

Methods. We performed a two-arm, cluster-randomized, crossover quality improvement study over 8 months to compare the impact of weekly ICU rounds with an ASP team vs. usual care. The primary outcome was antibiotic use (AU) in days of therapy (DOT) per 1,000 days present during and following ICU exposure. Our cohort consisted of ICU patients in 5 ICUs in Duke University Hospital. The unit of randomization was rounding team, which corresponded to half of the ICU beds in each unit. Each team was randomized to the intervention for 4 months followed by usual care for 4 months (or vice versa). The intervention involved multidisciplinary review of eligible patients to discuss antibiotic optimization. Patients not on antibiotics, followed by infectious diseases, post-transplant, on ECMO, or with a ventricular assist device were excluded from review. Intervention impact was assessed with multivariable negative binomial regression rate ratios (RR). AU was assessed over time before and after the study period to assess global and unit-level trends.

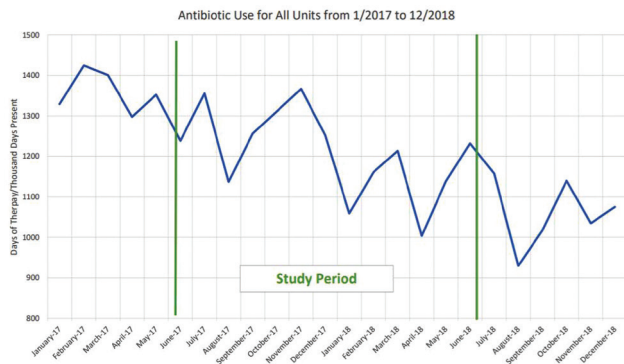
Results. We had 4,683 ICU-exposed patients. Intervention effect was not significant for the primary outcome (table). The intervention order was not significant in the model. Eligible patients were lower in the cardiothoracic ICU (CTICU) compared with other units (table); the intervention led to a significant decrease in AU when the CTICU was removed (RR = 0.93 [0.89–0.98], $P = 0.0025$). Intervention impact was differential among ICUs, with the greatest effect in surgical and least in CTICU (table). Unit-level AU decreased in all ICUs, driven by 4 of the 5 ICUs (table, figure).

Conclusion. The effect of ASP rounds on AU was mixed for different types of ICUs. The direct effect on AU (intervention vs. control) was small because the analysis addressed the whole ICU population and thus was subject to biases from exposures after an ICU stay, ineligible patients, and lack of blinding. However, we observed an overall decline in AU during the study period, which we believe represents indirect effects of increased ASP activity and awareness. Additional ASP resources to round more than weekly may result in greater effect.

Table. ICU distribution of patients, rate ratios of antibiotic use and change in antibiotic use over time

ICU type	N patients	% Excluded from weekly rounds	RR (95% CI)	% change in AU 1/2017 to 12/2018
Surgical	992	67.6	0.87 (0.81-0.94)	-18
Cardiac	1037	66.6	0.91 (0.86-0.97)	-37
Medical	686	52.1	0.94 (0.92-0.96)	-24
Neurologic	1047	61.3	1.05 (0.93-1.18)	-43
Cardiothoracic	921	87.9	1.11 (1.04-1.19)	+25
All	4683	68.0	0.97 (0.91-1.04)	-19
All except Cardiothoracic	3762	62.7	0.93 (0.89-0.98)	-29

Figure 1. Antibiotic use (days of therapy per 1000 days present) for all five units trended over time from 1/2017 to 12/2018. Study period from 10/2017 to 6/2018



Disclosures. All Authors: No reported Disclosures.

1879. A 20/20 Vision: Successful Integration of a Prescribing Dashboard for Outpatient Antimicrobial Stewardship to Target 20% Reduction by the Year 2020

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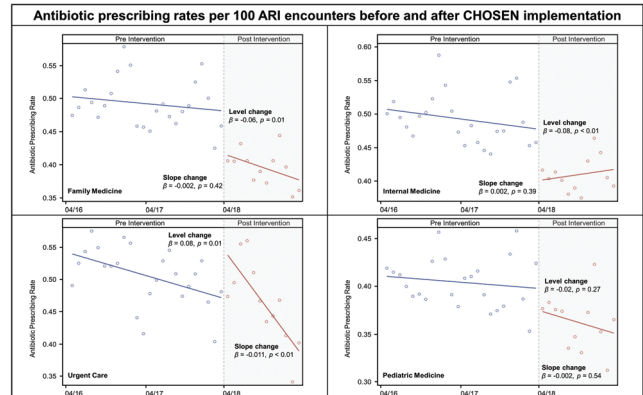
Background. At least 30% of antibiotics prescribed in the ambulatory setting are unnecessary, including high rates of overuse for acute respiratory infections (ARI). We designed and evaluated whether a multifaceted outpatient stewardship program leveraging multidisciplinary stakeholder engagement, education tools, and an innovative prescribing dashboard decreased antibiotic prescribing in ARI.

Methods. In November 2017, the Carolinas HealthCare Outpatient Antimicrobial Stewardship Empowerment Network (CHOSEN) launched an antibiotic awareness campaign in over 150 ambulatory practices in the Charlotte metropolitan area, reaching over one million patients. The campaign included online and in-person tools for patients and providers, targeted education at meetings, and social and mass media exposure. In March 2018, a provider level prescribing dashboard was introduced to target inappropriate antibiotic prescribing in ARI (acute sinusitis, nonsuppurative otitis media, nonbacterial pharyngitis, URI, cough, allergy, and influenza). Data were collected for family medicine (FM), internal medicine (IM), urgent care (UC) and

pediatric medicine (PM); 10% and 20% relative reduction targets (years 2019 and 2020, respectively) were set for each service line. We compared pre (April 2016–March 2018) vs. post (April 2018–March 2019) intervention prescribing rates (calculated as the number of encounters with antibiotics vs. total) as rate ratios and used segmented regression models to assess change over time.

Results. There were 1,001,335 pre and 448,390 post-intervention encounters. Postintervention prescribing rates (antibiotics per 100 encounters) decreased for all service lines, FM (49.4 to 39.3), IM (49.7 to 41.2), UC (49.8 to 44.4), and PM (40.6 to 36.1) vs. pre-intervention (all rate ratios, $P \leq 0.01$). All service lines met the target 2019 10% reduction goals. Post-implementation, FM and IM showed immediate decreases in prescribing (figure). After an initial increase, UC showed a significant month-to-month decrease (figure).

Conclusion. Integration of a prescribing dashboard within a multifaceted antibiotic awareness campaign reduced inappropriate outpatient antibiotic prescribing for ARI and achieved interim targets consistent with 2020 reduction goals.



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1880. Reducing Antibiotic Prescribing for Acute Bronchitis in Outpatient Settings Using a Multifaceted Approach

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Background. Nebraska (NE) ranks among the highest states for per capita antibiotic (AB) use in outpatient (OP) settings. Nebraska Medicine (NM) partnered with NE Antimicrobial Stewardship Assessment and Promotion Program (ASAP), a program funded by NE DHHS via a CDC grant, to reduce AB prescribing for acute bronchitis in OP settings.

Methods. The antimicrobial stewardship (AS) pilot program targeted NM OP clinics during winter 2018. All OP facility clinicians were notified of the availability of online AS educational videos. In addition, 5 primary care clinics (PCC) received clinician-directed interventions that included acute respiratory infection management pocket guides and posters for display in workrooms. Another 5 PCC received both clinician- and patient-directed interventions (examination room patient empowerment posters, Be Antibiotic Aware pledge cards and brochures). We compared AB prescribing rates for acute bronchitis between January and April 2017 and January and April 2018 among the 2 PCC groups and a control group of 5 immediate care clinics/emergency departments (ICC/ED). Clinicians in all 10 PCC were surveyed to assess usefulness of the AS campaign.

Results. A total of 593 acute bronchitis diagnosis encounters were included. AB prescribing rates for acute bronchitis for the 15 sites decreased from 53.7% to 43.6% ($P = 0.02$). Prescribing rates were unchanged in ICC/ED that received only notification of online educational videos (40.8% vs. 41.5%, $P = 1.00$) but were reduced in clinics that received clinician-directed (74.5% vs. 33.3%, $P < 0.01$) and patient-directed (61.1% vs. 48.8%, $P = 0.07$) interventions. Azithromycin was the most commonly prescribed AB (31.5% in 2017 and 29.8% in 2018). After the AS campaign, only the clinician-directed intervention group saw a reduction in azithromycin prescribing (33.3% vs. 13.9%, $P < 0.05$). Out of 51 clinicians who completed the survey, 45.1% felt campaign tools facilitated meaningful discussion with patients. Workroom posters and pocket guides were reported by 47.1% and 39.2% to be somewhat or extremely helpful, respectively.

Conclusion. This OP AS campaign led to a significant reduction in AB prescribing. Successful OP AS campaigns need multifaceted approaches but targeted clinician interventions appear most beneficial.

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