Decreasing Blood Culture Contamination Rates in the Emergency Department

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Why Do We Care?

- Blood culture contamination rates in the emergency department regularly exceed the national standard of less than 3%.
- The contamination rate standard of less than 3% has been established by the American society of microbiology
- Many studies have shown a range of expense to an organization related to blood culture contamination of $4000 to greater than $10000 per patient stay
- Non-admitted patients are called by the RTMC physician & instructed to go back to the lab to have the cultures redrawn.

Soooo, Then Why It Happening?

- Emergency departments are susceptible to a higher percentage of contaminated blood cultures due to high staff turnover, collection of cultures in critically ill patients prior to resuscitation, and the time pressure of obtaining cultures before the first dose of antibiotics.
- KSMC collects between 700-1200 blood cultures a month
- Everyone thinks it someone else's fault
  - Not me, I've never heard back on one I collected
  - I'm doing it the way I was taught
  - The lab is doing something wrong
  - List goes on & on

Our Approach

First we did a SWOT analysis.

Is this something to bring back to our department for a shared governance approach?

We found that we had way more within our control than the team originally thought.

Strengths (Internal)	Weaknesses (Internal)
Data to support the project Recognition by both nursing and laboratory leadership for the need to change process High engagement from both nursing and laboratory representation Support of the organization to explore options for success Support of professional development team to provide needed education to staff	Large department, with many involved Difficult to hear all aspects of care and make sure everyone was represented. Difficult to align views with ancillary departments to support goal. Late adopters to process Variability in current process/work flow Difficulty in getting information to all involved, department runs 24 hours a day Difficult to have support available to every shift Difficult to provide direct feedback to individuals regarding practice due to lack of information from laboratory regarding specimen collection
Opportunities (External)	**Threats (External)**
Decreased length of stay for patients (improved efficiency) Improved quality of care Decreased risk of delayed care for most acute patients due to in accurate results (such as sepsis	Products used for specimen collection Laboratory equipment errors

Getting the Band Back Together!

Our unit based team worked on this and got creative.

We collaborated with Stakeholders, collaborators, and allies.

Nurse led process improvement rather than management driven tends to have a better success rate.

Who helped?

- nurses that actually do the collections at the bedside, while guided by leadership
- patient remains at the center of each quality improvement project (not physically present)
- inpatient laboratory leadership
- phlebotomy
- laboratory technician staff
- data support

What did the team come up with?

1. Education of RNs – Didactic and Hands On Lab School
2. Remedial education and training of RN with contaminated specimen by Charge RN

DID IT WORK????

SORTA

KINDA

MAYBE

YEAH

What did the team come up with?
Round 2

1. Scrub at each huddle
2. BC collection kits
3. Accountability

DID THAT WORK????


YES!!!

At huddles we actually practiced this crucial step…. On each other!
Clean using a good friction scrub for 30-60 seconds moving the applicator up and down and back and forth.
- Allow the area to air dry for at least 30 seconds.

The BC collection Kit:

The team came up with the idea of a kit that was easy to grab with every thing you need in one place.

It contained:

- Specimen bag
- Culture bottles
- Tourniquet
- ChloraPrep
- Alcohol prep for the bottles (or if the patient has a chloraprep sensitivity)
- Venipuncture and transfer device
- Dressing, tape, etc
- STEPs for collection

Probably the most important piece to the puzzle: Accountability

BC Collection Form:

Blood Culture Steps

- Place a mark on Blood Culture bottles that is 10 ml greater than the current volume of the bottle.
- Remove the protective cap on the top of the blood culture bottles. Clean the rubber septum of the bottle with 70% isopropyl alcohol wipe. Alcohol needs to dry for a minimum of 30-60 seconds after wiping.
- Place the tourniquet 3-4 inches above the venipuncture site and palpate to identify vein before cleaning.
- Using the Chloraprep sponge, cleanse the site with up/down and side to side motions for a full **30 secs**. Allow site to dry for a full 60-120 secs. DO NOT TOUCH THE SITE AFTER CLEANING.
- Connect the aerobic blood culture bottle first. Keep the bottle upright while filling. Fill to mark previously placed, repeat with anaerobic blood culture.

NUID: (print clearly) _____

DATE: _____

TIME: _____

DRAW SITE: _____

Extra Pink Blood CX Label

Inpatient lab leadership as a stakeholders was crucial to this step.

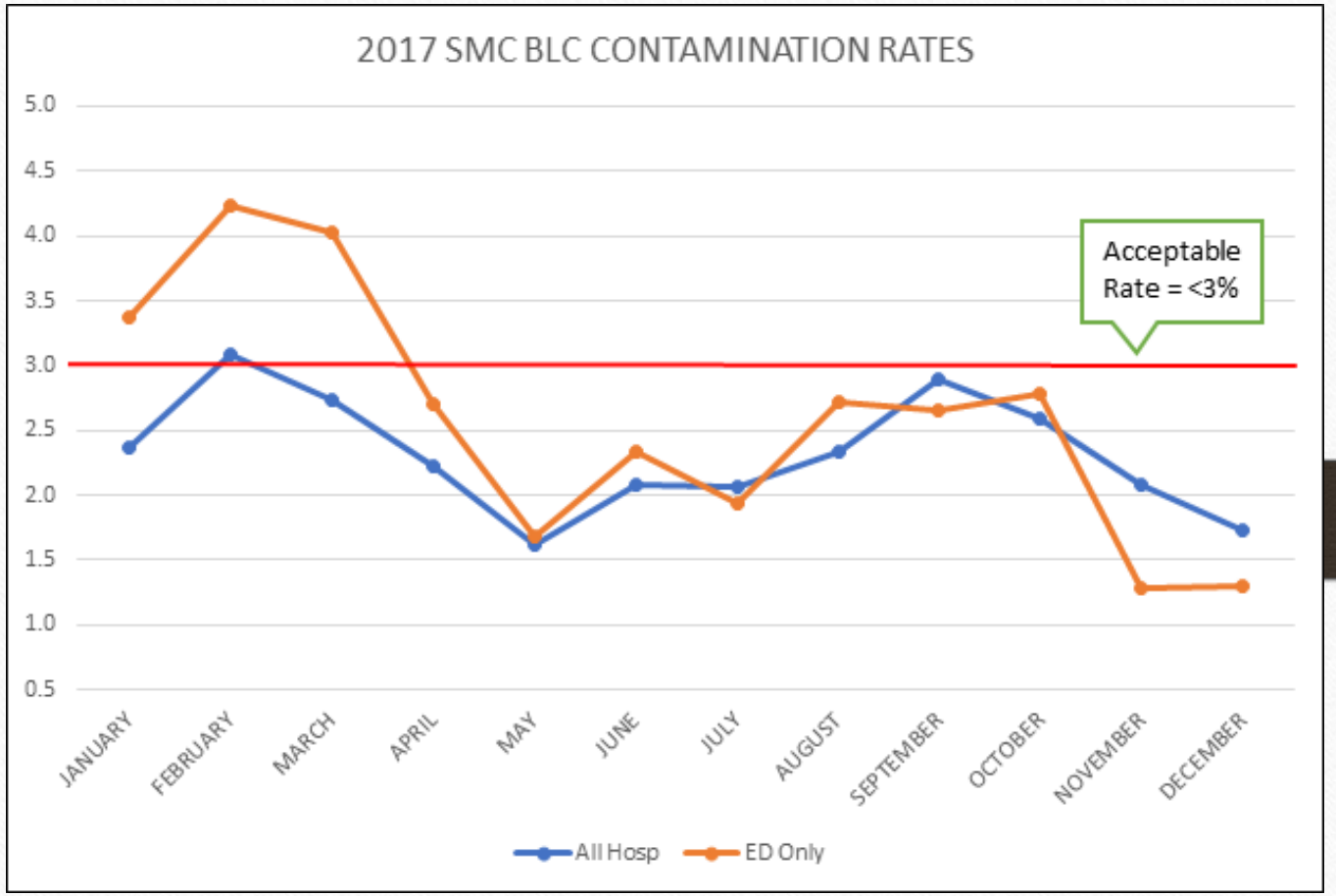
Our challenge was knowing who collected the specimen.

The lab now reports the Employee ID back to us on each contamination throughout the month, this was a great month with very few to report back.

Feedback and remedial training occurs more timely.

How did the team do?

That's the ED in Orange!!!



Key to success

- The Why
- Engagement
- Feedback

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