

44 MRSA cases over 20 weeks in a hospital

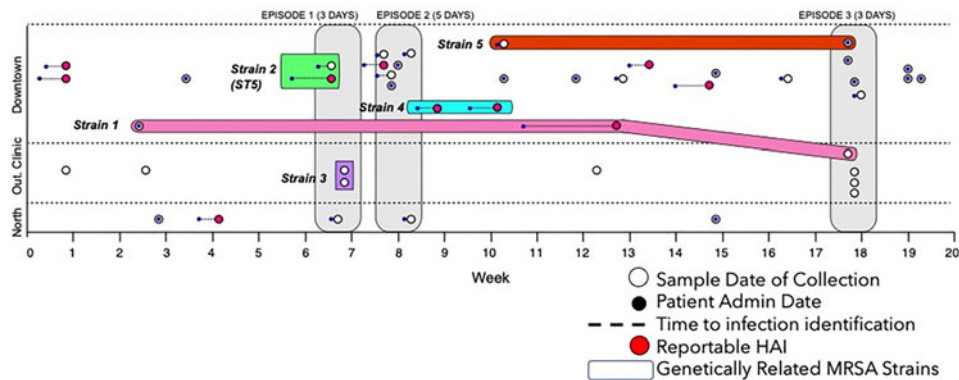


Fig. 1

easier and less expensive, the methods can be used to bring objective clarity to the ICD.

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Presentation Type:

Poster Presentation

Utilizing Behavioral Science to Improve Antibiotic Prescribing in Rural Urgent Care Settings

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Background: The rate of inappropriate antibiotic prescribing for acute respiratory tract infections (ARTIs) is 45% among urgent care centers across the United States. To contribute to the *US National Action Plan for Combating Antibiotic-Resistant Bacteria*, which aims to decrease rates of inappropriate prescribing, we implemented 2 behavioral nudges using the evidence-based MITIGATE tool kit from urgent-care settings, at 3 high-volume, rural, urgent-care centers. **Methods:** An interrupted time series (ITS) analysis was conducted comparing a preintervention phase during the 2017–2018 influenza season (October through March) to the intervention phase during the 2018–2019 influenza season. We compared the rate of inappropriate or non-guideline-concordant antibiotic prescribing for ARTIs across 3 urgent-care locations. The 2 intervention behavioral nudges were (1) staff and patient education and (2) peer comparison. Provider education included presentations at staff meetings and grand rounds, and patient

Figure 1. Trends of acute respiratory tract infection (ARTI) encounters, antibiotic prescriptions written for ARTI, and rate of inappropriate prescribing for ARTI in three urgent care centers, by month and year from July 2017–April 2019 ($n=12,502$ antibiotic prescriptions written / $n=18,840$ ARTI encounters).

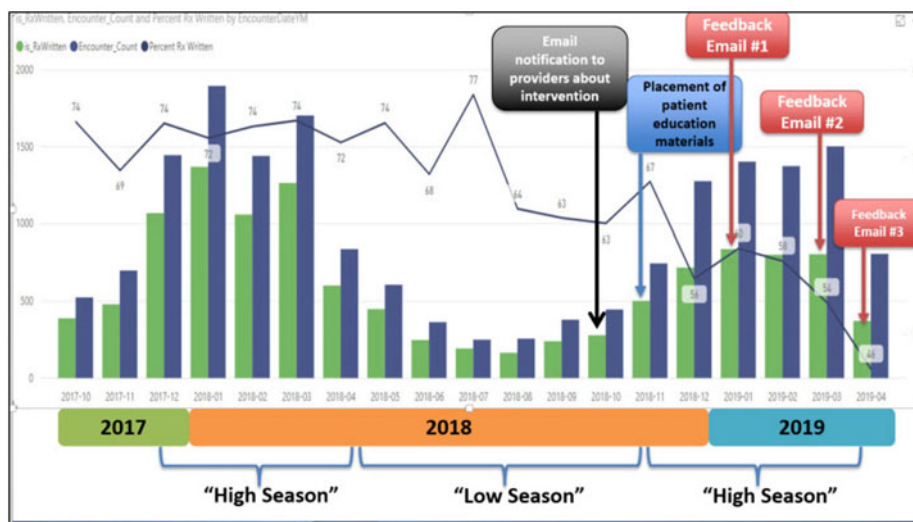


Fig. 1.

Figure 2: Interrupted Time Series Analysis Results: Percent of Antibiotic Prescriptions Written per Month Stratified by Intervention Time Period with slopes pre- (solid line) and post-intervention (dashed line).

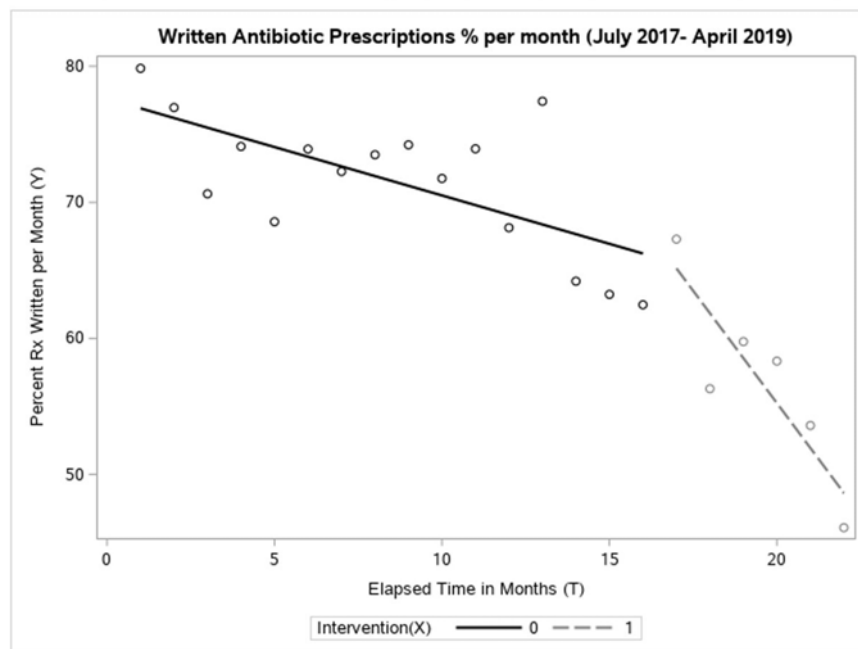


Fig. 2

education print materials were distributed to the 3 locations coupled with news media and social media. We utilized the CDC “Be Antibiotics Aware” campaign materials, with our hospital’s logo added, and posted them in patient rooms and waiting areas. For the peer comparison behavioral intervention, providers were sent individual feedback e-mails with their prescribing data during the intervention period and a blinded ranking e-mail in which they were ranked in comparison to their peers. In the blinded ranking email, providers were placed into categories of “low prescribers,” those with a $\leq 23\%$ inappropriate antibiotic prescribing rate based on the *US National Action Plan for Combating Antibiotic-Resistance Bacteria 2020* goal, or “high prescribers,” those with a rate greater than the national average (45%) of inappropriate antibiotic prescribing for ARTI. **Results:** Our results show that fewer inappropriate antibiotic prescriptions were written during the intervention period (58.8%) than during the preintervention period (73.0%), resulting in a 14.5% absolute decrease in rates of inappropriate prescribing among urgent-care locations over a 6-month period (Fig. 1). The largest percentage decline in rates was seen in the month of April (-35.8%) when compared to April of the previous year. The ITS analysis revealed that the rate of inappropriate prescribing was statistically significantly different during the preintervention period compared to the intervention period (95% CI, -4.59 to -0.59 ; $P = .0142$). **Conclusions:** Using interventions outlined in the MITIGATE tool kit, we were able to reduce inappropriate antibiotic prescribing for ARTI in 3 rural, urgent-care locations.

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Poster Presentation

Validation of Administrative Codes for Identification of *Staphylococcus aureus* Infections Among Electronic Health Data
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Background: Epidemiological studies have utilized administrative discharge diagnosis codes to identify methicillin-resistant and methicillin-sensitive *Staphylococcus aureus* (MRSA and MSSA) infections and trends, despite debate regarding the accuracy of utilizing codes for this purpose. We assessed the sensitivity and positive predictive value (PPV) of MRSA- and MSSA-specific diagnosis codes, trends, characteristics, and outcomes of *S. aureus* hospitalizations by method of identification. **Methods:** Clinical microbiology results and discharge data from geographically diverse US hospitals participating in the Premier Healthcare Database from 2012–2017 were used to identify monthly rates of MRSA and MSSA. Positive MRSA or MSSA clinical cultures and/or a MRSA- or MSSA-specific *International Classification of Diseases, Ninth/Tenth Revision, Clinical Modification* (ICD-9/10 CM) diagnosis codes from adult inpatients (aged ≥ 18 years) were included as *S. aureus* hospitalizations. Septicemia was defined as a positive blood culture or a MRSA or MSSA septicemia code.