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Kansas Department of Health and Environment

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Kansas Influenza-like Illness Surveillance, 2012-2013

By Amie Worthington

Influenza is not a nationally notifiable disease, nor is it a notifiable disease in Kansas. Because patient-level data is not reported to state health departments or to the Centers for Disease Control and Prevention (CDC), the burden of disease must be tracked through non-traditional methods. Influenza surveillance in Kansas consists of four components that provide data on outpatient influenza-like illness, influenza viruses, and influenza-associated deaths.

The Outpatient Influenza-like Illness Surveillance Network (ILINet) is a collaboration between the CDC and state, local, and territorial health departments. The purpose of the surveillance is to track influenza-like illness (ILI), recognize trends in influenza transmission, determine the types of influenza circulating, and detect changes in influenza viruses. Influenza-like illness is defined by the CDC as fever (≥100°F or ≥37.8°C, measured either at the ILINet site or at the patient's home) with cough and/or sore throat, in the absence of a known cause other than influenza.

The Bureau of Epidemiology and Public Health Informatics (BEPHI) at the Kansas Department of Health and Environment (KDHE) recruited health care providers throughout Kansas to participate in ILINet. Each week, ILINet site personnel determined the total number of patients seen with ILI during the previous week by age group: preschool (0-4 years), school age through college (5-24 years), adults (25-

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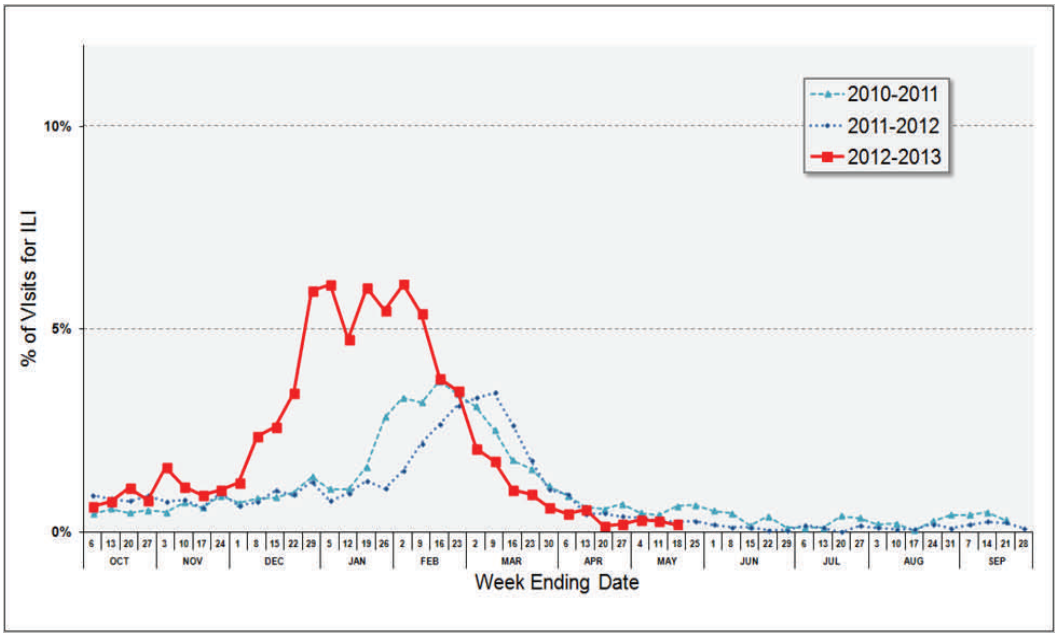
Figure 1. Percentage of Visits for Influenza-like Illness (ILI) Reported by ILINet Sites, Kansas, October 2012—May 2013 and Previous Two Surveillance Periods*



*ILINet sites may vary in number and type (student health, family practice, etc.) each season. Data from the previous two surveillance years are plotted according to week number corresponding to the 2012-2013 week ending date (i.e., week 40 ended October 6, 2012, week 40 of 2011 ended October 8, 2011).

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49 years and 50-64 years), and older adults (>64 years). In addition, the total number of patients seen during the previous week for any illness was recorded. These data were submitted to the CDC via the internet or fax; sites are asked to report the previous week's data by 11:00 a.m. each Tuesday.

When the surveillance period began, during the week ending October 6, 2012, 44 health care providers were enrolled in ILINet. One site dropped out during the week ending December 1, 2012, and another dropped out the week ending January 12, 2013. As a result, the 2012-2013 surveillance data were collected from 42 sites throughout the state: 24 family practice clinics, nine hospital emergency departments, five university student health centers, and four pediatric clinics.

During the influenza surveillance period, starting September 30, 2012 (week 40) and ending May 18, 2013 (week 20), sites observed a total of 241,283 patients—5,614 (2.3%) sought care for ILI. The rate of ILI rose steadily from December 2012 through January 2013. The ILI rate peaked at 6.1% during the week ending February 2, 2013. Typically, ILI has peaked in December, January, or February. The rate of ILI dropped below 1% during the week ending March 23, 2013 and remained low through the end of the surveillance period (Figure 1).

The Kansas Health and Environmental Laboratories (KHEL) provided confirmatory testing for ILINet site patients with ILI, as well as for hospitalized patients throughout the state. Polymerase Chain Reaction (PCR) tests were used to analyze nasal and nasopharyngeal swabs for the presence of influenza virus. Laboratory data were sent weekly to CDC by KHEL. In addition, KHEL forwarded a subset of its specimens to CDC for subtyping, antigenic characterization, and antiviral resistance testing.

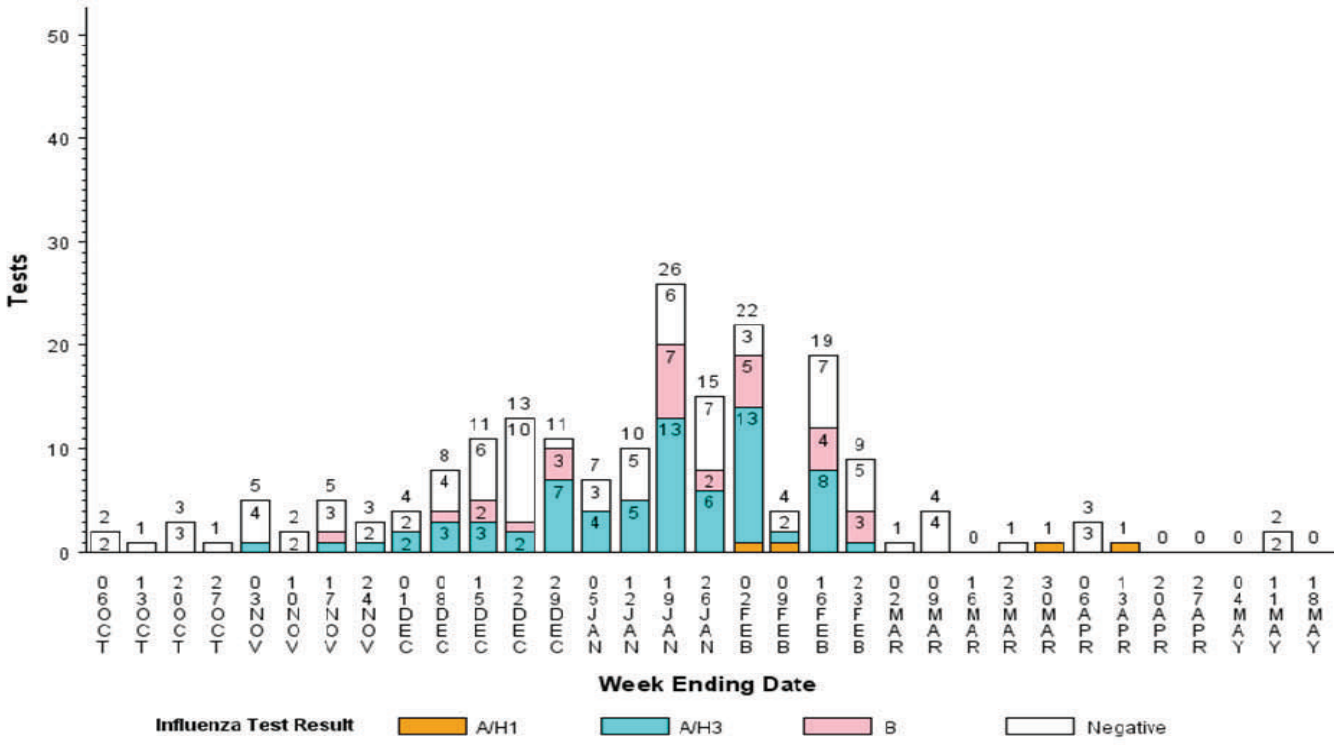
From October 1, 2012, when the first respiratory specimen for influenza testing was received, until May 18, 2013, when the 2012-2013 surveillance period ended, KHEL tested 194 specimens for influenza. ILINet sites submitted 154 (79%) specimens; the remainder were primarily submitted by hospitals. Influenza was detected in 104 (54%) of the specimens. Both influenza type A and B viruses were detected. Two influenza A subtypes, A/H1 and A/H3, were seen. Influenza A/H3 was the predominant strain isolated during the 2012-2013 season (Table 1, Figure 2).

Table 1. Laboratory-confirmed influenza viruses by subtype, Kansas, October 1, 2012—May 18, 2013 (n=104)

Influenza subtype	Number	Percent of Total
A/H3	71	68%
B	29	28%
A/H1	4	4%

ILINet surveillance will continue throughout the summer months, with 17 sites reporting. The 2013-2014 influenza seasonal surveillance will begin on October 5, 2013. Any clinics interested in participating in surveillance next season should contact Amie Worthington at (785) 296-2898 or aworthington@kdheks.gov.

Figure 2. Influenza specimens tested at KHEL by week ending date October 6, 2012—May 18, 2013 (n=194).



Vaccine-Preventable Disease Surveillance Indicators for May 2013

by Chelsea Raybern, MPH

The completeness and quality of specific surveillance indicators for vaccine-preventable diseases (VPDs) reported to the Kansas Department of Health and Environment (KDHE) from May 1 to May 31, 2013 can be found in the table below. The bolded percentages represent the indicators that have less than 90% completion. Changes have been made in how the completeness of two indicators are calculated: transmission setting and vaccination status. Initially, for completeness of indicators, fields that were marked as unknown or left blank were considered unanswered. Beginning with the March 2013 indicators, unknown is considered a valid response for transmission setting and if the patient is older than 18 years for vaccination status. The case counts presented in this report are preliminary numbers and are subject to change.

Keep up the good work! Date of birth, gender, ethnicity, hospitalization, death, and transmission setting were completed for at least 90% of all VPDs reported from May 1 to May 31, 2013. All surveillance indicators were completed for the three *Haemophilus influenzae* cases and one meningococcal case. Completeness for many of the indicators for varicella cases has improved when compared to the data from last month. All surveillance indicators were completed for at least 92% of pertussis cases except for completed investigations. The median number of days for local health departments to accept *Haemophilus influenzae* and *Streptococcus pneumoniae* cases was zero and one, respectively. When compared to last month's surveillance data, all reported diseases have shown improvement in completeness for at least one surveillance indicator. The percentages and numbers highlighted in green represent improvement.

Still room for improvement…Completeness of investigations was less than 90% for more than half of the reported diseases (pertussis, *Streptococcus pneumoniae*, and varicella). Completeness of race, onset date, vaccination status, and completed investigations was much lower than 90% for *Streptococcus pneumoniae* cases. Even though all indicators were completed for at least 92% of pertussis cases with the exception of completed investigations, completeness for a majority of the indicators has decreased for pertussis cases when compared to the data from last month. The median number of days for local health departments to accept pertussis cases was seven, with a range of zero to 30 days. The median number of days for local health departments to accept varicella cases was four. Although the range has improved when compared to the data from last month, it was still zero to 10 days.

Please focus on completing these fields in EpiTrax for all VPDs as the goal is to reach 90% or higher completion on all indicators. For the one timeliness indicator, report to case acceptance, the data shows delayed case acceptance. Please work towards accepting cases and starting the investigation the same day the local health department receives notification.

For questions regarding these data, please contact Chelsea Raybern at (785) 296-0339 or craybern@kdheks.gov

VPD Indicators Reported from May 1 to May 31, 2013 in Kansas

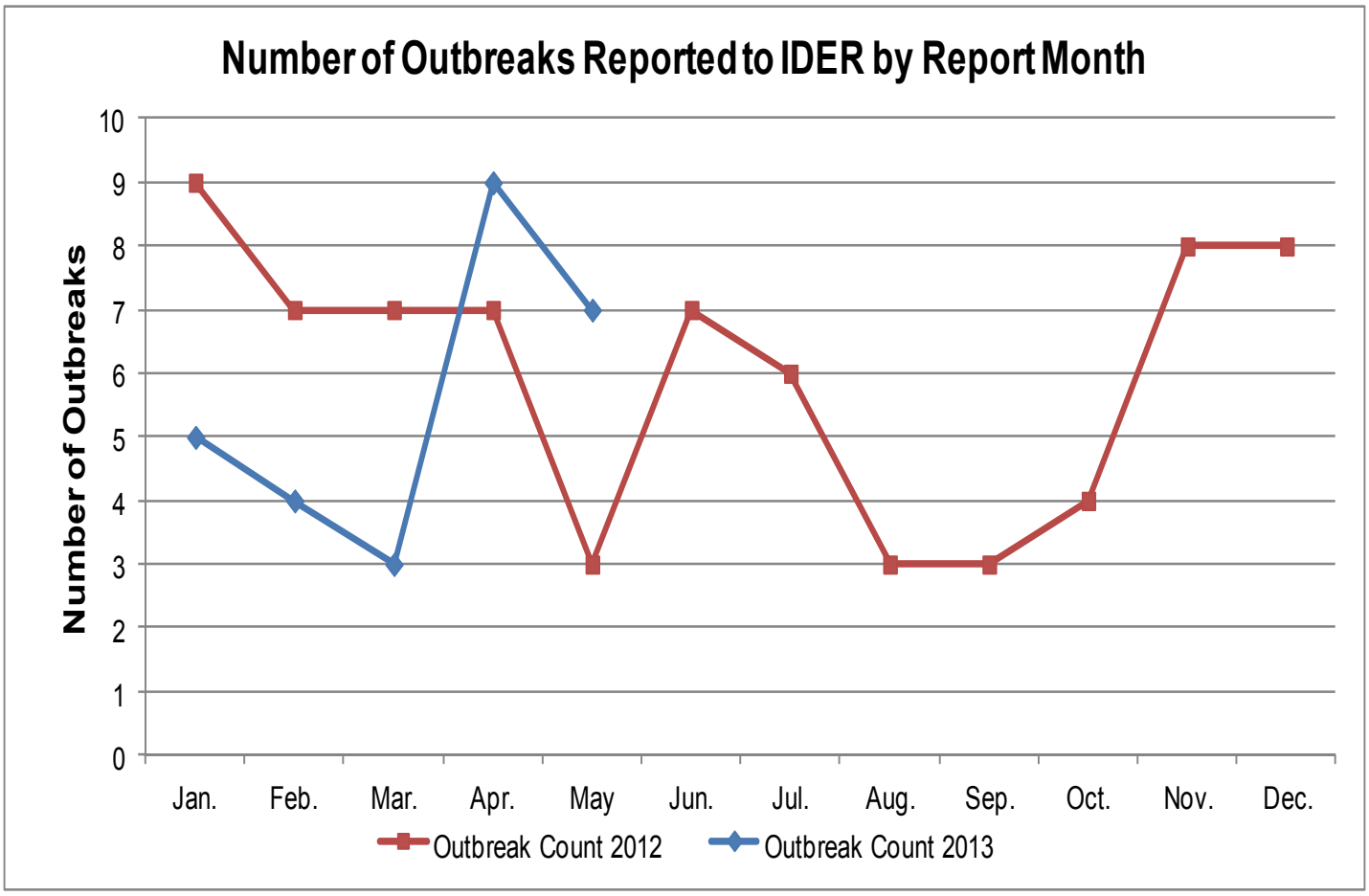
Indicators	*Haemophilus influenzae*, invasive	Meningococcal disease	Pertussis	*Streptococcus pneumoniae*, invasive	Varicella
Number of reported cases	3	1	25	10	105
% of cases with date of birth	100%	100%	100%	100%	100%
% of cases with gender	100%	100%	100%	100%	100%
% of cases with race	100%	100%	96%	**80%**	97%
% of cases with ethnicity	100%	100%	92%	90%	94%
% of cases with onset date	100%	100%	96%	**70%**	99%
% of cases with hospitalized noted	100%	100%	96%	100%	97%
% of cases with died noted	100%	100%	96%	100%	98%
% of cases with vaccination status	100%	100%	96%	**60%***	97%
% of cases with transmission setting	N/A§	N/A§	92%	N/A§	92%
% of investigations completed by local health departments†	100%	100%	**80%**	**80%**	**86%**
Median # of days from report to case acceptance (range)‡	0 (0-2)	0 (0)	7 (0-30)	1 (0-4)	4 (0-10)

*Indicator considered complete if either polysaccharide or conjugate pneumococcal vaccine history is documented
§Indicator field not included in supplemental disease form
†Status includes when local health department completes investigation, approves the case, or when the case is closed by state
‡Time from public health report date to when local health department accepts case

May 2013 Disease Counts

	State Case Status					Grand Total	3 yr. Average (2010-2012)
	Confirmed	Probable	Suspect	Not a Case	Unassigned		
Disease	Count	Count	Count	Count	Count	Count	Count
Amebiasis (*Entamoeba histolytica)*	1	0	0	0	0	**1**	**1**
Anaplasma phagocytophilum (f. HGE)	0	0	0	1	1	**2**	**1**
Campylobacteriosis	13	0	14	1	20	**48**	**45**
Carbapenem-resistant *Enterobacteriaceae*	0	0	0	0	1	**1**	**0**
Coccidioidomycosis	0	0	0	0	1	**1**	**1**
Cryptosporidiosis	0	5	0	1	1	**7**	**10**
Ehrlichiosis, *Ehrlichia chaffeensis (f. HME)*	2	0	0	2	4	**8**	**6**
Giardiasis	4	1	0	0	0	**5**	**16**
Haemophilus influenzae, invasive disease (Including Hib)	2	0	0	2	1	**5**	**4**
Hepatitis A	0	3	0	2	3	**8**	**47**
Hepatitis B pregnancy event	0	1	4	2	6	**13**	**5**
Hepatitis B virus infection, chronic	0	16	1	25	16	**58**	**31**
Hepatitis B, acute	1	3	0	3	3	**10**	**6**
Hepatitis C virus, past or present	106	0	8	29	72	**215**	**150**
Hepatitis C, acute	0	0	0	0	1	**1**	**2**
Legionellosis	1	0	0	1	0	**2**	**2**
Lyme Disease (*Borrelia burgdorferi)*	0	0	1	20	18	**39**	**27**
Malaria (*Plasmodium spp.)*	2	0	0	0	1	**3**	**1**
Measles (rubeola)	0	0	0	3	0	**3**	**3**
Meningitis, bacterial other	0	0	0	1	0	**1**	**2**
Meningococcal disease (*Neisseria meningitidis)*	1	0	0	0	0	**1**	**0**
Mumps	0	0	0	0	1	**1**	**6**
Norovirus	0	0	2	0	0	**2**	**17**
Outbreak Case - Unknown Etiology	8	0	3	0	0	**11**	**0**
Pertussis	12	6	0	8	8	**34**	**69**
Q Fever (*Coxiella burnetti), acute*	0	0	0	0	1	**1**	**3**
Rabies, animal	3	0	3	1	5	**12**	**14**
Rubella	0	0	0	1	0	**1**	**1**
Salmonellosis	47	0	0	0	1	**48**	**36**
Shiga toxin-producing *Escherichia coli (STEC)*	8	0	0	0	4	**12**	**10**
Shigellosis	1	0	0	0	0	**1**	**16**
Spotted Fever Rickettsiosis (RMSF)	0	7	0	12	18	**37**	**38**
Streptococcus pneumoniae, invasive disease	10	0	0	2	0	**12**	**12**
Transmissible Spongioform Enceph (TSE/CJD)	0	0	0	0	1	**1**	**1**
Tularemia (*Francisella tularensis)*	0	0	0	1	2	**3**	**2**
Varicella (Chickenpox)	72	15	0	22	18	**127**	**48**
West Nile virus non-neuroinvasive disease	0	0	0	3	0	**3**	**4**
Yersiniosis	0	0	0	0	1	**1**	**0**
Grand Total	**294**	**57**	**36**	**143**	**209**	**739**	**635**

MONTHLY OUTBREAK SUMMARIES



Facility Type	Organism	Transmission	County	Reported Date
School or College	Pertussis	Person-to-Person	Johnson	5/6/2013
Other	Varicella (Chickenpox)	Person-to-Person	Shawnee	5/11/2013
Restaurant	Outbreak Case - Unknown Etiology	Indeterminate / Other / Unknown	Douglas	5/15/2013
Restaurant	Outbreak Case - Unknown Etiology	Indeterminate / Other / Unknown	Shawnee	5/15/2013
Restaurant	Norovirus	Food	Shawnee	5/20/2013
Restaurant	Outbreak Case - Unknown Etiology	Indeterminate / Other / Unknown	Ellis	5/22/2013
Restaurant	Outbreak Case - Unknown Etiology	Food	Johnson	5/28/2013