



EPI UPDATES

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Frequently Asked Questions about Influenza

By Daniel Neises

Influenza has made headlines early this flu season, as increased hospitalizations and deaths among young and middle-aged adults due to H1N1 influenza have been reported.

What is the current situation in Kansas?

As of January 22, 2014, approximately 6% of outpatients seen by ILINet providers had symptoms of influenza-like illness (ILI). (ILINet is a system of providers that reports weekly ILI data; this system is necessary because influenza is not a reportable disease in Kansas).

The Kansas Health and Environmental Laboratories tests specimens from ILINet patients via Polymerase Chain Reaction (PCR), which provides more specific information than rapid tests run in an outpatient setting. As of January 22, 2014, 35 of 97 specimens from patients with ILI have been positive for influenza. Thirty-two of these 35 positive specimens were determined to be the 2009 A/H1N1 strain, which is the same virus that caused the 2009 flu pandemic.

Data on influenza hospitalization and deaths among Kansans is less robust. Hospitalizations are not monitored, and only deaths among children less than 18 years of age are reportable. Other influenza deaths are tracked through death certificate surveillance; however, there can be a lag of several weeks from the time of death to receiving cause of death. As of January 21, 2014, four deaths directly attributed to influenza have been reported in Kansas for the 2013-2014 influenza season. All but one were among those aged 65 years and older.

Nationally, just over 60% of influenza-associated hospitalizations have been in the 18-64 year age group, compared to last season when only 34% were in this age range, reflecting the impact of 2009 H1N1 this season.

Why is 2013-2014 such a severe season?

This flu season has been significant due to early reports of hospitalization and deaths among young and middle-aged adults. The 2009 H1N1 influenza virus was first identified in 2009, when it emerged to cause a pandemic. The 2009 H1N1 viruses have circulated as a seasonal flu virus worldwide since that time. However, 2009 H1N1 was only the dominant flu strain for about one year. Until this season, A/H3 viruses have been causing the most flu illnesses. This may explain why disease patterns seen during 2009 have been noted this season.

Is this year's flu vaccine effective against H1N1?

All flu vaccines that were administered this season are designed to protect against H1N1. The Centers for Disease Control and Prevention (CDC) has tested H1N1 viruses from across the country, and determined that they match the vaccine strain. However, while vaccine effectiveness studies are underway, no data is currently available to determine how well the vaccine has been working.

Post-Vaccination Serological Testing Now Available for Infants Born to Hepatitis B Positive Mothers

By Elizabeth Lawlor, MS

Infants born to hepatitis B positive mothers are at an increased risk of contracting the disease. In order to prevent transmission, infants must receive hepatitis B immune globulin and the hepatitis B vaccination at birth, as well as completing the hepatitis B vaccination series on time. To ensure that these infants mount an adequate immune response following the hepatitis B vaccination series and do not become infected with hepatitis B, they need to receive post-vaccination serological testing (PVST). This testing includes the hepatitis B surface antigen (HBsAg) and the antibodies to HBsAg (anti-HBs).

KDHE can now provide PVST for infants born to hepatitis B positive mothers through our laboratory. To have testing completed through our laboratory, the submitting entity must call the Epidemiology Hotline (1-877-427-7317) for approval to confirm that we are aware of the mother's status and are following the infant. On the new universal submission form (Figure 1), the submitter will need to check the box labeled "Perinatal-PVST."

Figure 1

EpiTrax Updates

by Jodie Smith

Survey: Thank you to everyone who completed the Annual EpiTrax User Survey, that ran from November 18 through December 31, 2013. This survey contained a series of questions asking users for their opinion on the current EpiTrax system. In the near future, we will be sending out the responses to that survey. These questions revolved around training opportunities and improvements to enhance system understanding and efficiency for EpiTrax users. As we move into 2014, we will be able to use these survey results to create trainings, webinars, and other resources that users may access to assist completing their daily duties.

If you encounter any difficulties within EpiTrax or have additional suggestions for improvements, please send your comments to JBSmith@kdheks.gov or bliscek@kdheks.gov. We will keep all comments in mind when making system upgrades and enhancements.

Lead Program: The lead program monitors elevated blood levels across the State. As part of this new program, new jurisdictions have been created. These jurisdictions contain the letters "ZZ" before the county name so that they may be easily distinguished from the infectious disease jurisdictions. Resources for elevated blood lead investigators include the [EpiTrax Training for Elevated Blood Lead Investigators \(1047905\)](#) available on KS-TRAIN and the Disease Investigation Guideline <http://www.kdheks.gov/epi/InvestigationGuidelines/LeadInvestigationGuideline.pdf> which outlines the investigator responsibilities.

Disease Reporting and Disease Control Performance Measures

By Daniel Neises, MPH

Public Health Emergency Preparedness Cooperative Agreement
Capability #13: Public Health Surveillance and Epidemiological Investigation

Selected diseases:

Disease

Hepatitis A
Salmonellosis
E. coli, STEC
Shigellosis
Tularemia
Varicella
Botulism
Measles
Meningococcal disease
Pertussis

Case Classification Criteria

confirmed
confirmed, excluding typhoid fever
confirmed
confirmed
confirmed and probable
confirmed and probable
confirmed, excluding infant botulism
confirmed
confirmed
confirmed, with laboratory results

(Continued from page 2)

Disease Reporting: Proportion of selected disease reports received by a public health agency within the awardee-required timeframe. Calculated by using EpiTrax fields:

$$\frac{(\text{Lab Test Date or Date Diagnosed} - \text{Presumptive}) - (\text{Date Reported to Public Health})}{\text{KDHE-required disease reporting timeframe}} \leq$$

Disease Control: Proportion of reports of selected disease for which initial control measures were initiated within an appropriate timeframe. Calculated by using EpiTrax fields:

$$\frac{(\text{Date LHD Investigation Started}) - (\text{Date Reported to Public Health})}{\text{CDC-required timeframe}} \leq$$

Disease Reporting

Disease	KDHE Required Timeframe	Statewide Received	Statewide Received On-time	%	% change from previous month
Hepatitis A	7 days	8	8	100	0
Salmonellosis	7 days	226	220	97	-1
<i>E. coli</i> , STEC	7 days	43	41	95	0
Shigellosis	7 days	19	19	100	0
Tularemia	7 days	14	13	93	0
Varicella	7 days	159	152	96	0
Botulism	4 hours*	-	-	-	-
Measles	4 hours*	-	-	-	-
Meningococcal disease	4 hours*	-	-	-	-
Pertussis	4 hours*	109	75	69	-12

*Because EpiTrax does not capture time reported to public health, KDHE is allowed to "consider cases as immediately reported if the selected case event date and date of first report to a health department occur on the same date."

Disease Control

Disease	CDC Required Timeframe	Statewide Received	Statewide Investigated On-time	%	% change from previous month
Hepatitis A	7 days	8	8	100	0
Salmonellosis	3 days	226	179	79	-3
<i>E. coli</i> , STEC	3 days	43	28	65	+2
Shigellosis	3 days*	19	13	68	0
Tularemia	2 days	14	13	93	+1
Varicella	1 day*	159	138	87	-1
Botulism	1 day	-	-	-	-
Measles	1 day	-	-	-	-
Meningococcal disease	1 day	-	-	-	-
Pertussis	1 day*	109	93	85	-13

*Collecting data for these diseases is optional. KDHE has defined these timeframes, not CDC.

Vaccine-Preventable Disease Surveillance Indicators

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 October 1 to December 31, 2013, can be found in the table below. The percentages in bold represent the indicators that have less than 90% completion. The case counts presented in this report are preliminary numbers and are subject to change.

Keep up the good work! The indicators date of birth, gender, race, and hospitalization were completed for at least 90% of all VPDs reported from October 1 to December 31, 2013. Local health departments completed all indicators for the one measles case and one mumps case. All indicators were at least 92% complete for pertussis cases and at least 93% complete for varicella cases except for transmission setting and completed investigations. Many indicators have improved in completeness when compared to the previous quarter. The percentages and numbers highlighted in red represent improvement.

Still room for improvement...Completeness of ethnicity, onset date, and vaccination status was much lower than 90% for *Haemophilus influenzae* and *Streptococcus pneumoniae* cases. Transmission setting was only 79% complete for varicella cases.

Please continue to focus on completing these fields in EpiTrax for all VPDs as the goal is to reach 90% or higher completion on all indicators. For questions regarding this data, please contact Chelsea Raybern at (785) 296-0339 or craybern@kdheks.gov.

VPD Indicators Reported from October 1 to December 31, 2013 in Kansas[†]

Indicators	<i>Haemophilus influenzae</i> , invasive	Measles	Mumps	Pertussis	<i>Streptococcus pneumoniae</i> , invasive	Varicella
Number of reported cases	10	1	1	227	39	72
% of cases with date of birth	100%	100%	100%	99%	100%	100%
% of cases with gender	100%	100%	100%	100%	100%	100%
% of cases with race	100%	100%	100%	96%	90%	93%
% of cases with ethnicity	80%	100%	100%	94%	82%	93%
% of cases with onset date [‡]	60%	100%	100%	93%	77%	94%
% of cases with hospitalized noted	90%	100%	100%	95%	90%	93%
% of cases with died noted	100%	100%	100%	98%	85%	97%
% of cases with vaccination status ^{**}	70%	100%	100%	94%	82%*	93%
% of cases with transmission setting ^{§§}	N/A [§]	100%	100%	93%	N/A [§]	79%
% of investigations completed by local health departments [¶]	100%	100%	100%	92%	90%	85%

[†]Indicator regarding median (range) number of days from report to case acceptance is not included in this quarterly report due to some discrepancies that occurred during data extraction. This problem is being addressed.

*Indicator considered complete if either polysaccharide or conjugate pneumococcal vaccine history is documented.

[§]Indicator field is not included in supplemental disease form.

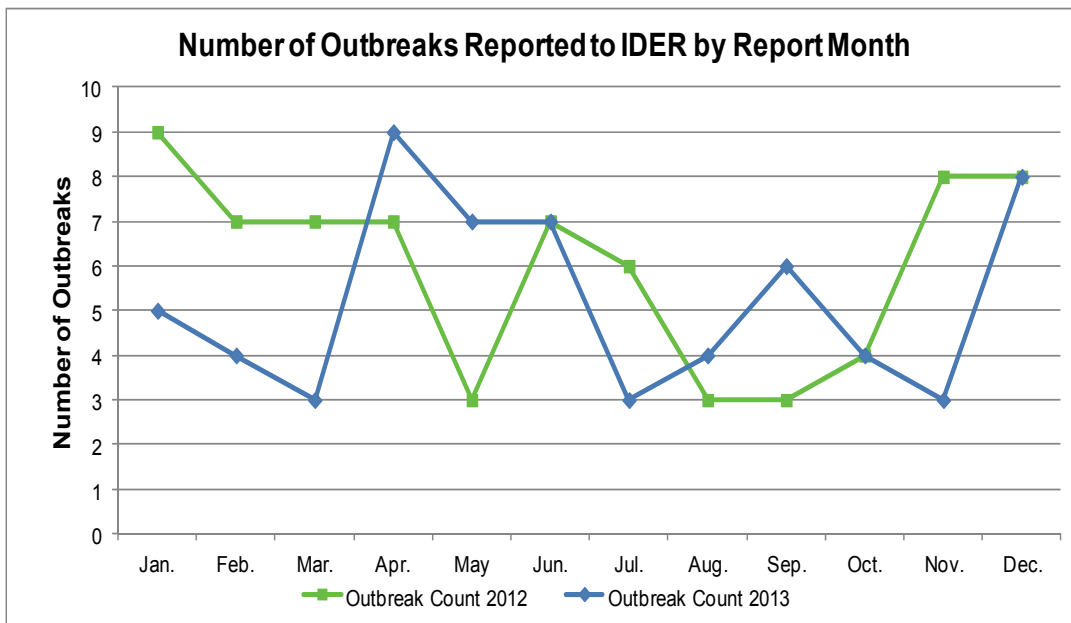
[¶]Status includes when local health department completes investigation, approves the case, or when the case is closed by state.

[‡]Data are pulled from onset date field within the clinical tab, not investigation tab.

**Unknown is considered a valid response if patient is older than 18 years.

^{§§} Unknown is considered a valid response for this indicator.

Monthly Outbreak Summaries



Facility Type	Organism	Transmission	County	Date Reported
Restaurant	Outbreak Case - Unknown Etiology	Food	Riley	12/2/2013
Unknown	Salmonellosis	Food	Thomas	12/3/2013
Restaurant	Pertussis	Person-to-Person	Pawnee	12/10/2013
Unknown	Hemolytic Uremic Syndrome	Indeterminate / Other / Unknown	Sedgwick	12/12/2013
School or College	Pertussis	Person-to-Person	Sedgwick	12/17/2013
Restaurant	Norovirus	Food	Finney	12/18/2013
Restaurant	Outbreak Case - Unknown Etiology	Indeterminate / Other / Unknown	Shawnee	12/21/2013
Adult Care Facility	Outbreak Case - Unknown Etiology	Person-to-Person	Johnson	12/24/2013

LIMS Project Update

by Maria Scherich

On December 2, 2013 the State of Kansas Health and Environment Laboratories (KHEL) launched a new laboratory information management system (LIMS) called HORIZON™. HORIZON™ is a commercial off-the-shelf system developed by ChemWare with open, customizable interfaces to accommodate secure data exchange within and between laboratory departments. This departmental integration of lab data across all business processes improves staff efficiencies and allows easier adoption of new work flows as laboratory technology and analyses processes advance and regulations change. Furthermore, the LIMS implementation enhances collaborative interfaces to a wide range of health partners using national health and environment industry standards. One such interface is the data exchange with EpiTrax via a Health Level Seven (HL7) message. This new interface, based on industry standards, expedites delivery of more accurate test results, allowing epidemiologists to better manage health and disease conditions across the state. As of January 10, 2014, KHEL successfully processed around 15,000 samples in HORIZON™. The HORIZON™ infrastructure provides the technology framework for improved laboratory data exchange into the future.

Reported Disease Counts - December 2013							
Disease	Not Available	Confirmed	Not a Case	Probable	Suspect	Grand Total	3 Year Avg. 2010-2012
	Count	Count	Count	Count	Count	Count	Count
Campylobacteriosis	14	7	1	0	11	33	38
Carbapenem-resistant Enterobacteriaceae	0	0	2	0	0	2	0
Coccidioidomycosis	1	0	0	0	0	1	0
Cryptosporidiosis	0	3	0	2	0	5	6
Dengue	0	0	0	1	0	1	0
Ehrlichiosis, <i>Ehrlichia chaffeensis</i> (f. HME)	2	0	1	0	0	3	1
Giardiasis	1	3	0	0	0	4	11
HUS - Hemolytic Uremic Syndrome postdiarrheal	1	0	0	0	0	1	0
<i>Haemophilus influenzae</i> , invasive disease (Including Hib)	3	2	0	0	0	5	4
Hepatitis A	0	1	2	0	0	3	43
Hepatitis B virus infection, chronic	6	0	34	12	0	52	39
Hepatitis B, acute	2	1	3	2	0	8	4
Hepatitis C virus, past or present	109	37	30	1	4	181	154
Hepatitis C, acute	2	3	0	2	0	7	1
Influenza-associated pediatric mortality	0	0	1	0	0	1	0
Legionellosis	4	0	2	0	0	6	1
Listeriosis	0	1	1	0	0	2	0
Lyme Disease (<i>Borrelia burgdorferi</i>)	4	1	4	0	0	9	11
Malaria (<i>Plasmodium spp.</i>)	1	0	0	0	0	1	1
Measles (Rubeola)	1	0	0	0	0	1	0
Meningitis, Bacterial Other	1	0	1	0	0	2	1
Mumps	0	0	3	0	0	3	2
Non-Reportable Condition	0	0	1	0	0	1	1
Norovirus	3	0	0	21	0	24	25
Outbreak Case - Unknown Etiology	18	0	0	0	0	18	5
Pertussis	9	40	15	17	2	83	105
Rabies, animal	1	2	2	1	1	7	3
Rubella	3	0	47	0	0	50	2
Salmonellosis	0	22	0	0	0	22	27
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	0	5	0	0	4	9	8
Spotted Fever Rickettsiosis (RMSF)	4	0	3	0	0	7	5
Streptococcal disease, invasive, Group A	2	3	0	0	0	5	3
<i>Streptococcus pneumoniae</i> , invasive disease	1	11	0	0	0	12	12
Transmissible Spongiform Enceph (TSE / CJD)	0	0	0	0	1	1	1
Varicella (Chickenpox)	7	4	13	13	0	37	51
West Nile virus non-neuroinvasive disease	0	0	5	1	0	6	4
Yersiniosis	0	0	0	0	1	1	0
Grand Total	200	146	171	73	24	614	571