Integrating a Rapid Diagnostic Test and Antimicrobial Stewardship: Optimizing Discharge Antibiotics in Skin and Soft Tissue Infections (SSTI)

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Introduction
- S. aureus (SA) is the leading cause of SSTI
- Empirical treatment should have activity against both methicillin-resistant SA (MRSA) and methicillin-susceptible SA (MSSA), e.g. clindamycin
- Clindamycin resistance rates are nearly 20% at CMH

Methods
- Baseline antimicrobial use evaluated from January 2013 – December 2013
- Education of PBP2a interpretation to hospitalists and housestaff
- PBP2a rapid diagnostic test initiated by Department of Microbiology for S. aureus-associated SSTI in January 2014
- Interim analysis time period: Jan 2014 – Sept 2014

Results
Figure 1. Pre-PBP2a Implementation: Antimicrobial Usage

Figure 2. Post-PBP2a Implementation: Preliminary Antimicrobial Usage

Figure 3. ASP and PBP2a Feedback

Figure 4. PBP2a Result Utilization

Discussion
- Mean time between Sa antigen test and final susceptibility was 13 hours
- Clindamycin use for MSSA decreased post-implementation
- Nearly two thirds (63%) of patients on non-targeted therapy switched to targeted therapy prior to final susceptibilities
- Medical teams used the PBP2a results to guide early targeted treatment and did not require frequent feedback from ASP; however, there were few missed opportunities

Conclusions
- Rapid testing for methicillin-resistance allows for early targeted therapy, especially for patients who are discharged prior to final susceptibilities
- Early identification of MSSA can decrease unnecessary clindamycin use
- Could potentially lead to early discharge
- Additionally, this integrated rapid diagnostic test may be sustainable without continual ASP feedback

References

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