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EPI UPDATES

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Bureau of Epidemiology & Public Health Informatics

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Kansas Perinatal Hepatitis B Prevention Program

by Kelly Gillespie, MPH

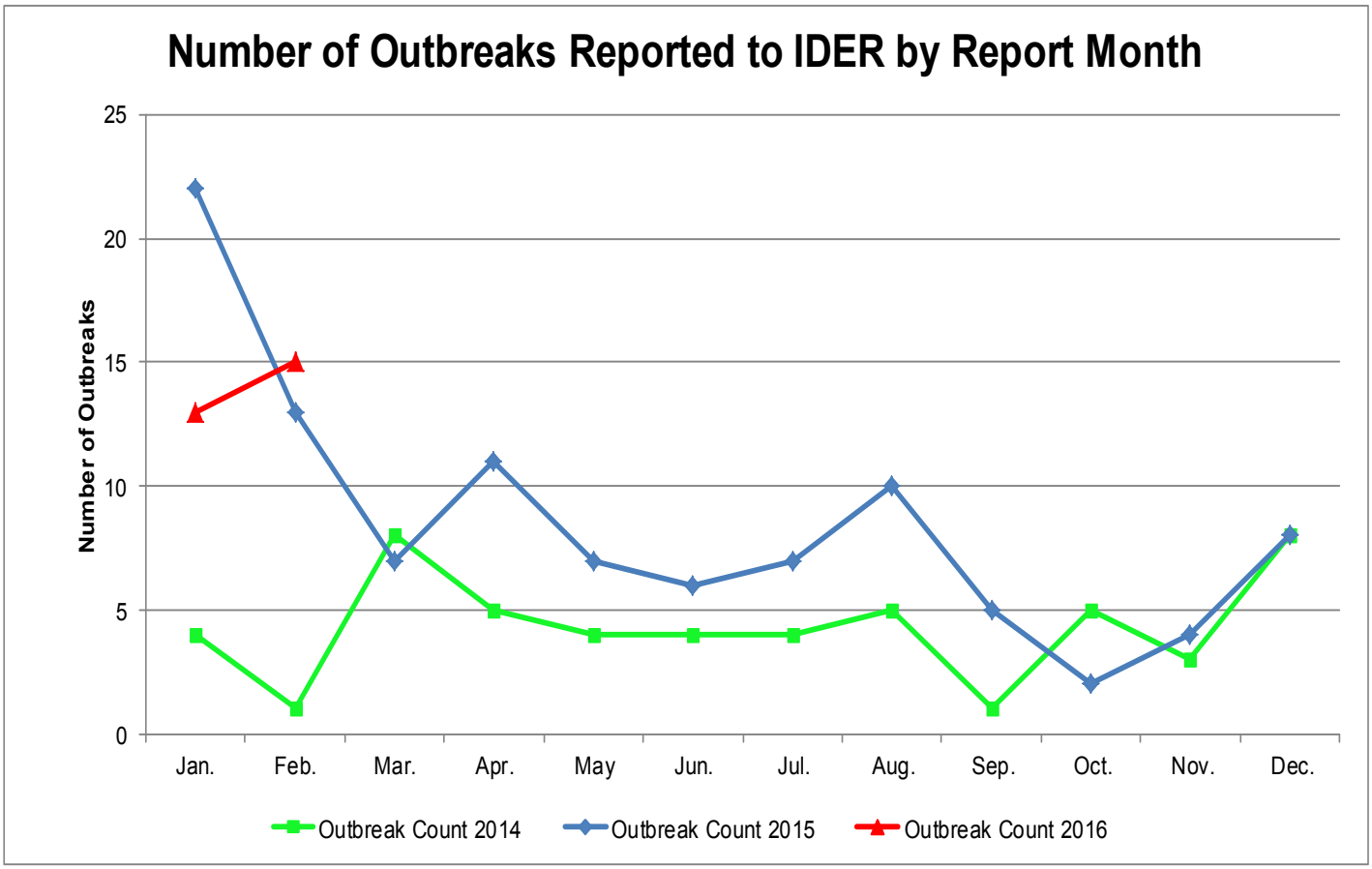
Hepatitis B virus (HBV) infection in a pregnant woman poses a serious risk to her infant. Without post exposure immunoprophylaxis, approximately 90% of infants born to hepatitis B infected mothers will develop chronic HBV infection leading to increased risk of cirrhosis, liver failure, and cancer. The perinatal hepatitis B prevention program (PHBPP) was established in 1990 by the CDC and is a nationwide initiative to prevent perinatal transmission of HBV in order to decrease rates of chronic hepatitis B infection and related chronic liver disease in children born to mothers who are hepatitis B positive. Kansas PHBPP identifies children residing in Kansas born to women with hepatitis B infection to ensure appropriate treatment is received to prevent transmission. Perinatal hepatitis B transmission (transmission from mother to infant) can be prevented by identifying hepatitis B infected pregnant women and providing hepatitis B immune globulin (HBIG) and hepatitis B vaccine to their infants within 12 hours of birth, as well as completing the hepatitis B vaccination series on time. Following the last dose of hepatitis B vaccine, the infant should be tested for hepatitis B surface antibodies (anti-HBs) and the hepatitis B surface antigen (HBsAg).

Kansas currently identifies infants born to hepatitis B positive mothers through several methods, including following-up on birth certificates where the hospital has marked that the mother is hepatitis B positive, hospitals reporting when a hepatitis B pregnant woman gives birth, comparing all hepatitis B positive individuals in KDHE's surveillance systems (EpiTrax) to all birth certificate records to identify women who have given birth and have previously tested positive for hepatitis B, and following-up on hepatitis B positive labs in order to obtain pregnancy status for all women aged 12-55 years. Hepatitis B is a reportable condition under Kansas law, which also states that all pregnant women must be tested for hepatitis B during each pregnancy. Once a child is born to a women with hepatitis B infection is identified, follow-up is conducted by the local health department. Follow-up lasts 12-24 months and includes obtaining dates for HBIG administration and hepatitis B vaccinations and ensuring the infant's physician conducts post-vaccination serological testing (PVST) 1-2 months following the last dose of vaccine, but no earlier than 9 months of age.

Loss to follow-up and non-compliance are common outcomes from this follow-up. Latest data reveals PVST completion in Kansas was 43%, well below the national average of 65%. Additionally, a 2015 investigation by Kansas' PHBPP identified that uninsured children of mothers with hepatitis B infection had over three times the risk of not completing the hepatitis B vaccine series and two times the risk of not completing PVST compared to children who had medical coverage. Coupled with these findings and an effort to increase PVST rates and decrease loss to follow-up; Kansas' PHBPP has developed resources to assist local health departments and to educate hepatitis B positive mothers. Available resources include:

- Free PVST testing for children of women with hepatitis B infection through KHEL,
- Local health departments & Safety Net Clinics for low cost or free vaccinations,
- Educational material for new mothers in multiple languages, and
- Access to public records to assist local health departments find patients who may be otherwise lost to follow-up.

For questions regarding the Kansas Perinatal Hepatitis B Prevention Program please contact the coordinator, Kelly Gillespie, at kgillespie@kdheks.gov or 785-296-5588.



Date Reported	Facility Type	Transmission	Disease	County
2/1/2016	Restaurant	Food	Norovirus	Sedgwick
2/2/2016	Adult care facility	Person-to-Person	Norovirus	Sedgwick
2/4/2016	Hospital	Person-to-Person	Norovirus	Johnson
2/12/2016	Adult care facility	Person-to-Person	Unknown Etiology	Marion
2/13/2016	Restaurant	Other	Norovirus	Johnson
2/15/2016	Restaurant	Food	Unknown Etiology	Johnson
2/16/2016	Adult care facility	Person-to-Person	Unknown Etiology	Sedgwick
2/17/2016	Restaurant	Other	Unknown Etiology	Lyon
2/18/2016	Restaurant	Other	Norovirus	Johnson
2/22/2016	Adult care facility	Person-to-Person	Norovirus	Shawnee
2/22/2016	Adult care facility	Person-to-Person	Norovirus	Johnson
2/25/2016	Restaurant	Food	Unknown Etiology	Johnson
2/25/2016	Adult care facility	Person-to-Person	Norovirus	Douglas
2/28/2016	Restaurant	Food	Norovirus	Johnson
2/29/2016	Event	Person-to-Person	Norovirus	Douglas

Vaccine-Preventable Disease Surveillance Indicators

by Mychal Davis, 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 February 1 to February 29, 2016 can be found in the table below. The bolded percentages 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 date of birth, gender, race, and ethnicity indicators were over 90% for all vaccine preventable diseases reported in the month of February. Mumps, *Haemophilus influenzae, and Streptococcus pneumoniae* had all but one indicator meet the 90% benchmark.

Still room for improvement... Four of the ten indicators for pertussis and varicella fell below the 90% benchmark.

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 Mychal Davis at (785) 368-8208 or mdavis@kdheks.gov.

VPD Indicators Reported from February 1 to February 29, 2016 in Kansas

Indicators	*Haemophilus influenzae,* invasive	Pertussis	*Streptococcus pneumoniae,* invasive	Varicella	Mumps
Number of reported cases	2	14	28	19	4
% 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%	100%	100%	100%
% of cases with ethnicity	100%	100%	96%	100%	100%
% of cases with onset date‡	100%	**86%**	**86%**	95%	100%
% of cases with hospitalized noted	100%	100%	93%	**89%**	100%
% of cases with died noted	100%	100%	93%	**89%**	100%
% of cases with vaccination status*	**50%**	**86%**	93%§	100%	100%
% of cases with transmission setting¶	N/A**	**79%**	N/A**	**11%**	100%
% of cases with completed symptom profiles	N/A**	**79%**	N/A**	**84%**	**75%**

*Excludes cases with a State Case Status of “Out of State” or “Not a Case.”

‡Data is pulled from onset date field within the clinical tab, not the investigation tab.

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

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

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

¶Unknown is considered a valid response for this indicator.

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. 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. In order to align with preparedness targets for initiation of disease control measures and to set goals for case investigation completeness, targets for these measures are shown in the table below. We hope that these targets will help local health departments prioritize case investigations. County level indicators are now emailed to each local health department monthly.

Starting in January 2016 an additional performance measure has been added, timeliness of disease reporting. This performance measure is reflective of how timely health care providers and laboratories are reporting diseases according to KAR 28-1-2 (http://www.kdheks.gov/epi/download/KAR_28.1.2.pdf). The performance measure, timeliness of disease control measure, for cases of Salmonellosis and cases of Shiga-toxin *Escherichia coli* (STEC) are now calculated using the date for "Call Attempt 1" in the "Interview Information" tab in EpiTrax.

For February 2016 there were decreases in the completion of the "Ethnicity," "Occupation," and "Pregnancy" fields. The percent interviewed increased by 10%. For questions, contact Sheri Tubach at stubach@kdheks.gov.

February 2016	State's Total Number of Cases* = 198	
EpiTrax Indicators		
EpiTrax Field	**Number of Cases with Field Completed**	**Percent Completed**
Address City	195	98
Address County	198	100
Address Zip	191	96
Date of Birth	195	98
Died	173	87
Ethnicity†	177	**89**
Hospitalized	180	91
Occupation	101	**51**
Onset Date	157	79
Pregnancy††	75	**76**
Race †	178	90
Sex †	198	100
Date LHD Investigation Started	160	**81**
Date LHD Investigation Completed	146	**74**
Persons Interviewed	134	71
Persons Lost to Follow-Up	7	4
Persons Refused Interview	1	1
Persons Not Interviewed	47	24
Performance Measures		
	Number of Cases	**Percent of Cases**
Diseases were reported on time according to disease reporting regulations***	171	86
Disease control measures began within the target for each disease^	143	72
Case investigations were completed within the target for each disease^	71	36

* Calculations do not include Hepatitis B - chronic, Hepatitis C – chronic, 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.
^ See the table on the following page for disease control and case investigation targets.

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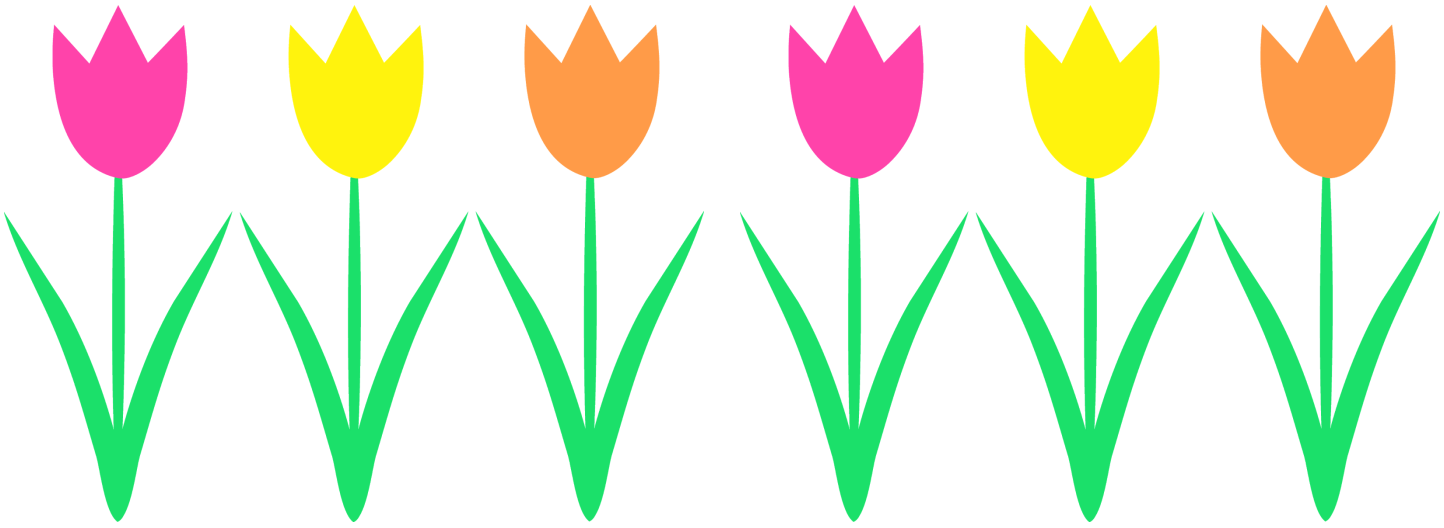
Disease Targets

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; Meningococcemia; 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, postdiarrheal; 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 spongioform encephalopathy (TSE) or prion disease	N/A	N/A

*__Disease Control:__ Calculated by using EpiTrax fields: **(Date LHD Investigation Started) – (Date Reported to Public Health)**

__Completed Case Investigation:__ Calculated by using EpiTrax fields: **(Date LHD Investigation Completed) – (Date Reported to Public Health)

***__Disease Reporting__: Calculated by using EpiTrax fields: (**Lab Test Date, Date Diagnosed – Presumptive, or Date Diagnosed whichever date is earlier**) – (**Date Reported to Public Health**) ≤ KDHE-required disease reporting timeframe



	Reported Disease Counts - February 2016							
	Not Available	Confirmed	Not a Case	Probable	Suspect	Unknown	Grand Total	3 Year Avg. 2013-2015
Disease	Count	Count	Count	Count	Count	Count	Count	Count
Avian Influenza Monitoring	0	0	1	0	0	0	**1**	**0**
Campylobacteriosis	14	12	0	6	0	0	**32**	**34**
Carbapenem-resistant Enterobacteriaceae	0	0	0	0	1	4	**5**	**3**
Cryptosporidiosis	1	2	0	1	0	0	**4**	**3**
Dengue	0	0	1	0	0	0	**1**	**0**
Ebola Active Monitoring	1	0	0	0	0	0	**1**	**2**
Ehrlichiosis, *Ehrlichia chaffeensis* (f. HME)	1	0	0	0	0	0	**1**	**1**
Ehrlichiosis/Anaplasmosis, undetermined	0	0	1	0	0	0	**1**	**0**
Giardiasis	1	5	0	0	0	0	**6**	**8**
HUS - Hemolytic Uremic Syndrome postdiarrheal	0	1	0	0	0	0	**1**	**0**
Haemophilus influenzae, invasive disease *(Including Hib)*	1	1	2	0	0	0	**4**	**4**
Hepatitis A	3	0	6	0	1	0	**10**	**12**
Hepatitis B virus infection, chronic	0	1	261	24	0	0	**286**	**127**
Hepatitis B, acute	0	2	0	5	0	0	**7**	**3**
Hepatitis C, Chronic	2	77	194	89	0	0	**362**	**208**
Influenza	3	26	9	0	0	0	**38**	**14**
Lyme Disease (*Borrelia burgdorferi)*	5	0	5	0	0	0	**10**	**14**
Meningitis, Bacterial Other	0	1	1	0	0	0	**2**	**1**
Methicillin- or oxicillin- resistant *Staphylococcus aureus* coagulase-positive (MRSA a.k.a. ORSA)	0	0	0	0	0	1	**1**	**0**
Mumps	4	3	9	0	0	0	**16**	**3**
Norovirus	15	12	0	1	1	0	**29**	**19**
Outbreak Case - Unknown Etiology	1	0	0	0	4	0	**5**	**3**
Pertussis	19	0	5	0	0	0	**24**	**58**
Q Fever (*Coxiella burnetti), Chronic*	0	0	1	0	0	0	**1**	**0**
Rabies, animal	8	2	0	2	0	0	**12**	**7**
Rubella	0	0	36	0	0	0	**36**	**50**
Salmonellosis	1	13	0	0	0	0	**14**	**20**
Shiga toxin-producing *Escherichia coli (STEC)*	1	4	3	0	4	0	**12**	**9**
Shigellosis	3	22	0	8	3	0	**36**	**3**
Spotted Fever Rickettsiosis (RMSF)	5	0	5	0	0	0	**10**	**4**
Streptococcal disease, invasive, Group A	2	6	1	0	0	0	**9**	**7**
Streptococcus pneumoniae, invasive disease	6	20	0	0	2	0	**28**	**17**
Transmissible Spongioform Enceph (TSE / CJD)	1	0	0	0	0	0	**1**	**1**
Tularemia (*Francisella tularensis)*	5	0	0	0	0	0	**5**	**0**
Vancomycin-intermediate *Staphylococcus aureus* (VISA)	0	0	0	0	0	1	**1**	**0**
Varicella (Chickenpox)	12	1	11	8	0	0	**32**	**37**
West Nile virus non-neuroinvasive disease	0	0	5	0	0	0	**5**	**2**
Yersiniosis	1	0	0	0	0	0	**1**	**0**
Zika Virus	41	0	5	0	0	0	**46**	**0**
Grand Total	**157**	**211**	**562**	**144**	**16**	**6**	**1,096**	**674**