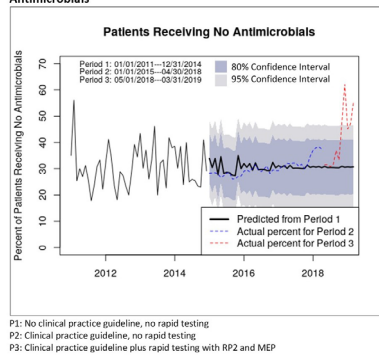


Figure 1: Interrupted Time Series of Patients Receiving No Antimicrobials



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1977. Comparing Acute Kidney Injury Risk among Antibiotic Classes: A Study of the FDA Adverse Event Reporting System (FAERS)

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Session: 232. Antibiotic Stewardship: Adverse Effects
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Background. A recent article published in 2018 studied the FDA Adverse Event Reporting System (FAERS) and listed the most common medications associated with acute kidney injury (AKI) based on number of AKI reports. In regards to antibiotics, the study only ranked vancomycin, fluoroquinolones, penicillin combinations, and trimethoprim-sulfamethoxazole as having a significant association with AKI. The objective of this study was to evaluate those and additional antibiotic classes using FAERS, and to compare their risk associated with this adverse drug event.

Methods. FAERS reports from January 1, 2015 to December 31, 2017 were included in the study. The Medical Dictionary for Regulatory Activities (MedDRA) was used to identify AKI cases. Reporting Odds Ratios (RORs) and corresponding 95% confidence intervals (95% CI) for the association between antibiotics and AKI were calculated. An association was considered statistically significant when the lower limit of the 95% CI was greater than 1.0.

Results. A total of 2,042,801 reports (including 20,138 acute kidney injury reports) were considered, after inclusion criteria were applied. Colistin had the greatest proportion of AKI reports, representing 25% of all colistin reports. Acute kidney injury RORs (95% CI) for antibiotics were (in descending order): colistin 33.10 (21.24–51.56), aminoglycosides 17.41 (14.49–20.90), vancomycin 15.28 (13.82–16.90), trimethoprim-sulfamethoxazole 13.72 (11.94–15.76), penicillin combinations 7.95 (7.09–8.91), clindamycin 6.46 (5.18–8.04), cephalosporins 6.07 (5.23–7.05), daptomycin 6.07 (4.61–7.99), macrolides 3.60 (3.04–4.26), linezolid 3.48 (2.54–4.77), carbapenems 3.31 (2.58–4.25), metronidazole 2.55 (1.94–3.36), tetracyclines 1.73 (1.26–2.36), and fluoroquinolones 1.71 (1.49–1.97).

Conclusion. This study found 17 classes of antibiotics and combinations that were significantly associated with AKI compared with four antibiotics that were mentioned in a recently published article looking at drug-associated AKI. While this study confirmed previous literature of certain antibiotics associated with increased risk of AKI, it also compared antibiotics within classes and provided additional insight regarding which antibiotics had the highest associated risk of an AKI.

Disclosures. All authors: No reported disclosures.

1978. Statements about Antibiotic Side-Effects and Patient Desire for Unnecessary Antibiotics

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Background. Antibiotic resistance is a global health emergency fueled in part by non-indicated use of antibiotics. Current public education campaigns primarily focus on the risks of global antibiotic resistance or society-wide adverse impacts of antibiotic misuse. There has been little research into what messages have the greatest impact on patient requests for non-indicated antibiotics.

Methods. We administered a survey at a primary care clinic in August 2018. Participants rated 18 statements about potential harm from antibiotics on how that statement changed their likelihood to request antibiotics for an upper respiratory tract infection (URI) on an 11-point Likert scale. These included 8 statements about potential harm to the individual, 4 statements about potential harm to contacts of the individual, and 6 statements about resistance or the societal impact of antibiotic misuse.

Before and after the survey, participants rated how likely they were to request antibiotics for a URI.

Results. Of 1150 adult patients in clinic over the 6 days of the survey, 250 completed the survey. Statements about potential harm to the individual decreased patient likelihood to request antibiotics more than statements about societal impacts of antibiotic misuse. ($P < 0.001$). Statements about potential harm to contacts of the patient also decreased patient likelihood to request antibiotics more than statements about resistance or societal impacts of antibiotic misuse ($P < 0.001$). Statements discussing antibiotic resistance were less likely to impact patient likelihood to request antibiotics than statements not mentioning antibiotic resistance ($P < 0.001$). All statements decreased patient likelihood to request antibiotics. Overall likelihood to request antibiotics decreased after the survey (from 5.3 pre- to 3.1 post-survey, $P < 0.001$).

Conclusion. Statements about how potential harm of antibiotics to the individual had a greater impact than statements about resistance or societal impact of antibiotics. Our results suggest that when dissuading patients from requesting non-indicated antibiotics, providers and public health campaigns focus on the potential harm of antibiotics to the individual patient rather than on antibiotic resistance or societal impacts.

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1979. Five-Year Impact of an Antimicrobial Stewardship Program on Nosocomial Candidemia: An Interrupted Time-Series Analysis Study

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Session: 233. Antibiotic Stewardship: Antifungals
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Background. Antimicrobial stewardship programs allow a reduction in antibiotic prescription and, consequently, in the incidence of multidrug-resistance infections. However, the impact on nosocomial candidemia is still unclear.

Methods. The present study is an interrupted time-series (ITS) before-after study, based on an ecological time-trend analysis. Since 2014, an antimicrobial stewardship program (ASP) has been implemented at an Italian tertiary-care hospital. The first objective of the program was to reduce carbapenem consumption, through an active and computerized surveillance of all carbapenem prescriptions, each of which was checked and validated by ID specialists always after audit of the cases with treating physicians. We retrospectively evaluated the changing in the consumption of antimicrobials, carbapenems, and in the incidence of candidemia, during two study periods: before (2007–2013) and after (2014–2018) the implementation of the ASP.

Results. The implementation of ASP was followed by a significant decrease in antibiotic consumption, which was consistent through the following 5 years. At the end of the study, total antibiotic consumption has decreased by 38.476 DDDs per 100 patient-days (PDs) per quarter (95% CI: –21.784 to –55.168; $P < 0.001$) and carbapenems decreased by 4.452 DDD per 100 PDs per quarter (95% CI: –3.658 to –5.246; $P = 0.001$). After 5 years of ASP, incidence of candidemia decreased by 2.034 episodes per 1,000 PDs per quarter (95% CI: –0.738 to –3.330; $P = 0.003$), decreasing, at the end of 2018, by 53% compared with the expected value if the program had not been implemented.

Conclusion. At our Institution, the ASP had a positive impact on the consumption of carbapenems, and antimicrobials. The incidence of candidemia was also favorably affected by the program, reversing the trend after 2014. The ASP, even if not directly targeted to fungal infections, indirectly caused a reduction in the incidence of candidemia, probably reducing the number of patients colonized by *Candida* spp.

Disclosures. All authors: No reported disclosures.

1980. Variability in Antifungal Stewardship Strategies Among Society for Healthcare Epidemiology of America (SHEA) Research Network Facilities

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Session: 233. Antibiotic Stewardship: Antifungals
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Background. The incidence of invasive fungal infections (IFI) and antifungal utilization is increasing in many healthcare settings. Little is known regarding antifungal stewardship strategies within broader antimicrobial stewardship programs (ASPs). This survey aimed to identify the use of antifungal stewardship at a diverse range of hospitals.

Methods. A cross-sectional electronic survey of the SHEA Research Network (SRN) was completed August–September 2018 by a physician or pharmacist ASP leader. The SRN is a consortium of >100 hospitals participating in multicenter healthcare epidemiology research projects. Survey questions pertained to various aspects of antifungal stewardship, including audit and feedback, laboratory testing, and surveillance. Chi-square tested associations between ASP and hospital characteristics and use of antifungal stewardship strategies.