

**Conclusion.** Vector control methods focusing on prevention must be implemented to avoid epidemics of WNV if high temperature is leading to an unusual drought especially at the risk areas, such as Texas and California. However, high temperature with moist spell anomalies in the south central region showed a negative influence on WNV outbreak.

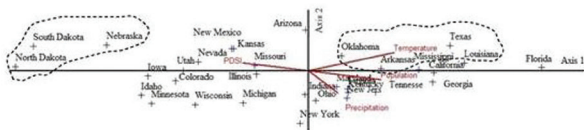


Figure 1. The CCA ordination is shown the relationships between WNV human cases and climatic variables for the 32 States of the United States in 2010. The circles represent south central (left) and northern Great Plains (right) regions.

**Disclosures.** All authors: No reported disclosures.

**693. Congenital Zika Syndrome: Assessing the Fatality Rate Since the 2015 Zika Outbreak**

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**Background.** Many studies have demonstrated a causal link between Zika virus (ZIKV) infection, microcephaly (MCP) and other congenital abnormalities (CA). This study aimed to determine the perinatal case fatality rate in cases of Congenital Zika Syndrome (CZS) in the Rio Grande do Norte State (RN), a Brazilian Northeast State highly impacted by the Zika virus outbreak.

**Methods.** A cross-sectional study was conducted using data obtained through the State Health Department (SHD) for cases of MCP and CA in Rio Grande do Norte from April 2015 to December 31, 2017. Definition of perinatal period: commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth. Perinatal case fatality rate is defined as the number of deaths as a fraction of the number of sick persons with a specific disease (×100).

**Results.** During the study period, there were 519 cases of MCP and others CA notified in RN, of which 150 were confirmed and 126 remain under investigation. The remaining 243 cases have been ruled out by presenting normal exams or due to presenting microcephaly by non-infectious causes. Of the total confirmed cases, 30.0% (45/150) died after birth or during pregnancy. 64.4% (29/45) of confirmed deaths had ZIKV infection during pregnancy and 4.4% (02/45) had a positive TORCH blood test. The deaths related to Zika were confirmed using either clinical/epidemiological/radiological (the presence of typical and indicative alterations of congenital ZIKV infection) or clinical/epidemiological/serological (RT-PCR and/or IgM/IgG antibodies against ZIKV). Eleven cases remain under investigation and five were ruled out.

**Conclusion.** This study highlights a high rate of perinatal lethality (64.4%) in cases of CZS. Despite the growing number of CZS cases, the real incidence and prevalence might be higher due to the underreporting and lack of resources for confirmatory diagnostic tests (laboratory and imaging). Due to the high rate of lethality, our findings predict an increase in the infant mortality rate in areas endemic for arboviruses. Because the severe neurological complications caused by CZS, it is likely to pose a substantial burden on public spending on healthcare. This study may be used to better describe the congenital Zika syndrome, its prognosis and natural history.

**Disclosures.** All authors: No reported disclosures.

**694. The CAGE Study: Prevalence of Acute Gastroenteritis and Enteric Virus Infection in the Community**

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**Background.** There are currently limited data about the occurrence and characteristics of sporadic acute gastroenteritis (AGE). In this study, we sought to (1) estimate the average point prevalence of AGE over a 1-year period; (2) describe health-seeking behaviors among those with AGE; and (3) calculate the proportion of stool samples testing positive for enteric viral pathogens.

**Methods.** Starting in October 2016, we recruited 52 weekly, age-stratified, random samples of Kaiser Permanente Northwest members to complete an online survey and, for a subset of participants, to submit a stool specimen. The survey included questions

about the occurrence of vomiting and/or diarrhea within the previous 30 days and, for those reporting AGE symptoms, related health-seeking behaviors. Collected stool samples were tested for norovirus, astrovirus, sapovirus, and rotavirus by RT-qPCR.

**Results.** We received a total of 3,483 surveys from eligible participants, 417 (12%) of whom reported having had AGE symptoms (Figure 1). Of these, 70 (17%) sought related medical care across a spectrum of clinical encounter types (Figure 2). We also received a total of 531 stool samples, 74 from symptomatic and 457 from asymptomatic individuals. Among them, we detected norovirus in 12% and 3% of samples ( $P = 0.0005$ ), respectively; astrovirus and sapovirus in 1% of samples in each group; and rotavirus in 8% and 7% of samples, respectively.

**Conclusion.** Our findings of AGE within the community are consistent with previous estimates using models of medically attended AGE occurrence and reported rates of health-seeking behavior. The prevalence of enteric viral infection among people in the community without AGE was generally low. These data can be used to generate age-stratified incidence estimates of community AGE and specifically that associated with enteric viral pathogens. Such disease burden data are needed to guide the development, targeting, and anticipated impacts of interventions, such as vaccines.

Figure 1: Proportion of CAGE Study Participants Reporting Acute Gastroenteritis, by Age (n=417).

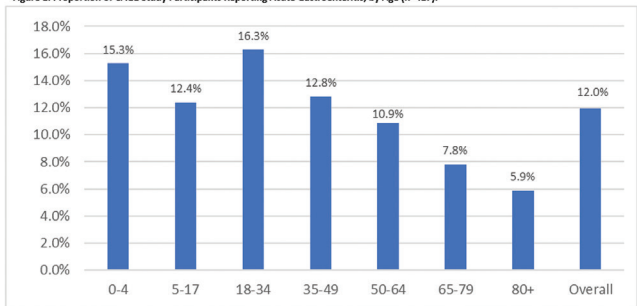
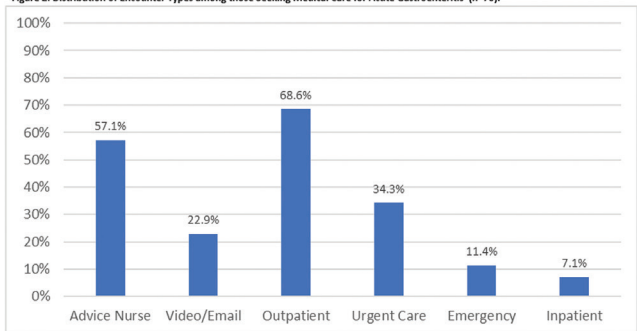


Figure 2: Distribution of Encounter Types among those Seeking Medical Care for Acute Gastroenteritis\* (n=70).



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**695. Regional and Longitudinal Mapping of Escherichia coli Antibiotic Susceptibility**

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**Session:** 67. Resistance Mechanisms: Gram-Negative  
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**Background.** Antimicrobial resistance (AMR) is a serious threat to global health with local implications. AMR varies regionally; however, limited tools are available to aid practitioners in appropriate antibiotic selection based on statewide antimicrobial susceptibilities. The objective of this study was to map *E. coli* antibiotic susceptibility regionally and longitudinally in Wisconsin.

**Methods.** Antibiograms from 2009, 2013, and 2015 were collected from health systems, hospitals, and clinics in Wisconsin, resulting in 218 antibiograms representing 201,091 Gram-negative isolates. *E. coli* antibiotic susceptibility percentages were weighted by number of isolates and aggregated by county per year.

**Results.** Spatial interpolation methods (inverse distance weighted, Kriging) were tested by both county center points and facility geocode where available. Susceptibility data for clinically relevant urinary tract infection antibiotics were interpolated to create geographic visualizations of AMR in Wisconsin. Antibiotics included amoxicillin, trimethoprim/sulfamethoxazole, ciprofloxacin, nitrofurantoin, ampicillin, ampicillin/sulbactam, levofloxacin. The interpolation extends to the furthest health system point