



# EPI UPDATES

December  
2014

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## Surveillance and Epidemiological Investigation Performance Measures, July 2013-June 2014

by Daniel Neises

As part of the Public Health Emergency Preparedness Cooperative Agreement, the Centers for Disease Control and Prevention (CDC) evaluates KDHE's ability to detect and respond to cases of infectious disease. The Public Health Surveillance and Epidemiological Investigation Performance Measures include the following assessments:

- Disease Reporting:** Proportion of reports of selected reportable diseases received by a public health agency within the awardee-required timeframe. In other words, are labs and clinics reporting to us in a timely manner?
- Disease Control:** Proportion of reports of selected reportable diseases for which initial public health control measure(s) was initiated within the appropriate timeframe. In other words, are local health departments (LHDs) investigating diseases in a timely manner?

KDHE collects and reports data from all LHDs regarding these measurements for the following diseases: botulism, measles, meningococcal disease, pertussis, varicella, tularemia, shiga-toxin producing *E. coli*, salmonellosis, shigellosis, and hepatitis A. The data is measured for each July through June budget period.

For the most recent budget period (July 1, 2013 through June 30, 2014), Kansas had a high proportion of on-time disease reports. Only measles and pertussis case reporting fell below 90%. Both diseases are required to be reported by physicians within four hours of presumptive diagnosis.

Disease	KDHE Required Timeframe	Statewide Received	Statewide Received On Time	% On Time
Hepatitis A (confirmed)	7 days	11	11	100
Salmonellosis (confirmed)	7 days	392	384	98
<i>E. coli</i> , STEC (confirmed)	7 days	94	92	98
Shigellosis (confirmed)	7 days	33	33	100
Tularemia (confirmed and probable)	7 days	21	19	90
Varicella (confirmed and probable)	7 days	298	281	94
Botulism (confirmed)	4 hours*	-	-	-
Measles (confirmed)	4 hours*	4	2	50
Meningococcal disease (confirmed)	4 hours*	1	1	100
Pertussis (confirmed, with lab results)	4 hours*	250	192	77

\*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."

The proportion of on-time disease investigations was higher for vaccine-preventable diseases required to be investigated within one day than enteric diseases required to be

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investigated within three days. The disease with the lowest percentage of cases investigated on-time was shigellosis (64%), followed by Shiga-toxin producing *E. coli* (66%) and salmonellosis (73%).

Disease	CDC Required Timeframe	Statewide Received	Statewide Investigated On Time	Statewide Not Investigated/Routed	% On Time
Hepatitis A (confirmed)	7 days	11	11	0	100
Salmonellosis (confirmed)	3 days	392	285	25	73
<i>E. coli</i> , STEC (confirmed)	3 days	94	62	2	66
Shigellosis (confirmed)	3 days*	33	21	4	64
Tularemia (confirmed and probable)	2 days	21	18	0	86
Varicella (confirmed and probable)	1 day*	298	255	6	86
Botulism (confirmed)	1 day	-	-	-	
Measles (confirmed)	1 day	4	4	0	100
Meningococcal disease (confirmed)	1 day	1	1	0	100
Pertussis (confirmed, with lab results)	1 day*	250	221	1	88

As we work to improve these numbers during the current budget period, please note the importance of two EpiTrax data fields that are used to calculate the performance measures:

1. **Date Diagnosed–Presumptive:** This data field only appears for cases of botulism, measles, meningococcal disease, pertussis, and varicella. It is located within the “Clinical” tab, near the “Disease” and “Onset Date” fields. Input the date when the physician suspects the disease to be the cause of illness, rather than the date the disease is confirmed by final laboratory results.
2. **Date LHD investigation started:** This data field should be completed for all diseases. It is located at the bottom of the “Administrative” tab. It is defined by the CDC as “the first substantive activity by public health staff to prevent or control the spread of disease.” Examples of control measures include identification of source of infection, identification of potentially exposed individuals, contact tracing, and exclusion of cases from child care or food handling. **Calling a healthcare provider to discuss a case patient should not be considered the initiation of a control measure.** If the disease investigator attempts to initiate a control measure but is unable to do so, the date of that first attempt should be recorded as the “Date LHD investigation started.” For example, the initial date the LHD telephones a case to conduct an interview should be entered as the “Date LHD investigation started,” even if the interview is not completed on that date.

If you have any questions, please contact Daniel Neises (785-296-5585, [dneises@kdheks.gov](mailto:dneises@kdheks.gov)). Thank you for your assistance in meeting our grant requirements!

Budget Period 3 (July 2014 – June 2015), as of 11/3/14

## 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	Case Classification Criteria
Hepatitis A	confirmed
Salmonellosis	confirmed, excluding typhoid fever
<i>E. coli</i> , STEC	confirmed
Shigellosis	confirmed
Tularemia	confirmed and probable
Varicella	confirmed and probable
Botulism	confirmed, excluding infant botulism
Measles	confirmed
Meningococcal disease	confirmed
Pertussis	confirmed, with laboratory results

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

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

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

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

### Disease Reporting

Disease	KDHE Required Timeframe	Statewide Received	Statewide Received On Time	%	% Change from Previous Month
Hepatitis A	7 days	2	2	100	-
Salmonellosis	7 days	236	233	99	-
<i>E. coli</i> , STEC	7 days	31	31	100	-
Shigellosis	7 days	19	18	100	-
Tularemia	7 days	9	9	100	-
Varicella	7 days	116	107	92	+1
Botulism	4 hours*	-	-	-	-
Measles	4 hours*	9	8	89	-
Meningococcal disease	4 hours*	-	-	-	-
Pertussis	4 hours*	76	65	86	+4

\*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	2	2	100	-
Salmonellosis	3 days	236	192	81	-3
<i>E. coli</i> , STEC	3 days	31	28	90	-5
Shigellosis	3 days*	19	15	79	-7
Tularemia	2 days	9	8	89	+9
Varicella	1 day*	116	102	88	-
Botulism	1 day	-	-	-	-
Measles	1 day	9	9	100	-
Meningococcal disease	1 day	-	-	-	-
Pertussis	1 day*	76	60	79	+1

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

## 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. A table of the previous month's statewide indicators and performance measures will be included in this newsletter each month. In the next several months a separate breakdown of data completeness will be provided directly to the individual local health departments. The first column is the EpiTrax field, the second column represents the number of cases with data in the field, and the third column (percent completed) represents the frequency of completion of the data field in EpiTrax. For questions about this data, please contact Sheri Tubach at (785) 296-6215 or email at [stubach@kdheks.gov](mailto:stubach@kdheks.gov).

November 2014		State's Total Number of Cases* = 151	
EpiTrax Indicators			
EpiTrax Field	Number of Cases with Field Completed	Percent Completed	
Address City	146	96.7	
Address County	151	100.0	
Address Zip	144	95.4	
Date of Birth	151	100.0	
Died	134	88.7	
Ethnicity†	138	91.4	
Hospitalized	136	90.1	
Occupation	74	49.0	
Onset Date	128	84.8	
Pregnancy††	54	65.9	
Race †	142	94.0	
Sex †	151	100.0	
Date LHD investigation started	147	97.4	
Date LHD investigation Completed	136	90.1	
Performance Measures			
	Number of Cases	Percent of Cases	
Cases accepted by LHDs for case investigation within three days of report to public health	122	80.8	
Cases that had investigations completed by LHDs within 14 days of report to public health	124	82.1	

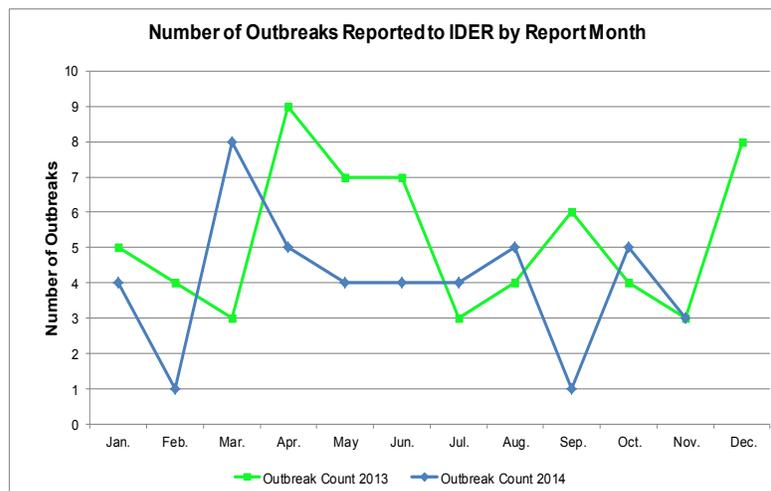
\*Calculations do not include Hepatitis B - chronic, Hepatitis C – past or present, or Rabies.

\*\* 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

## Monthly Outbreak Summaries



Date Reported	Facility Type	Transmission	Disease	County
11/10/2014	Restaurant - Other	Food	Norovirus	Wyandotte
11/19/2014	School or college	Person-to-Person	Pertussis	McPherson
11/19/2014	Restaurant - Sit-down dining	Unknown	Outbreak Case - Unknown Etiology	Wyandotte

## Vaccine-Preventable Disease Surveillance Indicators

by Anne Straily, DVM, 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 November 1 to November 30, 2014, is shown 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, and race were greater than 93.2% completed for *Haemophilus influenzae*, pertussis, *Streptococcus pneumoniae*, and varicella. The indicators of onset date, hospitalized, died, and vaccination status were 100% completed for all *Haemophilus influenzae* cases. 'Ethnicity' was completed for 96.6% and 91.7% of pertussis and varicella cases, respectively. All *Haemophilus influenzae* and *Streptococcus pneumoniae* cases were accepted within three days of report to the local health departments (LHDs).

**Still room for improvement...**The indicators of onset date, hospitalized, died, vaccination status, and transmission setting were less than 90% complete for pertussis and varicella case. The indicators of onset date, hospitalized, died, and vaccination status were less than 90% complete for *Streptococcus pneumoniae* cases. None of the diseases monitored here reached the 90% benchmark for completion of investigation within 14 days. Less than 80.9% of pertussis and varicella cases were accepted within three days of report to the LHDs. Only 57.6% of pertussis cases had completed symptom profiles; the most frequently missed component was total duration of cough. Only 21.3% of varicella cases had completed symptom profiles; the most frequently missed component was the characterization of the rash.

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 Anne Straily at (785) 296-5588 or [astraily@kdheks.gov](mailto:astraily@kdheks.gov).

### VPD Indicators Reported from November 1 to November 30, 2014 in Kansas

Indicators	<i>Haemophilus influenzae</i> , invasive	Pertussis	<i>Streptococcus pneumoniae</i> , invasive	Varicella
Number of reported cases	4	59	7	48
% of cases with date of birth	100%	93.2%	100%	100%
% of cases with gender	100%	100%	100%	100%
% of cases with race	100%	94.9%	100%	95.8%
% of cases with ethnicity	<b>50.0%</b>	96.6%	<b>85.7%</b>	91.7%
% of cases with onset date <sup>‡</sup>	100%	<b>84.7%</b>	<b>85.7%</b>	<b>64.6%</b>
% of cases with hospitalized noted	100%	<b>88.1%</b>	<b>85.7%</b>	<b>75.0%</b>
% of cases with died noted	100%	<b>86.4%</b>	<b>85.7%</b>	<b>83.3%</b>
% of cases with vaccination status*	100%	<b>76.3%</b>	<b>71.4%</b> <sup>§</sup>	<b>66.7%</b>
% of cases with transmission setting <sup>¶</sup>	N/A**	<b>72.9%</b>	N/A**	<b>56.3%</b>
% of investigations completed by local health departments within 14 days <sup>§§</sup>	<b>75.0%</b>	<b>55.9%</b>	<b>85.7%</b>	<b>89.4%</b>
% of cases accepted within 3 days of report to LHD <sup>¶¶</sup>	100%	<b>72.9%</b>	100%	<b>80.9%</b>
Median # of days from report to case acceptance (range) <sup>¶¶</sup>	0.5 (0-2)	2 (0-26)	0 (0-3)	0 (0-27)
% of cases with completed symptom profiles	N/A**	<b>57.6%</b>	N/A**	<b>21.3%</b>

<sup>‡</sup>Data is 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.

<sup>§</sup>Indicator considered complete if either polysaccharide or conjugate pneumococcal vaccine history is documented.

<sup>¶</sup>Unknown is considered a valid response for this indicator.

\*\*Indicator field not included in supplemental disease form; *S. pneumoniae* and *H. influenzae* do not have clinical case definitions.

<sup>§§</sup>Status calculated based on when local health department completes investigation.

<sup>¶¶</sup>Time from public health report date to when local health department accepts case.

## Kansas Quarterly Adolescent Vaccination Report “Operation HoneyBee: 3-Bee Report”

by Chelsea Raybern, MPH

One dose of tetanus, diphtheria, and acellular pertussis (Tdap) is required for all children entering 7<sup>th</sup> grade in Kansas schools and is recommended for all children 11-12 years. The first dose of the 2-dose meningococcal vaccine (MCV4) series and the 3-dose human papillomavirus (HPV) series are also recommended for all children 11-12 years of age; however, they are not required for school entry in Kansas. MCV4 and HPV vaccination coverage in Kansas adolescents remains far below the Healthy People 2020 target of 80%. The “Operation HoneyBee: 3-Bee Report” will evaluate vaccines given to adolescents aged 11-13 years who received a Tdap, MCV4, and HPV vaccine at a local health department (LHD) in Kansas. Visits will be categorized as 1-Bee (one of the three vaccines given), 2-Bee (two of the three vaccines given), or 3-Bee (all three vaccines given). This data will be pulled from the Kansas Immunization Registry (KS-WebIZ). Starting in January 2015, all LHDs will receive a quarterly “Operation HoneyBee: 3-Bee Report” displaying the number and percentage of 1-, 2-, and 3-Bee visits for their health department and statewide. The purpose of this report is to reduce missed opportunities for vaccination of adolescents in Kansas LHDs and therefore increase vaccination coverage in this age group.

## Hepatitis B Pregnancy Event Changes

by Elizabeth Lawlor, MS

To facilitate follow-up of infants born to hepatitis B positive mothers, the Kansas Department of Health & Environment (KDHE) is implementing two minor changes starting in 2015. The first change is that each pregnancy shall have its own hepatitis B pregnancy event assigned, which will ease confusion when local health departments are following multiple infants in one family. Secondly, in addition to the infant being added as a contact, his or her name will now be included in parenthesis in the middle name field of the mother’s pregnancy event (Figure 1); therefore, when you search for the mother’s name, you will be able to identify the infant without opening the pregnancy event CMR.

Figure 1

**Name**

<b>Last name</b>	<b>First name</b>	<b>Middle name</b>
Doe	Jane	(Johnny)

Additionally, within the disposition field on the contact tab, KDHE has added multiple fields (Figure 2). Therefore, when conducting follow up of an infant, the investigator or KDHE can denote that the infant has been delivered, select the most recent vaccine dose administered, or that the infant’s record needs to be updated (Figure 3).

Figure 2

PeriHepB – Delivery
PeriHepB – HepB1
PeriHepB – HepB2
PeriHepB – HepB3
PeriHepB – PVST
PeriHepB – Update Records

Figure 3

**Contacts**

Number of previous births:

Name:

Name	Phone	Disposition	Disposition date	Contact type
↑ Doe, Johnny		PeriHepB - HepB2	December 16, 2014	Infant

Remove Show Contact | Edit Contact

Reported Disease Counts - November 2014								
	Not Available	Confirmed	Not a Case	Probable	Suspect	Unknown	Grand Total	3 Year Avg. (2011-2013)
Disease	Count	Count	Count	Count	Count	Count	Count	Count
Amebiasis ( <i>Entamoeba histolytica</i> )	1	0	0	0	0	0	1	1
Brucellosis	4	0	0	0	1	0	5	0
Campylobacteriosis	18	8	0	0	14	0	40	43
Carbapenem-resistant Enterobacteriaceae	0	0	1	0	0	1	2	1
Chikungunya Fever	1	0	0	2	0	0	3	0
Coccidioidomycosis	0	0	1	0	0	0	1	0
Ebola Active Monitoring	2	0	1	0	0	0	3	0
Ehrlichiosis, <i>Ehrlichia chaffeensis</i> (f. HME)	1	1	0	1	0	0	3	2
Giardiasis	8	4	0	0	0	0	12	13
<i>Haemophilus influenzae</i> , invasive disease (Including Hib)	0	4	0	0	0	0	4	2
Hepatitis A	1	0	0	3	0	0	4	35
Hepatitis B virus infection, chronic	8	0	124	15	0	0	147	40
Hepatitis B, acute	1	0	1	0	0	0	2	5
Hepatitis C virus, past or present	108	46	52	0	1	0	207	148
Hepatitis E, acute	1	0	0	0	0	0	1	0
Influenza	0	4	20	0	0	0	24	0
Legionellosis	1	0	0	0	0	0	1	3
Lyme Disease ( <i>Borrelia burgdorferi</i> )	6	0	5	0	0	0	11	20
Malaria ( <i>Plasmodium spp.</i> )	1	0	0	0	0	0	1	2
Measles (rubeola)	0	0	1	0	0	0	1	1
Meningitis, Bacterial Other	2	0	2	0	0	0	4	3
Mumps	1	0	2	0	0	0	3	5
Non-Reportable Condition	0	0	1	0	0	0	1	3
Norovirus	0	1	0	0	0	0	1	4
Pertussis	43	3	6	1	2	0	55	134
Rabies, animal	8	1	0	0	0	0	9	8
Rubella	0	0	20	0	0	0	20	0
Salmonellosis	1	34	0	0	0	0	35	32
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	3	2	1	0	1	0	7	12
Shigellosis	1	3	0	0	0	0	4	5
Spotted Fever Rickettsiosis (RMSF)	7	0	2	1	0	0	10	15
Streptococcal disease, invasive, Group A	0	2	1	0	0	0	3	2
<i>Streptococcus pneumoniae</i> , invasive disease	0	4	0	0	0	0	4	16
Transmissible Spongiform Enceph (TSE / CJD)	1	0	0	0	0	0	1	1
Tularemia ( <i>Francisella tularensis</i> )	2	1	0	0	0	0	3	1
Varicella (Chickenpox)	15	3	12	15	0	0	45	52
West Nile virus non-neuroinvasive disease	2	0	3	1	0	0	6	6
<b>Grand Total</b>	<b>248</b>	<b>121</b>	<b>256</b>	<b>39</b>	<b>19</b>	<b>1</b>	<b>684</b>	<b>613</b>