

less than 10 miles of an SSP were more likely to use it (adjusted odds ratio 5.47; 95% CI 2.1- 14.3).

Conclusion. Our study highlights unsafe injection practices and lack of frequent SSP utilization among people admitted with IDU-associated infections in Maine. Especially given increasing stimulant use in our state and nationally, these results also highlight the need to promote harm reduction even among individuals prescribed medication for opioid use disorder. Particularly in rural areas where patients may live more than 10 miles from an SSP, expansion of harm reduction services should be a priority.

Disclosures. All Authors: No reported disclosures

1419. National ambulatory health resource utilization and geographic disparities of influenza in the United States, 2009 to 2016

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Session: P-65. Public Health

Background. Influenza can affect up to 10% of adults and 30% of children and, in specific populations, can lead to severe illness and death. Although epidemiological surveillance on influenza patterns have been expanded since 2009, it is also imperative to observe specific trends for influenza immunization and treatment to inform and potentially prevent future outbreaks. The primary objective of this study was to describe influenza prevalence, immunization, and treatment among outpatients in the United States (US).

Methods. This was a cross-sectional study using the Centers for Disease Control and Prevention's National Ambulatory and Hospital Ambulatory Medical Care Surveys from 2009 to 2016. All patient visits were eligible for inclusion, and prevalence rates were described as influenza visits per 1,000 patient visits. Patient visits were categorized by year, month, and US geographic region. Influenza vaccinations and treatments were defined by their respective Multum code(s) and diagnosis was identified using International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) and ICD-10 codes for the appropriate survey years. Data were presented descriptively.

Results. Over 7 billion visits were included for analysis. Overall, influenza rates varied over the study period with the highest rate in 2009 (5.0) and lowest in 2015 (0.9). Immunization rates were highest in 2014 (25.4) and lowest in 2016 (12.5). The South had the highest influenza rates (3.6) and proportion of influenza visits that included treatment (45.6%), as well as the lowest immunization rates (17.6). The Northeast had the lowest influenza rate (1.5), while the West had the lowest proportion of influenza treatment (24.9%) and highest immunization rates (23.4). December and February had the highest rates of influenza (5.2 and 5.7, respectively), while rates of immunization were the highest in September and October (48.9 and 71.7, respectively).

Conclusion. Immunization rates were highest in the fall months and influenza rates were highest in the winter months. Overall, this study found that regions with lower influenza vaccination had higher influenza rates, and vice versa. Future campaigns should promote immunizations against the influenza virus particularly in underserved regions (e.g., South).

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1420. A One Health Approach Examining the Potential Linkage between Agricultural Livestock and Human Antibiotic Resistance at the Watershed Level

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Session: P-65. Public Health

Background. Antibiotic resistance is a significant public health threat and widespread use of antibiotics in agriculture is increasing the concern about agricultural contributions to the dissemination of antibiotic resistant bacteria. Of concern is the level of exposure to antibiotics and antibiotic-resistant bacteria in the watershed.

Consequently, adopting a One Health approach to measure antibiotic levels and identify antibiotic resistance gene (ARG) transfer at the human, animal and environmental interfaces is essential to better understand how antibiotic resistance is spread.

Methods. In this project, antibiotic levels were measured using passive organic chemical integrative samplers (POCIS) for 30-day periods from August - November 2018 from Elkhorn River and Shell Creek watersheds in Nebraska (Figure 1). In addition, whole genome sequences of bacterial isolates cultured from the watersheds were assessed to identify ARGs present on mobile genetic elements (MGE) that had >95% similarity to mobile ARG present in isolates recorded in the NCBI GenBank database was identified using ResFinder.

Figure 1. Sampling locations within the two watersheds.

Results. The study demonstrated significant antibiotic levels present throughout the watershed, with five of them associated with human usage (Table 1). In addition, seasonally based drug-resistant bacterial species was associated with specific antibiotic levels in the watershed (Figure 2). Mobile ARGs were detected in 87.5% of isolates collected from the Elkhorn River and 80.0% within Shell Creek (Figure 3).

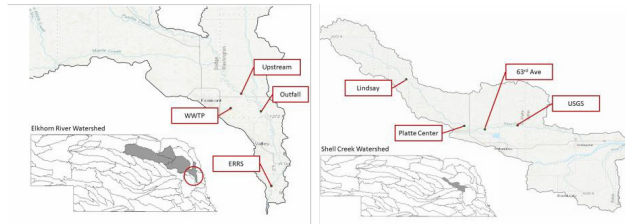


Table 1. Pharmaceutical levels in the watershed

Compound	Frequency of Detection (%)	Range (ng/POCIS)
Monensin	100.0	3.42 - 718.69
Lincomycin	95.8	1.13 - 163.61
Tylosin	79.2	0.10 - 134.76
Trimethoprim	62.5	12.13 - 345.02
Chlortetracycline	54.2	2.41 - 245.28
Erythromycin Anhydro-	54.2	0.15 - 145.60
Sulfamethoxazole ^{ER}	33.3	2.33 - 164.53
Ractopamine ^{ER}	29.2	6.46 - 694.69
Tiamulin	29.2	0.18 - 1.86
Tetracycline	25.0	2.39 - 65.34
Sulfadimethoxine	25.0	0.85 - 27.26
Oxytetracycline ^{ER}	20.8	0.44 - 65.72
Sulfamethazine ^{SC}	12.5	41.12 - 88.07
Sulfadiazine ^{ER}	8.3	0.73 - 2.82
Erythromycin ^{SC}	8.3	0.13 - 0.71

^{ER} Analyte only detected in Elkhorn River watershed.
^{SC} Analyte only detected in Shell Creek watershed.