Kentucky's Hepatitis A (HAV) Outbreak Public Health Nurse ITV

Doug Thoroughman, PhD, MS

Thursday, August 15, 2019

Kentucky Public Health

Prevent. Promote. Protect.

Dr. Jeffrey D. Howard, *Commissioner*

HAV Outbreak Epidemiology Updates

- Nationwide outbreak began August 2016
  - Michigan
  - Mainly Detroit
- San Diego, CA and Salt Lake City, UT next
  - Mostly urban
- Kentucky outbreak begins August 2017
  - Previous yearly average = 20 cases/year
  - 27 HAV cases by November, 2017
  - Outbreak declared November 22, 2017
  - Primarily Louisville until March, 2018
  - Vigorous spread to rural, drug-using population across state after that

National Picture as of 8/9/2019

- Outbreak has now reached 29 states
- 23,978 cases
- 14,330 (60%) hospitalizations
- 236 deaths
- Only two state have declared outbreak over – CA and UT

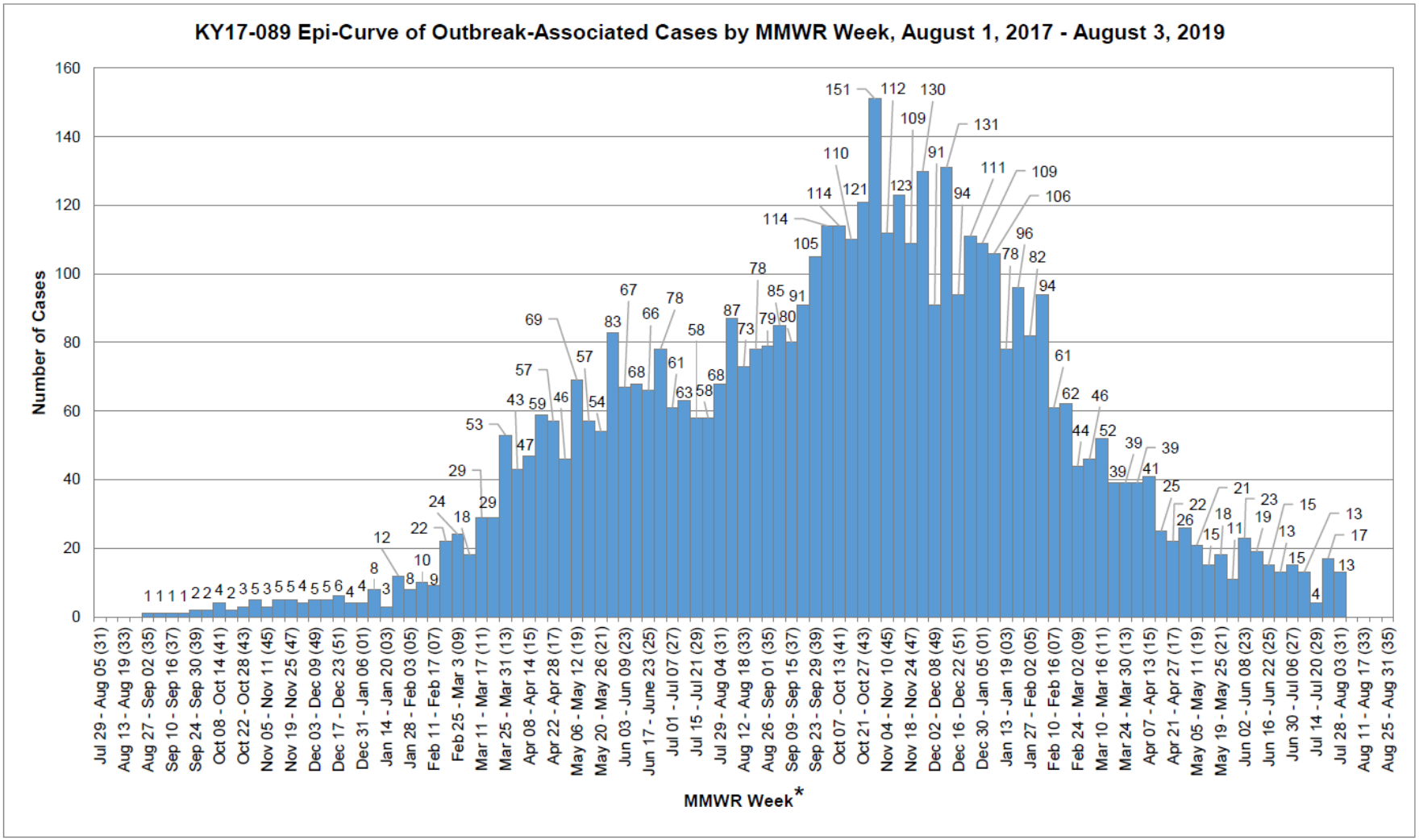
KY Outbreak Statistics (through 8/3/2019)

- Total Cases: 4,837
  - 2017: 59
  - 2018: Approximately 3,500
  - 2019: Approximately 1,278
  - New cases this week: 13
- Number of counties with cases: 113 (94% of KY counties)
- Hospitalizations: 2,340 (48%)
- Deaths: 60 (1.2%)
- Median Age: 36 years, Range: 0-88
- HAV genotype testing
  - 613 Genotype IB
    - Most CA Cluster A

KY HAV Outbreak Risk Factors

KY17-089 Risk Factors of Outbreak-Associated Acute Hepatitis A Cases, August 1, 2017 – August 3, 2019#^	
Risk Factor	**Number of Cases Reporting Risk Factor (n=3904)***
Homelessness + No/Unk Illicit Drug Use	57 (1.5%)
Illicit Drug Use + No/Unk Homelessness	2801 (72%)
Homelessness + Illicit drug use	303 (7.8%)
No Outbreak-Related Risk Factors	743 (19%)

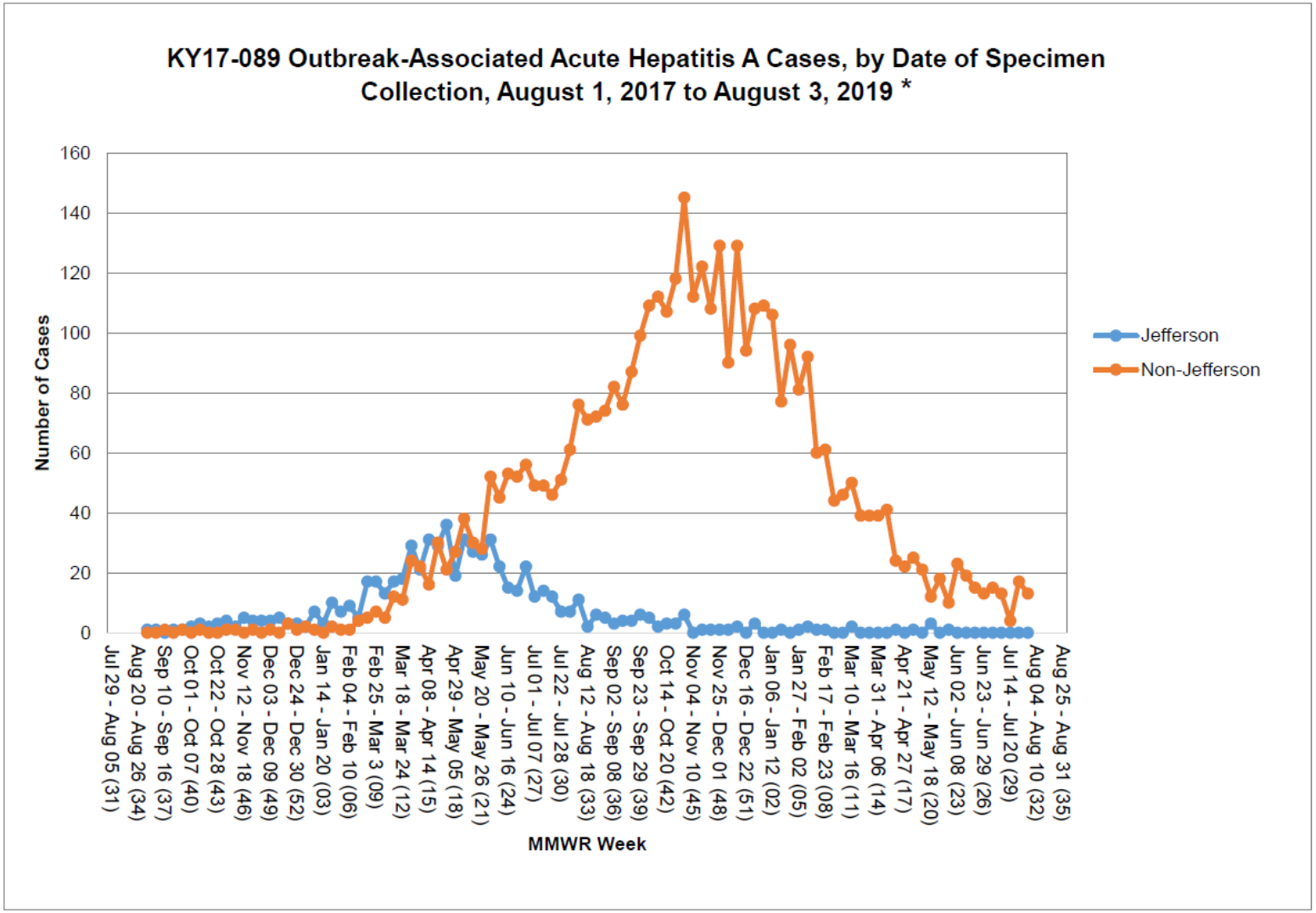
* Risk factor information is unavailable for 933 (19.3%) of all outbreak-associated cases.



* MMWR weeks are based on date of specimen collection.

Kentucky – A Tale of Two Outbreaks

- Louisville outbreak
  - Began August, 2017
  - Identified October, 2017
  - Outbreak declared November, 2017
  - Experienced vast majority of cases until March 2018
  - Very low incidence by November, 2018 (only 16 cases since early Nov.)
  - Will most likely still experience cases due to statewide influence
  - But duration is closer to 1 year 3 months
- Statewide spread
  - Most early cases in other counties linked back to Louisville
    - Prisoner transfers out of Louisville
    - Substance abuse treatment programs referrals out of Louisville
  - Increased incidence per county more widespread around March 2018
  - Currently about a year into this phase


KY17-089 Outbreak-Associated Acute Hepatitis A Cases, by Date of Specimen Collection, August 1, 2017 to August 3, 2019 *
Number of Cases
160
140
120
100
80
60
40
20
0
Jefferson
Non-Jefferson
Jul 29 - Aug 05 (31)
Aug 20 - Aug 26 (34)
Sep 10 - Sep 16 (37)
Oct 01 - Oct 07 (40)
Oct 22 - Oct 28 (43)
Nov 12 - Nov 18 (46)
Dec 03 - Dec 09 (49)
Dec 24 - Dec 30 (52)
Jan 14 - Jan 20 (03)
Feb 04 - Feb 10 (06)
Feb 25 - Mar 3 (09)
Mar 18 - Mar 24 (12)
Apr 08 - Apr 14 (15)
Apr 29 - May 05 (18)
May 20 - May 26 (21)
Jun 10 - Jun 16 (24)
Jul 01 - Jul 07 (27)
Jul 22 - Jul 28 (30)
Aug 12 - Aug 18 (33)
Sep 02 - Sep 08 (36)
Sep 23 - Sep 29 (39)
Oct 14 - Oct 20 (42)
Nov 04 - Nov 10 (45)
Nov 25 - Dec 01 (48)
Dec 16 - Dec 22 (51)
Jan 06 - Jan 12 (02)
Jan 27 - Feb 02 (05)
Feb 17 - Feb 23 (08)
Mar 10 - Mar 16 (11)
Mar 31 - Apr 06 (14)
Apr 21 - Apr 27 (17)
May 12 - May 18 (20)
Jun 02 - Jun 08 (23)
Jun 23 - Jun 29 (26)
Jul 14 - Jul 20 (29)
Aug 04 - Aug 10 (32)
Aug 25 - Aug 31 (35)
MMWR Week

Kentucky in the National HAV Picture

- Kentucky first to experience rapid spread in rural areas
  - Primarily due to prevalence of drug-use in rural areas
  - Appalachian region hardest hit – WV, OH experienced same
  - Kentucky a “home-rule” state (LHD’s independent)
    - First to deal with widespread response in this environment
  - KY faced steep learning curve to respond to the HAV outbreak in this setting
- Does Kentucky have the worst HAV outbreak nationally?
  - Yes, in raw numbers per state – 4,837 to date
  - No, in incidence (cases per population)
    - Kentucky – 108/100,000
    - West Virginia – 142/100,000 (2,534 cases)
  - No, in mortality rate (# deaths/# cases identified)
    - Kentucky – 1% mortality (60/4837)
    - Michigan – 3% mortality (28/918)
    - San Diego – 3% mortality (21/708)

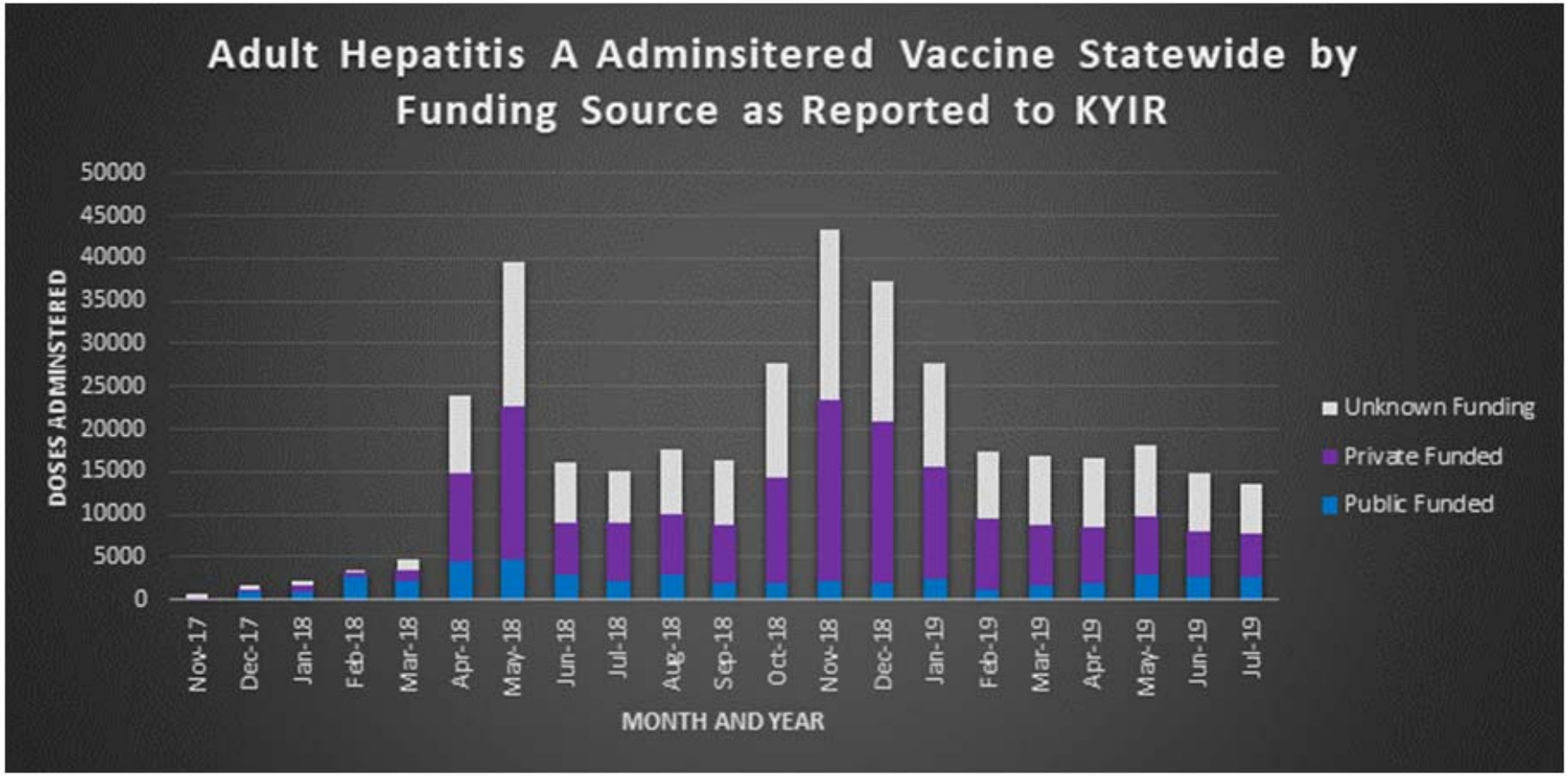
Response Strategy Progression

- Louisville – ICS, funding, brainstorm strategies
- The rest of Kentucky
  - 1st strategy – Guidance to clinicians and local health departments
    - Drug users and homeless
    - Identify cases through appropriate testing
    - Identify best targets for vaccination locally
  - 2nd strategy – tiered funding
    - 4 Tiers
    - Based on incident cases first
    - Based on cases and ability to reach at-risk population
    - Finally based on projections of need and ability to reach at-risk population
  - 3rd strategy – Regional meetings
    - State meets with local health departments regionally
    - Sharing of best practices and strategies between counties
    - Focus on breaking down barriers to get vaccine to at-risk
  - Vaccination Strike Team

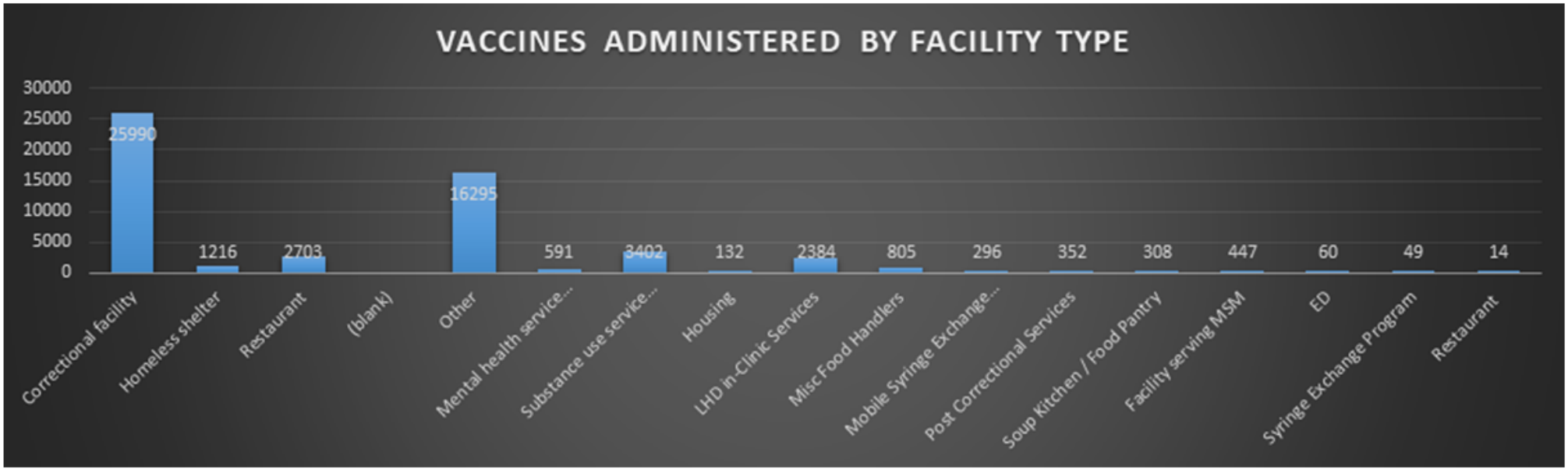
Primary Response Targeting

- Going to the at-risk people:
  - Hospital Emergency Departments
  - Correctional facilities (state and county)
  - Syringe services programs
  - Substance abuse treatment facilities (residential and outpatient)
  - Homeless shelters
  - Behavioral health facilities

All Doses of Adult Hepatitis A Vaccine Administered and Reported to the Statewide Immunization Registry (KYIR)

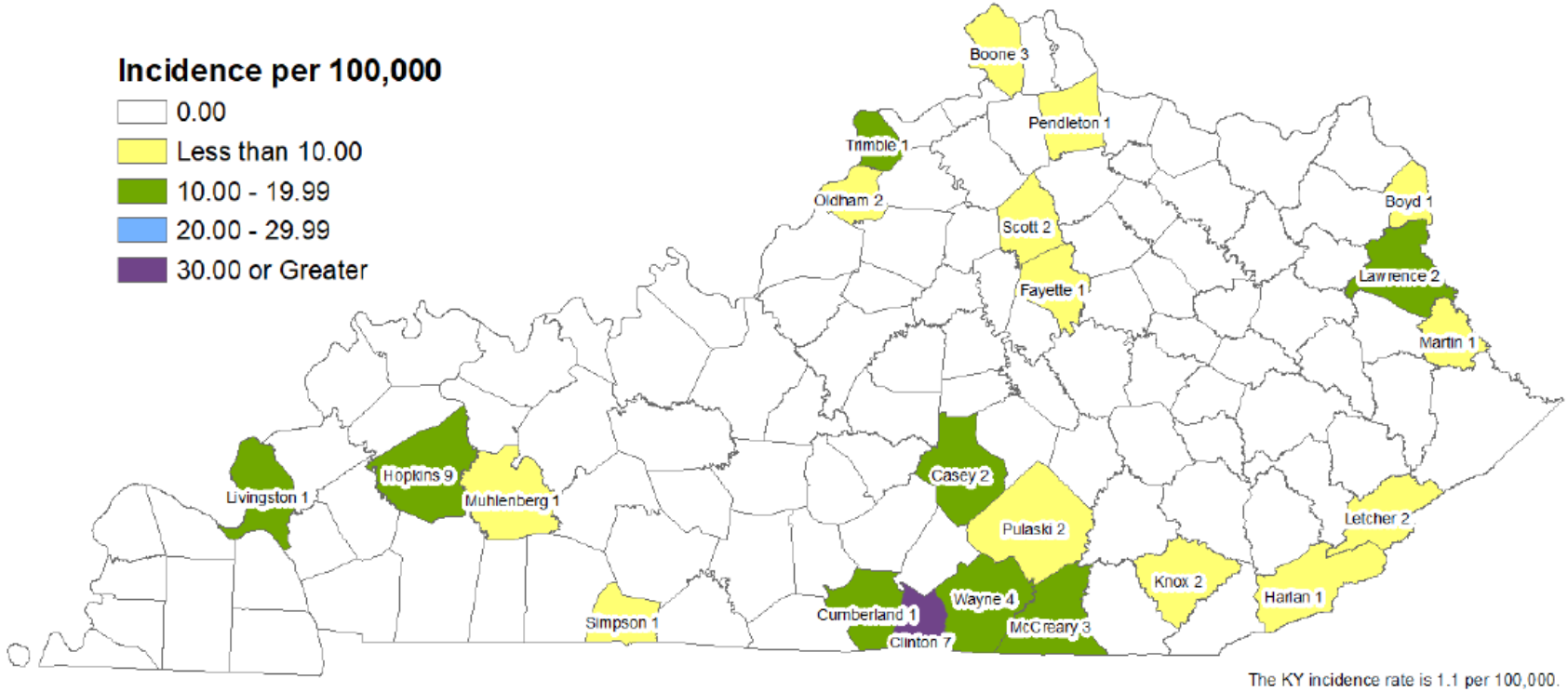


RedCap Survey of LHDs



Ongoing Transmission

KY17-089 Incidence of Outbreak-Associated Acute Hepatitis A Cases by County*, July 4 - August 3, 2019



The KY incidence rate is 1.1 per 100,000.
Note: Rates calculated from numerators less than 20 may not be reliably used to determine trends.

Ongoing Response Needs

- Outbreak continuing and flaring up in places
- What can we do to end the outbreak?
  - Identify pockets of risk
    - Requires:
      - Identification of all cases
      - Thorough case investigation
  - Continue to and increase vaccination of at-risk populations
  - Institute best practices of identification and vaccination of these populations
    - Hospital ED's serve both needs:
      - Identifying cases so PH can intervene
      - Identifying at-risk individuals to vaccinate

Emphasis on Hospital ED's

- Webinar 8/14/19 asking for collaboration with Public Health:
  - Encourage use of data collection tool for potential cases
    - Before they are lost to follow-up
    - To prevent further cases
    - To identify risk groups to vaccinate
  - Encourage hospital ED's to vaccinate at-risk individuals
    - Drug users are at increased risk for hospitalization and death due to HAV infection
    - Vaccine administration of those at-risk reduces transmission in the population
    - Many hospital ED's have successfully implemented vaccination
    - Long-term goal should be to implement HAV vaccination for those at risk
      - Not just during outbreak, but ongoing
    - Collaboration with LHD's recommended

When will the Outbreak be Declared Over?

- No indigenous cases for 2 incubation periods after last outbreak-associated case
  - 100 Days after last case transmitted in-state
  - Must be shown to be genetically linked to outbreak
- Imported cases will not count toward outbreak
- May be a “new normal” or baseline

Thank you!

Doug Thoroughman, PhD, MS
Kentucky Department for Public Health
Division of Epidemiology and Health Planning
Infectious Disease Branch
275 East Main Street, HS2E-A
Frankfort, KY 40621
Telephone: 502-564-3261, ext. 4242
Secure Fax: 502-696-3803

Kentucky Public Health
Prevent. Promote. Protect.