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Bureau of Epidemiology & Public Health Informatics

Influenza Surveillance in Kansas, 2018-2019

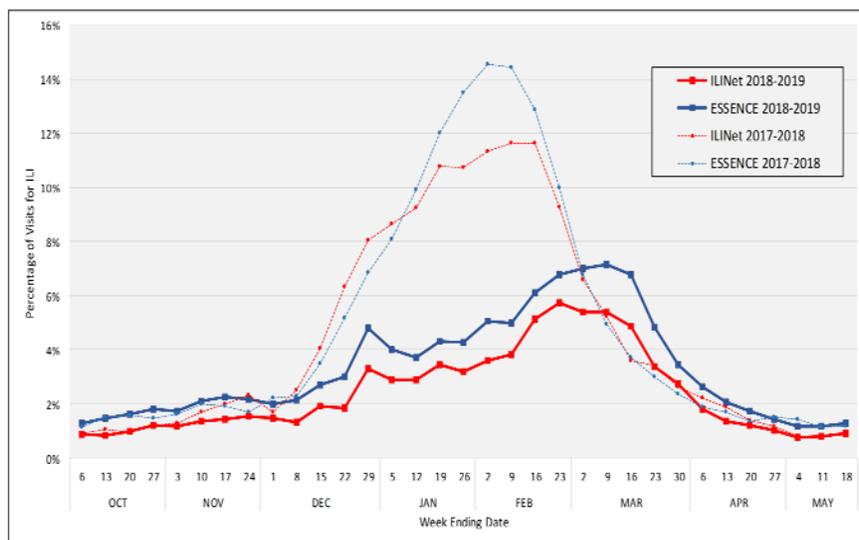
by Amie Cook, MPH

Kansas regulations do not require health care providers to report cases of influenza to KDHE except for influenza deaths in children and novel influenza A infections. Instead, influenza activity is measured through other mechanisms: the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), syndromic surveillance (ESSENCE), laboratory surveillance, respiratory panel testing, influenza-associated hospitalizations, outbreak reports, and pneumonia and influenza mortality.

Influenza-like illness (ILI) is defined by CDC as fever ($\geq 100^{\circ}\text{F}$) with cough and/or sore throat, in the absence of a known cause other than influenza. ILINet is a collaboration between CDC and state, local, and territorial health departments. Outpatient healthcare facilities including family practices, pediatric offices, student health centers, and emergency departments (ED) identified around the state determine the percentage of patients seen with ILI. Syndromic surveillance (ESSENCE) is an electronic system that captures real-time data from 83% of the emergency departments in Kansas. Specifically for influenza, indicators are analyzed to determine the percentage of visits to ED that are due to ILI.

Thirty-eight ILINet sites in Kansas report the number of patients seen who meet the ILI definition weekly compared to the total number of patients seen for any reason. The rate of ILI rose steadily from December 2018 through March 2019 peaking at 5.4% during the week ending March 9th. Syndromic surveillance peaked during the same week at 7.1% (Chart 1).

Chart 1: Percentage of Visits for Influenza-like Illness (ILI) Reported by ILINet Sites and ESSENCE – Kansas, October 2017-Present

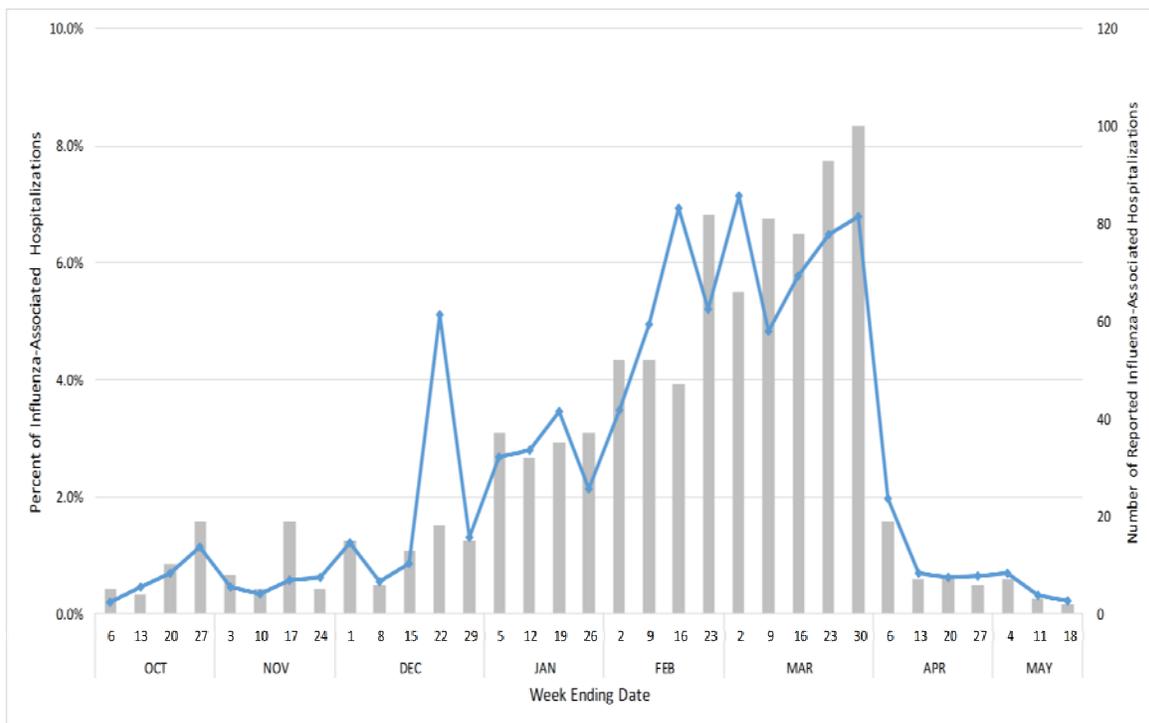




The Kansas Health and Environmental Laboratories (KHEL) provides confirmatory influenza testing for ILINet site patients with ILI, as well as hospitalized patients throughout the state. Real-time Polymerase Chain Reaction (RT-PCR) tests were used to analyze nasal and nasopharyngeal swabs for the presence of influenza virus. KDHE also partners with three large hospitals in Kansas to submit up to 20 prescreened positive influenza A specimens each week. KHEL has detected A/H3 in 152 specimens, A/H1 in 67 specimens, influenza A (not subtyped) in three specimens and one influenza B (Victoria) specimen.

New to the 2018-2019 influenza surveillance season, infection preventionists were asked to report the number of hospitalizations by age group each week that were due to ILI. This component helped monitor the severity of illness throughout the season. Hospitalizations due to ILI peaked at the end of March with 100 hospitalizations due to ILI during the week ending March 30th.

Chart 2: Percentage and Number of Influenza-Associated Hospitalizations of Reporting Kansas Hospitals by Week, 2018-2019



While influenza is not a reportable disease in Kansas, outbreaks of any infectious disease are required to be reported. Thirty-four influenza outbreaks were reported during the 2018-2019 season. The majority (n=20) occurred in long-term care facilities.

KDHE will continue to monitor influenza activity throughout the summer months. All of these influenza surveillance components are updated in a weekly report that can be found at <http://www.kdheks.gov/flu/surveillance.htm>.



UPDATE EPITRAX DATA QUALITY INDICATORS

by Sheri Tubach, MPH MS

The Bureau of Epidemiology and Public Health Informatics has implemented a set of monthly quality indicators and performance measures to encourage data quality improvement in EpiTrax and timeliness of investigations. I am now calculating the performance measures of interview attempt and interview completion using either the report date to the LHD or the date the event was created in EpiTrax. The disease specific targets for interview initiation and interview completion can be found below. I hope that these performance measures will be more helpful in prioritizing case investigations.

For questions, contact Sheri Tubach at sheri.tubach@ks.gov

April 2019		State's Total Number of Cases* = 151
EpiTrax Indicators		
EpiTrax Field	Number of Cases with Field Completed	Percent Completed
Address City	149	99
Address County	151	100
Address Zip	148	98
Date of Birth	150	99
Died	135	89
Ethnicity†	128	85
Hospitalized	136	90
Occupation	96	64
Onset Date	118	87
Pregnancy††	56	76
Race †	132	87
Sex †	150	99
Persons Interviewed	106	70
Persons Lost to Follow-Up	7	5
Persons Refused Interview	0	0
Persons Not Interviewed	38	25
	Number of Cases	Percent of Cases
Interview was attempted within the target for each disease ^{^52}	67	54
Case investigations were completed within the target for each disease [^]	63	53

*Calculations do not include Hepatitis B - chronic, Hepatitis C - Chronic or acute, or Animal Rabies

** Out-of-state, discarded, deleted or those deemed to be not a case are not included in this calculation.

† Unknown considered incomplete.

†† Pregnancy completeness calculated on females only

[^] See the table below for interview attempt and completed case interview targets



Disease Targets

Diseases	Disease Control (Days)*	Completed Case Investigation (Days)**
Anthrax; Botulism; Brucellosis; Cholera; Diphtheria; Hantavirus Pulmonary Syndrome; Hepatitis A; Influenza deaths in children <18 years of age; Measles; Meningitis, bacterial; Meningococemia; Mumps; Plague; Poliomyelitis; Q Fever; Rabies, human; Rubella; Severe acute respiratory syndrome (SARS); Smallpox; Tetanus; Tularemia; Viral hemorrhagic fever; Yellow fever	1	3
Varicella	1	5
Pertussis	1	14
Campylobacter infections; Cryptosporidiosis; Cyclospora infection; Giardiasis; Hemolytic uremic syndrome, post diarrheal; Hepatitis B, acute; Legionellosis; Listeriosis; Salmonellosis, including typhoid fever; Shigellosis; Shiga-toxin Escherichia coli (STEC); Trichinosis; Vibriosis (not cholera)	3	5
Arboviral disease (including West Nile virus, Chikungunya, and Dengue); Haemophilus influenzae, invasive disease; Streptococcus pneumoniae, invasive	3	7
Ehrlichiosis / Anaplasmosis; Lyme disease; Malaria; Spotted Fever Rickettsiosis	3	14
Hepatitis B, chronic; Hepatitis C, chronic; Hepatitis C, acute; Leprosy (Hansen disease); Psittacosis; Streptococcal invasive, drug-resistant disease from Group A Streptococcus; Toxic shock syndrome, streptococcal and staphylococcal; Transmissible spongiform encephalopathy (TSE) or prion disease	N/A	N/A

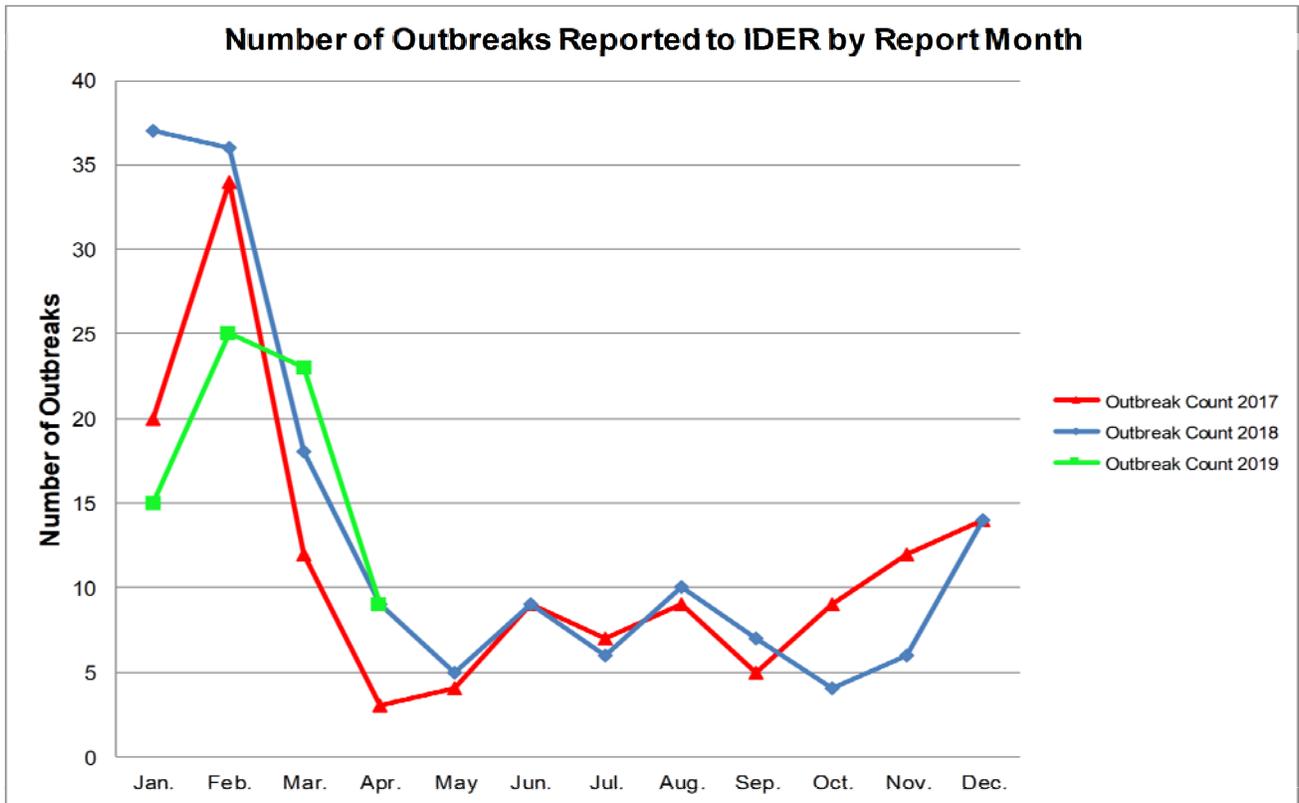
Monthly Disease Counts

Please refer to the Cumulative Case Reports of Diseases (http://www.kdheks.gov/epi_case_reports_by_county.htm) for current case count information.

***Disease Control:** Calculated by using EpiTrax Fields: **(Date LHD Investigation Started) OR (Call Attempt 1 date for Salmonellosis and STEC) - (Date Reported to Public Health) OR (Date Reported to KDHE)**

****Completed Case Investigation:** Calculated by using EpiTrax fields: **(Date LHD Investigation Completed) - (Date Reported to Public Health) OR (Date Reported to KDHE)**

Outbreaks Report



Date Reported	Facility Type	Transmission/Exposure	Disease/Condition	County
4/1/2019	Adult care facility	Indeterminate/Other/Unknown	Clostridium difficile	Labette
4/3/2019	Restaurant	Food	Unknown Etiology	Johnson
4/4/2019	Other	Food	Unknown Etiology	Johnson
4/4/2019	Restaurant	Food	Hepatitis A	Sedgwick
4/5/2019	Adult care facility	Person-to-person	Carbapenem-resistant Acinetobacter baumannii (CRAB)	Sedgwick
4/11/2019	Adult care facility	Person-to-person	Influenza	Crawford
4/12/2019	Restaurant	Food	Unknown Etiology	Johnson
4/15/2019	Restaurant	Food	Norovirus	Riley
4/22/2019	Restaurant	Food	Unknown Etiology	Johnson