

Premier Health Antimicrobial Stewardship and Antimicrobial Use Reporting

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Premier Health

- Miami Valley Hospital
 - 800 bed, level 1 trauma center, comprehensive stroke center, university affiliated
- Good Samaritan Hospital
 - 500 bed, university affiliated
- Atrium Medical Center and Upper Valley Medical Center
 - 100 - 250 bed community hospitals



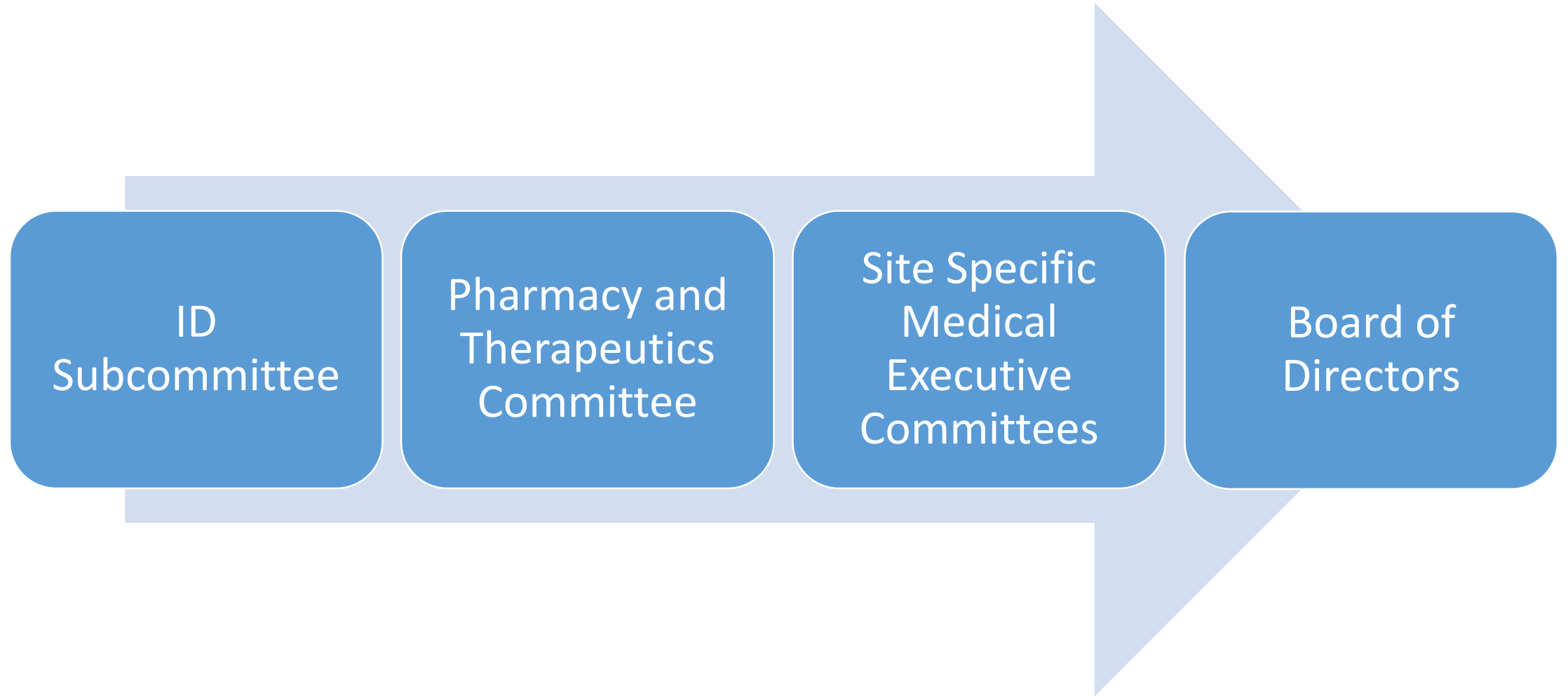
Background

- Miami Valley Hospital devoted pharmacy support to infectious diseases / stewardship in 2010
- Premier Health began an Antimicrobial Stewardship pilot at MVH in 2014
 - Results of this pilot were utilized to implement stewardship for all sites in 2016
 - Four hospitals 2.5 pharmacist FTEs and paid infectious disease support
- Antimicrobial Stewardship Committee now meets monthly
 - Pharmacy and ID physicians from each hospital
 - Infection control
 - Microbiology
 - Nursing
 - Administration
 - Outpatient / Family Practice Physician

Background, cont'd

- Functions of antimicrobial subcommittee
 - Formulary review of antimicrobials
 - Implementation of best practices
 - Reviews of medication use and treatment of specific disease states
 - Ensure regulatory compliance

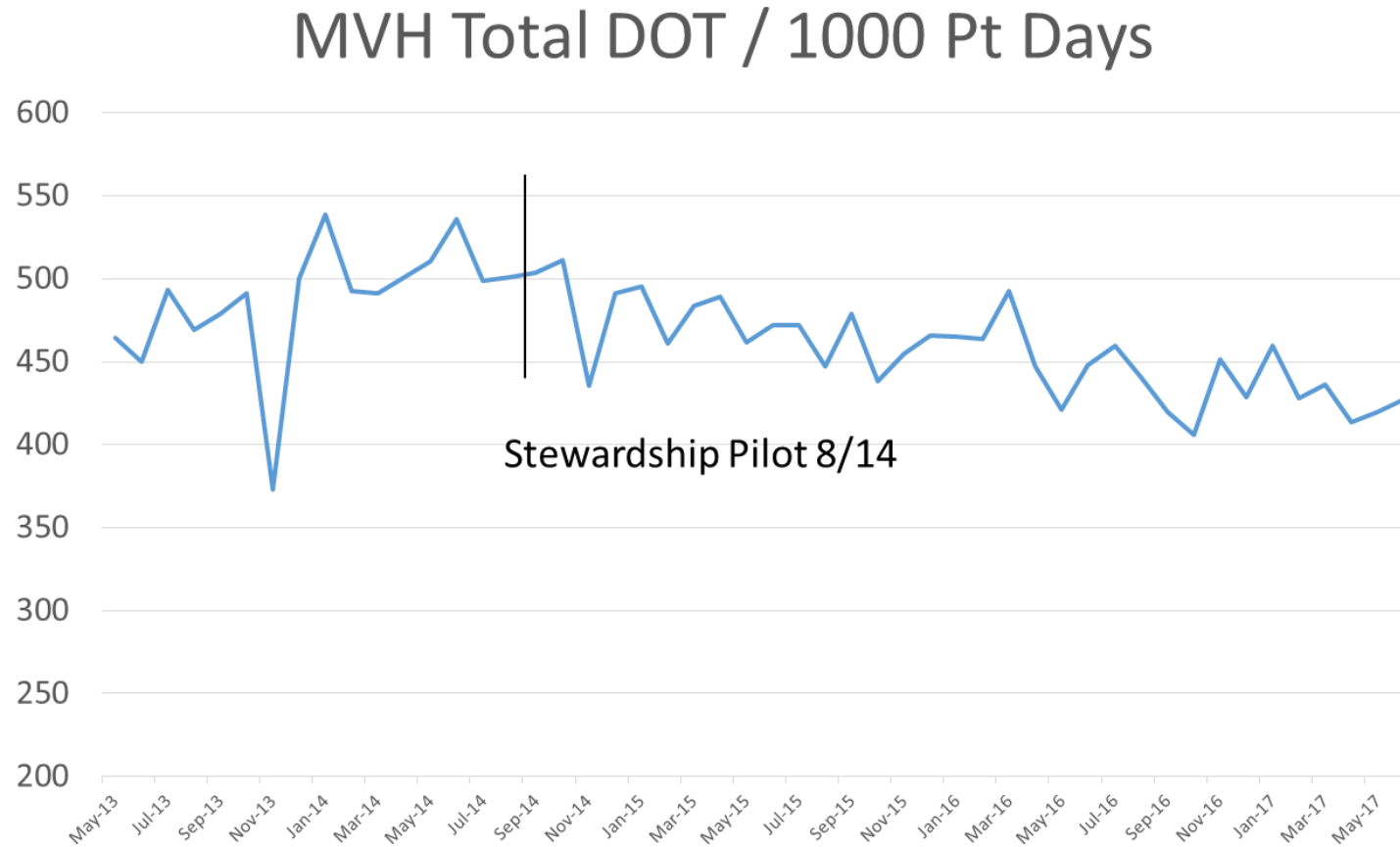
Quality Measures from Stewardship



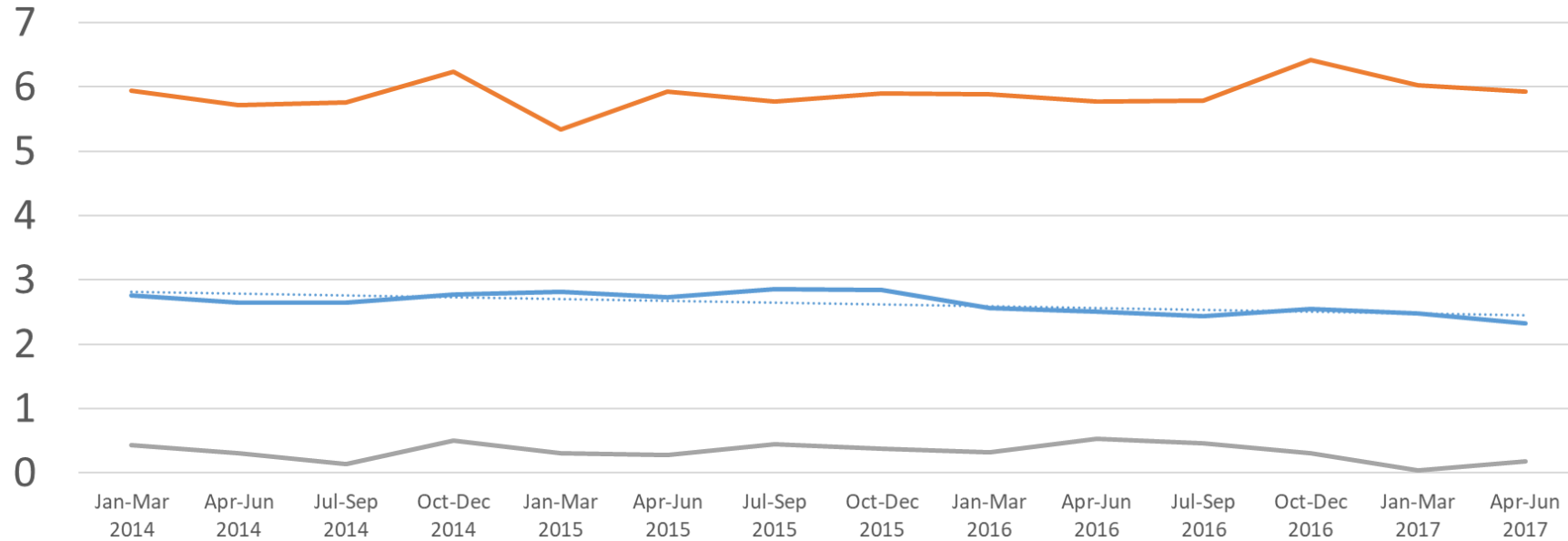
Quality Measures

- You've got to measure something!
 - Need baseline data
 - What problems do you have with antibiotic prescribing?
- Days of therapy per 1000 patient days
 - Select antimicrobials only: ceftriaxone, cefepime, aztreonam, levofloxacin, piperacillin/tazobactam, ertapenem, meropenem, vancomycin, linezolid, ceftaroline, daptomycin, tigecycline
 - Metrics for 2016 and 2017 have included goals of decreasing total days of therapy

Quality Measures, cont'd



ICU Length of Stay, Mortality, C diff



- MVH ICU Average Length of Stay
- MVH Overall ICU Mortality Rate-%
- MVH Overall ICU C. Diff Rate - %

Stewardship Metrics

- *Clostridium difficile*
 - Review of patients with c diff
 - Appropriate treatment of c diff, deescalation opportunities, removal of PPI when appropriate
 - Identification of patients through infection prevention
- Skin and soft tissue infections
 - Over utilization of broad spectrum gram negative antibiotics
 - Utilization of indications for use
- Ideally, would like a measure where we could measure % of therapy that is appropriate
 - Would require 100% review of patients with a select diagnosis
 - Define “appropriate”

NHSN AU Data Submission

- In early 2016 Premier Health Quality Analytics began building NHSN AU reporting
 - An external consultant contracted to create reporting
 - End of 2016 build complete
- CDA file submission to NHSN
- In 2017 AU reporting to NHSN began
 - Internal reporting created

NHSN vs Premier Calculated Data

Piperacillin / Tazobactam	9/16 Premier Data	9/16 NHSN Data	% Change
Site 1 DOT	372	334	↓10%
Site 2 DOT	971	775	↓20%
Site 3 DOT	1325	1117	↓15%
Site 4 DOT	207	178	↓14%
Site 1 patient days	3206	8599	↑278%
Site 2 patient days	6017	13690	↑227%
Site 3 patient days	14569	27671	↑198%
Site 4 patient days	1880	7356	↑391%
DOT / 1000 Patient Days			
Site 1			↓66%
Site 2			↓65%
Site 3			↓56%
Site 4			↓78%

NHSN AU Data Internal Reporting

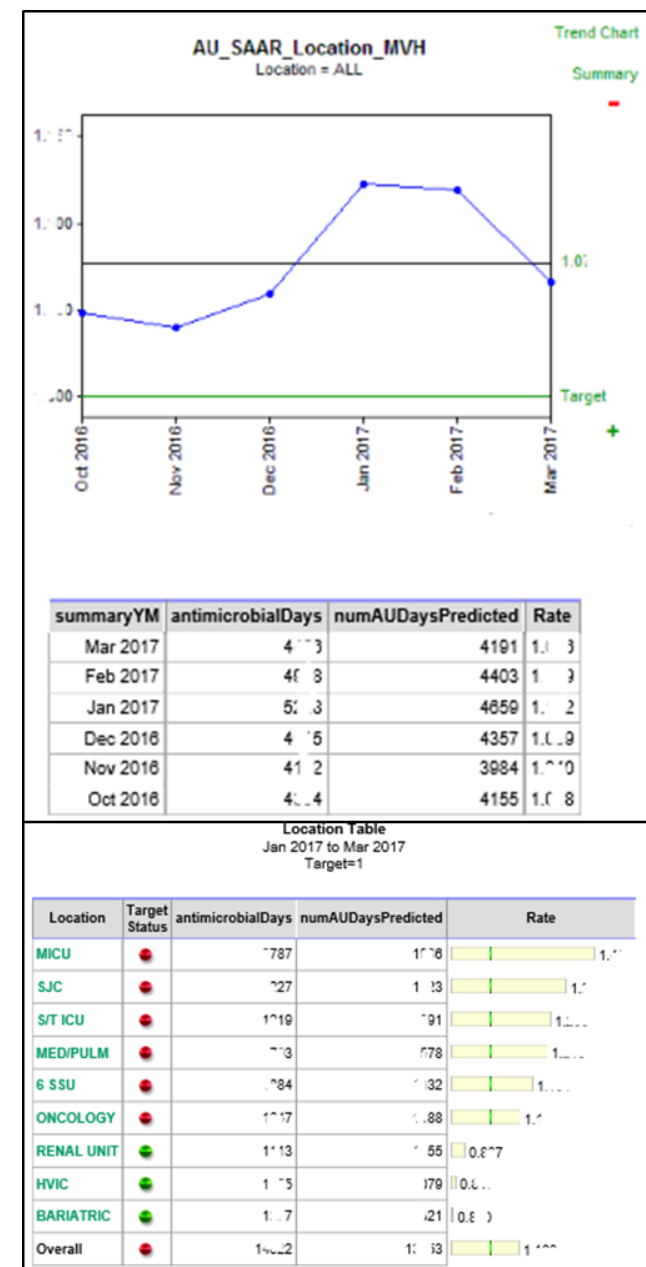
- An AU scorecard was created using Statit piMD
- Additional quality indicators can be included for comparison

All Indicators View: Pharmacy ANTIB Stewardship MVH [EDIT](#)

Status	Indicator	Current Value	Target	SPC Alert	Updated	Cumulative Year (Calendar basis)	
						Value	Start
Antibiotic Stewardship > AU							
🔴 ▲	👤 AU_SAAR_Location_MVH	xxxxx	1.000		Dec 2016	None	No Occurrences
🔴 ▼	👤 AU_SAAR_Location_MVS	xxxxx	1.000		Dec 2016	None	No Occurrences
▲	👤 AU_Summary_MVH_Therapy_DAYS	xxxx	None		Dec 2016	None	No Occurrences
▲	👤 AU_Summary_MVS_Therapy_DAYS	xxxx	None		Dec 2016	None	No Occurrences
Antibiotic Stewardship > ICU LOS							
▼	👤 ICU LOS MVH	xxxx	None		Aug 2017		Jan 2017
Antibiotic Stewardship > ICU Mortality							
▲	👤 ICU Mortality Rate MVH	xxxx%	None		Aug 2017	xx%	Jan 2017
▲	👤 Overall Acute Care Mortality (%) MVH	xxxx%	None		Q2 2017	xxx%	Jan 2017

NHSN AU Data Internal Reporting, cont'd

- Trends over time
- Drill-down is available in the scorecard
 - Overall for facility
 - Unit level detail included
- Numerator and denominators are included



Moving Forward / Summary

- Continued integration with quality department
- Utilization of Statit for extraction of other measures
- Involvement from quality department is imperative
 - Standardized means of reporting stewardship data

- Questions?