



## Kentucky Department for Public Health KY17-089 - Acute Hepatitis A Outbreak Weekly Report Morbidity and Mortality Weekly Report (MMWR) Week 21 May 20, 2018 – May 26, 2018

**Brief Description of Outbreak:** In November 2017, the Kentucky Department for Public Health (DPH) identified an outbreak of acute hepatitis A. The increase in cases observed in Kentucky was well over the 10-year average of reported hepatitis A cases, and several cases have been infected with hepatitis A virus (HAV) strains genetically linked to outbreaks in California, Utah, and Michigan. Similar to hepatitis A outbreaks in other states, the primary risk factors have been homelessness and illicit drug use. A contaminated food source has not been identified, and HAV transmission is believed to have occurred through person-to-person contact. Below is a weekly and cumulative update on the outbreak.

In accordance with 902 KAR 2:020, cases of acute hepatitis A should be reported within 24 hours.

The case definition used for outbreak-associated acute hepatitis A cases is available upon request.

**Table 1: Summary of Outbreak-Associated Acute Hepatitis A Cases**

Update for Week 21:		Update Total for Weeks 35-21:	
Number of new cases:	Confirmed - 0 Probable - 20 Suspect - 17	Total number of cases (n=674):	Confirmed - 221 Probable - 311 Suspected - 142
Number of counties with new cases:	11	Total number of counties with cases:	43 (36% of KY counties)
Number of cases with specimens submitted for genotyping where results are available:	0	Number of cases with specimens submitted for genotyping where results are available:	234 (35%)
Number of cases with genotype IB among those with genotype testing:	0	Total number of cases with genotype IB among those with genotype testing:	214 (91% of those tested)
Number of Hospitalizations:	16	Total Number of Hospitalizations:	422 (63%)
Number of deaths Reported*:	0	Total number of deaths reported*:	6 (<1%)

\* Deaths are defined as any outbreak-associated acute hepatitis A case with documentation of hepatitis A as a contributing factor to the individual's death.

**Table 2: Cumulative Distribution of Cases by County**

<b>KY17-089 Distribution Of Outbreak-Associated Acute Hepatitis A Cases, by County, August 1, 2017 – May 26, 2018*^#</b>					
<b>County</b>	<b>Total number of cases reported</b>	<b>Number of confirmed cases</b>	<b>Number of probable cases</b>	<b>Number of suspected cases</b>	<b>Incident Rate per 100,000 population</b>
Anderson	2	0	1	1	8.9
Ballard	4	2	1	1	49.8
Barren^	1	0	0	1	2.3
Bourbon	1	0	1	0	5.0
Boyd	80	31	34	15	166.7
Boyle	2	0	1	1	6.7
Bullitt	29	15	11	3	36.1
Campbell	2	0	1	1	2.2
Carter	29	1	20	8	106.8
Casey	1	1	0	0	6.3
Estill	1	0	1	0	7.0
Fayette	2	0	1	1	0.6
Franklin^	1	0	0	1	2.0
Grant	2	1	1	0	8.0
Grayson	3	1	1	1	11.4
Greenup	29	9	15	5	81.6
Hardin	14	3	6	5	13.0
Henry	2	0	1	1	12.5
Hopkins	1	0	0	1	2.2
Jefferson	399	144	185	70	51.7
Jessamine	2	0	0	2	3.7
Kenton	2	0	2	0	1.2

**KY17-089 Distribution Of Outbreak-Associated Acute Hepatitis A Cases,  
by County, August 1, 2017 – May 26, 2018\*^#**

<b>County</b>	<b>Total number of cases reported</b>	<b>Number of confirmed cases</b>	<b>Number of probable cases</b>	<b>Number of suspected cases</b>	<b>Incident Rate per 100,000 population</b>
Laurel	1	0	0	1	1.7
Lawrence	1	1	0	0	6.4
Leslie	1	0	0	1	9.7
Lincoln	2	0	1	1	8.2
Madison	1	1	0	0	1.1
Marion	2	2	0	0	10.3
Marshall	1	0	1	0	3.2
McCracken	4	2	0	2	6.1
Meade	4	1	1	2	14.2
Montgomery	14	1	7	6	50.1
Nelson	5	2	2	1	11.0
Ohio	3	0	1	2	12.4
Oldham	4	1	2	1	6.0
Pendleton	1	0	1	0	6.9
Rowan	1	0	1	0	4.1
Russell	1	0	0	1	5.6
Shelby	2	0	2	0	4.2
Spencer	3	1	1	1	16.2
Taylor	3	0	2	1	11.8
Warren	8	1	6	1	6.2
Whitley	3	0	0	3	8.3
<b>Total Number of Cases:</b>	<b>674</b>	<b>221</b>	<b>311</b>	<b>142</b>	<b>15.1</b>

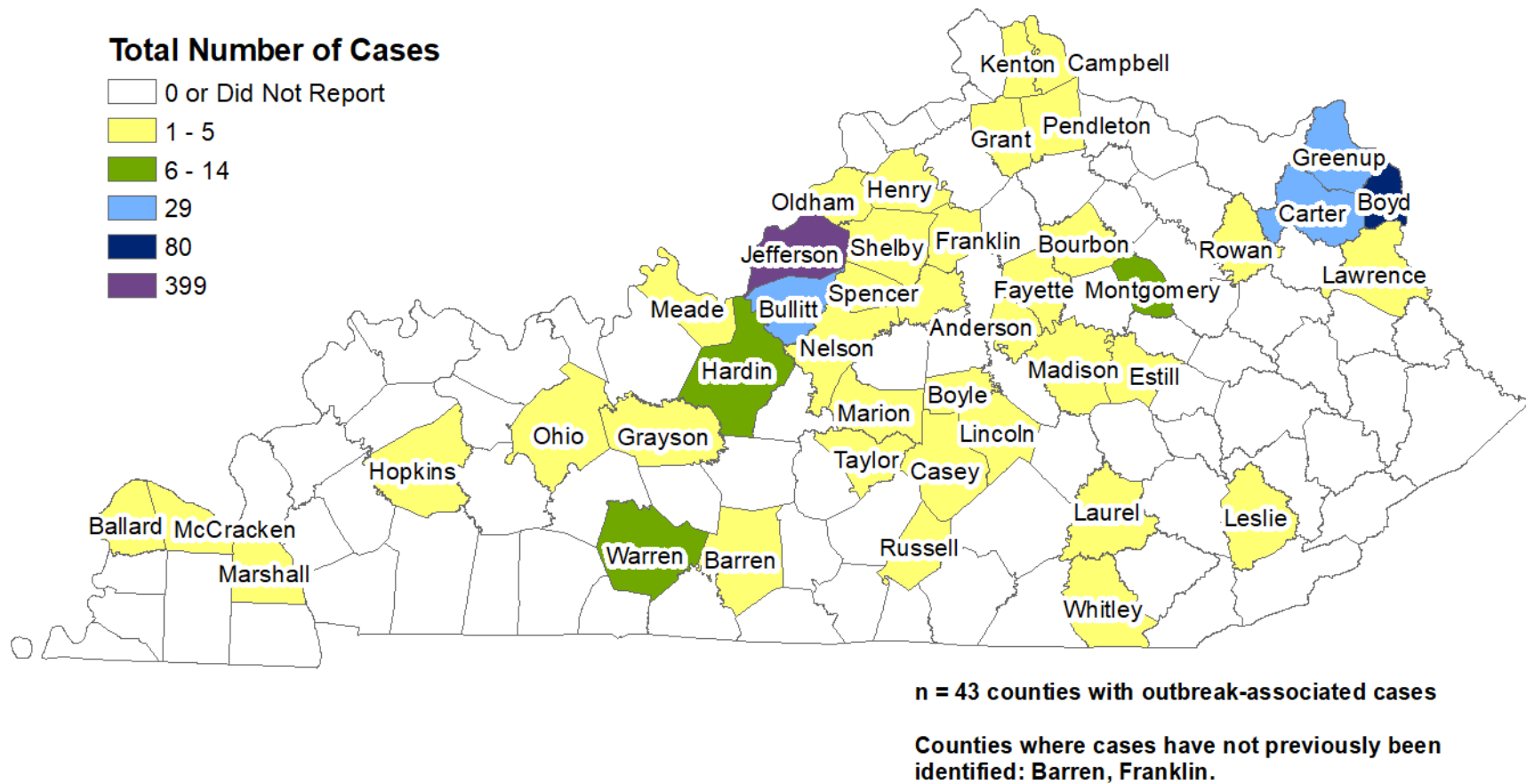
\* Cases are reported based on date of specimen collection.

^ Denotes a county where cases have not been previously identified.

# As genotyping results become available, cases may be excluded if they do not meet the outbreak case definition. Cases in the following counties have been excluded from the outbreak case count this week: None.

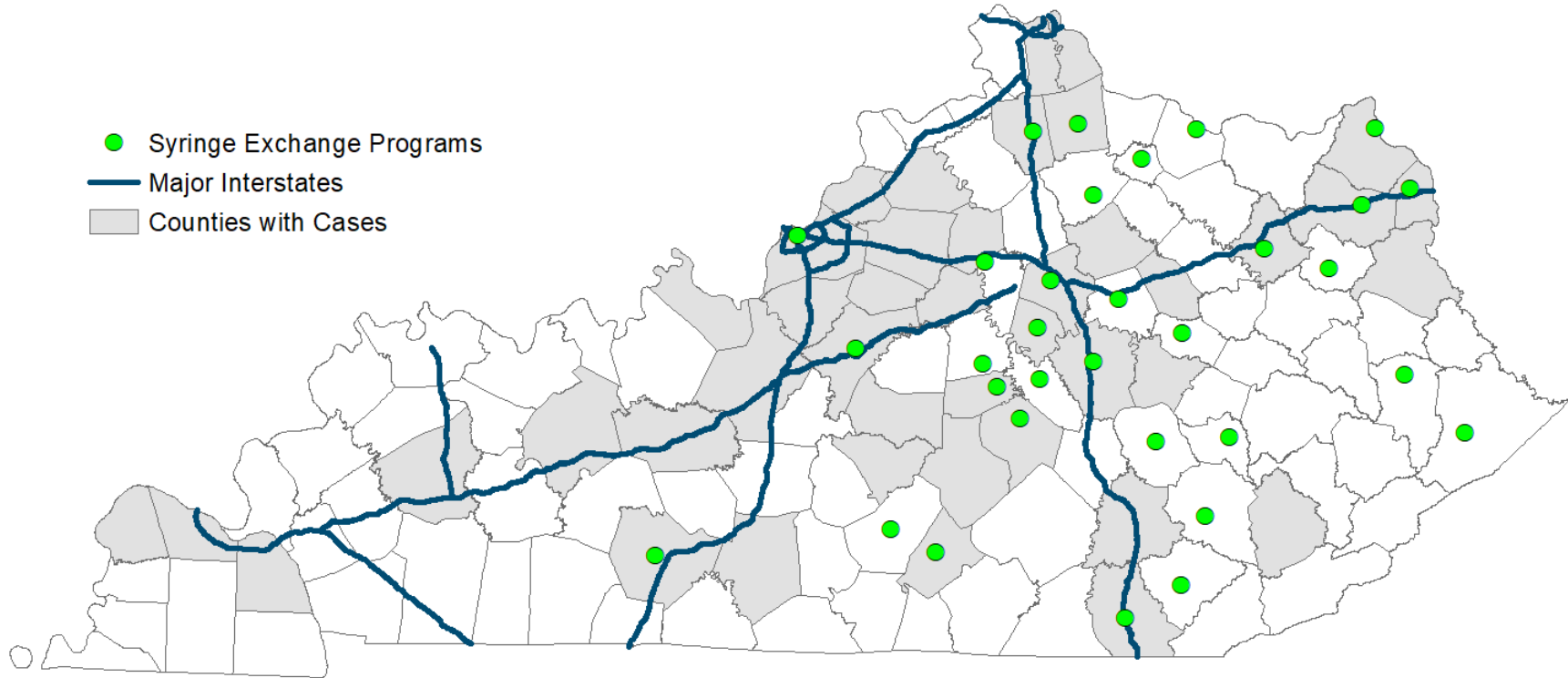
Figure 1: Geographic Distribution of Outbreak-Associated Cases by County

KY17-089 Distribution of Outbreak-Associated Acute Hepatitis A Cases by County, August 1, 2017 - May 26, 2018



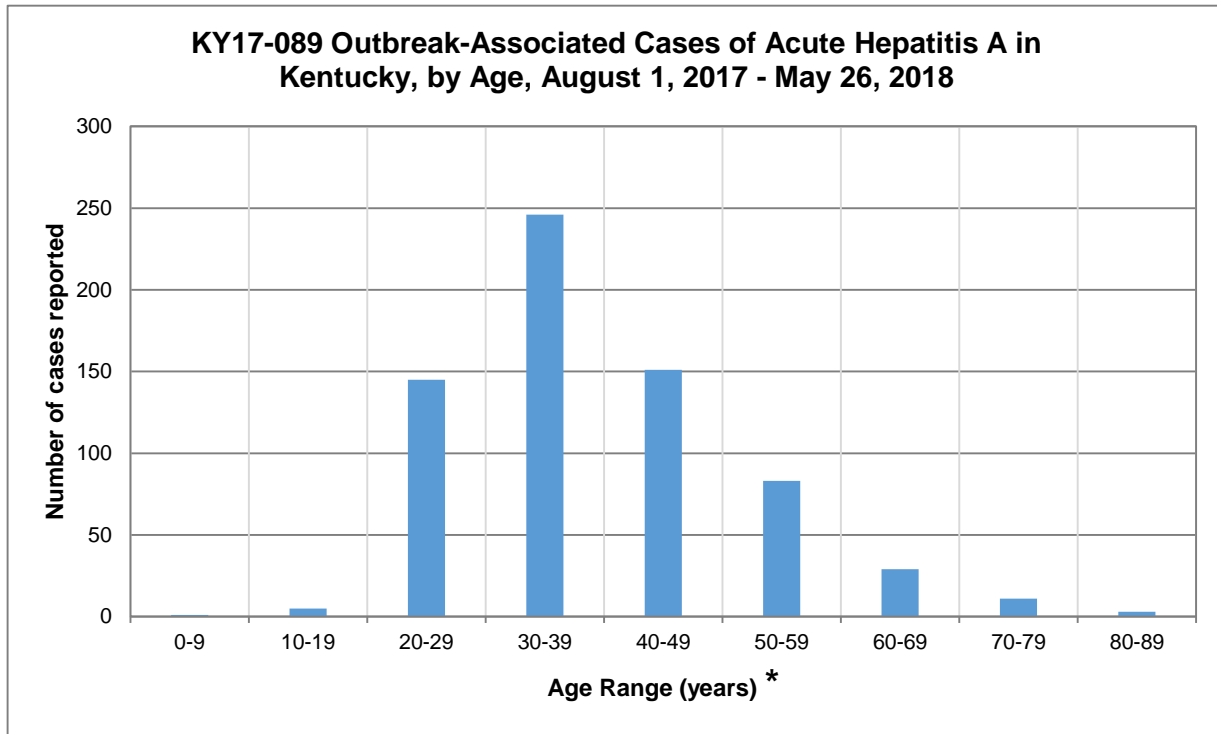
**Figure 2: Major Interstates and Syringe Exchange Programs in Counties Reporting Outbreak-Associated Cases**

**KY17-089 Major Interstates and Syringe Exchange Programs In  
Counties Reporting Outbreak-Associated Acute Hepatitis A Cases,  
August 1, 2017 - May 26, 2018**



Major Interstates include I-24, I-264, I-265, I-275, I-471, I-64, I-65, I-69, I-71, I-75, Martha Lane Collins Bluegrass Parkway, and Wendell H Ford Western KY Parkway

**Figure 3: Outbreak-Associated Cases by Age**



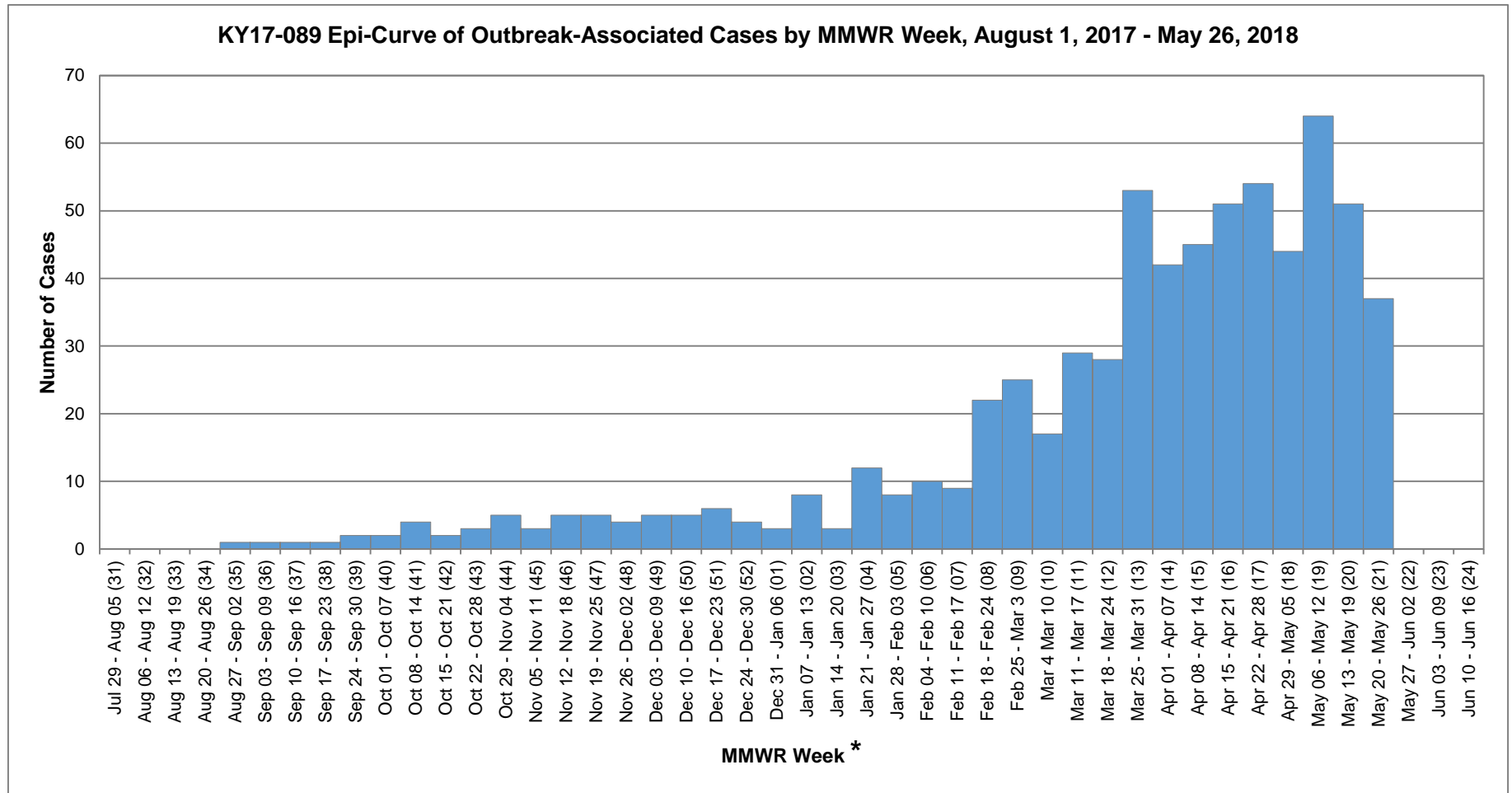
\* The mean age of cases is 39.0 years, and the median age is 37.0 years.

**Table 3: Frequent Risk Factors of Outbreak-associated Cases**

KY17-089 Risk Factors of Outbreak-Associated Acute Hepatitis A Cases*, August 1, 2017 – May 26, 2018	
Risk Factor	Number of Cases Reporting Risk Factor (n=445)*
Homelessness only	13 (3%)
Illicit drug use only	303 (68%)
Homelessness + illicit drug use	75 (17%)
MSM only	3 (<1%)
No Risk Factors	92 (21%)

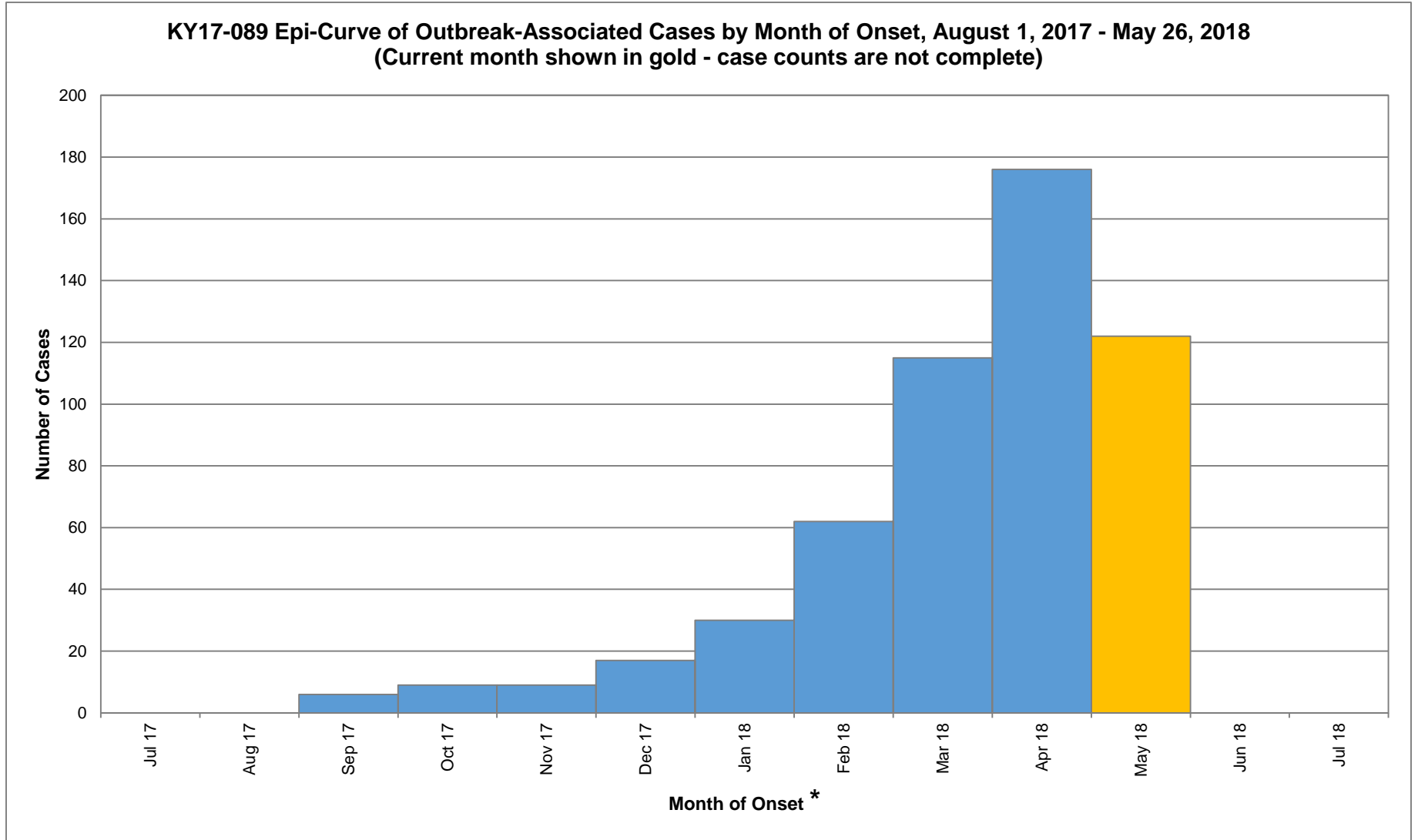
\* Risk factor information is unavailable for 229 (34%) of all outbreak associated cases.

Figure 4: Epidemic-curve (Epi-Curve) of Outbreak-Associated Cases



\* MMWR weeks are based on date of specimen collection.

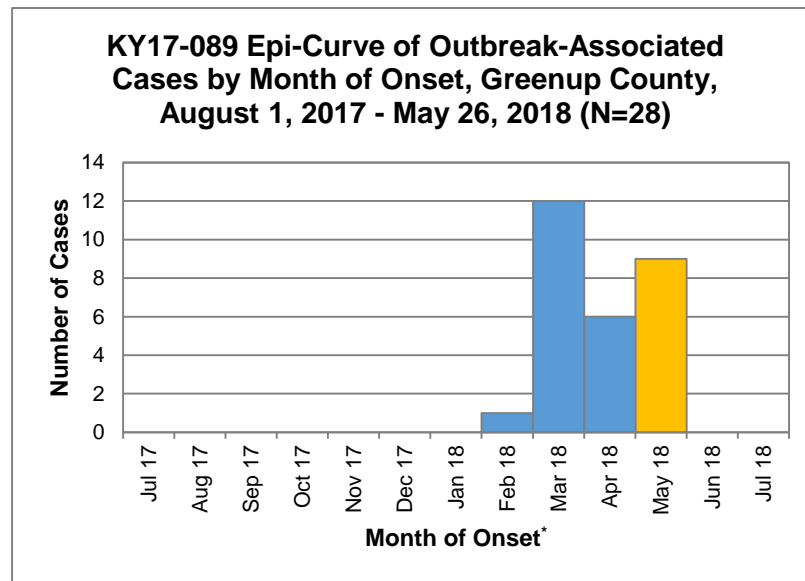
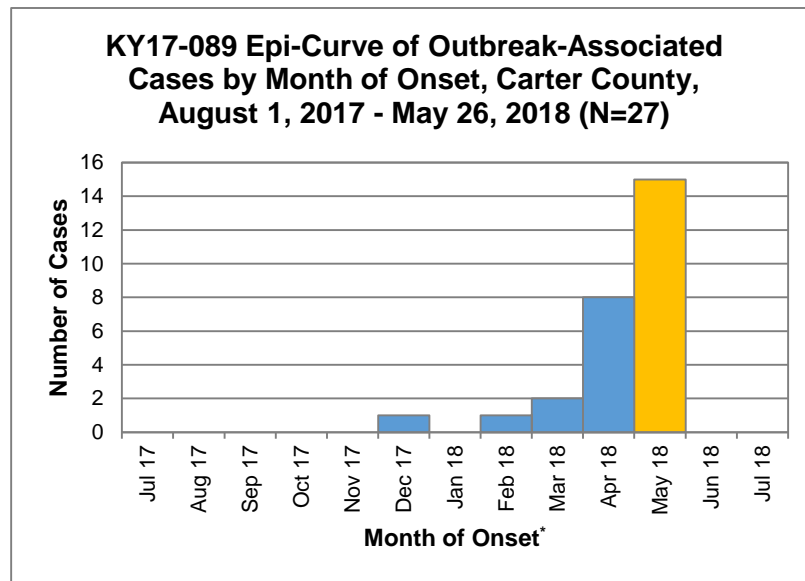
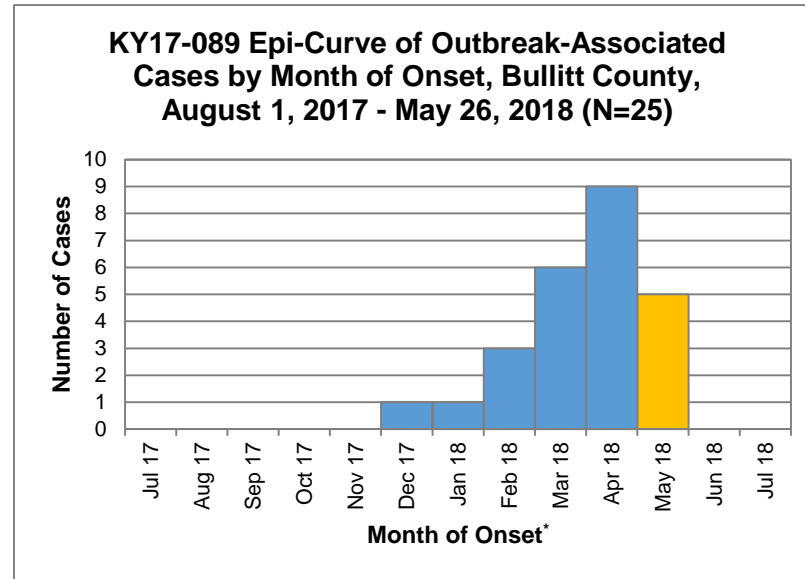
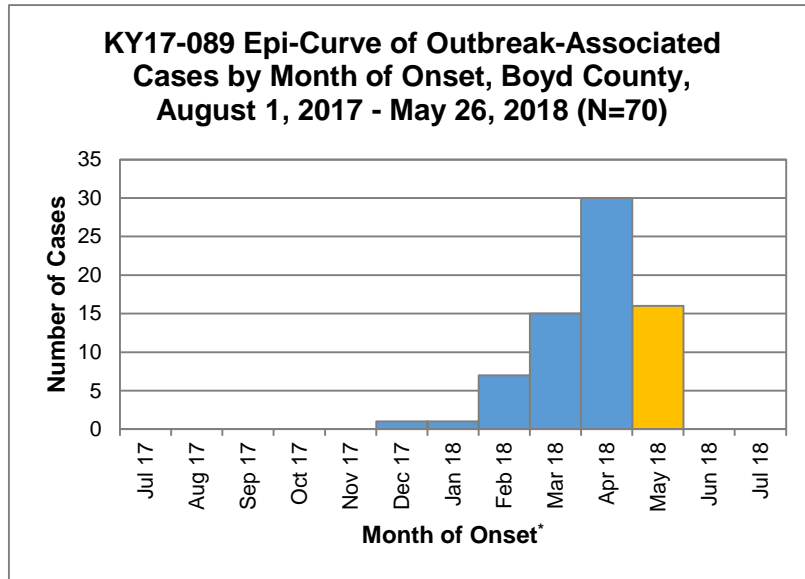
**Figure 5: Epidemic-curve (Epi-Curve) of Outbreak-Associated Cases by Month of Onset**



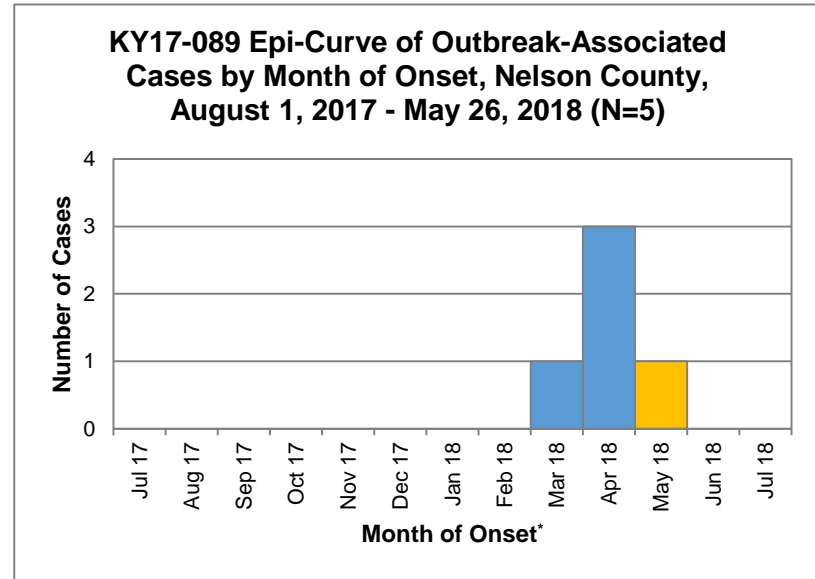
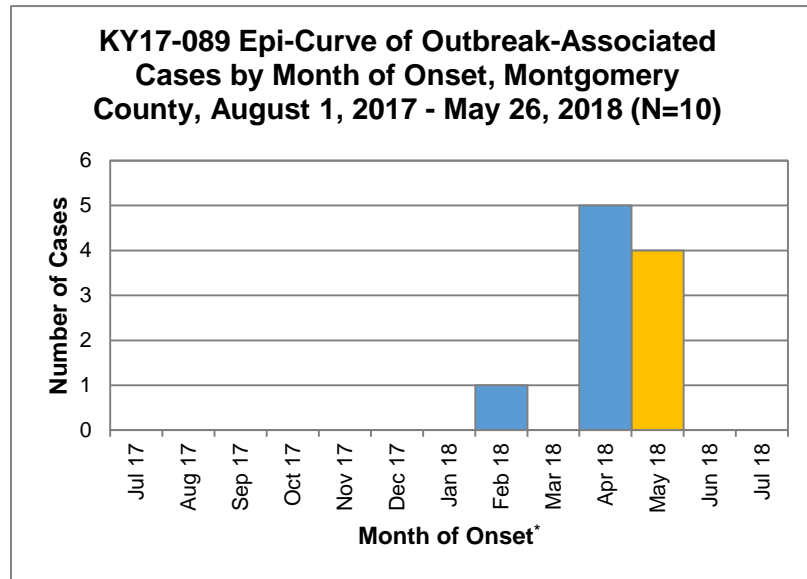
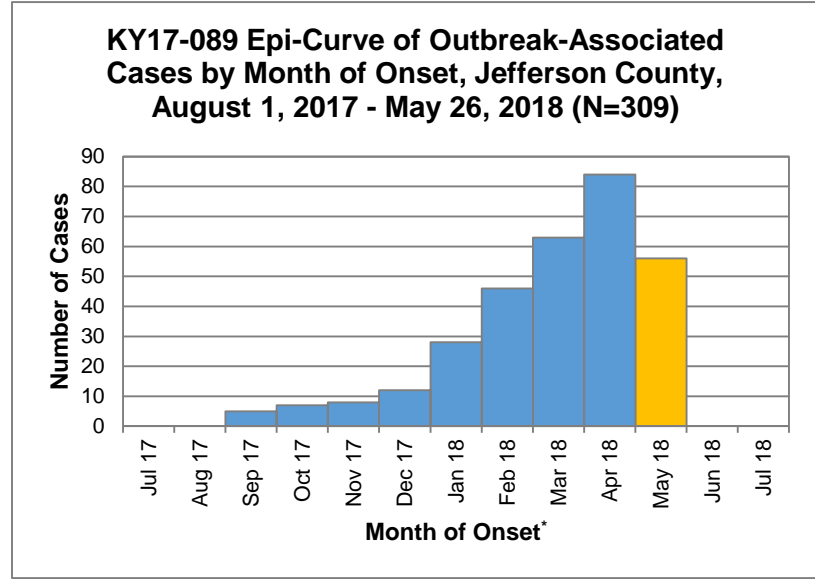
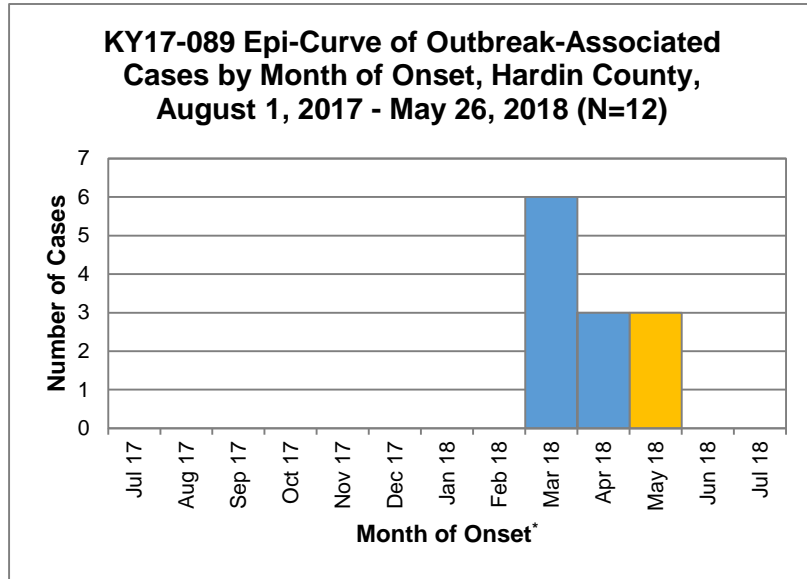
\* Date of onset has been reported for 81.0% (or 546/674) of cases.



**Figures 6-9: Epidemic-curves (Epi-Curves) of Outbreak-Associated Cases in Counties with at least 5 reported cases, by Month of Onset (Counties include Boyd, Bullitt, Carter, and Greenup Counties)**



Figures 10-13: Epidemic-curves (Epi-Curves) of Outbreak-Associated Cases in Counties with at least 5 reported cases, by Month of Onset (Counties include Hardin, Jefferson, Montgomery, and Nelson Counties)



**Figure 14: Epidemic-curves (Epi-Curves) of Outbreak-Associated Cases in Counties with at least 5 reported cases, by Month of Onset (Warren County)**

