Table 1. Comparison of Inpatient admission rates of each hospital to Flu PCR test (TF vs RF)

Hospital	Traditional Flu (TF) group n (%)	Rapid Flu (RF) group n (%)	Total	*p*
Hospital A	378 (53.9%)	2344 (23.9%)	2722	<0.001
Hospital B	627 (67.7%)	407 (44.1%)	1034	<0.001
Hospital C	483 (57.9%)	490(42%)	973	<0.001
Hospital D	1272 (40.9%)	843 (20.4%)	2115	<0.001
All Hospitals	2760(49.56%)	4084(26.6%)	6844	<0.001

Methods: A retrospective study was conducted to compare rates of inpatient admissions in patients tested with traditional flu PCR during the 2017–2018 flu season and the rapid flu PCR during the 2018–2019 flu season in a tertiary-care center in greater Detroit area. The center has 1 pediatric hospital (hospital A) and 3 adult hospitals (hospital B, C, D). Patients with influenza-like illness who presented to all 4 hospitals during 2 consecutive influenza seasons were analyzed. **Results:** In total, 20,923 patients were tested with either the rapid flu PCR or the traditional flu PCR. Among these, 14,124 patients (67.2%) were discharged from the emergency department and 6,844 (32.7%) were admitted. There was a significant decrease in inpatient admissions in the traditional flu PCR group compared to the rapid flu PCR group across all hospitals (49.56% vs 26.6% respectively; $P < .001$). As expected, a significant proportion of influenza testing was performed in the pediatric hospital, 10,513 (50.2%). A greater reduction (30% decrease in the rapid flu PCR group compared to the traditional flu PCR group) was observed in inpatient admissions in the pediatric hospital (Table 1) **Conclusions:** Rapid molecular influenza testing can significantly decrease inpatient admissions in a busy tertiary-care hospital, which can indirectly lead to improved patient quality with easy bed availability and less time spent in a private room with droplet precautions. Last but not the least, this testing method can certainly lead to lower healthcare costs.

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Poster Presentation

Impact of Removal of Automatic 7-Day Stop Orders for Inpatient Antimicrobials

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Background: Automatic discontinuation of antimicrobial orders after a prespecified duration of therapy has been adopted as a strategy for reducing excess days of therapy (DOT) as part of antimicrobial stewardship efforts. Automatic stop orders have been shown to decrease antimicrobial DOT. However, inadvertent treatment interruptions may occur as a result, potentially contributing to adverse patient outcomes. To evaluate the effects of this practice, we examined the impact of the removal of an electronic 7-day ASO program on hospitalized patients. **Methods:** We performed a quasi-experimental study on inpatients in 3 acute-care academic hospitals. In the preintervention period (automatic stop orders present; January 1, 2016, to February 28, 2017), we had an electronic dashboard to identify and intervene on unintentionally missed doses. In the postintervention period (April 1, 2017, to March 31, 2018), the automatic stop orders were removed. We compared the primary outcome, DOT per 1,000 patient days (PD) per month, for patients in the automatic stop orders present and absent periods. The Wilcoxon rank-sum test was used to compare median monthly DOT/1,000 PD. Interrupted time series analysis (Prais-Winsten model) was used to compared trends in antibiotic DOT/1,000 PD and the immediate impact of the automatic stop order removal. Manual chart review on a subset of 300 patients, equally divided between the 2 periods, was performed to assess for unintentionally missed doses. **Results:** In the automatic stop order period, a monthly median of 644.5 antibiotic DOT/1,000 PD were administered, compared to 686.2 DOT/1,000 PD in the period without automatic stop orders ($P < .001$) (Fig. 1). Using interrupted time series analysis, there was a nonsignificant increase by 46.7 DOT/1,000 PD (95% CI, −40.8 to 134.3) in the month immediately following removal of automatic stop orders ($P = .28$) (Fig. 2). Even though the slope representing monthly

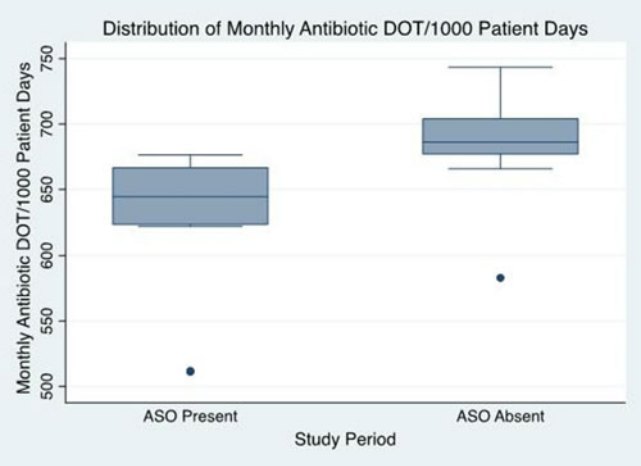

Fig. 1.

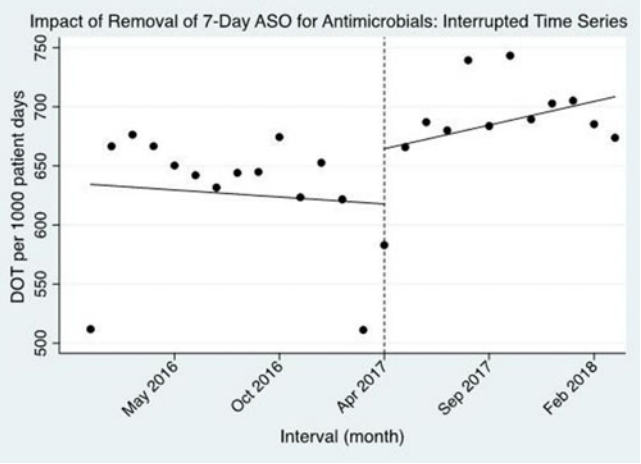

Fig. 2.

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change in DOT/1,000 PD increased in the period without automatic stop orders compared to the period with automatic stop orders, it was not statistically significant ($P = .41$). Manual chart abstraction revealed that in the period with automatic stop orders, 9 of 150 patients had 17 unintentionally missed days of therapy, whereas none (of 150 patients) in the period without automatic stop orders did. **Conclusions:** Following removal of the automatic stop orders, there was an overall increase in antibiotic use, although the change in monthly trend of antibiotic use was not significantly different. Even with a dashboard to identify missed doses, there was still a risk of unintentionally missed doses in the period with automatic stop orders. Therefore, this risk should be weighed against the modest difference in antibiotic utilization garnered from automatic stop orders.

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Impact of Screening for Methicillin-Resistant *Staphylococcus aureus* (MRSA) in Pneumonia on Vancomycin Utilization

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Background: Methicillin-Resistant *Staphylococcus aureus* (MRSA) is frequently targeted with empiric treatment for pneumonia in the hospital. Obtaining quality lower respiratory tract cultures to promote appropriate de-escalation can be difficult or impractical. Nasal screening for MRSA has a high negative predictive value for MRSA pneumonia and can be an effective tool for early de-escalation. **Methods:** A pharmacist-driven process for nasopharyngeal MRSA screening of patients prescribed intravenous vancomycin was implemented in October 2018. Vancomycin utilization was extracted from the electronic medical record (EMR) and summarized as days of therapy per 1,000 patient days (DOT/1,000 PD). Vancomycin utilization data for the 6 months following process implementation (November 2018–April 2019) were compared to the same period from the previous year (November 2017–April 2018). Specific patient outcomes data were manually collected for patients prescribed vancomycin for pneumonia during the first 2 months following process implementation (November–December 2018; postintervention group) and comparable months (November–December 2017; preintervention group). Data were analyzed using the χ^2 test (nominal data) and Mann–Whitney U test (continuous data). **Results:** Total vancomycin utilization decreased from a monthly average of 114 to 95 DOT/1,000 PD (17% reduction) and from 27 to 14 DOT/1,000 PD for pneumonia (48% reduction). In-patient mortality was unchanged following process implementation at 17.2% versus 17.5% in the pre- and postintervention groups, respectively. Other clinical outcomes were also similar between the pre- and postintervention groups (Table 1). Fewer vancomycin levels were obtained following implementation with 34.4% of patients (0.61 levels per patient) having a level obtained in the preintervention group compared to 21.6% (0.30 levels per patient; $P \leq .001$) in the postintervention group. **Conclusions:** Nasopharyngeal MRSA screening of patients prescribed vancomycin for pneumonia is an effective antimicrobial stewardship strategy to reduce unnecessary use of anti-MRSA therapy without negatively impacting clinical outcomes.

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Impact of Seasonality and Influenza Rates on Interventions to Reduce Hospital-Acquired *Clostridioides difficile* Rates

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Table 1. Clinical and process outcomes between comparator groups.

	Pre-Group (n=64)	Post-Group (n=97)	P-value
Vancomycin Duration (Days)*	2.9 (1.8, 4.2)	2.0 (1.5, 2.6)	**0.001**
Vancomycin Levels/patient	0.61	0.30	**<0.001**
Patients with Vancomycin Level, n(%)	22 (34.4)	21(21.6)	0.109
De-Escalation, n(%)	20 (31.2)	91 (93.8)	**<0.001**
Escalation/Restart, n(%)	8 (12.5)	2 (2.0)	**0.015**
Acute kidney injury, n(%)	13 (22.8)	12 (15.2)	0.364
Length-of-Stay(Days)*	5.5 (3, 10)	6.5 (3, 11)	0.433
ICU admission, n(%)	24 (37.5)	38 (39.2)	0.962
ICU Length-of-Stay(Days)*	5 (2, 7)	3.5 (2, 7)	0.549
Inpatient Mortality, n(%)	11 (17.2)	17 (17.5)	0.956

* Continuous variable shown as median, (interquartile range)