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BACKGROUND

- The American Thoracic Society and Infectious Disease Society of America recommend the use of a Methicillin-resistant *Staphylococcus aureus* (MRSA) rapid nasal polymerase chain reaction (PCR) swabs to help guide the de-escalation of anti-MRSA coverage.
- Empiric treatment of pneumonia with suspected MRSA frequently includes intravenous (IV) vancomycin.
- Recent studies have found that rapid MRSA nasal PCR swabs have a 95-99% negative predictive value for MRSA pneumonia and have demonstrated use in de-escalation of vancomycin without compromising clinical outcomes.
- Additional studies have identified the positive impact of pharmacist-driven protocols utilizing MRSA nasal PCR swabs on the reduction of anti-MRSA antibiotic utilization and exposure.

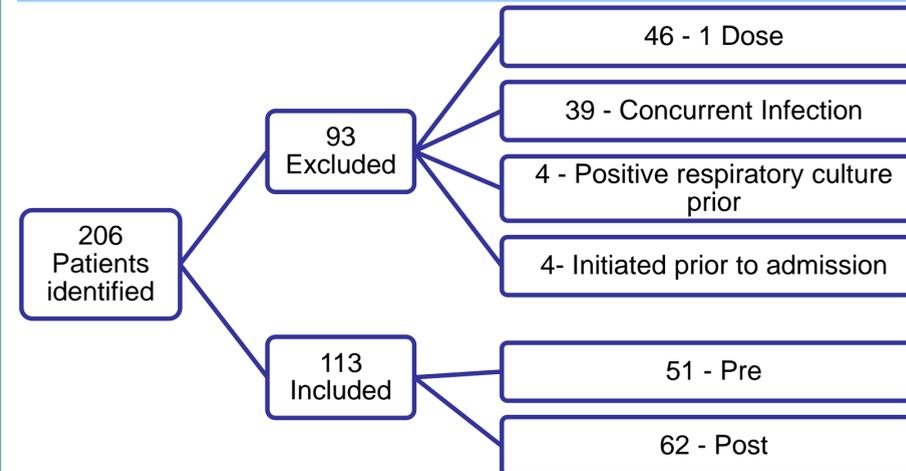
OBJECTIVE

- To assess the impact of a pharmacist driven protocol in the ordering of rapid MRSA nasal PCR swabs combined with antimicrobial stewardship interventions on IV vancomycin days of therapy for the management of pneumonia.

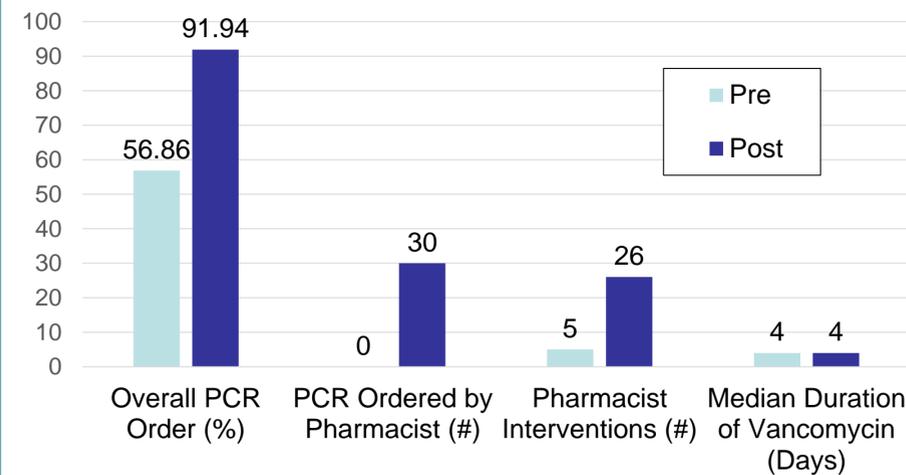
METHODS

- Observational, retrospective chart review
- Inclusion Criteria:
 - >18 years old, inpatient, and receiving IV vancomycin for the empiric treatment of suspected pneumonia
- Exclusion Criteria:
 - Concurrent infections requiring IV vancomycin
 - Single administration of vancomycin
 - Positive MRSA respiratory culture prior to initiation of vancomycin
 - Administration at referring facility prior to admission
- Study period: 5/1/20–6/30/20 and 8/1/20–9/30/20

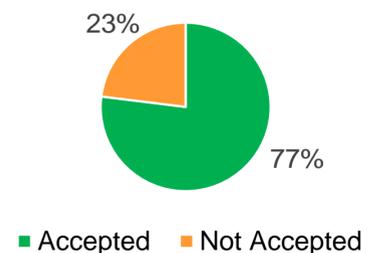
RESULTS



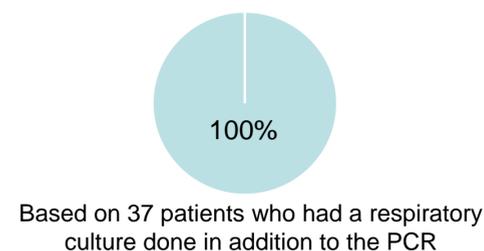
Primary Results



Physician Acceptance



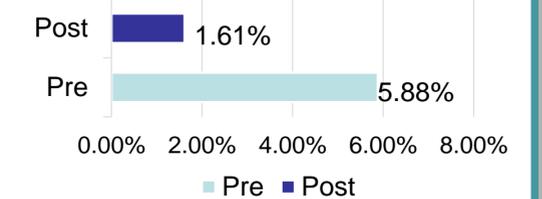
MRSA PCR Negative Predictive Value



RESULTS CONT.

- There was no difference in 30-day re-admissions or number of vancomycin levels drawn.
- Time to pharmacist intervention had a median of 42 hours post PCR results.

Re-initiation of Vancomycin after de-escalation/discontinuation



DISCUSSION AND LIMITATIONS

- There was no difference seen in the median duration, in days, of vancomycin between the pre-and post-data. The duration of vancomycin was evaluated based on days of administration and the duration of the open intervention for each patient to account for any variability due to supratherapeutic levels.
- The overall percentage of MRSA PCR swabs ordered increased from ~56% to ~91% increasing pharmacist opportunities for intervention.
- The MRSA PCR negative predictive value found during this observational study correlates closely with previous studies and further support the appropriateness of de-escalation based on their results.
- Limitations to results: Pharmacists made an intervention on 56% of the available opportunities indicating the 44% of missed opportunities could be reducing the overall effects seen on the duration of IV vancomycin therapy. Also, one consideration when interpreting the median time to a pharmacist intervention is that each patient is usually reviewed once every 24 hours possibly leading to increased times and durations.
- Future Direction: Based on these results, there is room for additional pharmacist education on the timing and appropriateness of future antimicrobial stewardship interventions based on MRSA PCR results.

DISCLOSURE PANEL

The authors of this presentation have the following information regarding possible financial or personal relationships with commercial entities that have a direct or indirect interest in the subject matter of this presentation to disclose.

- Sierra Detwiler: Nothing to disclose
- Linda Johnson: Nothing to disclose