Patients with S. aureus AHOAI with a delay in source control, slow decline in CRP, prolonged fever or ICU admission are at higher risk of OC. While non-specific, these findings suggest that such patients may warrant especially cautious clinical follow-up to identify sequelae early. Large multicenter studies are needed to better predict OC in this setting.

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920. A Sharp Fall in Antibiotic Use in Infants Is Correlated With a Population-Wide Reduction in Asthma Incidence for Children Under 5
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Background. Antibiotic use in infants <1 is associated with increased relative risk (~1.5) for childhood asthma in cohort studies. This may be mediated by removal from the infant microbiome of organisms shown to protect against asthma, a hypothesis supported by experiment. We launched this study to see whether reductions in antibiotic use at population level are associated with benefit by way of asthma reduction.

Methods. We obtained antibiotic prescribing data from BC PharmaNet, a population-based database that captures all outpatient prescribing for British Columbia, Canada (n = 4.7 million). We focused on prescriptions in children <1 and calculated prescription rate per 1,000 population per year. We obtained asthma incidence data from the BC Ministry of Health Chronic Disease Registry. Asthma case identification uses a standard case definition making use of community and hospital diagnostic codes as well as asthma drug data from BC’s universal phy-sician billing, hospital and drug databases. We focused on age-stratified asthma incidence for children aged 1–4. The correlation between antibiotic prescription rate in children <1 and asthma incidence in the following year was estimated using the Spearman test.

Results. Antibiotic prescribing for all age groups fell 9.5% between 1999 and 2013. The rate for infants <1 dropped 58% from 1,014 to 427 prescriptions per 1,000 population/year. Between 2000 and 2014, asthma incidence (ages 1–4) fell 26% from 27.3 (95% CI: 26.5–28.0) to 20.2 (95% CI: 19.5–20.8) per 1,000 population/year. These trends were strongly correlated: Spearman’s rho = 0.81 (P = 0.0002). The magnitude of fall in asthma incidence is slightly greater than that predicted based on calculated population attributable risk for antibiotic exposure.

Conclusion. The population health benefit from antibiotic stewardship in infants may not be confined to slowing the emergence of resistance and could include a reduced risk of asthma. As this is a population-based ecological study, a reduction in other risk factors may also have contributed to the fall in asthma incidence. This promising trend should be further studied at individual level within a large cohort study.

Disclosures. All authors: No reported disclosures.

921. Antibiotic Prescribing for Children in Family Medicine Clinics Within a Practice Research Network
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Background. Family medicine clinics provide care for one-third of US children, yet comprehensive data about antibiotic prescribing in this patient population are lacking. We aimed to characterize antibiotic prescribing for children in family medicine clinics.

Methods. A retrospective cohort of patients aged 0–17 years with a visit to a family medicine clinic within the Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI) Region Practice and Research Network (WPRN) from January 1, 2014 to April 30, 2017 was studied. Patients with complex chronic conditions were excluded. We defined narrow-spectrum antibiotics as penicillin, amoxicillin, first-generation cephalosporins, sulfonamides, and nitrofurantoin; and broad-spectrum antibiotics otherwise. On the basis of national guideline recommendations and a previously published hierarchical classification system, we assigned diagnoses to one of the 3 tiers: diagnoses for which antibiotics were (1) almost always indicated (e.g., bacterial pneumonia), (2) may be indicated (e.g., pharyngitis), and (3) generally not indicated (e.g., broncholithis/bronchitis).

Results. We studied 20,779 pediatric patients with 97,228 clinic visits. Oral antibiotics were prescribed in 10,922 (11%) of all encounters. The median rate of antibiotic prescribing among providers was 14% (interquartile range: 9.9%–18.5%). Of all antibi-totics prescribed, 51% were broad-spectrum agents. Acute respiratory tract infections (ARTIs) accounted for 67% of all antibiotics prescribed. Of the antibiotics prescribed for ARTI, 25% were for diagnoses where antibiotics are generally not indicated. First-line guideline-recommended antibiotics were prescribed 86% of acute otitis media, 40% of sinusitis, 68% of pharyngitis, and 31% of community acquired pneumonia diagnoses. Azithromycin monotherapy was prescribed in 52% of community acquired pneumonia diagnoses.

Conclusion. Specific targets for improving antimicrobial prescribing within a family medicine practice research network include prescribing of broad-spectrum antibiotics (particularly azithromycin), prescribing for conditions where antibiotics are not indicated, and first-line guideline-recommended prescribing for pharyngitis and community acquired pneumonia.

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922. Barriers to Pediatric Staff Nurse Participation in Antimicrobial Stewardship Programs (ASP) Linked to Organizational Culture
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Background. Increasing nurse engagement in Antimicrobial stewardship programs (ASP) is a national initiative. We previously reported results from a stewardship survey where nurses indicated being confident to perform ASP prac-tices, yet identified barriers to stewardship participation. Seventeen barriers were identified, with many centered around hospital culture such as lack of inclusion in rounds, power differentials, and nurse input not actively sought. To further under-stand organizational and cultural barriers which may influence nursing stewardship engagement, we used responses from the Agency for Healthcare Research and Quality (AHRQ) Patient Safety survey to evaluate nursing perception on hospital culture.

Methods. Data from the 2017 AHRQ survey were used. Nurses working on non-inpatient floors (e.g., post anesthesia care units) were excluded. For this analysis, we included 4 domains pertinent to stewardship initiatives: communication, information exchange, teamwork within and across units. Composite scores within each domain were calculated. Scores were stratiﬁed by Intensive Care Nursery (ICN), Pediatric Intensive Care Unit (PICU), Oncology (Onc), medical-surgical (med-surg) units, and dual units (e.g., float pool).

Results. A total of 424 nurses participated in the survey: 138 (33%) ICN, 90 (21%) PICU, 42 (10%) Onc, 168 (40%) med-surg, and 23, (5%) dual. The majority of nurses had been employed by the hospital for 0–5 years (237; 56%) with 76 (18%) having more than 15 years. The majority of nurses expressed neutrality with communication. Approximately 20% disagreed with the level of information exchange. Nurses perceived teamwork within a unit more favorably than teamwork across units. Responses were relatively consistent across units.