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Carbon Monoxide Safety

by Mychal Davis, MPH

Every year approximately 50,000 people in the United States visit the emergency department, and at least 400 people die due to unintentional carbon monoxide (CO) poisoning. CO is an odorless invisible gas that is produced when fuels such as gas, oil, coal, and wood are not completely burned during use. Those most prone to CO poisoning are infants, pregnant women, and people with respiratory conditions. The most common source of CO is from automobile exhaust. Other common sources for CO are: camp lanterns, gas stoves, charcoal grills, and furnaces. Conditions for CO poisoning are more likely during the winter in colder regions where heating appliances in enclosed spaces with poor ventilation are prevalent. CO poisoning symptoms are similar to flu and cold like symptoms. Symptoms often will disappear once a person leaves the area with CO.

CO Poisoning Symptoms

- Persistent, severe headaches
- Weakness
- Chest Pain
- Confusion
- Dizziness
- Nausea
- Vomiting
- Fatigue

**Prevention**

During the winter months it is important to check that fuel burning heating equipment are up to the manufacturer's code, and that chimneys and other vents to the outside are not blocked. When warming a vehicle remove it from the garage immediately. A vehicle should not be ran in the garage even if the garage door is open, and make sure the exhaust pipe is not covered in snow. Installing and periodically checking CO alarms are recommended to reduce the risk of CO poisoning.

CO Alarms

- CO alarms should be installed in a central location on every level in the home.
- Follow the manufacturer's recommendations for placement.
- Test alarms at least once a month and replace according to the manufacturer's guidance.
- If the CO alarm sounds immediately move to a fresh air location outside and check to see if everyone is accounted for. Call the fire department from the outside location and do not go back inside until the firefighters give the all clear.

Why is the Kansas EIS Officer Calling You?

by Jessica Nadeau Tomov, PhD

One important public health infection prevention tool is the exclusion of sick persons from settings where disease transmission is likely to occur. Persons diagnosed with Shiga toxin-producing *Escherichia coli* (STEC) or shigellosis may be subject to exclusion from work or day care. Identified ill persons who attend or work at a day care, work as a food handler, or are involved in patient care should be excluded from work or day care until two negative cultures are obtained from the state public health lab (see K.A.R 28-1-6 and 28-1-12 in box below). Approximately 20% of persons diagnosed with STEC or shigellosis in Kansas should be excluded from work or day care.

In order to quickly stop transmission of disease, it is important to investigate all reported cases of STEC and shigellosis and assess the need for exclusion. For those counties who have opted to participate in Outbreak Net, the staff at KDHE will identify persons who should be excluded and report the information to the resident county. The resident county is responsible for ensuring adherence to the exclusion policy. If your county does not participate in Outbreak Net, be sure to ask ill persons about occupation or day care attendance (day care attendance includes home day cares). The information regarding exclusions should be reported on the epidemiology tab in EpiTrax.

Once a person is identified as being excluded from work or day care the resident county should:

1. Inform the person (or their guardian) of the exclusion from work or day care.
2. Provide the excluded person with stool kits and instructions for specimen collection. It is important to notify the excluded person (or their guardian) that specimens must be collected after symptoms have resolved. Specimens should be collected at least 24 hours apart and a minimum of 48 hours following the discontinuation of antibiotic therapy if prescribed.
3. Inform the excluded person's supervisor or day care that the person is excluded under Kansas regulation.
4. Ensure the specimens and appropriately filled out Universal Submission Forms are sent to the Kansas Department of Health and Environmental Laboratories (KHEL). It is important to specify STEC or Shigellosis confirmation testing not an enteric screen.
5. Once the two consecutive negative samples have been documented, notify the excluded person (or their guardian) and the excluded person's supervisor or day care that the exclusion has been lifted.

While the exclusion regulations are always in effect, throughout the fall/winter the KDHE EIS Officer will be evaluating the Kansas exclusion regulations. Thus, it is important to ensure that all stool specimens from excluded individuals are sent to KHEL. Besides being part of the current exclusion regulations there are benefits to using KHEL including:

- The test is free to the excluded person.
- Testing turn around may be faster; outbreak and exclusion specimens are prioritized.
- KHEL and KDHE will work to ensure the appropriate test is conducted.
- The county health department and KDHE will receive automatic notification of the negatives.

If you have any questions regarding exclusions please contact Dr. Tomov at Jessica.Tomov@ks.gov or the epidemiology hotline at 877-427-7317.

The following isolation and quarantine precautions, as defined in K.A.R. 28-1-1 and 28-1-12, shall be observed:

- Shiga toxin-producing *Escherichia coli* (STEC). Enteric precautions shall be followed for the duration of acute symptoms. Each infected person shall be excluded from food handling, patient care, and any occupation involving the care of young children and the elderly until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics. No infected child shall attend a child care facility or family day care home until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics.
- Shigellosis. Enteric precautions shall be followed for the duration of acute symptoms. Each infected person shall be excluded from food handling, patient care, and any occupation involving the care of young children and the elderly until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following discontinuation of antibiotics. No infected child shall attend a child care facility or family day care home until two negative stool cultures are obtained at least 24 hours apart and no sooner than 48 hours following the discontinuation of antibiotics.
- All laboratory tests or cultures for release of an individual from isolation or quarantine shall be performed by the laboratory of the state department of health and environment, or by a laboratory approved by the state department of health and environment for this purpose.

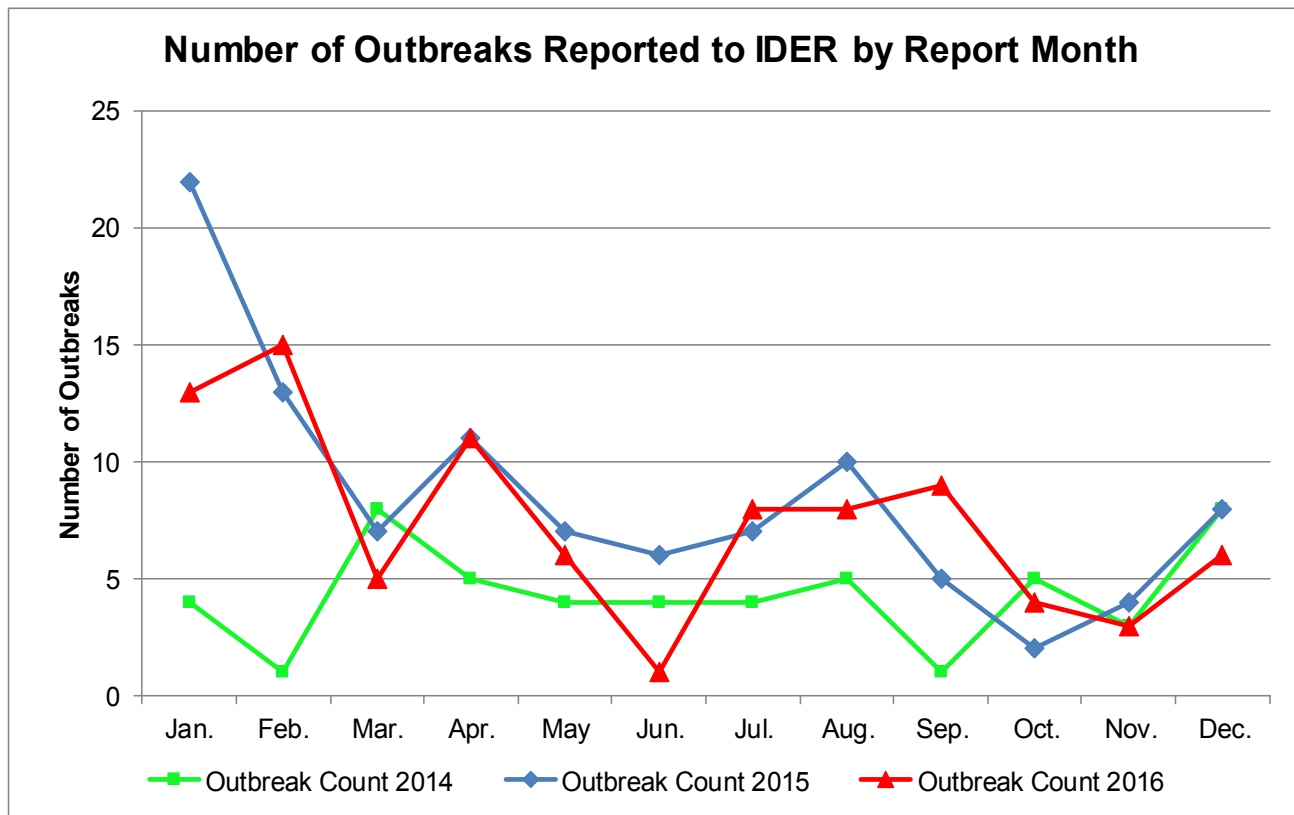
Want More Information?

KDHE will be hosting a webinar on exclusions in February! Join us for

“Shiga toxin-producing *Escherichia coli* and Shigellosis Exclusion Regulation Review”

Tuesday, February 14 at 10:00 a.m. &
Thursday, February 16 at 1:00 p.m.

Check your email for more details about the webinar.



Date Reported	Exposure Setting	Transmission	Disease	County
12/5/2016	Hospital	Person-to-Person	Norovirus	Mitchell
12/12/2016	School or College	Person-to-Person	Mumps	Douglas
12/13/2016	Adult Care Facility	Food	Salmonellosis	Wyandotte
12/15/2016	School or College	Person-to-Person	Unknown Etiology	Jefferson
12/20/2016	School or College	Person-to-Person	Pertussis	Sedgwick
12/30/2016	Restaurant	Indeterminate / Other / Unknown	Unknown Etiology	Sedgwick



Building and Maintaining Reports in EpiTrax AVR Follow-up

by Shannon Sandall

Please join us for a follow-up discussion to our recent AVR trainings. We would love to hear how you have used AVR since the training and receive any feedback you might have. The webinar is on Wednesday, February 15 at 10:00 a.m. You can register at <https://attendee.gotowebinar.com/register/2504961645458807300>. Contact me at Shannon.Sandall@ks.gov, if you would like to set-up a one-to-one AVR training with me.

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 from December 1 to December 31, 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 indicators for date of birth, gender, and race were above the 90% benchmark of all VPDs reported from December 1 to December 31, 2016.

Still room for improvement... Pertussis cases had six indicators fall below the 90% benchmark. *Haemophilus influenzae* and varicella cases had five indicators fall below the benchmark, *Streptococcus pneumoniae* and mumps cases had one indicator fall below the benchmark. Indicators that did not meet the 90% completion benchmark are bolded in the chart below.

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 Mychal.Davis@ks.gov.

VPD Indicators Reported from December 1 to December 31, 2016 in Kansas

Indicators	<i>Haemophilus Influenzae</i> , invasive	Mumps	Pertussis	<i>Streptococcus pneumoniae</i> , invasive	Varicella
Number of reported cases	6	9	56	35	24
% 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%	97%	100%
% of cases with ethnicity	83%	100%	98%	94%	100%
% of cases with onset date [‡]	67%	100%	80%	86%	79%
% of cases with hospitalized noted	83%	100%	89%	97%	83%
% of cases with died noted	83%	100%	89%	91%	83%
% of cases with vaccination status*	83%	100%	89%	94%	92%
% of cases with transmission setting [¶]	N/A**	89%	76%	N/A**	67%
% of cases with completed symptom profiles	N/A**	100%	88%	N/A**	58%

*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. influenzae* 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

BEPHI 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. Percentages noted in red indicate a decrease in completeness compared to November 2016. The goal is to have a majority of indicators and performance measures at or above 90%. While many of the indicators have improved since last month, there are still indicators that are below 90%. Of note the number of disease reported on time has decreased. This is not a reflection on local health department completeness but on local healthcare providers reporting either to the local health department or to KDHE according to regulations. For questions, contact Sheri Tubach at Sheri.Tubach@ks.gov.

December 2016	State's Total Number of Cases* = 248	
EpiTrax Indicators		
EpiTrax Field	Number of Cases with Field Completed	Percent Completed
Address City	244	98
Address County	248	100
Address Zip	238	96
Date of Birth	247	100
Died	219	88
Ethnicity†	224	90
Hospitalized	219	88
Occupation	168	68
Onset Date	202	81
Pregnancy††	111	77
Race †	229	92
Sex †	248	100
Date LHD Investigation Started	205	83
Date LHD Investigation Completed	190	77
Persons Interviewed	186	78
Persons Lost to Follow-Up	10	3
Persons Refused Interview	6	4
Persons Not Interviewed	35	15
Performance Measures		
	Number of Cases	Percent of Cases
Diseases were reported on time according to disease reporting regulations***	196	79
Disease control measures began within the target for each disease^	177	71
Case investigations were completed within the target for each disease^	129	52

* 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, post diarrheal; Hepatitis B, acute; Legionellosis; Listeriosis; Salmonellosis, including typhoid fever; Shigellosis; Shiga-toxin <i>Escherichia coli</i> (STEC); Trichinosis; Vibriosis (not cholera)	3	5
Arboviral disease (including West Nile virus, Chikungunya, and Dengue); <i>Haemophilus influenzae</i> , invasive disease; <i>Streptococcus pneumoniae</i> , 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

***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)**

****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**

Monthly Disease Counts



The Monthly Disease Counts Report will no longer be part of *Epi Updates*. Please refer to the Cumulative Case Reports of Diseases (http://www.kdheks.gov/epi/case_reports_by_county.htm) for current case count information.

