

included in the MITIGATE toolkit. The primary outcome was identifying challenges and solutions developed during this process.

Results: We encountered five challenges during our roll-out of MITIGATE. First, using both ICD-9 and ICD-10 codes can lead to inaccurate data collection. Second, technical support for coding a complex data set is essential and should be accounted for prior to beginning stewardship interventions of this scale. Third, unintentional incorrect diagnosis selection was common and may require reeducation of prescribers on proper selection. Fourth, focusing on singular issues rather than multiple outcomes is more feasible and can offer several opportunities for stewardship interventions. Lastly, changing prescribing behavior can cause unintended tension during implementation. Modifying benchmarks measured, allowing for bi-directional feedback, and identifying provider champions can help maintain open communication.

Conclusion: Resources such as the MITIGATE toolkit are helpful to implement standardized data driven stewardship interventions. We have experienced some challenges including a complex data build, errors with diagnostic coding, providing constructive feedback while maintaining positive stewardship relationships, and choosing feasible outcomes to measure. We present solutions to these challenges with the aim to provide guidance to those who are considering using this toolkit for outpatient stewardship interventions.

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137. Evaluating a Novel Antibigram Format for use in Wisconsin Nursing Homes

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: Nursing homes (NHs) increasingly use antibigrams to track antibiotic-related outcomes and guide antibiotic choice. Creation of a facility-specific antibigram is hampered by low number of cultures collected in NHs. A weighted-incidence syndromic combination antibigram (WISCA) is an alternative approach that may provide more stable estimates of antibiotic activity. In this study, we compare traditional antibigrams and WISCAs in a sample of Wisconsin NHs.

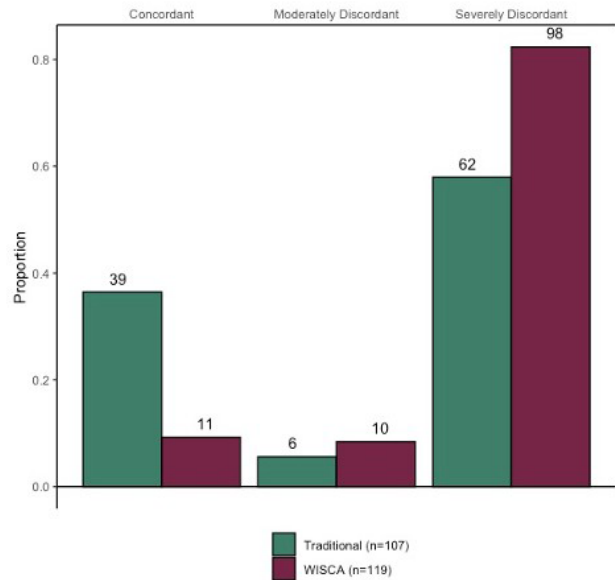
Methods: We created urine-specific antibigrams using traditional and WISCA approaches at facility and regional levels using culture data collected in study NHs from 01/01/2018 – 12/31/2018. Susceptibility results were standardized across laboratories using CLSI breakpoints. Traditional antibigrams were deemed reliable when ≥ 20 isolates were recovered for at least one species and species exceeding this threshold comprised 75% of all isolates. WISCAs were deemed reliable if ≥ 20 urinary isolates were recovered. Bootstrapped regional mean susceptibilities and confidence intervals for traditional antibigrams and WISCAs were calculated. Susceptibilities calculated at the facility-level were compared to regional estimates. Facility-level susceptibility estimates were deemed concordant if within 1 SD, moderately discordant if between 1 and 2 SDs, and severely discordant if greater than 2 SDs of the regional estimate.

Results: 462 urine isolates were obtained from 23 NHs in 2 regions. None of the facility-specific traditional antibigrams met reliability criteria. 10 of 23 facility-specific WISCAs were reliable and increased to 19 of 23 when 2-years of microbiology data were utilized (table). Severe discordance between facility-specific and regional estimates was identified with 62/107 NH species-antibiotic means and 98/119 NH urine isolate-antibiotic means falling outside of 2 SD of corresponding bootstrap regional susceptibility means (figure).

Table. Reliability analysis of facility-specific urinary WISCAs and traditional antibigrams. 2-year projection was created using the assumption of similar culture results over 2-years.

	NH-specific tools			
	1-year	>20 isolates, No. (%)		2-year projection
Mean number of isolates per NH	>20 isolates, No. (%)	>30 isolates, No. (%)	>20 isolates, No. (%)	
Urinary WISCA Isolates	20	10 (43)	4 (17)	19 (83)
Traditional antibiogram				
<i>Escherichia coli</i>	7.2	0	0	7 (30)
<i>Proteus spp</i>	3.1	0	0	0
<i>Enterococcus spp.</i>	3.1	0	0	0
<i>Klebsiella spp.</i>	2.8	0	0	0

Figure. Proportion of concordant, moderately discordant, and severely discordant NH mean susceptibilities in comparison to bootstrap regional mean susceptibilities for traditional antibigrams and WISCAs. NH mean susceptibilities from 5 isolates or more were included.



Conclusion: WISCAs are more reliable than traditional antibigrams for estimating antibiotic susceptibilities using facility-specific data. The high degree of discordance observed between facility-specific and regional antibigrams raises concerns about pooling culture data from multiple facilities.

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138. Focused Outpatient Antibigrams: Time for Widespread Implementation?

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Session: P-5. Antimicrobial Stewardship: Non-Inpatient Settings

Background: Significant antimicrobial use occurs in outpatient settings, making this an important area for expanding stewardship. Data show over 260 million annual prescriptions in the U.S. Family practitioners prescribed the most antibiotic courses (24%)¹. Urinary Tract Infections (UTI) comprise one of the most common indications for antibiotics. In this study, antibiogram data were compiled for urinary isolates of *E. coli* collected from all outpatients as well as Family Medicine-specific (FM) clinics in an academic medical center in Eastern NC. The objective is to identify susceptibility variations for *E. coli* from urine isolates specific to combined outpatient and academic FM clinics compared to composite non-intensive care unit (ICU) data. Also, assess impact of providers' knowledge/access to a focused antibiogram on choice of empiric therapy.

Methods: Data were electronically obtained from the microbiology laboratory at Vidant Health (VH), a large regional system serving over 1.4 million people from 29 counties in Eastern NC. All urine cultures with *E. coli* from 9/2018 - 9/2019 were included. Two focused antibigrams were then developed via MedMind.

A pre and post intervention survey was conducted with FM practitioners, including residents. Intervention was defined as a brief talk to educate providers about variations identified via focused antibigrams. Survey results were compared to assess for intent to change practice.

Results: Pre-survey data are noted in Figure 1. Post-survey changes are described in Figure 2 noting that 100% of respondents now felt a need to have access to focused antibiogram data.

There were 1107 *E. coli* urinary isolates for all outpatients and 104 for FM clinics only. Figure 3 highlights key differences in antibiogram data, especially enhanced susceptibilities for common antibiotics in FM-specific clinics when compared to composite institutional data.