



# EPI UPDATES

August  
2013

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## Outbreak of Varicella Associated with Unvaccinated Children Continues

By Jena Callen-Scholz

Varicella is a highly contagious disease. Outbreaks of varicella (chickenpox) commonly occur in settings such as schools and day care centers. An outbreak of varicella is defined as five or more cases in a specific setting that are epidemiologically linked. Varicella can easily spread from a few people to a large community, especially when vaccination rates are low.

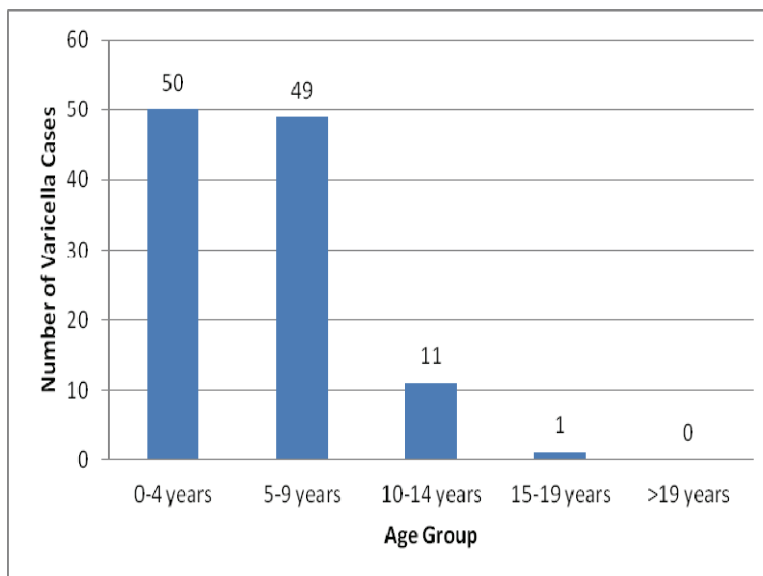
In April 2013, the Pottawatomie County Health Department notified the Kansas Department of Health and Environment (KDHE) of six cases of varicella within one household. Upon further investigation, additional cases were identified and were epidemiologically linked to a church that the ill family attended. Once the additional cases outside the household were identified, the local health department, along with KDHE, began an outbreak investigation to identify additional contacts and implement prevention and control measures.

As of August 2013, the outbreak continues. One hundred eleven confirmed and probable cases have been identified. Cases range from less than one year to 15 years of age, with a median age of 5 years. No adults have been affected (Figure 1). Sixty-one (55%) cases have been male. One infant was hospitalized. The onset of illness has ranged from March 26, 2013 to July 18, 2013. A majority of the cases have occurred in May (Figure 2). One hundred and three (93%) cases were unvaccinated; six (0.5%) received one dose; and one (0.01%) individual reported receiving two doses of the vaccine. Of the 103 cases that were not vaccinated, three reported a history of the disease; seven were too young to be vaccinated; and 91 parents either reported refusing the vaccine or claimed religious exemption for their child. Two had unknown vaccination status. Cases identified in the outbreak involved four counties in Kansas: Jackson with five (0.05%)

cases; Shawnee with 11 (0.1%) cases; Wabaunsee with 22 (0.2%) cases; and Pottawatomie with 73 (66%) cases.

According to Kansas Administrative Regulation (KAR) 28-1-6, each varicella case shall be excluded from school for six days after rash onset or until the rash lesions are crusted. Susceptible contacts need to be vaccinated within 24 hours after the case is reported to KDHE, or excluded from school

Figure 1. Cases of Varicella by Age Group



(Continued from page 1)

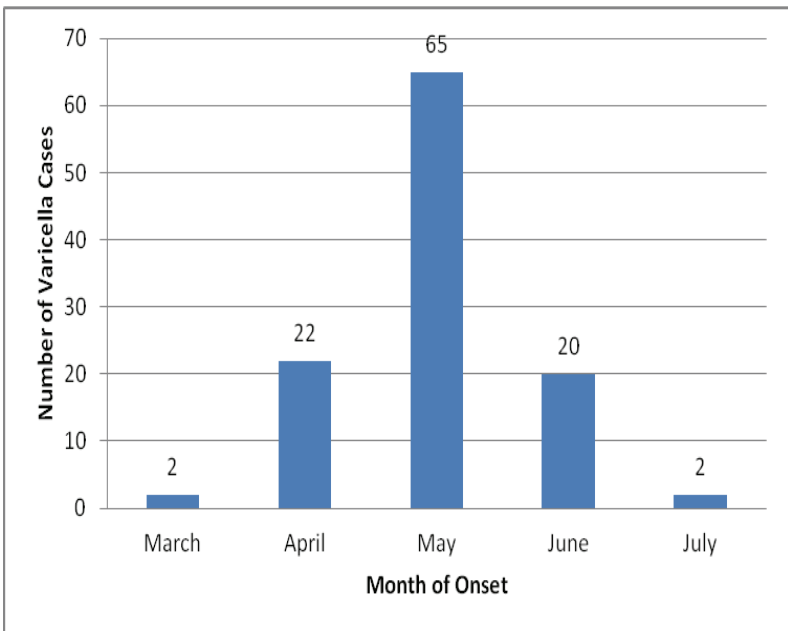
for 21 days after the onset of the last reported illness in the school. The Advisory Committee for Immunization Practices recommends initial vaccination against varicella for children aged 12-18 months and a second dose at 4-6 years. According to K.A.R. 28-1-20, all individuals that attend a school or childcare setting operated by a school in Kansas are required to be vaccinated against specific diseases. For varicella, two doses of vaccine are required for children in kindergarten through grade four and grades seven through nine. One dose of varicella vaccine is required for children in grades five and six and 10 through 12. Children with documentation of disease history by a licensed health care provider are not required to be vaccinated.

Varicella vaccine is a safe, effective way to prevent the disease. Studies have shown that a single dose of varicella vaccine is 85% effective at preventing disease and that any varicella vaccine is 100% effective at preventing severe disease. A second dose of varicella vaccine boosts immunity and reduces breakthrough disease in children. Studies of vaccine use in a variety of settings indicate that varicella vaccine is 70% to 100% effective in preventing illness or modifying the severity of illness if used within three days, and possibly up to five days, after exposure. Due to the efficacy of the varicella vaccine, large outbreaks are uncommon. The community involved in this outbreak is comprised of numerous unvaccinated individuals, which has contributed to it being one of the largest varicella outbreaks KDHE has investigated. The outbreak will continue to be monitored by the local health department, in conjunction with KDHE, until two incubation periods (42 days) with no identified cases.

<sup>1</sup>CDC. "Chickenpox (Varicella)". Accessed on May 23, 2013 at: [www.cdc.gov/chickenpox/about/overview.html](http://www.cdc.gov/chickenpox/about/overview.html).

<sup>2</sup>Seward JF, Marin M, Vasquez M. Varicella vaccine effectiveness in the United States vaccination program; a review. *J Infect Dis (Suppl)*. 2008 Mar 1;197 Suppl 2:S82-9. Review.

**Figure 2. Cases of Varicella by Disease Onset Month**



**New Arrivals!**

by Jodie Smith

We heard your pleas, we understood your frustrations, and now the time has finally come for new EpiTrax trainings to be posted to KS-TRAIN!

Twenty modules for the EpiTrax system are now posted. These modules are easily accessed by logging into your KS-TRAIN account and then entering the term EpiTrax into the search field on the right hand side of your training home screen.

These long-anticipated trainings will allow you to hone your skills using various EpiTrax tabs. Each module will guide you through a separate tab or feature, allowing you to maximize your training time and provide you with refresher training for specific functions.

Each training takes approximately 10-15 minutes to complete and is easily accessible from any internet-connected location. Registration is easy, with no individual registration code needed in order to access the modules.

Please enjoy these new trainings and the wonderful opportunity that they provide to both new and seasoned users.

Visit KS-TRAIN at: <https://ks.train.org> to get started today!

Diseases Counts Reported							
July 2013							
Disease	State Case Status					Grand Total	3 Year Avg 2010-2012
	Confirmed	Probable	Suspect	Not a Case	Unclassified		
	Count	Count	Count	Count	Count	Count	Count
Amebiasis ( <i>Entamoeba histolytica</i> )	0	0	0	0	1	1	0
<i>Anaplasma phagocytophilum</i> (f. HGE)	0	0	0	0	3	3	6
Babesiosis	0	0	0	1	0	1	0
Brucellosis	0	0	0	1	1	2	6
Campylobacteriosis	21	0	24	0	26	71	81
<i>Clostridium perfringens</i> food intoxication	0	1	0	0	0	1	0
Cryptosporidiosis	5	2	0	0	1	8	13
Cyclosporiasis	2	0	0	0	1	3	0
Ehrlichiosis, <i>Ehrlichia chaffeensis</i> (f. HME)	8	11	0	6	28	53	13
Ehrlichiosis, <i>Ehrlichia ewingii</i>	0	0	0	0	1	1	0
Ehrlichiosis/Anaplasmosis, undetermined	0	0	0	0	1	1	0
Giardiasis	11	0	0	0	0	11	18
<i>Haemophilus influenzae</i> , invasive disease (Including Hib)	3	0	0	2	0	5	3
Hepatitis A	0	0	0	3	7	10	42*
Hepatitis B virus infection, chronic	0	11	0	14	8	33	39
Hepatitis B, acute	0	6	0	1	2	9	6
Hepatitis C virus, past or present	57	1	7	22	97	184	255*
Hepatitis C, acute	0	0	0	0	1	1	2
Hepatitis E, acute	0	0	0	0	1	1	1
Legionellosis	0	0	1	0	0	1	2
Lyme Disease ( <i>Borrelia burgdorferi</i> )	2	2	3	19	27	53	29
Malaria ( <i>Plasmodium</i> spp.)	1	0	0	0	0	1	1
Measles (rubeola)	0	0	0	1	0	1	1
Meningitis, bacterial other	0	0	0	0	5	5	2
Outbreak Case - unknown etiology	0	3	1	150	124	278	5*
Pertussis	12	10	0	5	12	39	86*
Q Fever ( <i>Coxiella burnetii</i> ), Acute	0	1	0	0	1	2	1
Rabies, animal	1	2	0	2	7	12	11
Salmonellosis	51	1	0	1	6	59	57
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	10	0	2	0	3	15	15
Shigellosis	4	0	0	0	1	5	10
Spotted Fever Rickettsiosis (RMSF)	0	22	0	20	45	87	59
Streptococcal disease, invasive, Group A	3	0	0	0	2	5	2
<i>Streptococcus pneumoniae</i> , invasive disease	4	0	0	1	0	5	4
Tularemia ( <i>Francisella tularensis</i> )	0	1	0	0	6	7	6
Varicella (chickenpox)	20	7	1	14	13	55	24
Vibriosis (non-cholera <i>Vibrio</i> species infections)	1	0	0	0	0	1	0
West Nile virus non-neuroinvasive disease	0	0	0	13	0	13	15
<b>Grand Total</b>	<b>216</b>	<b>81</b>	<b>39</b>	<b>276</b>	<b>431</b>	<b>1,043</b>	<b>815</b>

\*Differences is counts due to outbreaks or data entry protocol changes

## Vaccine-Preventable Disease Surveillance Indicators

by Chelsea Raybern, MPH

The completeness and quality of specific surveillance indicators for vaccine-preventable diseases (VPDs) reported to KDHE from July 1 to July 31, 2013 are in Table 1. The bolded percentages represent the indicators that have less than 90% completion. Changes have been made in how the completeness of two indicators is calculated: transmission setting and vaccination status. Initially, for completeness of indicators, fields that were marked as unknown or left blank were considered unanswered. Beginning with the surveillance indicators reported in April for cases that were reported in March, unknown is considered a valid response for transmission setting and for vaccination status if the patient is older than 18 years. 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 94% of all VPDs reported from July 1 to July 31, 2013. Local health departments completed at least 91% of all indicators for pertussis cases and 100% of all indicators for *Streptococcus pneumoniae* cases except for onset date, which was 25%. More than half of the varicella indicators (date of birth, gender, race, ethnicity, onset date, hospitalization, and death) were at least 90% complete. The median number of days for local health departments to accept *Haemophilus influenzae*, *Streptococcus pneumoniae*, and varicella cases was zero.

**Still room for improvement...**Completeness for half of the *Haemophilus influenzae* indicators (ethnicity, onset date, death, vaccination status, and completed investigations) was much lower than 90%. Onset date was completed for only 33% of *Haemophilus influenzae* cases and 25% of *Streptococcus pneumoniae* cases. For varicella, transmission setting was completed for only 64% of cases. The median number of days for local health departments to accept pertussis cases was nine and even though the median number of days for case acceptance of *Haemophilus influenzae*, *Streptococcus pneumoniae*, and varicella cases was zero, the range of days for case acceptance was zero to five, zero to eight, and zero to six, respectively.

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](mailto:craybern@kdheks.gov).

**Table 1. VPD Indicators Reported from July 1 to July 31, 2013 in Kansas**

Indicators	<i>Haemophilus influenzae</i> , invasive	Pertussis	<i>Streptococcus pneumoniae</i> , invasive	Varicella
<b>Number of reported cases</b>	3	34	4	39
<b>% of cases with date of birth</b>	100%	100%	100%	100%
<b>% of cases with gender</b>	100%	100%	100%	100%
<b>% of cases with race</b>	100%	94%	100%	97%
<b>% of cases with ethnicity</b>	<b>67%</b>	94%	100%	97%
<b>% of cases with onset date</b>	<b>33%</b>	91%	<b>25%</b>	90%
<b>% of cases with hospitalized noted</b>	100%	94%	100%	95%
<b>% of cases with died noted</b>	<b>67%</b>	100%	100%	100%
<b>% of cases with vaccination status</b>	<b>67%</b>	91%	100%*	<b>85%</b>
<b>% of cases with transmission setting</b>	N/A <sup>§</sup>	91%	N/A <sup>§</sup>	<b>64%</b>
<b>% of investigations completed by local health departments<sup>†</sup></b>	<b>67%</b>	91%	100%	<b>87%</b>
<b>Median # of days from report to case acceptance (range)<sup>‡</sup></b>	0 (0-5)	9 (0-19)	0 (0-8)	0 (0-6)

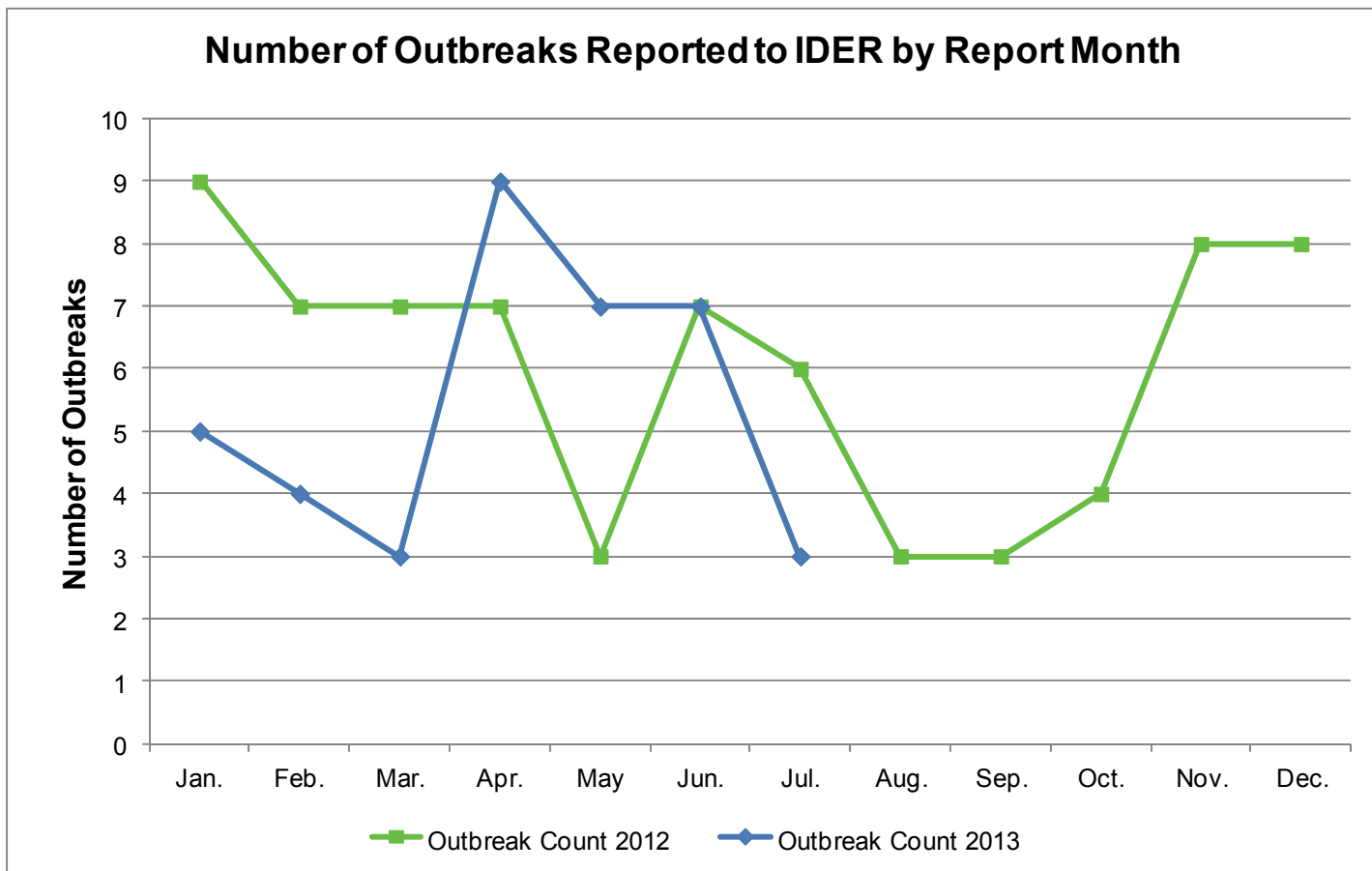
\*Indicator is considered complete if either polysaccharide or conjugate pneumococcal vaccine history is documented.

<sup>§</sup>Indicator field is not included in supplemental disease form.

<sup>†</sup>Status includes when local health department completes investigation, approves the case, or when the case is closed by State.

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

## MONTHLY OUTBREAK SUMMARIES



Facility Type	Organism	Transmission	County	Reported Date
Restaurant	Outbreak Case - Unknown Etiology	Indeterminate / Other / Unknown	Wallace	7/3/2013
Camp	Shiga toxin-producing <i>Escherichia coli</i> (STEC)	Animal Contact	Johnson	7/9/2013
Restaurant	Cyclosporiasis	Food	Multi-county	7/9/2013