

Hospital Improvement Story- c.Diff Reduction at Katherine Shaw Bethea

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Learning the Ropes

- I started in the Infection Preventionist role 2 years ago at KSB.
- Starting out new I had a lot of data to make sense of before I could tackle any changes or implementations that needed to be made.
- One of my first goals was to learn the current processes already in place at KSB and see how applicable this was to the infection prevention data.

Learning the Ropes

- Being new at the facility I had a lot to catch myself up on.
 - Current rates
 - What previously has been implemented for data collection and prevention
 - How physicians perceive infection prevention information

The Beginning of Our c.Diff Journey

- Our c.Diff was evaluated monthly by infection prevention and our Infection Control Committee.
- The numbers seemed higher than expected but so were risk factors.
 - 11 HAI reportable cases in 2015
- It was always thought we were “just” at baseline for us and the risk factors we faced.
 - Until we started seeing more frequent jumps in data and then we did a deeper dive.
 - First we needed to identify the team that would be most valuable to this initiative.

Key Members

- Who can we utilize to help our rates?
 - Infection Control
 - Infectious Disease
 - Pharmacy
 - Nursing
 - Physicians
 - Antimicrobial Stewardship Committee

Community Risk Assessment

- Performed yearly to assess the community living situations we have currently in our area:
 - Nursing home
 - Prison
 - Assisted living
 - Disability assisted living

Identifying a Problem

- It was necessary to take this deeper dive into our data to get to the root cause.
- We initially thought it was our 'risks' but after a through investigation it was deemed this was only a small part of our problem.

Current Practice

- I soon learned there was no typical process behind c.Diff ordering.
- There were parameters set in place by our Laboratory that the stool specimen could not be formed, otherwise it was grounds for rejection. This was the extent of the policy though.
- Ordering was all up to the individual physician's discretion.
- There was an Antimicrobial Stewardship Program started but it had room for growth to reach its fullest potential.

Our Findings

- Infection control followed each c.Diff positive patient's course during stay so that we could catch every minute detail for accurate data collection. We wanted to look at all problem areas we could identify.
- We looked into where they came from on admission, what underlying factors in their history they had, what medications they were on, how long they were on them, and had they been hospitalized recently at any medical facility - including our own.

Our Findings

- We soon learned several key problem areas we had:
 - Patients that had recently received laxatives were in our testing population
 - Orders were placed on admission but a stool sample was not being collected until day 4 when symptoms may have been present on admission
 - We had improvements that could be made in our antibiotic prescribing and usage
 - Education was needed on proper cleaning to reduce re-infection for when patients went home along with antibiotic education so that the antibiotics were taken correctly.

Getting Providers on Board

- We knew this was a huge task at hand as getting education out can be cumbersome, but we let the data speak for itself.
- We had to provide education on the **very** specific problems we are seeing in order to ask for adjustments in ordering and prescribing practice to reduce c.Diff.
- Provide education on certain practices that put the patients at greater risk of c.Diff, such as certain antibiotic combinations.
- Emphasizing when to appropriately order the tests, such as 3 loose stools in 24 hours.
- Getting our culture to be conscious about c.Diff risk and to think c.Diff at admission if they presented with symptoms.
 - Able to isolate sooner
 - Choosing the correct isolation
 - Testing sooner

Developing a Process

- Once we worked on education with providers and staff we began getting feedback.
- Visual reminders are always taken kindly to so that is just what we did.
- In our EMR system we had the ability to build a “pop-up” box that every provider will see every time they order a c.Diff PCR test.

Developing a Process

- That “pop-up” box looks like this:

Clostridium Difficile, Toxigenic by PCR Do not order for FORMED STOOLS / No Recent Laxative Intake (1-2 days) / Order should NOT be repeated within 7 Days / Test not appropriate for followup after treatment or cure

Developing a Process

- Once that first step was approved and implemented we turned our attention to tackling the education piece.
- I worked with providers by sending memos, writing newsletters, attending staff meetings, and even simply rounding on the floors and taking the time to educate anyone who had time to listen.
- We helped educate on the need to collect present on admission c.Diff samples as soon as possible
- If patients presented with symptoms and did not stool within the first several days, we requested that providers re-assess the need for c.Diff test: Did the patient really need this?

Developing a Process

- We slowly saw the impact it was having on our rates. We saw a decrease in c.Diff orders on the “not collected” lists and we saw less unneeded testing ordered as providers were understanding when to correctly use the test.
- It was beginning to make sense. If a patient possibly had c.Diff with symptoms present on admission, we needed to collect that stool as soon as possible to treat correctly and sooner to make our data accurate.

How we Utilized our Antimicrobial Stewardship

- Our Infectious Disease physician, along with our Clinical Pharmacist review antibiotics on a daily, continual basis.
- They help deescalate, recommend more suitable treatments that have less risk of c.Diff, and identify when we need a more suitable indication for use of antibiotic.
- They will work together to narrow the spectrum of use and to make sure there is a clear indication documented by the provider caring for the patient.
- This not only helps get patients off antibiotics sooner, but it also prompts safe use.

How we Utilized our Antimicrobial Stewardship

- Our Clinical Pharmacist also helps patients at bedside with all medication, including antibiotics so that our patients are educated on the proper use of antibiotics, why they are on antibiotics, and any other questions they may have.
- They will also check orders at discharge so to make sure patients are sent home with the appropriate antibiotic or make sure they aren't sent home with antibiotic longer than they needed to be.

Our Data Collection Process

- We use PCR testing for c.Diff at KSB.
- Every month our microbiologist supervisor prints the test results from our analyzer, the Cephid® and tabulates them and sends them to infection control for processing.
 - Infection control will then compare to their findings to do a double check.
- Infection control rounds daily and evaluates and reports all inpatient positives on a daily basis.

Barriers we Faced

- We were fortunate to have very good compliance with this initiative that was perceived well by most providers.
- However a few initial troubles:
 - Getting the word out to get all parties on the same page
 - Education
 - Acceptance to recommended change

End Results

- In 2016 we decreased our hospital acquired c.Diff cases to 6; which is equivalent to almost a 50% reduction.
- Update for 2017: First two quarters combined 2 hospital acquired c.Diff infections.
- If we stay on track we will reduce by another 30% in 2017.

Continuing Evaluation

- Infection prevention reviews the ordering of c.Diff, patients with c.Diff orders, and c.Diff testing that was completely on a daily basis.
- We have successfully changed our culture in regards to c.Diff testing and antibiotic usage.
- This is a process continually monitored by Infection Control Committee and Antimicrobial Stewardship Committee.
- We have felt our major efforts in reducing our patients c.Diff risks, have impacted the quality of care they are receiving for the better.