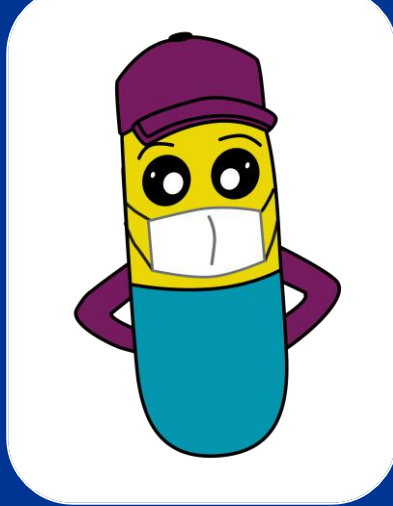


Automation of an Inpatient Provider Specific Antimicrobial Use Report



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INTRODUCTION

- The use of individual prescriber report cards has shown to be an effective strategy in optimizing antimicrobial use in the pediatric outpatient setting.
- This is more difficult in an inpatient setting with prescribing often being done by a resident, but the decisions regarding antimicrobials are often made by the attending physician.
- This concept was tackled at a tertiary children's hospital but was a manual and time-consuming process. An automatic report was developed that calculates antimicrobial days of therapy per 1000 patient days (DOT/1000PD) for each Pediatric Intensive Care Unit (PICU) attending provider.
- A manual process for this did not result in a change in PICU DOT/1000 PD, but most of the effort was spent manually collecting data and not on education, a bundle, or optimizing the report content. Therefore, we sought to automate this report to enable these efforts.

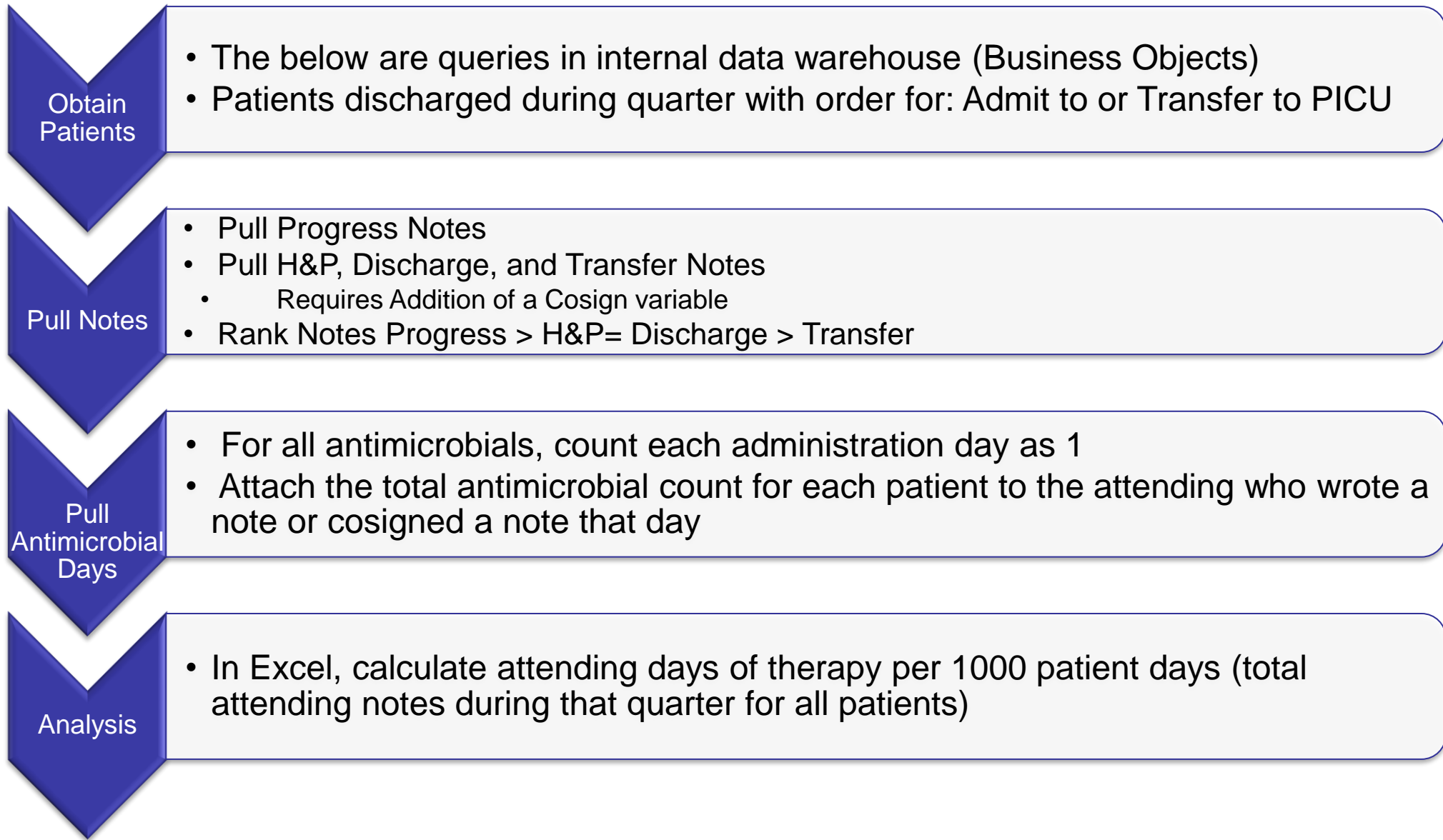
OBJECTIVES

- The primary objective of this study is to validate an inpatient provider specific antimicrobial use report.

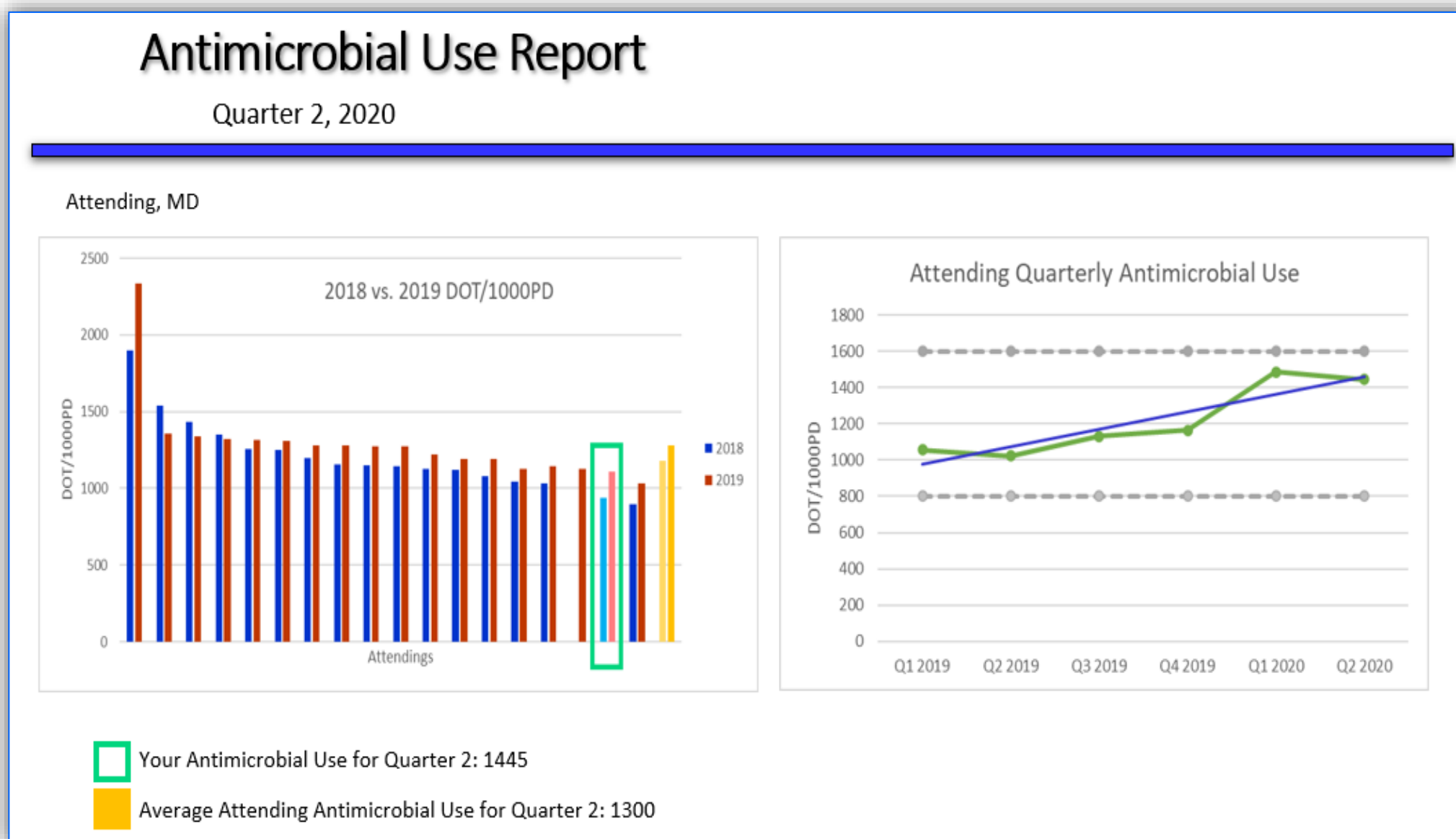
METHODS

- The provider is attached to daily antimicrobial use based on the attending to write a note that day. The provider was attached to patient days based on the number of days per patient they wrote notes.
- The software used was Business Objects that interfaces with the Electronic Medical Record.
- Three analyses were used to validate the automated report:
 - One week of prospective manual chart review, which included 96 patients was compared to the automated report
 - Two months of retrospective manual chart review was compared to the same two months of the automated report
 - Quarterly overall PICU antimicrobial days during 2019 of the automated report was compared to an external data tracking through the Pediatric Health Information System (PHIS)

METHODS



Antimicrobial Use Report Example

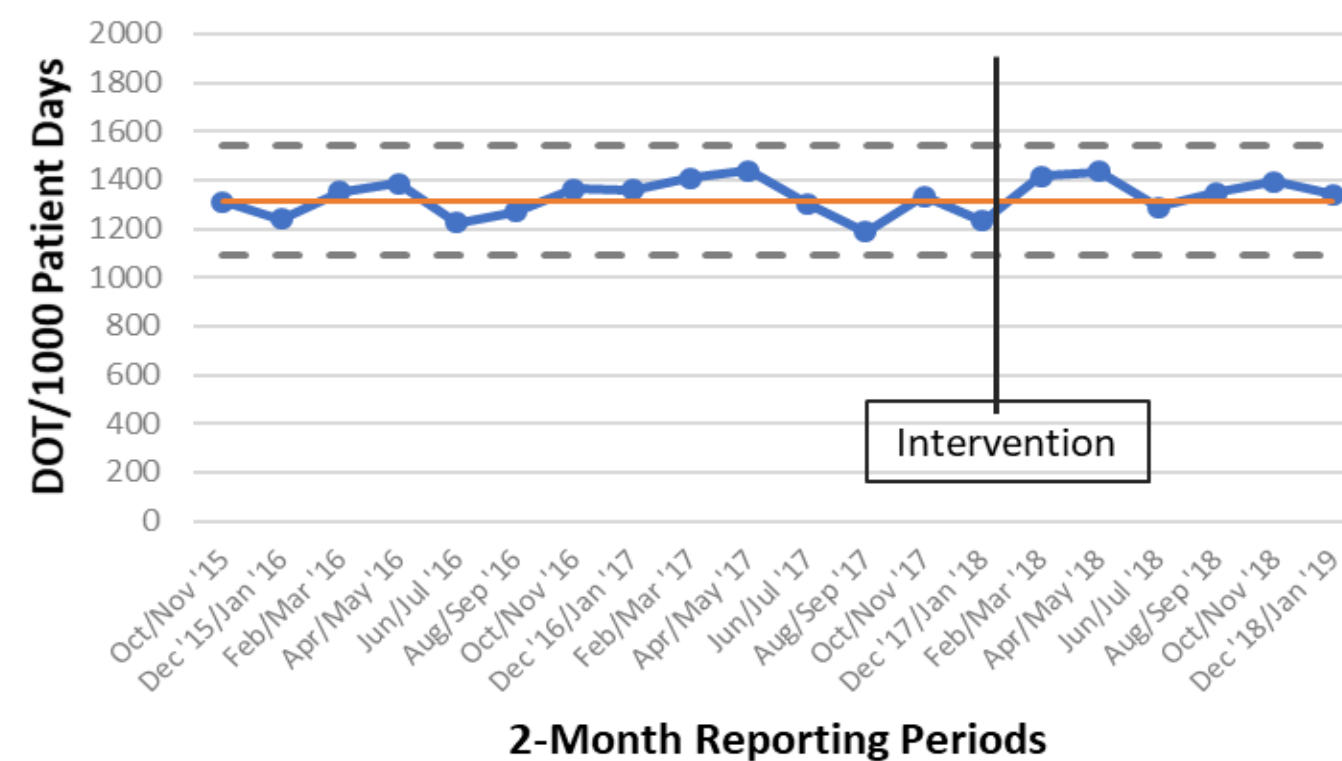


RESULTS

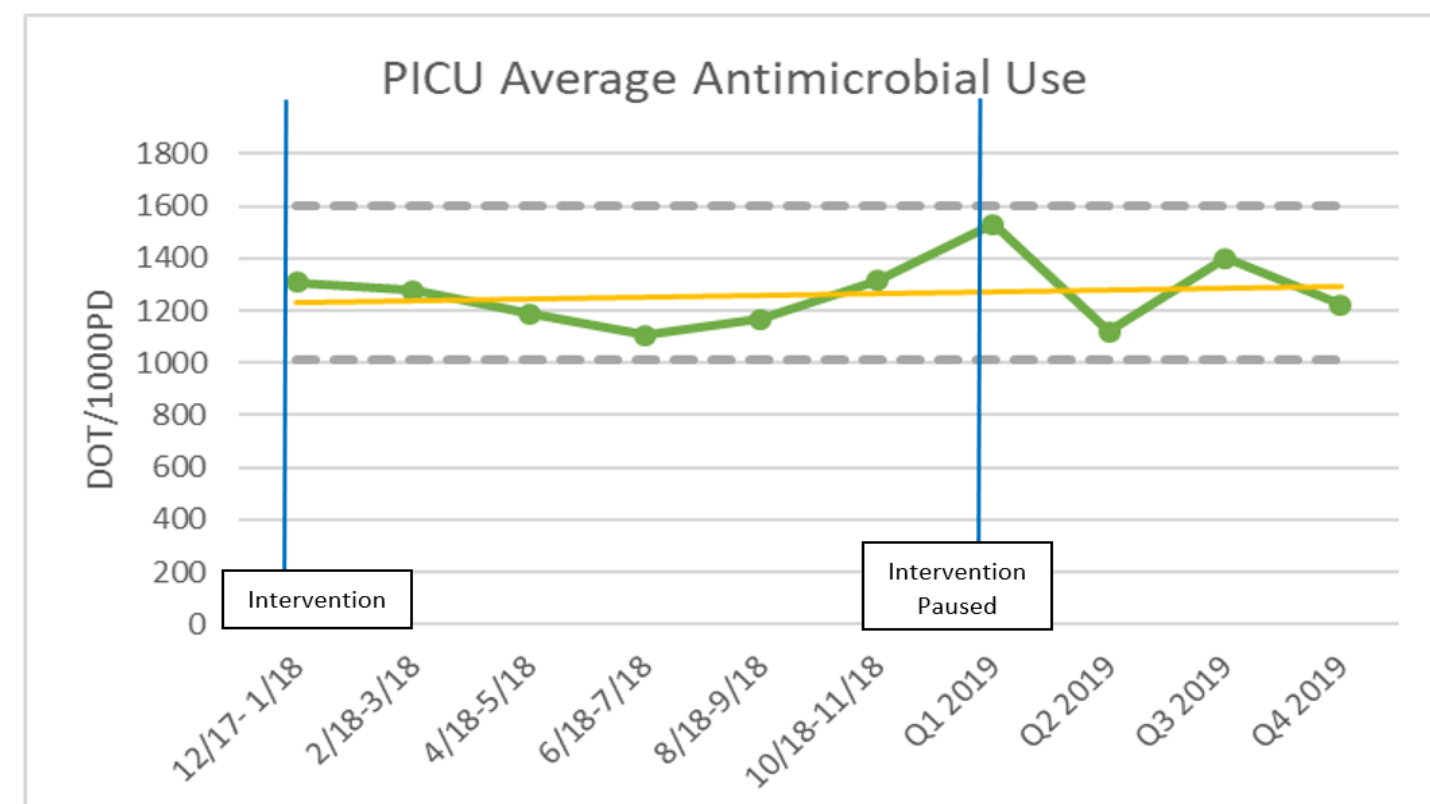
Validation

Validation Method (compared to automated report)	Accuracy (automated/ validation method)
Prospective week of manual chart review with 96 patients	-4.35%
Two months of retrospective manual chart review	+7.36%
Quarterly overall PICU DOT/1000 PD PHIS database	-6.85%

Average PICU DOT/1000 PD Manual Collection



Average PICU DOT/1000 PD Automated Report



CONCLUSIONS

- An automated report that connects the attending to antimicrobial orders by attaching it to the note writer was found to be comparable to manual chart review as well as an average of use for the PICU compared to the national database PHIS.
- This automation can help decrease workload and optimize efforts for specific interventions and education that can be distributed with the PICU attending antimicrobial use report.

FUTURE DIRECTIONS

- This report will be sent to PICU providers quarterly and use will be tracked over time
- This report is currently being modified to track individual initiatives that have been identified through this report including:
 - Caspofungin use
 - Vancomycin use
 - Antimicrobial use for bronchiolitis
- This is being accomplished by a medication prompted report, so each time an antimicrobial is being targeted, we can track and report use
- There is also an ICD-10 code prompted report to track use across providers for individual

REFERENCES

- Barlam TF, Cosgrove SE, Abbo LM, et al. Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America. *Clin Infect Dis*. 2016;62(10):e51-e77.

DISCLOSURE

The authors do not have any disclosure to report