

Figure 1. Changes in Antibiotic Use Rates in Long-term Care Facilities, 2013-2021. Source: PharMerica

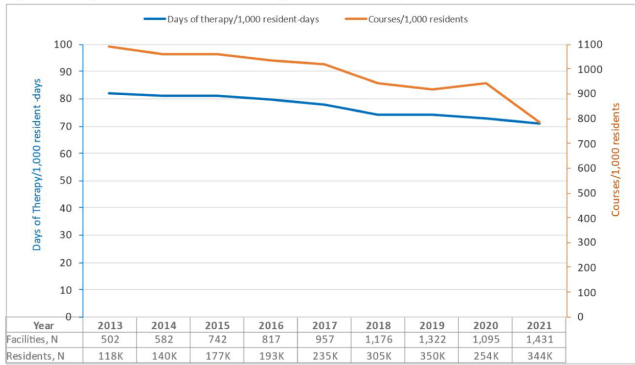
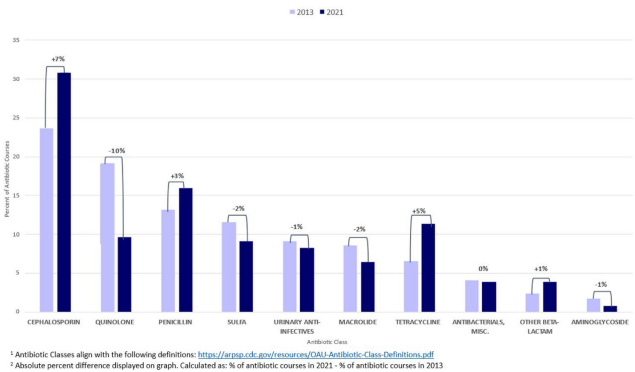


Table 1. Comparison of Antibiotic Use Rates in Long-term Care Facilities, 2013 vs. 2021. Source: PharMerica

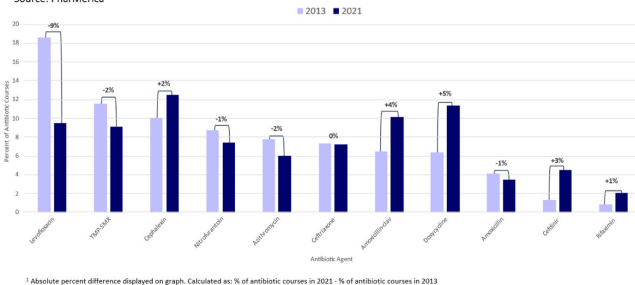
Antibiotic Use Metric	2013	2021	Change
Days-of-therapy(DOT)/1,000 resident-days, #	82	71	-13%
Courses/1,000 residents, #	1,091	787	-28%
Course duration, Median days (Interquartile Range)	7 (5-10)	7 (5-10)	No Change

Figure 2. Distribution of Antibiotic Classes¹ Prescribed in Long-term Care Facilities and Absolute Percent Difference², 2013 vs. 2021. Source: PharMerica



¹ Antibiotic Classes align with the following definitions: <https://arjpa.cdc.gov/resources/OAI/Antibiotic-Class-Definitions.pdf>
² Absolute percent difference displayed on graph. Calculated as: % of antibiotic courses in 2021 - % of antibiotic courses in 2013

Figure 3. Distribution of Antibiotic Agents Prescribed in Long-term Care Facilities and Absolute Percent Difference¹, 2013 vs. 2021. Source: PharMerica



¹ Absolute percent difference displayed on graph. Calculated as: % of antibiotic courses in 2021 - % of antibiotic courses in 2013

the end and dispense dates. We reported yearly AU rates as courses per 1,000 residents and days of therapy (DOT) per 1,000 resident days from 2013 to 2021. We compared AU rates (percentage change) and antibiotic courses by class and agent (absolute percent difference) between 2013 and 2021. **Results:** From 2013 to 2021, AU course rates reported as antibiotic courses per 1,000 residents decreased (percentage change, -28%), with a notable increase in 2020 (Fig. 1). However, the median course duration remained the same (Table 1). The AU decline was mostly driven by decreases in fluoroquinolone courses (absolute difference, -10%, most commonly levofloxacin) and macrolide courses (-2%, most commonly azithromycin) (Figs. 2 and 3). Increases in cephalosporin courses (absolute difference, +7%, most commonly cephalexin) and tetracycline courses (+5%, most commonly doxycycline) were also observed (Figs. 2 and 3).

During this period, AU DOT rates reported as DOT per 1,000 resident days decreased (percentage change, -13%) (Table 1). **Conclusions:** The LTCF AU rates, especially for fluoroquinolones, have decreased in recent years with associated shifts in the distribution of antibiotic classes. This finding may be due to CMS stewardship requirements and increased awareness of adverse events, including the FDA fluoroquinolone warnings. The observed increase in 2020 could be secondary to changes in prescribing practices and resident population during the COVID-19 pandemic. Opportunities to improve prescribing in LTCFs include optimizing treatment duration and leveraging LTCF-pharmacy resources to provide stewardship expertise and support AU tracking and reporting.

Disclosures: None

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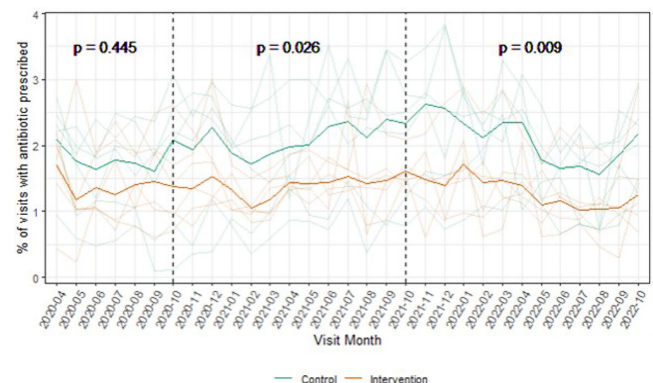
Poster Presentation - Oral Presentation

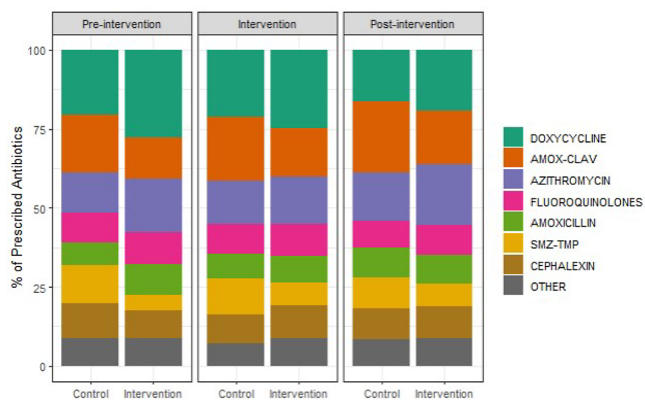
Subject Category: Antibiotic Stewardship

Feasibility of a low-intensity intervention to improve antimicrobial use in outpatient settings

Brigid Wilson; Sunah Song; Taissa Bej; Ukwen Akpoji; Corinne Kowal; Federico Perez and Robin Jump

Background: Overall, ~12% of outpatient visits result in an antibiotic prescription, and 30% of those prescriptions are inappropriate. Behavioral nudges help influence practitioner behavior. We hypothesized that peer comparison combined with a behavioral nudge (a patient alert letter) would influence prescribers to reduce antibiotic prescriptions and improve antimicrobial stewardship in the outpatient setting. We pilot-tested this intervention in outpatient primary care clinics associated with a large Veterans Affairs (VA) medical center. **Methods:** We conducted a clustered randomized controlled trial of 12 community-based outpatient clinics. All practitioners in the intervention arm received quarterly comparative feedback reports and, when indicated, quarterly patient alert letters. Comparative feedback reports gave personalized feedback about antibiotic prescriptions for upper respiratory tract infections, comparing the recipient's antibiotic prescriptions to the average for all practitioners at the primary care clinics included in our study. Patient alert letters notified practitioners to patients in their panel with recently detected *Clostridioides difficile* or resistant organism and their antibiotic exposures. We assessed outpatient visits during the preintervention period (April-September 2020), the intervention period (October 2020-September 2021), and the postintervention period (October 2021-September 2022). A mixed-effects logistic regression model predicting antibiotic prescriptions compared the arms across these periods. **Results:** The outpatient populations observed in the intervention and control arms were similar during each phase of the study. Prior to the intervention, the average proportion of visits with an antibiotic prescription was lower among clinics in the intervention arm (1.4% vs 1.8% in control arm; $P = .45$). This difference broadened slightly during the intervention period (1.4% vs 2.1%, respectively; $P = .03$) and the postintervention period (1.3% vs 2.1%, respectively;





$P = .01$ (Fig. 1). Throughout the study, clinics in the intervention arm typically used more doxycycline and azithromycin and less amoxicillin-clavulanate and sulfamethoxazole-trimethoprim compared to clinics in the control arm. (Fig. 2). In the 6-month preintervention period, which coincided with the early phase of the COVID-19 pandemic, antibiotic prescriptions in the intervention compared to control clinics were similar. During the intervention and postintervention periods, the proportion of visits with an antibiotic prescription remained steady for clinics in the intervention arm and increased for those in the control arm. These results suggest that this pilot study using a low-intensity intervention consisting of comparative feedback reports and patient alert letters was successful in influencing the antibiotic prescribing behavior of primary care clinicians practicing in community-based outpatient clinics affiliated with a VA medical center.

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Disclosures: None

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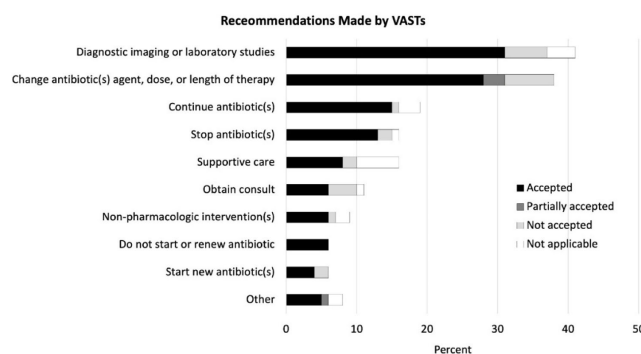
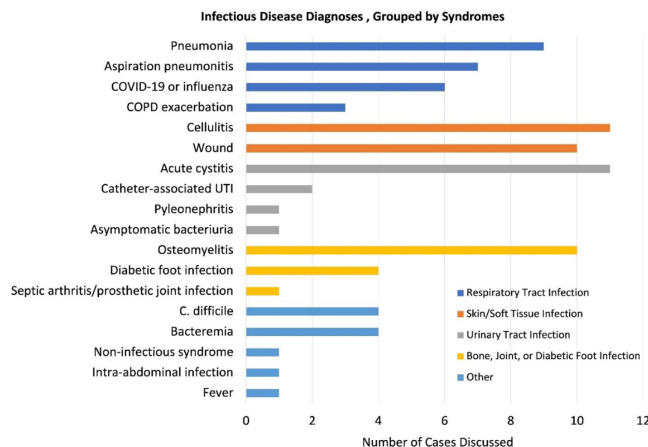
Poster Presentation - Oral Presentation

Subject Category: Antibiotic Stewardship

Using telehealth to support antimicrobial stewardship at four rural VA medical centers: Interim analysis

Alexandria Nguyen; Mayyadah Alabdely; Taissa Bej; Tola Ewers; Tammy Walker Amanda Vivo; Christopher Crnich; Daniel Livorsi; Rabeeya Sabzwari; Geneva Wilson; Brigid Wilson; Corinne Kowal; Oteshia Hicks; Charlesnika Evans and Robin Jump

Background: Healthcare settings without access to infectious diseases experts may struggle to implement effective antibiotic stewardship programs. We previously described a successful pilot project using the Veterans Affairs (VA) telehealth system to form a Videoconference Antimicrobial Stewardship Team (VAST) that connected multidisciplinary teams from rural VA medical centers (VAMCs) with infectious diseases experts at geographically distant locations. VASTs discussed patients from the rural VAMC, with the overarching goal of supporting antibiotic stewardship. This project is currently ongoing. Here, we describe preliminary outcomes describing the cases discussed, recommendations made, and acceptance of those recommendations among 4 VASTs. **Methods:** Cases discussed at any of the 4 participating intervention sites were independently reviewed by study staff, noting the infectious disease diagnoses, recommendations made by infectious diseases experts and, when applicable, acceptance of those recommendations at the rural VAMC within 1 week. Discrepancies between independent reviewers were discussed and, when consensus could not be reached, discrepancies were discussed with an infectious diseases clinician. **Results:** The VASTs serving 4 different rural VAMCs discussed 96 cases involving 92 patients. Overall, infection of the respiratory tract was the most common syndrome discussed by VASTs (Fig. 1). The most common specific diagnoses among discussed cases were cellulitis (n = 11), acute cystitis (n = 11), wounds (n = 11), and osteomyelitis (n = 10). Of 172 recommendations, 41 (24%) related to diagnostic imaging or



laboratory results and 38 (22%) were to change the antibiotic agent, dose, or duration (Fig. 2). Of the 151 recommendations that could be assessed via chart review, 122 (81%) were accepted within 1 week. **Conclusions:** These findings indicate successful implementation of telehealth to connect clinicians at rural VAMCs with an offsite infectious diseases expert. The cases represented an array of common infectious syndromes. The most frequent recommendations pertained to getting additional diagnostic information and to adjusting, but not stopping, antibiotic therapy. These results suggest that many of the cases discussed warrant antibiotics and that VASTs may use the results of diagnostic studies to tailor that therapy. The high rate of acceptance suggests that the VASTs are affecting patient care. Future work will describe VAST implementation at 4 additional VAMCs, and we will assess whether using telehealth to disseminate infectious diseases expertise to rural VAMCs supports changes in antibiotic use that align with principles of antimicrobial stewardship.

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Subject Category: *C. difficile*

Examining the impact of the COVID-19 pandemic on hospital-associated *Clostridioides difficile* infection

Michael Ray; Jon Furuno; Luke Strnad; Eric Lofgren and Jessina McGregor

Background: The epidemiology of *Clostridioides difficile* infection (CDI) is complex, and the COVID-19 pandemic has had extreme impacts on known risk factors such as comorbidity burden and antibiotic prescribing. However, whether these changes have affected the incidence of hospital-associated CDI (HA-CDI) remains unknown. We compared incidence and trends of HA-CDI before and after the pandemic onset, and we assessed the impact of changes in