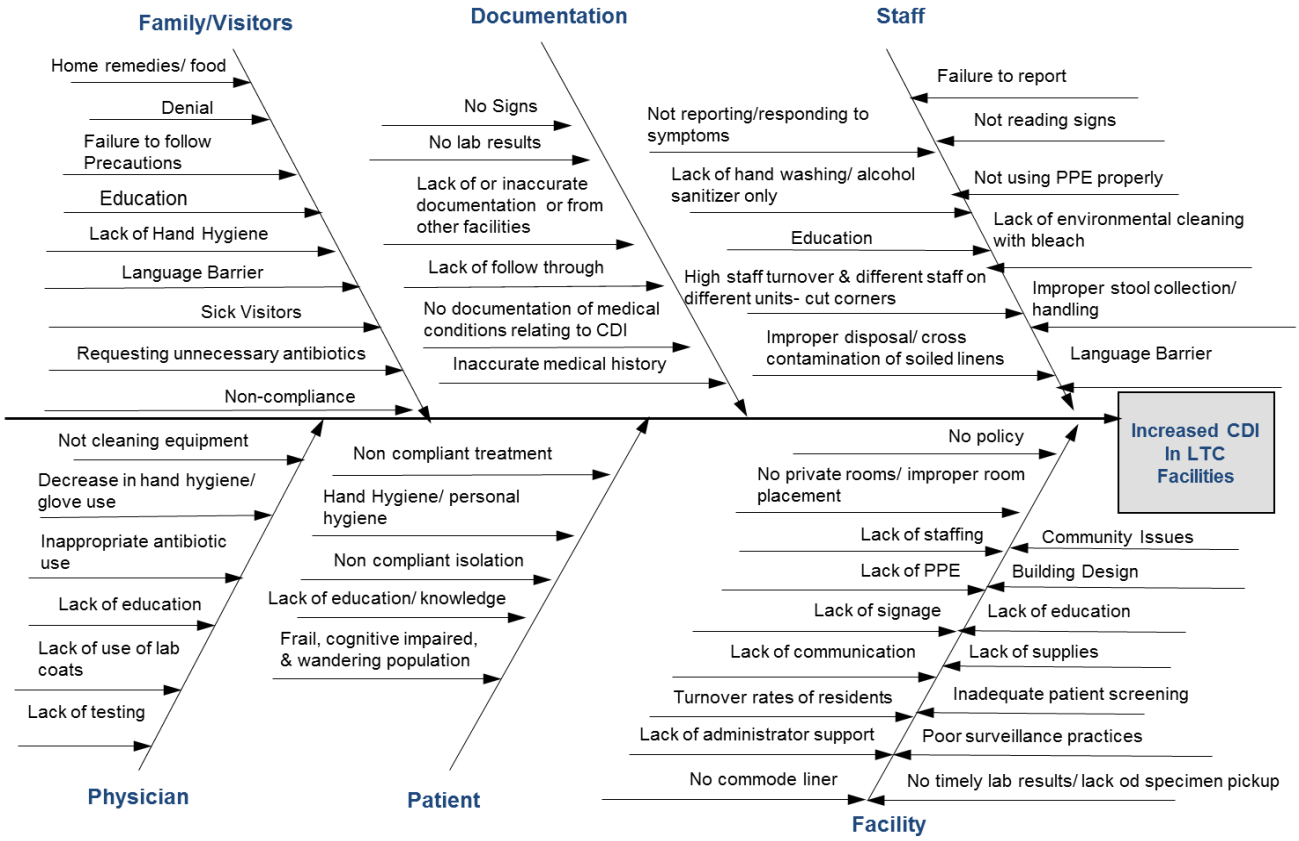
Healthy Practices. Healthy People. Healthy Places.

Story From the Field

Tackling Healthcare Associated Infections through QI

When the staff in the Connecticut Department of Public Health (CDPH) recognized an opportunity to address the significant challenges posed by *Clostridium difficile* infection (CDI), they decided to address the problem using a collaborative approach at regional long-term care (LTC) facilities. Because residents at LTC facilities often have compromised immune systems due to chronic health issues, they have increased vulnerability to healthcare associated infections (HAI), such as CDI. In response to growing CDI prevalence and using the Public Health Antibiotic Stewardship Driver Diagram as a reference, CDPH proposed the creation of an interdisciplinary CDI Prevention Collaborative in LTC facilities to reduce HAI among nursing home residents.

Figure 1. Causes of Increased CDI in LTC Facilities



CDPH's push to incorporate quality improvement (QI) into its work led them to pursue opportunities to support QI activities, including those related to CDI prevention. In 2012, CDPH received the Public Health Foundation's (PHF) Future of Public Health Award in recognition of its promise to generate measurable outcomes benefiting the future of public health through applied QI. PHF trained CDPH staff to incorporate QI methods into CDI Prevention Collaborative efforts, and CDPH became part of PHF's Antibiotic Stewardship Program. Nurses from 25 LTC facilities in Connecticut received training in QI and best practices in reducing CDI during the project kickoff session. Following training, CDPH used monthly tracking and reporting calls among participating LTCs to monitor the effectiveness of integrating best practices into CDI prevention protocols at the facilities. In addition to these calls, CDPH asked Qualidigm, a local quality improvement partner, to perform site visits at participating facilities.

Interdisciplinary Integration

To improve interdisciplinary CDI prevention protocols, CDPH used QI tools and models such as the Plan-Do-Check-Act (PDCA) cycle, flow charts, and cause and effect diagrams. The team also developed a best practices checklist to simplify implementation of best practice protocols in the future and continued use of QI methods. LTC facilities worked with state surveyors to develop new signage to notify staff and visitors of CDI cases and proper prevention practices. As implementation proceeded, staff reported improved communication and morale at the LTC facilities.

Interdisciplinary Integration (continued)

LTC facilities adopted process measures to track implementation success, including:

- Observations of staff compliance with new precaution signs about contact with CDI patients.
- Tracking the rate and consistency with which residents with infections and their family members receive documentation and educational materials about CDI.
- Tracking alignment of provider prescribing practices with best practices in CDI prevention and antibiotic stewardship.

CDPH is also tracking incidence of CDI to determine the impact of these efforts on infection rates in the state's LTC facilities and will start a campaign to encourage facilities to enroll in the National Healthcare Systems Network.

Keys to Success

The LTC Prevention Collaborative benefited from the support and endorsement of CDPH senior leadership and external partners, including two LTC Associations, the Connecticut Hospital Association, LTC Nursing Association, and the Center for Medicare and Medicaid Services Quality Improvement Organization. These partners facilitated LTC recruitment for the program, emphasizing that it was a well-organized, collaborative initiative. CDPH has expanded the LTC Prevention Collaborative statewide and plans on increasing the number of facilities participating in the collaborative.

QI Tools Used

- An **AIM statement** restricts the problem statement to discrete issue on which the improvement team will focus. CDPH used an AIM statement to guide their efforts to analyze existing processes and implement process improvement using QI tools.
- A **flowchart** visually depicts all the steps and decision points in a process from start to finish. Program participants used flowcharts to document processes which helped in analyzing both current and future problems.
- A **cause and effect diagram** displays multiple potential causes for a problem. CDPH used a cause and effect diagram to categorize ideas into themes for analysis and to show current successes and strengths, which helped to empower participants (see Figure 1).

Related Resources

- CDI Resources for Health Departments
  http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_faqs_HCP.html
- Future of Public Health Awards
  http://www.phf.org/programs/futureaward/Pages/Future_of_Public_Health_Award.aspx
- Centers for Disease Control and Prevention (CDC) Report, *Antibiotic Resistance Threats, 2013*
  http://www.cdc.gov/drugresistance/threat-report-2013/

About the Future of Public Health Awards

PHF's 2012 Future of Public Health Award recognized promising proposed initiatives in public health that utilize QI to influence positive outcomes in CDC's Winnable Battles. Award winners received onsite technical assistance to build capacity in QI and advance programs to improve outcomes. To learn more about the program and other PHF services, visit http://www.phf.org.

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