



# EPI UPDATES



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## KS-EDSS ENTERIC SUPPLEMENTAL FORM PILOT PROJECT PLANNED

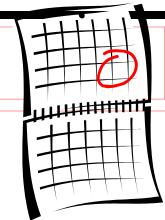
The Bureau of Epidemiology and Public Health Informatics (BEPHI) at the Kansas Department of Health and Environment (KDHE) is collaborating with 32 local health departments on a pilot project which will run from April 1, 2011 until October 1, 2011.

The objective of this pilot project is to improve the completeness and quality of data collected during the investigations of four enteric diseases; *Salmonella*, Shiga-toxin *Escherichia coli*, *Cryptosporidium*, and *Giardia*. This will enable local health departments and staff at KDHE to in-

crease the number of clusters and outbreaks detected and to perform risk analysis on exposures that are associated with these diseases. Drafts of new enteric forms are completed and participating counties will have an opportunity to review these forms and provide feedback so that the final forms will meet the needs of all the participating counties as well as KDHE. Once the forms are finalized, in-person trainings will be conducted with staff from all the pilot sites in order to train all disease investigators on the use of the new forms and procedures for submit-

ting this data to KDHE. At the end of the pilot project, analyses of the forms' effectiveness at meeting the needs of the participating counties and KDHE will be conducted. Future plans include expanding the use of these finalized forms to all the county health departments as well as integrating these forms into KS-EDSS. We would like to thank all of the counties that responded and look forward to working with all of our partners on this pilot project. - SA

## CALENDAR OF UPCOMING EVENTS:



### KS-EDSS Quarterly Training Webinar

**Topic:** Lab Reporting  
**When:** Thursday March 3, 2011  
**Register through GoToMeeting:**  
\*Please only register for one session  
**Session 1:** 9 a.m. - 10:30 a.m. at <https://www1.gotomeeting.com/register/314655417>

**Session 2:** 12:00 p.m. -1:30 p.m. <https://www1.gotomeeting.com/register/481430401>

**Contact:** Susan Dickman at [ksedssadmin@kdheks.gov](mailto:ksedssadmin@kdheks.gov) or (785) 296-7732 for more information

Have an upcoming event you would like included in the next issue?

Contact [vbarnes@kdheks.gov](mailto:vbarnes@kdheks.gov) with details.

## Featured Outbreak: Norovirus Outbreak at Trailwood Elementary School

### Background

On Thursday, December 10, 2010 the Johnson County Health Department (JOCHD) notified the Bureau of Epidemiology and Public Health Informatics (BEPHI) at the Kansas Department of Health and Environment (KDHE) that 195 students and several staff at Trailwood Elementary School were ill with gastrointestinal illnesses. Many students were becoming ill at school and going home on Wednesday, December 8 and Thursday, December 9. The school administration decided to close the school on Thursday, December 9 and reopen on Monday, December 13. The predominant symptoms reported by students and school staff included vomiting, diarrhea, abdominal cramps, and fever. Illness appeared to be limited to only this school; none of the other schools in the district reported an increase in absenteeism on either Wednesday or Thursday. KDHE, Johnson County Health Department, Johnson County Environmental Department with assistance from the Kansas Department of Agriculture and the cooperation of Trailwood Elementary School, Overland Park, KS initiated an outbreak investigation to determine the source of the illness and to implement appropriate control measures.

### Key Findings

- A retrospective cohort study was conducted among students and staff to determine if illness was associated with any specific food items served in the school cafeteria during breakfast or lunch on December 6 – December 9. An online questionnaire was developed and the link to the survey was sent out by the school to parents and staff by text, email, and phone.
- 187 surveys were completed; twenty surveys were excluded from analysis because they were not students or staff at the school and three surveys were excluded because the individuals did not meet the case definition.
- A case was defined as a student or staff member of Trailwood Elementary School that became sick with either vomiting and or diarrhea (three or more loose stools in a 24 hour period) on or after the evening of Monday, December 6, 2010.
- Of the 158 surveys completed, 85 were ill and met the case definition. Of those five were staff members and 80 were students.
- Age of the cases ranged from 5–54 years with a median age of 8 years. Forty-five (53%) were female.

- Vomiting was the most frequently reported symptom followed by nausea, abdominal cramps, headache fever, diarrhea, and muscle aches. One individual reported seeing a physician (Table 1).

**Table 1: Clinical Information**

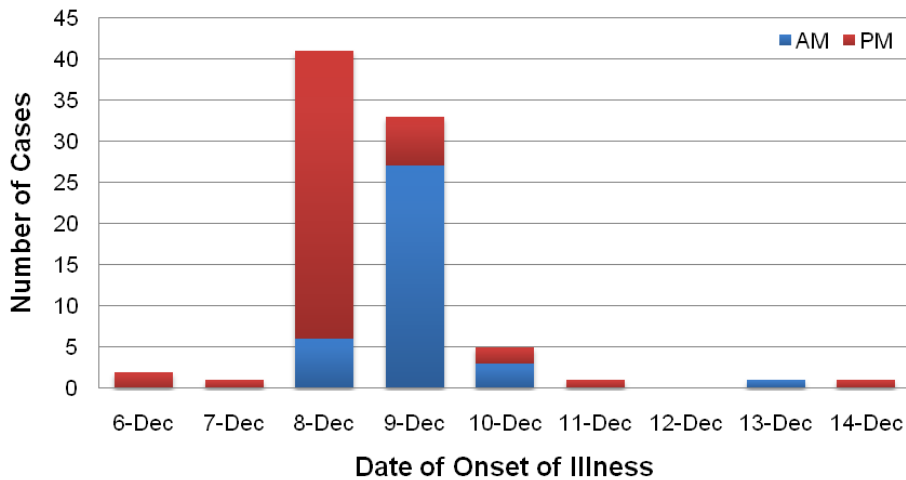
Symptoms	Number (%) *
Vomiting	83 (98%)
Nausea	80 (95%)
Abdominal Cramps	68 (82%)
Headache	44 (53%)
Fever	41(50%)
Diarrhea	33 (39%)
Muscle Aches	31 (37%)

\*For some cases symptom information was incomplete.

- Onset of illness ranged from Monday, December 6 in the evening until Tuesday, December 14. Illness increased markedly on December 8 and December 9 with 74 individuals reporting illness, figure 1. Duration of illness was 1 hour to 108 hours (4 ½ days) with a median of 27 hours.
- The only food item that was associated with illness was served at lunch on Wednesday, December 8. Of the 27 individuals that reported eating the chicken sandwich,

*(Continued on page 3)*

**Figure 1 Norovirus Outbreak at Trailwood Elementary, Epidemic Curve (n = 85)**



December 9 and remain closed until December 13 in order to extensively clean the school. The number of individuals reporting illness did substantially decrease on December 10 and returned to baseline. The effect of the school closing on this decrease is not known. Additional statistical analyses are planned to determine if any other factor could have contributed to this outbreak, although it does appear from this preliminary analysis that this outbreak occurred via foodborne and person to person modes of transmission.

Norovirus is a usually a self-limiting, mild to moderate disease. Most persons infected with norovirus develop nausea, vomiting, abdominal pain, and fever. Symptoms typically begin 24-48 hours after infection. This illness usually lasts from 24-48 hours.

Norovirus is easily passed from person to person. To help prevent infection wash hands often. Wash hands after using the bathroom or changing diapers and before eating or preparing food. Wash hands more often when someone in your home is sick and thoroughly clean and disinfect contaminated surfaces immediately after an episode of vomiting or diarrhea by using a bleach-based cleaner.— S. A.

(Continued from page 2)

20 (74%) became ill. Preliminary statistical analysis demonstrated that eating the chicken sandwich was significantly associated with illness (odds ratio [OR] = 4.68; 95% confidence interval [C.I.] = 1.49 – 14.64). No other food item was statistically linked to illness. In addition, 35 ill individuals reported either being in a classroom with someone who vomited or in a hallway where someone had vomited.

- Three stool specimens were collected and all three were positive for norovirus.
- No critical violations were noted during the school inspection and no food handlers reported illness.

### Conclusion

An outbreak of gastroenteritis caused by norovirus occurred in students and staff at Trailwood Elementary School in Johnson

County, Kansas. Three specimens collected from ill individuals all tested positive for norovirus. Three students and staff reported illness prior to morning of December 8; however from the morning of December 8 to the evening of December 10, 79 students and staff reported becoming ill. This large increase in illness over a short time period is consistent with a point source outbreak. This cohort study revealed that the chicken sandwich that was served for lunch on Wednesday, December 8, was significantly associated with illness. However, only 20 individuals reported eating this sandwich. Additionally, 35 individuals reported being in a classroom or in a hallway where a vomiting incident had occurred; while not statistically significant, this could explain the additional illnesses that occurred in students or staff that did not consume the chicken sandwich on Wednesday. The school decided to close on

Breakdown of the 501 Cases* in KS-EDSS by Disease	January 2011	Average 08-10
Amebiasis (Entamoeba histolytica)	1	0
Animal Bite, Potential Rabies Exposure	1	0
Calicivirus/Norwalk-like virus (norovirus)	6	2
Campylobacter Infection (Campylobacter spp.)	45	26
Cholera (Vibrio cholerae)	1	0
Coccidioidomycosis	1	0
Cryptosporidiosis (Cryptosporidium parvum)	1	5
Ehrlichiosis, Ehrlichia chaffeensis	1	0
Enterohemorrhagic Escherichia coli shiga toxin positive (not serogrouped)	2	1
Enterohemorrhagic Escherichia coli shiga toxin positive (serogroup non-0157)	1	2
Giardiasis (Giardia lamblia)	12	17
Haemophilus influenzae, invasive	1	3
Hantavirus Pulmonary Syndrome (HPS)	1	0
Hepatitis A	54	14
Hepatitis B, acute	4	18
Hepatitis B, chronic	43	80
Hepatitis C virus, chronic	143	139
Hepatitis C, acute	1	0
Influenza-associated non-pediatric mortality	1	0
Lyme Disease (Borrelia burgdorferi)	7	8
Meningitis, other bacterial	1	1
Meningococemia	1	0
Mumps	5	5
Pertussis (Bordetella pertussis)(Whooping cough)	44	32
Q Fever (Coxiella burnetii)	1	0
Rabies, Animal	3	7
Rubella (German measles)	1	0
Salmonellosis (Salmonella spp.)	20	17
Shigellosis (Shigella spp.)	16	10
Spotted Fever Rickettsiosis (RMSF)	2	3
Streptococcal Disease, Invasive, Group A (Streptococcus pyogenes)	3	5
Streptococcus pneumoniae, invasive	11	11
Toxic Shock Syndrome, staphylococcal	1	0
Transmissible Spongiform Enceph (TSE / CJD)	1	1
Varicella (Chickenpox)	62	71
West Nile, non-neurological (includes WN Fever)	2	0

### Reminders About Laboratory Reports in KS-EDSS:

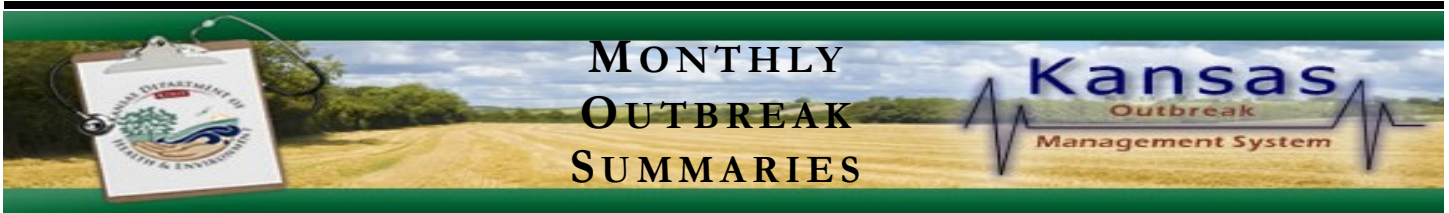
Please make sure that when you create a new case where a laboratory report has been faxed to our QA Coordinator that the case status is **“Suspect”** and not **“Confirmed.”** When the laboratory report is entered by KDHE, the case status will be changed as appropriate.

If you create a new case for a disease that requires a laboratory result to determine the case classification, but you do not have a laboratory report, please leave the case status as **“Suspect”** until this information is available.

You can view laboratory reports by clicking the **EDIT** button to the right of the Lab Report you want to view. Doing so will give you more information on the case you are investigating.

Questions? Call Susan Dickman at 785-296-7732, or email [ksedssadmin@kdheks.gov](mailto:ksedssadmin@kdheks.gov)

*\* Cases reported include cases with the case classifications of Confirmed, Probable, Suspect, and Not a Case.*



### Johnson County Norovirus -

On January 25, 2011 the Kansas Department of Agriculture (KDA) was notified of a possible outbreak of gastrointestinal illness among three business associates who ate together at a Johnson County restaurant. Johnson County, KDA, and KDHE initiated an outbreak investigation. Three individuals reported becoming ill, within 27 - 28 hours (median 27.5 hours), after eating lunch together on January 21, 2011. Common symptoms included headache, vomiting, diarrhea, and nausea. All three individuals had recovered by the time of interview. The duration of illness was 96 - 120 hours (median 108 hours). One clinical specimen was obtained and tested positive for norovirus. Johnson County inspected the restaurant and twelve critical violations were

observed including improper storage of raw and uncooked food items risking cross-contamination, improper dishwashing methods, no proper date marking, presence of roaches, and lack of demonstrating food safety knowledge due to having more than five critical violations. No employees reported any illness. A follow-up inspection will be conducted. - R.G.

### Shawnee County Gastrointestinal Illness—

On January 5, 2011, KDA was notified of a possible outbreak of gastrointestinal illness among individuals who shared a meal from a Shawnee County restaurant. The preliminary complaint indicated that a party of ten had lunch on December 22, 2010, and all became ill with gastrointestinal symptoms nausea and diarrhea within 48 hours.

The complainants - who worked together but reported

no other common exposures - were asked to complete questionnaires regarding their food history and clinical symptoms. Nine questionnaires were returned to the Shawnee County Health Agency. The individuals (median age, 44 years) ate at approximately 12 p.m. on December 22. All met the case definition of illness: onset of diarrhea (three or more loose stools within a 24-hour period) and/or vomiting after eating at the December 22 meal. The incubation period of illness ranged from 28 to 55 hours; the median incubation period was 34.5 hours.

Eight of the nine cases had recovered from their illness by the time they were interviewed. Among those who recovered, the duration of illness ranged from 27 to 135 hours; the median duration of illness was 60.5 hours. The most frequently reported symptoms were abdominal pain (n=9), diarrhea (n=8), nausea

(n=8), and vomiting (n=7). No food samples or stool specimens were available for testing. No food item could be conclusively associated as the cause of illness. A food inspection of the establishment was conducted on January 5. The inspection revealed three critical violations, which were all corrected on-site: Improper cooling; improper cold-holding; and unlabeled chemical cleaner. Restaurant employees completed questionnaires regarding their work activities and any recent illness. No employees reported gastrointestinal illness from December 20 to December 25. - D.N.

For reports of recently conducted outbreak investigations, please visit our website at <http://www.kdheks.gov/epi/outbreaks.htm> report an outbreak call the Epi Hotline at 1-877-427-7317

## MEET OUR BEPHI INTERN: CHELSEA STEPHENS

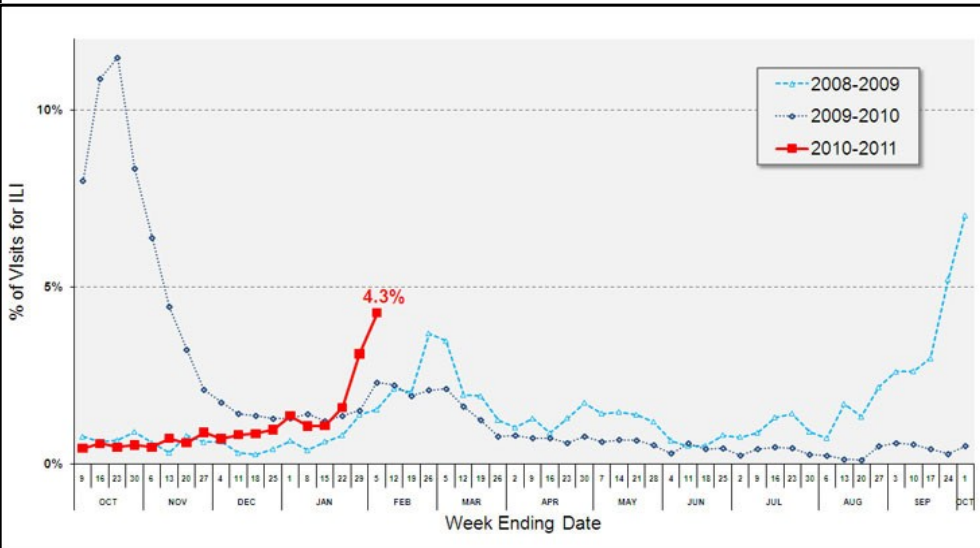
Chelsea Stephens is currently pursuing her MPH at K-State with an emphasis in Infectious Diseases and Zoonoses. She received her BS in Agriculture at K-State where she majored in Animal Science with the Pre-Vet Science Option. Chelsea is working under Dr. Ingrid Garrison in the Bureau of Epidemiology and Public Health Informatics for her



field experience. The primary focus of her project is to as-

sess the need for a state-wide rabies requirement for all dogs and cats in Kansas by collecting county-level information on rabies vaccination laws and rabies test information of dogs and cats. Chelsea is very interested in disease surveillance and control and looks forward to gaining valuable experience in the world of public health.

**Percentage of Visits for Influenza-like Illness (ILI) Reported by ILINet Sites, Kansas, October 2010-September 2011 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 2010-2011 week ending date; for example, week 40 of 2010 ended October 9, 2010, week 40 of 2009 ended October 10, 2009, and week 40 of 2008 ended October 4, 2008. Week 53 was unique to the 2008-2009 season; data for that week has been excluded from the chart. 26 of 48 (54%) ILINet sites submitted data by the reporting deadline for the current week.

**Flu Update**

KDHE conducts outpatient influenza surveillance with participating providers throughout the state. Our surveillance website (<http://www.kdheks.gov/flu/surveillance.htm>) is updated every week to show the reported rate of Influenza-like Illness (ILI) and the influenza strains detected at our state laboratory. Since mid-January, the percentage of patients seeking care due to ILI has risen beyond the baseline level.

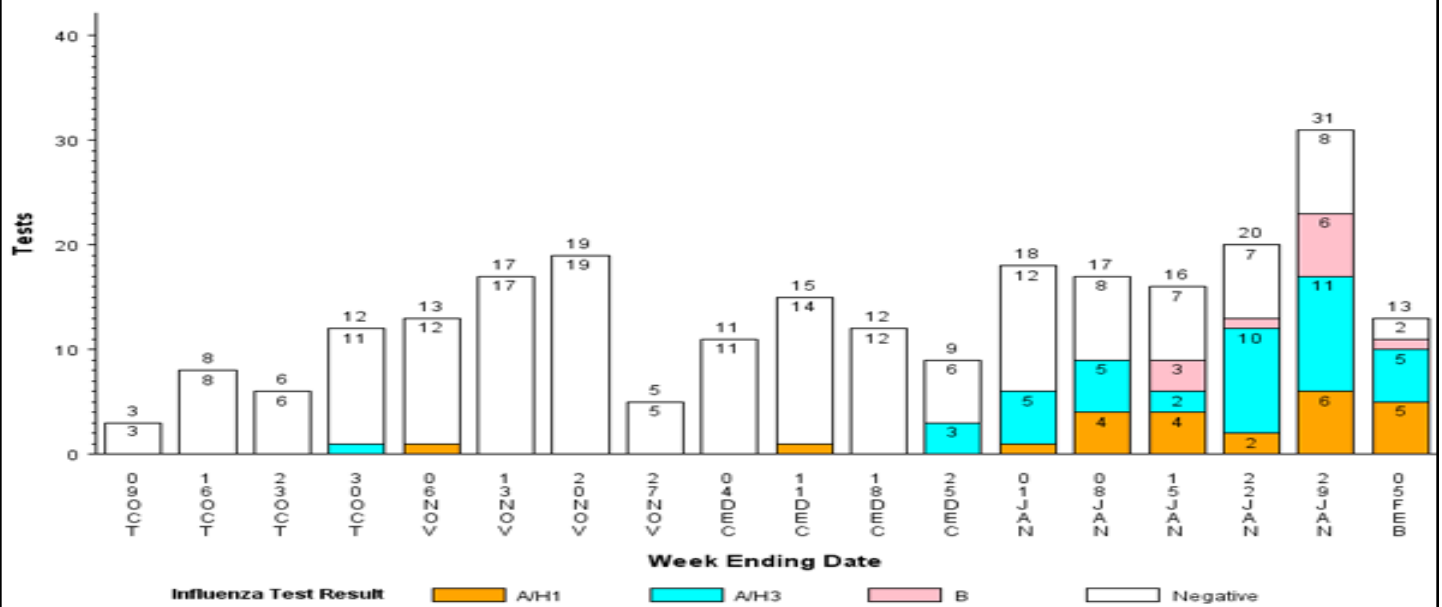
Influenza activity in Kansas may still be rising. As of the week ending February 5, the Kansas ILI rate is 4.3%; the national ILI rate is 4.6%, above the national baseline of 2.5%.

Kansas Department of Health and Environmental Laboratories (KHEL) performs influenza testing as requested for hospitalized patients, and for a subset of outpatients visiting providers within Kansas' influenza surveillance network. As of the week ending February 5, 77 specimens have tested positive for influenza. The

majority of viruses were type A/H3, but both A/H1N1 and B types have also been detected.

Nationally, nearly all specimens tested at CDC were found to match the strains used in this year's influenza vaccine, indicating the vaccine should protect against the circulating viruses. No antiviral resistance has been noted. The CDC's surveillance webpage (<http://www.cdc.gov/flu/weekly/>) is updated weekly with detailed information on national flu activity.

**Influenza Specimens Tested at KHEL by Week Kansas, 2010-2011**



The above chart shows the number of specimens the Kansas Department of Health and Environmental Laboratories (KHEL) tested for influenza per week. Only specimens from outpatients visiting ILINet clinics or from hospitalized patients are tested; because not all patients are tested at KHEL, this chart may not represent the true percentage of patients infected with influenza, or the true incidence of influenza strains circulating in Kansas.

Please visit us at:  
[www.kdheks.gov/epi](http://www.kdheks.gov/epi)



### ***KDHE Mission:***

*To Protect the Health and  
 Environment of all Kansans by  
 Promoting Responsible Choices*

### ***Our Vision***

*Healthy Kansans living in safe  
 and sustainable environments.*

## KS-EDSS DATA QUALITY INDICATORS

**B** EPHI has implemented a set of monthly quality indicators to encourage data quality improvement in KS-EDSS. A table of the previous month's state-wide percentages will be included in this newsletter each month. Eventually, a separate breakdown of data completeness will be provided directly to individual county administrators at both the regional and county levels. The percentage complete column represents the frequency of completion of the corresponding data field in KS-EDSS. The indicator for "Outbreak Associated" has been removed from the list of indicators for 2011. Fields in bold green have improved since the previous month. Frequency of completion has declined in italic blue fields. All other fields in have not changed since the previous month.

- V.B.

\*Calculations do not include Hep B, chronic Hep C, chronic.

\*\* Out-of-state cases not included in this calculation.

# Animal rabies not included in this calculation.

### **JANUARY 2011**

KS-EDSS Indicator	Percentage complete
<b>Address Street</b>	<b>86% **, #</b>
Address City	98% **
Address County	100% **
Address Zip	92% **
Date of Birth	99% #
Died	43% †
Ethnicity	54%, †
Hospitalized	45%, #, †
<b>Imported</b>	<b>54%</b>
Onset Date	46% *, #
Race	62%, †
Sex	100%, †
<b>Supplemental Form Complete</b>	<b>46%</b>