

Impact of pharmacist intervention with rapid blood culture identification (BCID) results in antibiotic stewardship efforts

Diego A. Rios, PharmD.

PGY-1 Pharmacy Resident, Mercy Hospital Joplin

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Disclosure Statement

- **The presenter has no conflict of interest in regard to this content**

Objectives



To evaluate the clinical effectiveness of pharmacists implementing BCID results in antibiotic stewardship efforts



Determine the average LOS pre and post BCID

Background



Pharmacists were asked to intervene on BCID results.



Previously, nurses would receive BCID results and relay the information to the physicians.



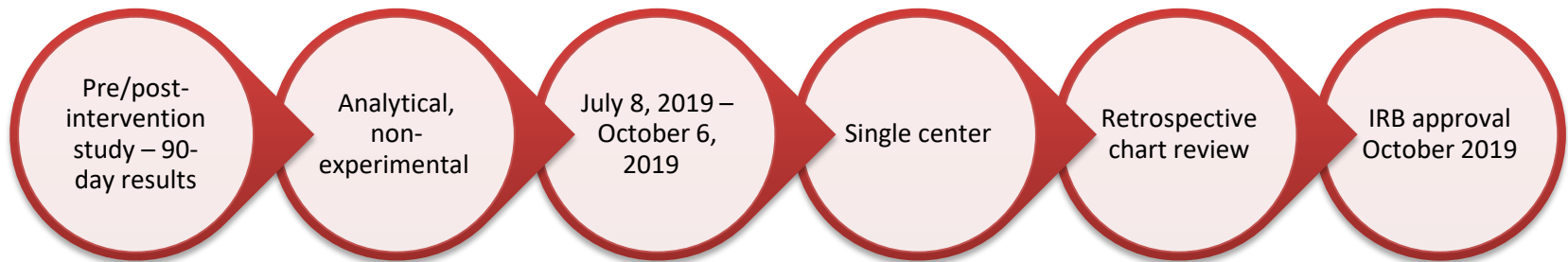
Pharmacists could provide more robust information and recommendations based on a review of patients medications and chart.

Mercy Hospital Joplin

- 240 bed hospital
- Level II Trauma Center
- Level III Neonatal ICU
- Nationally-Certified Stroke Center
- STEMI Center



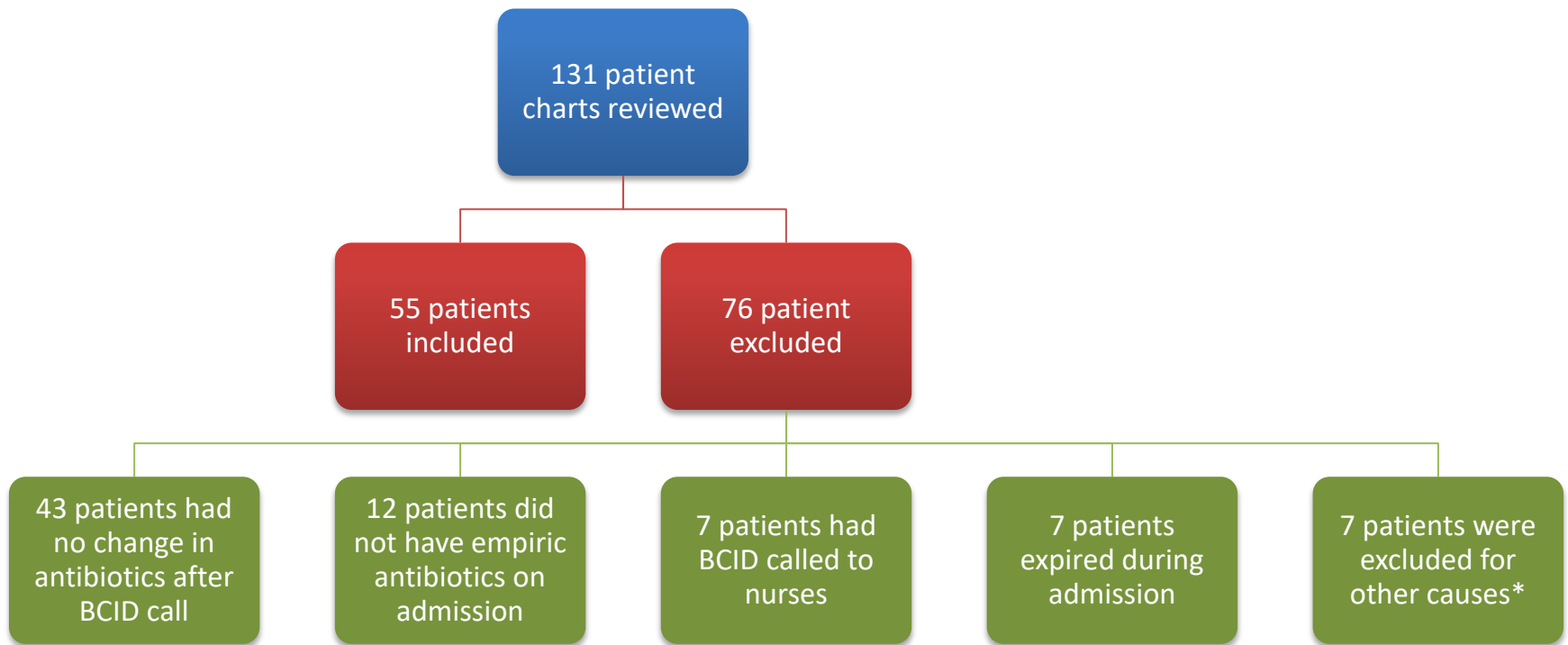
Study Design



Inclusion and Exclusion Criteria

Inclusion	Exclusion
Inpatients ≥ 18 years old with positive blood cultures during July 2019 to October 2019	<ul style="list-style-type: none">• No change in antibiotic treatment• Patients who expired during admission• Palliative/hospice patients• BCID cultures called to nursing• Pathogens not on the BCID panel• Multi-organism bacteremia• No blood cultures on admission• Blood cultures from another facility• ≥ 4 documented antibiotic allergies

Patients



BCID - blood culture identification

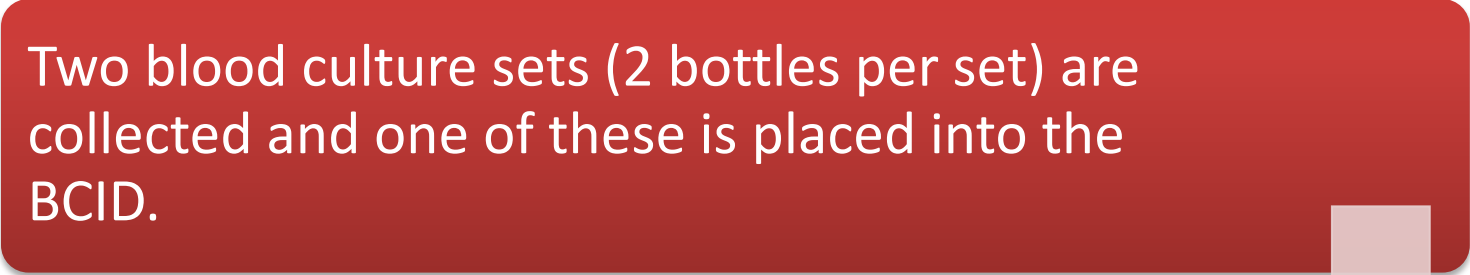
*hospice patient, admission at outside hospital, no culture on admission, multi-organism, not on the panel

Demographic Characteristics

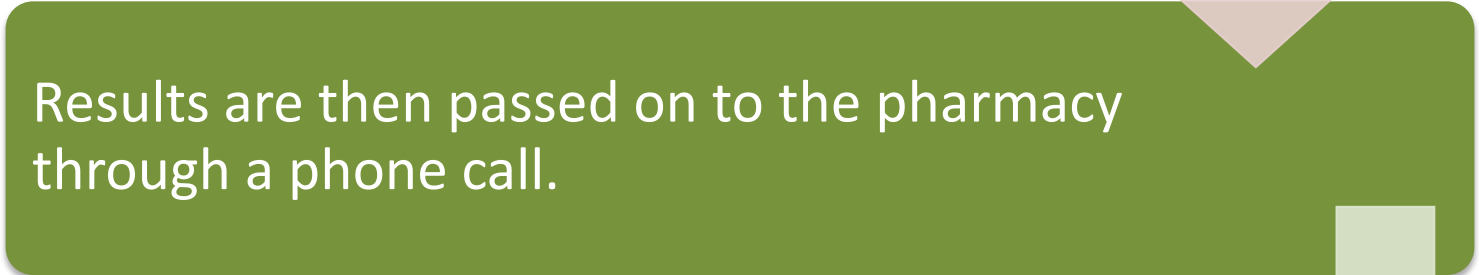
Characteristic	Overall population (n= 131)
Sex, male, no. [%]	77 [59]
Age, mean years [range]	65 [18-96]
Infectious disease consulted, no. [%]	32 [26.3]

Methodology

Two blood culture sets (2 bottles per set) are collected and one of these is placed into the BCID.



Results are then passed on to the pharmacy through a phone call.



Pharmacy is then responsible for informing the doctor of the identified culture with recommendations when appropriate.



Outcomes

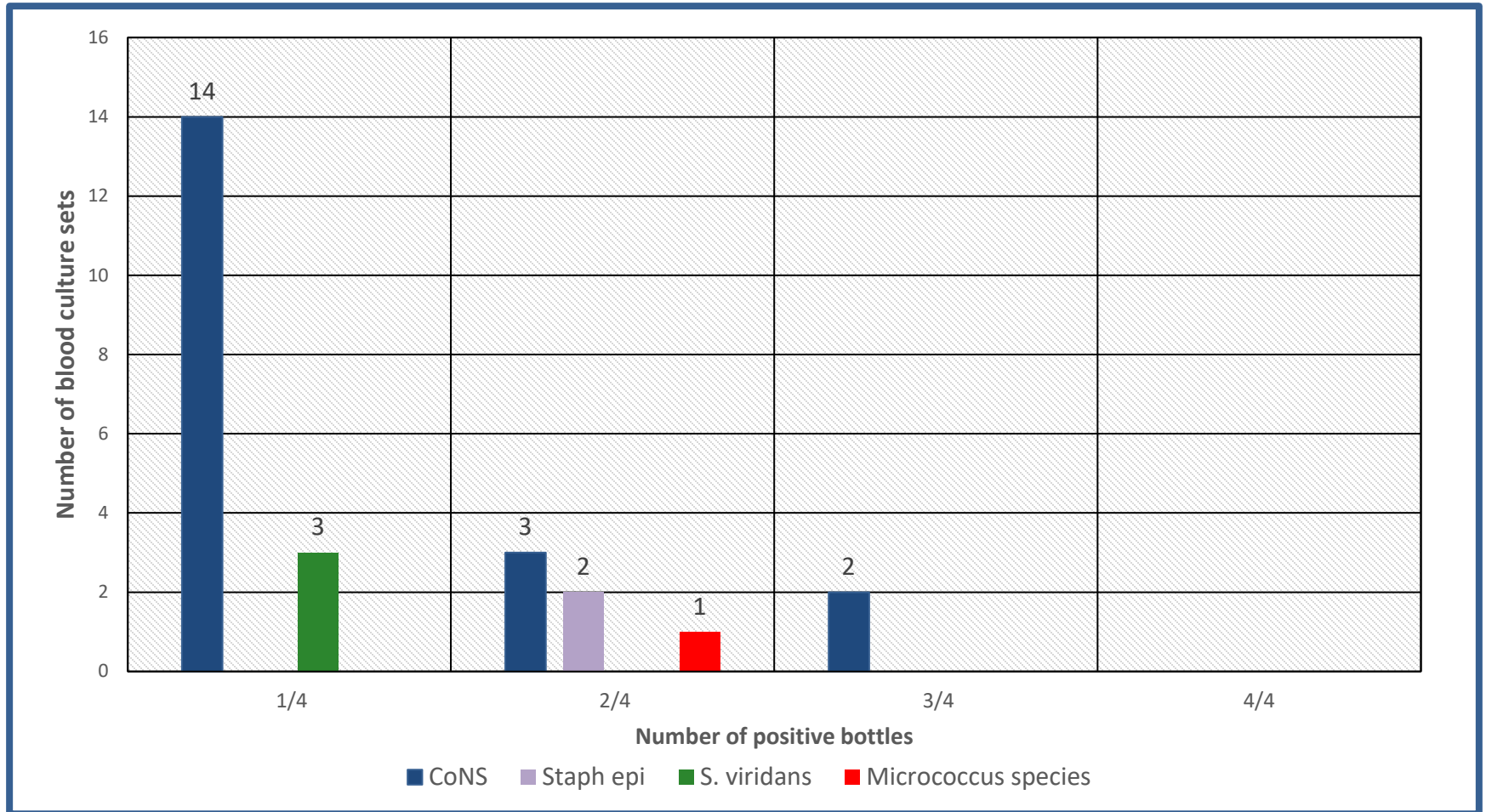
Primary Outcomes

- Average time to first de-escalation after BCID call

Secondary Outcomes

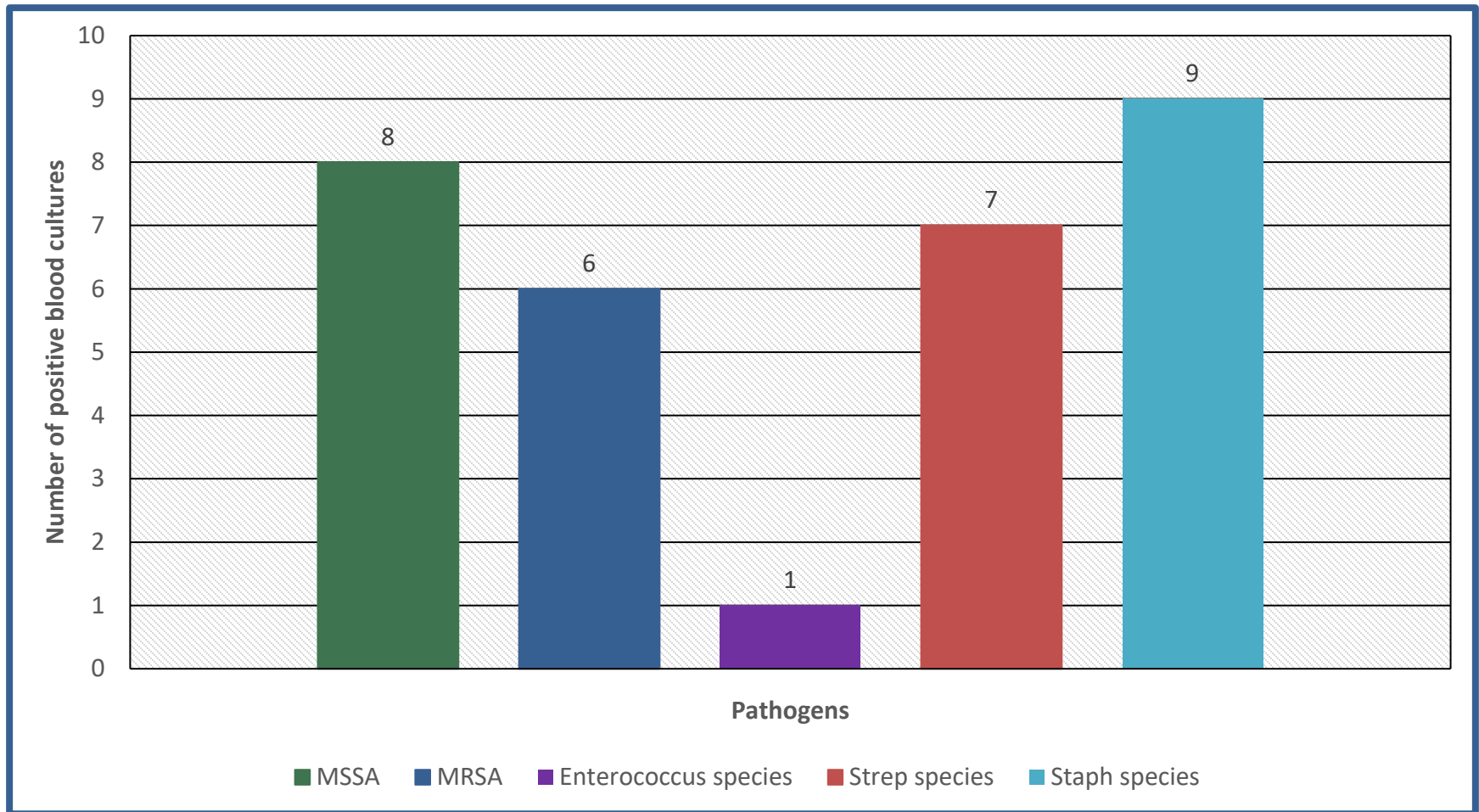
- Change in length of stay

Contaminants



CoNS = Coagulase negative staphylococcus Staph epi = *Staphylococcus epidermidis* S. viridans = *Staphylococcus viridans*

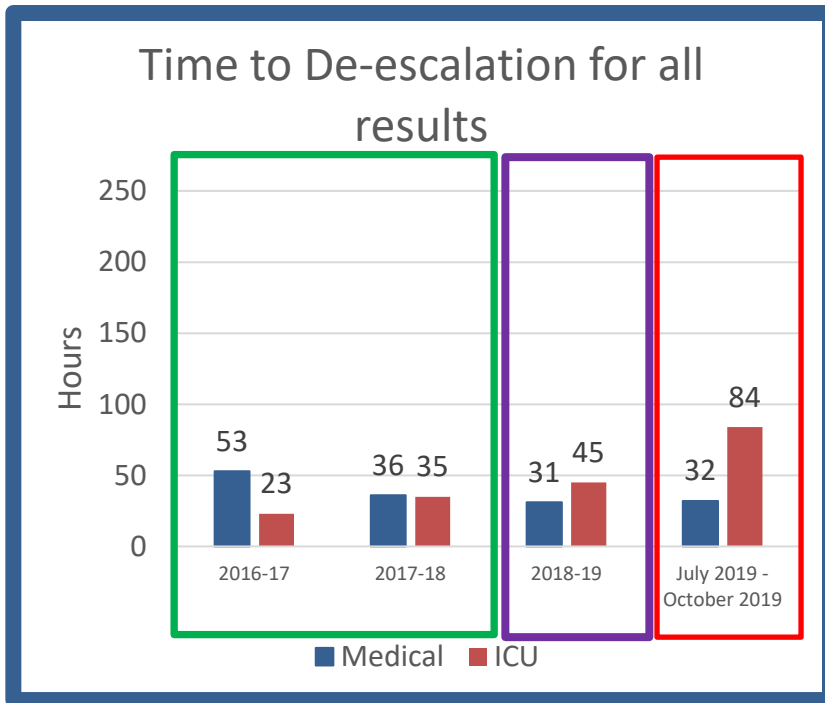
True Pathogens



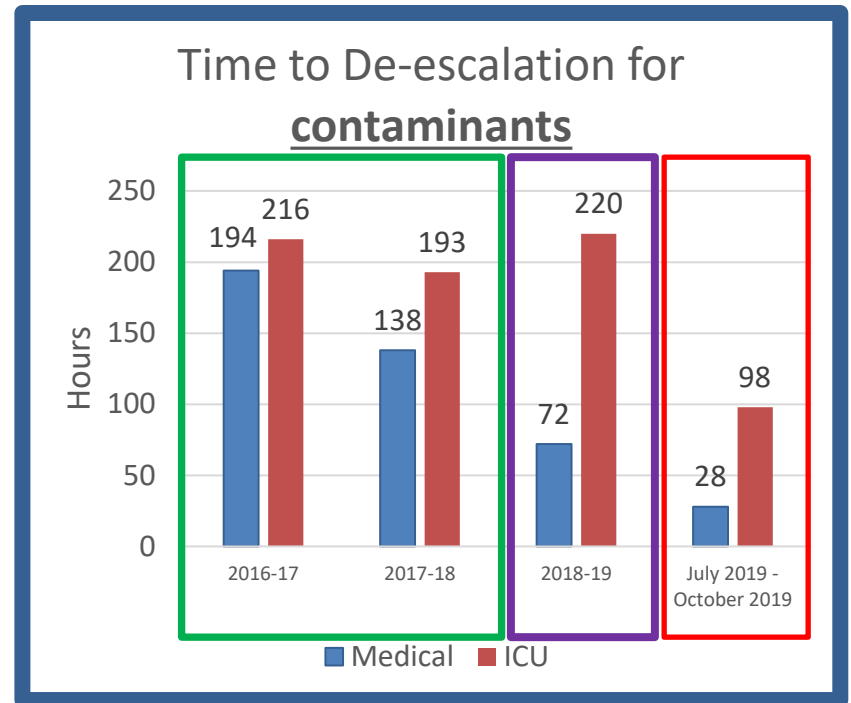
MSSA - methicillin sensitive *staphylococcus aureus* MRSA - methicillin resistant *staphylococcus aureus* Enterococcus species - *E. faecalis*, *E. faecium* Strep species – Group A-G streptococcus Staph species – *streptococcus constellatus*, *staphylococcus lugdunensis*, *staphylococcus epidermidis*

Average Time to De-escalation of Antibiotics

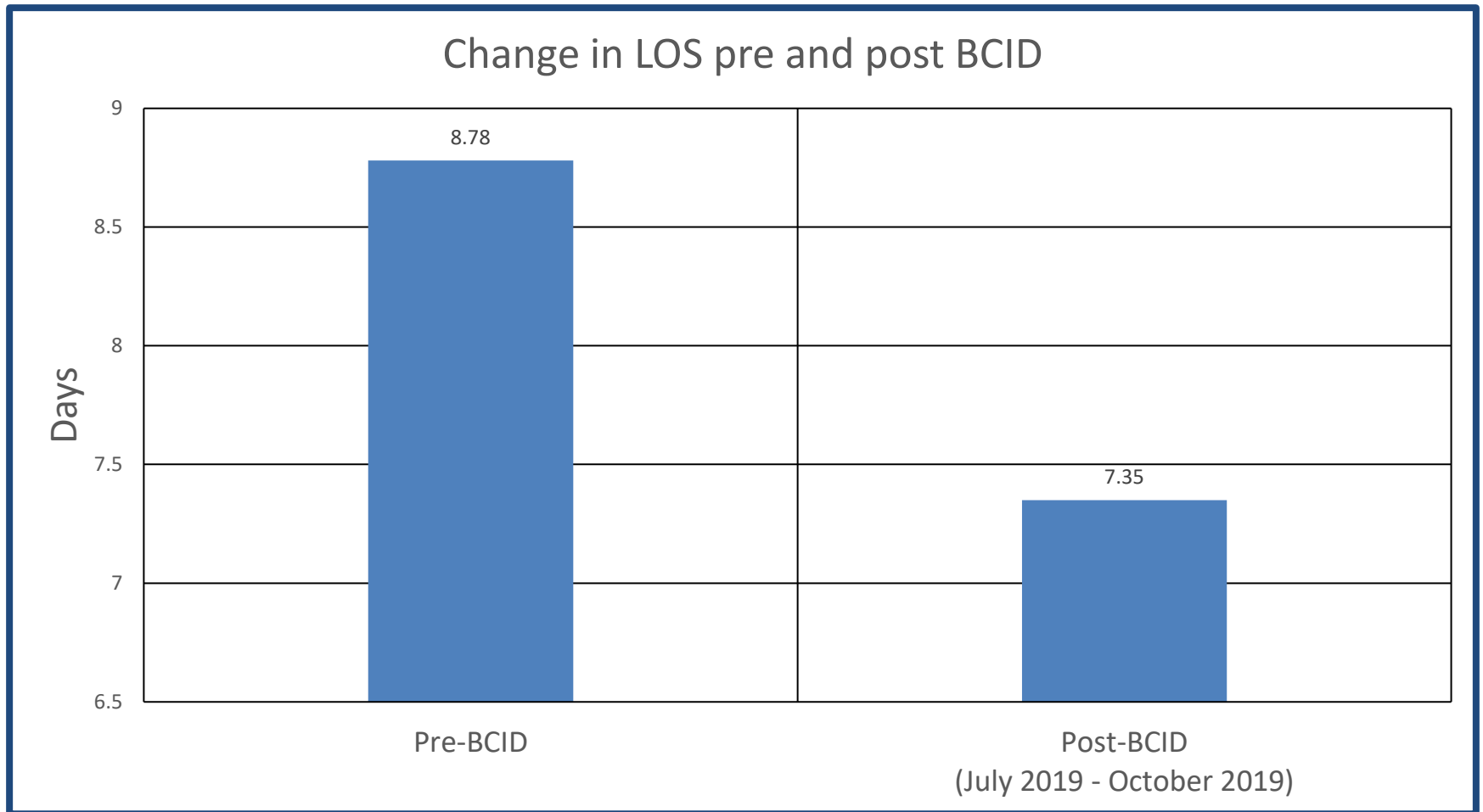
Graph 1



Graph 2



Secondary Outcomes



BCID - blood culture identification LOS - length of stay

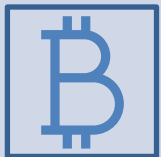
Conclusions



Average time to de-escalation in the ICU had been trending up since 2016



Average time to de-escalation of contaminants in the ICU decreased



LOS had decreased by 1.43 days during our 90 days compared to before the BCID

We have the results, now what?

Presented the information to P&T committee and the president of Mercy Hospital Joplin.

De-escalation in the ICU for contaminants needs further improvement.

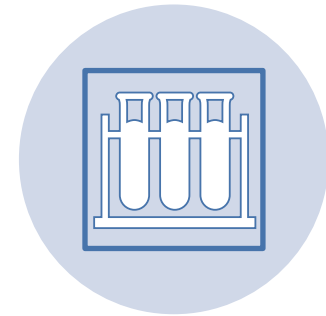
Interventions/Changes



DISCUSSED WITH INTENSIVISTS
AND INFECTIOUS DISEASE
SPECIALISTS

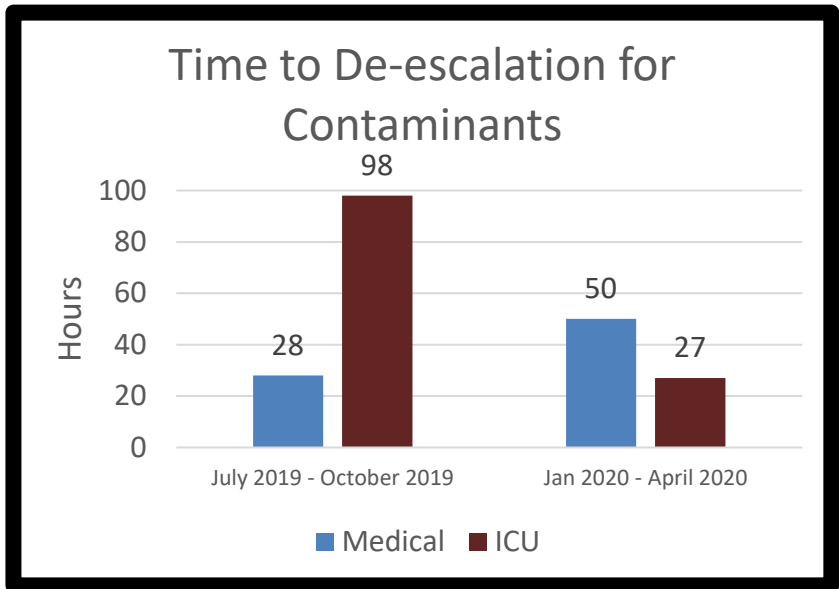
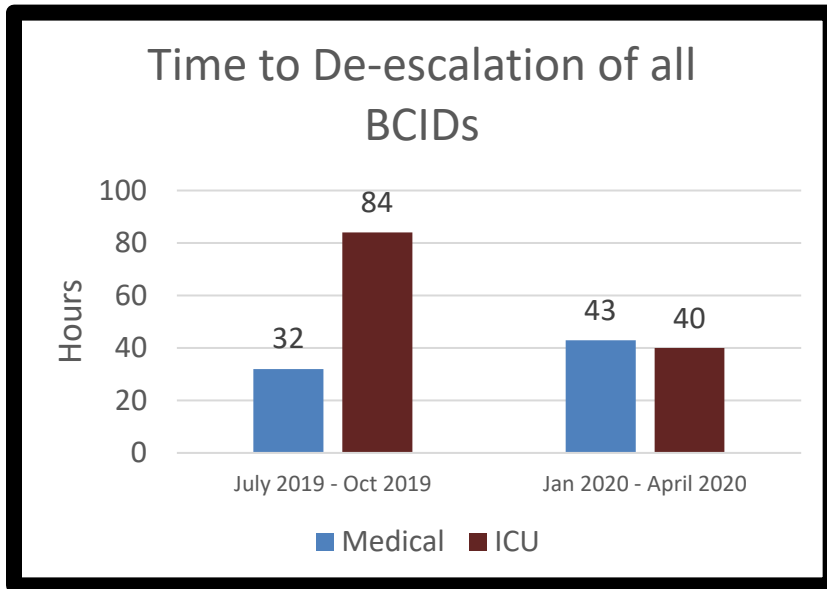


STREAMLINE PHARMACIST
DOCUMENTATION



GRAM-NEGATIVE PANEL WAS RE-
INTRODUCED TO THE BCID

Post-intervention



Conclusions



Average time to de-escalation of contaminants has decreased in the ICU floors



Average time to de-escalation for contaminants has almost doubled in the medical floors

Limitations

Only the gram positive panel was running during the first 90 days

A majority of the patients presented with co-infections

PBP2A tests are typically ran 24 hours after the BCID

Clinical decisions are made based on numerous factors

Future for this project

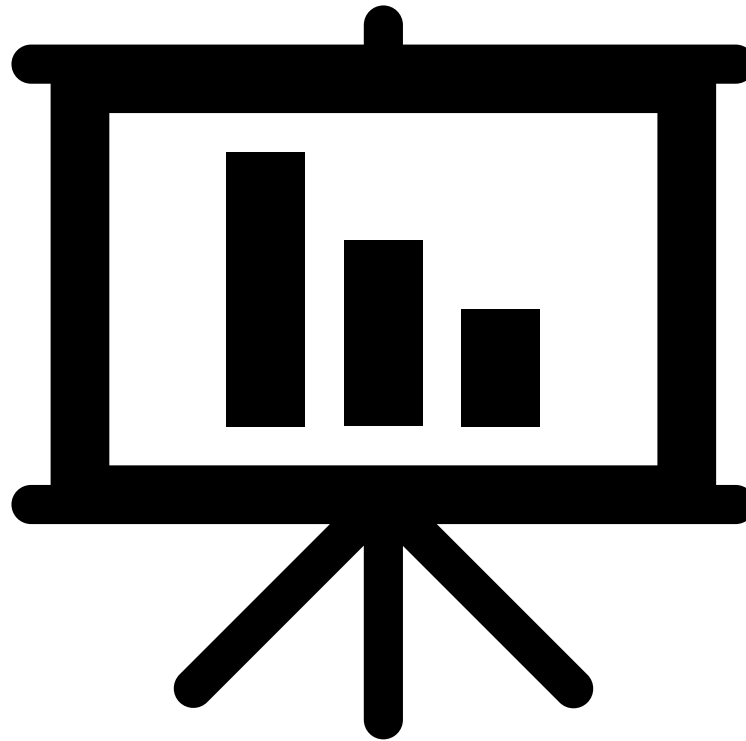


Reassess the effectiveness in this process annually



Discuss findings with hospitalist group

Thank you for your time



References

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Questions?

