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Results. Of 156 clinicians, 99 responded, of whom 93 were eligible, for a response rate of 65%. Eligible respondents included 38 attending physicians, 18 advanced practice providers, and 37 residents. 91 (98%) had ever used the antibiotic app, and of those, 84 (93%) considered themselves to be regular users. 85% of users primarily accessed the app by smartphone. Mean (standard deviation [SD]) reported use was 3.0 (2.3) episodes per shift. 85% of users reported the app to be very useful (range: not at all useful to very useful). Among users of common prescribing resources including UpToDate³, Sanford Guide⁴, EMRA Guide to Antibiotics⁵, and the Johns Hopkins Guide to Antibiotics⁶, the institutional app had the highest reported usefulness. The mean (SD) perceived effect on accuracy of antibiotic choice, accuracy of dosing, consistency of prescribing, and effect on decreasing durations of therapy was 4.5 (0.5), 4.50 (0.6), 4.4 (0.7), and 3.5 (0.7), respectively (range: 1–5, with higher scores indicating greater effect).

Conclusion. Among ED and urgent care clinicians, an institution-specific antibiotic app was widely utilized and perceived to be a useful clinical resource that impacted prescribing. Institution-specific apps may be effective tools to promote uptake of local prescribing guidance.

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1859. Prevalence of Antimicrobial Use in US Hospital Patients, 2011 vs. 2015
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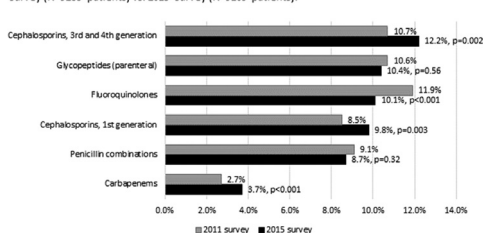
Background. Antimicrobial stewardship (AS) is increasingly recognized as an essential component of patient safety programs. In a US hospital prevalence survey in 2011, 50% of patients received antimicrobial drugs (ADs). The survey was repeated in 2015 to describe changes in inpatient antimicrobial use, approximately one year after CDC published the "Core Elements of Hospital Antibiotic Stewardship Programs."

Methods. Emerging Infections Program (EIP) sites in 10 states recruited up to 25 hospitals each, seeking to re-engage hospitals that participated in the 2011 survey. Hospitals selected survey dates from May to September 2015 and completed AS questionnaires. Patients were randomly sampled from the hospital census on the survey date. EIP staff retrospectively reviewed medical records to collect AD data. Percentages of patients on ADs on the survey date or the day before were compared using chi-square tests (SAS 9.4, OpenEpi 3.01).

Results. In 2015, among 148 hospitals participating in both surveys, 29 (19.6%) reported having no AS team (AST); 63 (42.6%) had ASTs for <4 years, and 56 (37.8%) had ASTs for ≥4 years. Antimicrobial use prevalence in 2015 was approximately 50% in hospitals with and without ASTs. Percentages of patients on ADs was not different in 2015 (4,590/9,169, 50.1%) compared with 2011 (4,606/9,283, 49.6%, $P = 0.55$). Antimicrobial use prevalence in most hospital locations did not change, although the percentage of neonatal intensive and special care unit patients on ADs was lower in 2015 compared with 2011 (22.1% vs. 30.7%, $P = 0.005$). The percentage of patients on fluoroquinolones was lower in 2015, while percentages of patients on carbapenems or cephalosporins were higher in 2015 than in 2011 (figure).

Conclusion. Some observed differences between 2011 and 2015 provide evidence of stewardship impact. The decrease in antimicrobial use in selected neonatal locations may reflect implementation of tools to improve neonatal sepsis prescribing, while decreases in fluoroquinolone use may reflect efforts to prevent *Clostridium difficile* infections. However, our data also suggest that reductions in some ADs are offset by increases in others, supporting the need for ongoing work to identify the most effective AS strategies.

Figure. Percentages of patients receiving selected antimicrobial drug classes, 2011 survey (N=9283 patients) vs. 2015 survey (N=9169 patients).



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1860. Small State, Big Collaboration: Creation of First New Hampshire Statewide Antibigram Guides Stewardship Efforts

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Background. Antibiotic-resistant infections have been identified as an urgent national health threat. In response, the New Hampshire Division of Public Health Services (DPHS) sought to develop a system for tracking antibiotic resistance statewide through use of hospital antibigrams to (1) proactively monitor resistance trends over time and geographic region, (2) promote antimicrobial stewardship in NH health-care facilities, and (3) provide a tool for providers to help guide appropriate antibiotic prescribing.

Methods. Through statutory legislative authority, DPHS requires hospital laboratories to report antibiogram data annually. DPHS formed an advisory group, consisting of infectious disease, medical and pharmacy subject matter experts to develop a standardized data collection tool. DPHS validated reported data to confirm accuracy, and clarify aberrant data by comparing the susceptibilities among all hospitals. Any questionable data were verified with the respective laboratory. The combined data were reviewed by the clinical advisory group and recommendations were created from the antibiogram data to highlight appropriate antibiotic prescribing and the need for coordinated stewardship. The antibiogram and clinical recommendations were disseminated widely throughout the state.

Results. All 26 hospitals in New Hampshire submitted data. A total of 42,519 and 21,306 bacteria were cultured from urine and non-urine sources, respectively. The clinical advisory group's recommendations included interpretations and antibiotic therapy directives for common clinical syndromes. Dissemination was accomplished through a health alert, partnership with a state working group of stakeholders, widespread email communication and online publication.

Conclusion. The small size of New Hampshire, centralized public health structure, and close working relationships with all hospitals allowed for efficient collection of these data. Our process may serve as a model for other states, and will inform more accurate, comprehensive antibiotic resistance surveillance. This antibiogram is the launch for a larger statewide public health antibiotic stewardship campaign and coincides with national efforts around antibiotic stewardship and resistance surveillance.

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1861. National Healthcare Safety Network's Electronic Antimicrobial Use and Resistance Surveillance: First Cohort of Hospital Reporters, 2011–2017

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Background. The Centers for Disease Control and Prevention's (CDC's) National Healthcare Safety Network (NHSN) Antimicrobial Use and Resistance (AUR) Module is used to monitor antimicrobial use and AR threats. Hospital participation in the module is voluntary. For hospitals to participate, data submission to the AU or AR reporting option(s) must be completed using standard electronic messages. To better understand how the mix of voluntary participation and electronic reporting requirements affects hospital uptake of the AUR Module, we characterized the first hospital cohorts of AU and AR data submitters.

Methods. We compared the first hospitals that submitted data to the NHSN's AU and AR options with hospitals that reported to NHSN's healthcare-associated infection (HAI) Modules but not the AUR Module from 2011 through 2017. Early AU and AR adopters are hospitals that reported to NHSN's AUR Module by November of the year when the total number of reporters for each option reached 100. Hospitals' characteristics were self-reported to NHSN, except for hospital membership in a large healthcare system (≥100 hospitals), which was determined by reviewing online hospital composition information for large systems.

Results. Each option accumulated ≥100 hospital adopters in the fifth year (AU, 2015) and fourth year (AR, 2017) of its availability. Compared with 5,382 HAI-only reporters, 119 early AU adopters were typically larger (median number of beds: 152 vs. 80, $P < 0.001$), teaching hospitals (71% vs. 41%, $P < 0.01$) and had a leadership supported antimicrobial stewardship program (ASP) (98% vs. 86%, $P < 0.001$). Compared with 5375 HAI-only reporters, 126 early AR adopters were more likely to be larger (median number of beds: 201 vs. 80, $P < 0.001$), teaching hospitals (71% vs. 41%, $P < 0.001$) and produced an antibiogram at least annually (99% vs. 91%, $P < 0.001$). A significant proportion of AU (42%) and AR (57%) early adopters belong to a large healthcare system.

Conclusion. The early hospital adopters in NHSN's AUR Module were typically larger teaching hospitals at which some ASP elements were in use, and many of these