Infectious Diseases and the Opioid Epidemic

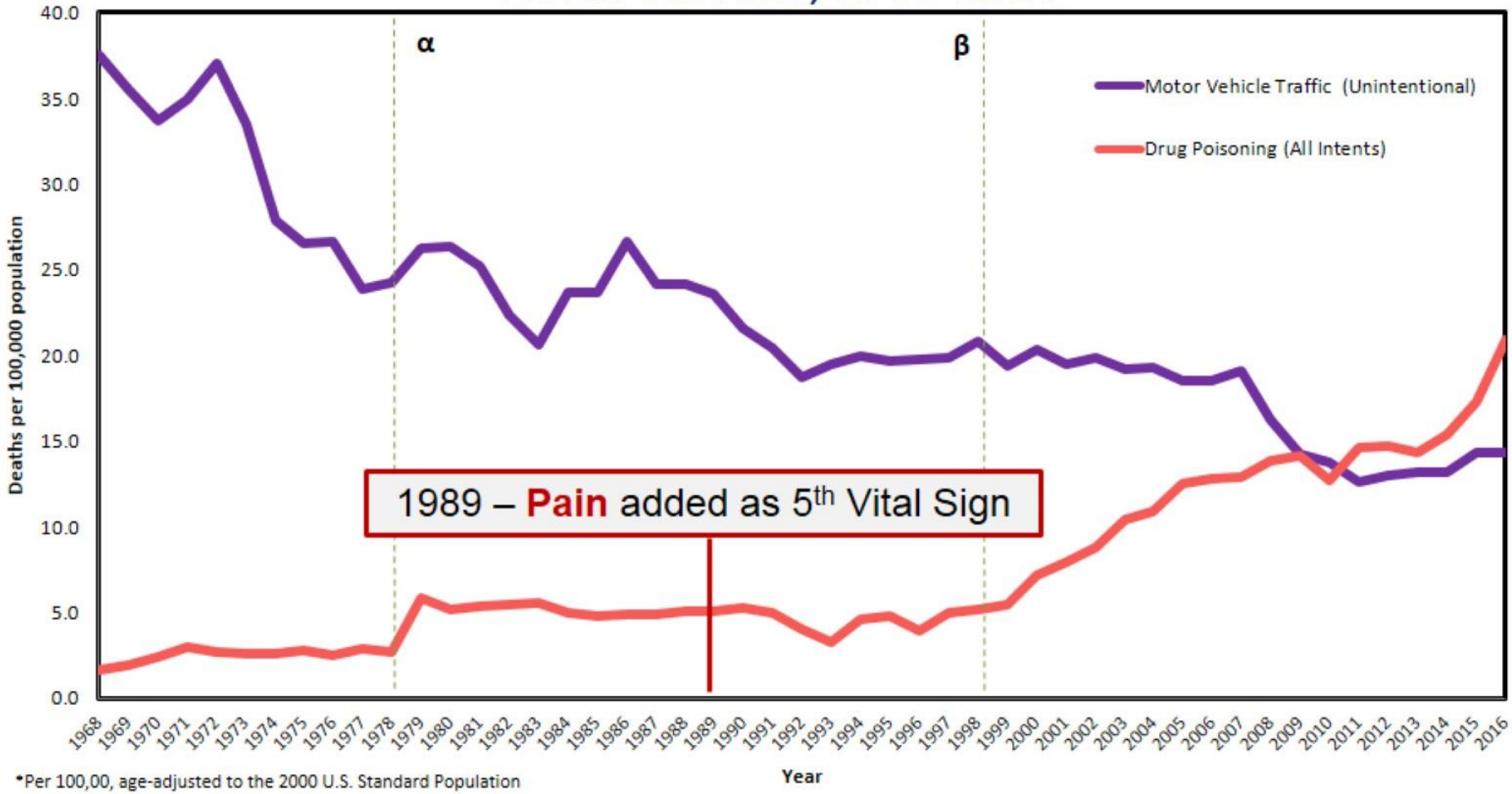
Zack Moore, State Epidemiologist,
North Carolina Division of Public Health

Jesse Bennett, Statewide Overdose Prevention Coordinator
North Carolina Harm Reduction Coalition

NC DEPARTMENT OF
HEALTH AND
HUMAN SERVICES
Division of Public Health

Death Rates* for Two Selected Causes of Injury

North Carolina, 1968-2016



*Per 100,00, age-adjusted to the 2000 U.S. Standard Population
α - Transition from ICD-8 to ICD-9
β – Transition from ICD-9 to ICD-10

Source: Death files, 1968-2016, CDC WONDER
Analysis by Injury Epidemiology and Surveillance Unit

North Carolina Injury & Violence PREVENTION Branch

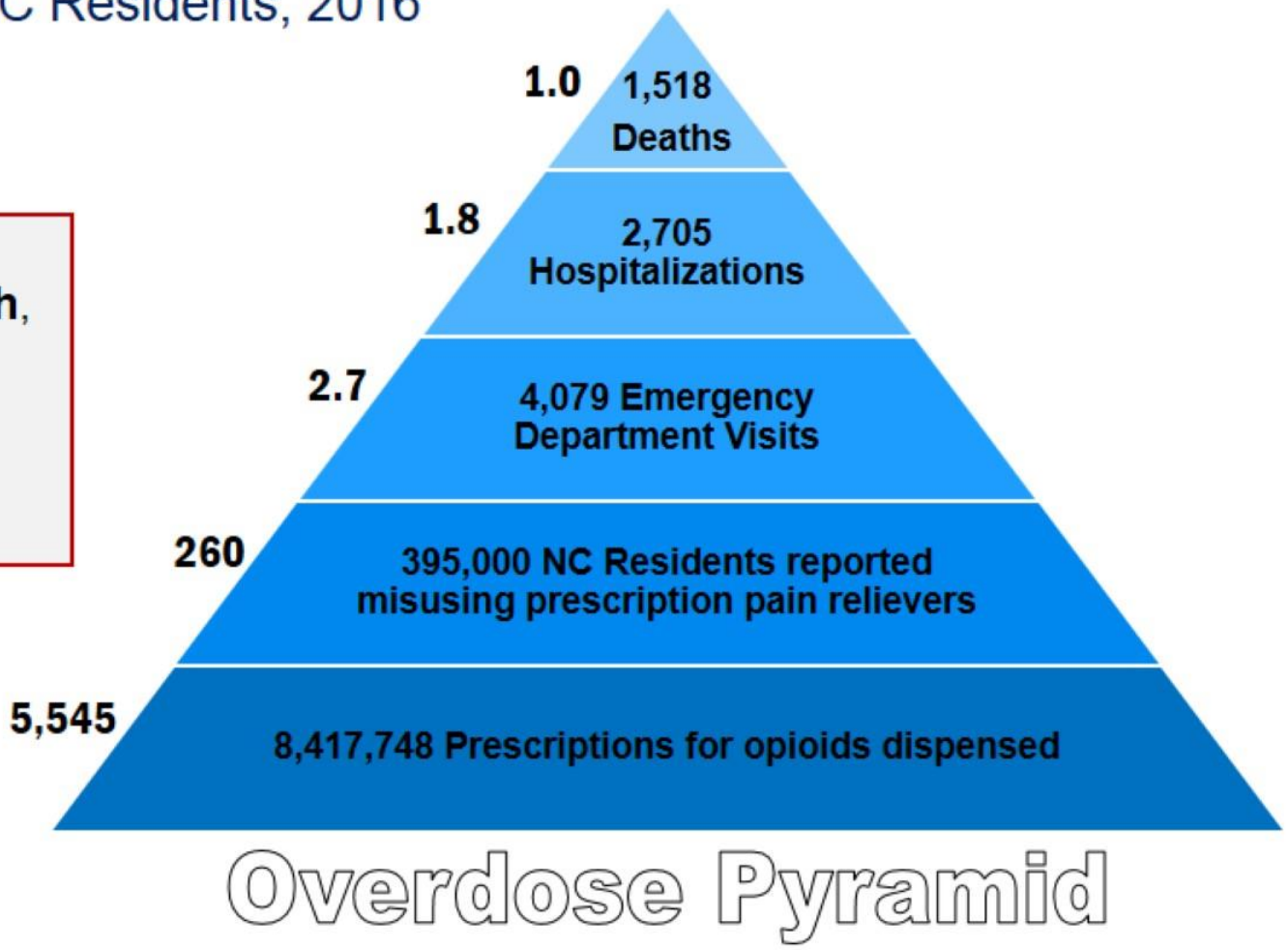
In 2016, nearly 5 North Carolinians died each day from unintentional medication or drug overdose.

Source: Deaths-N.C. State Center for Health Statistics, Vital Statistics, 2016,
Unintentional medication/drug overdose: X40-X44
Analysis by Injury Epidemiology and Surveillance Unit

North Carolina
Injury & Violence
PREVENTION Branch

Opioid Deaths, Hospitalizations, ED Visits, Misuse & Dispensing, NC Residents, 2016

In 2016, for every **1 opioid overdose death**, there were just under **2 hospitalizations** and nearly **3 ED visits** due to opioid overdose.



Source: Deaths-N.C. State Center for Health Statistics, Vital Statistics, 2016/ Hospitalizations-N.C. State Center for Health Statistics, Vital Statistics, 2016/ED-NC DETECT, 2016/ Misuse-NSDUH, 2012-2014 applied to 2016 population data/Prescriptions-CSRS, 2016.
Analysis by Injury Epidemiology and Surveillance Unit

North Carolina Injury & Violence PREVENTION Branch

INFECTIOUS COMPLICATIONS

Infectious Complications

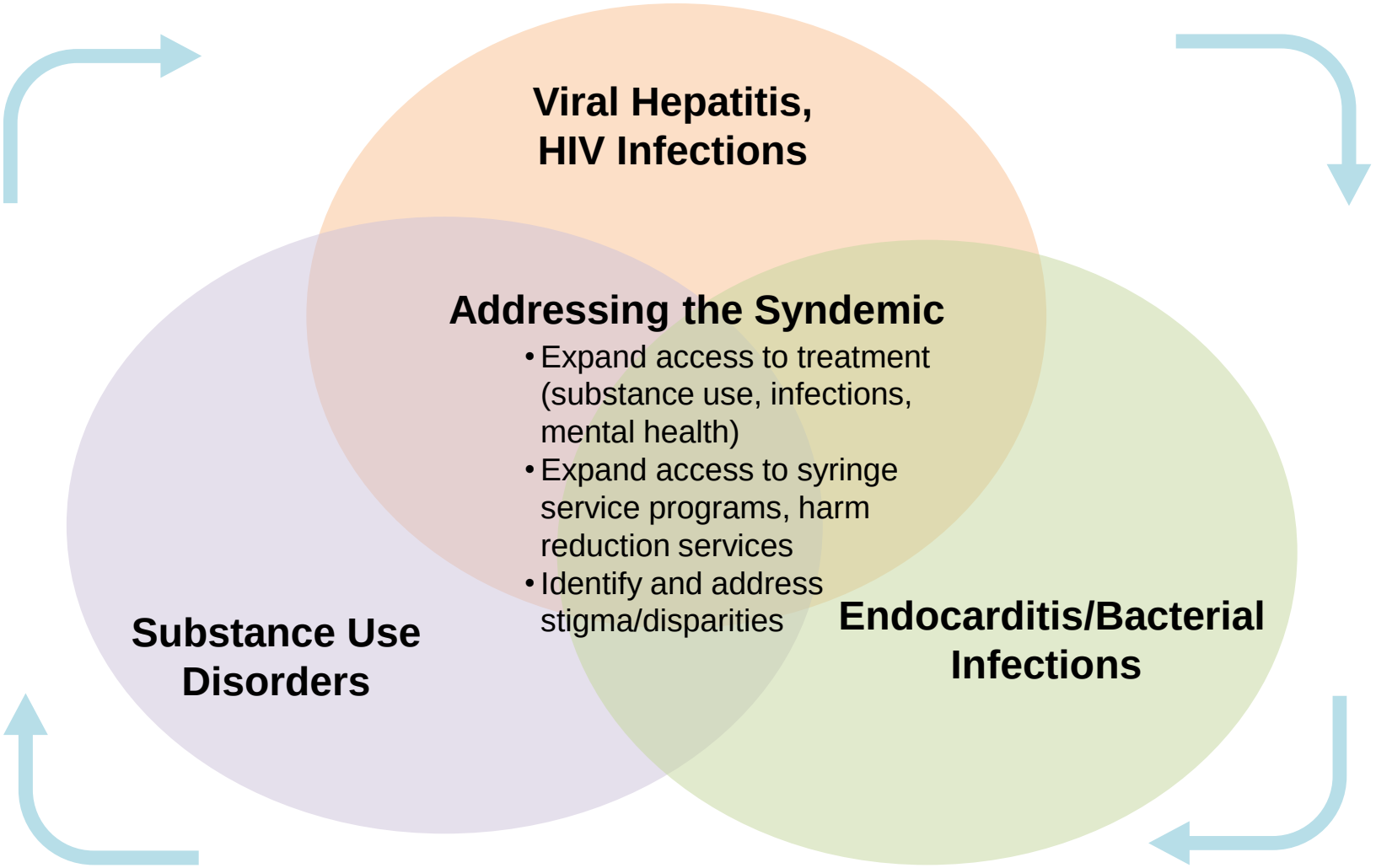
- HCV, HBV and HIV
- Bacterial infections
  - Endocarditis
  - Sepsis
  - Bone/joint infections
  - Invasive group A strep
  - Wound infections
- Hepatitis A
- Etc.

Syndemics

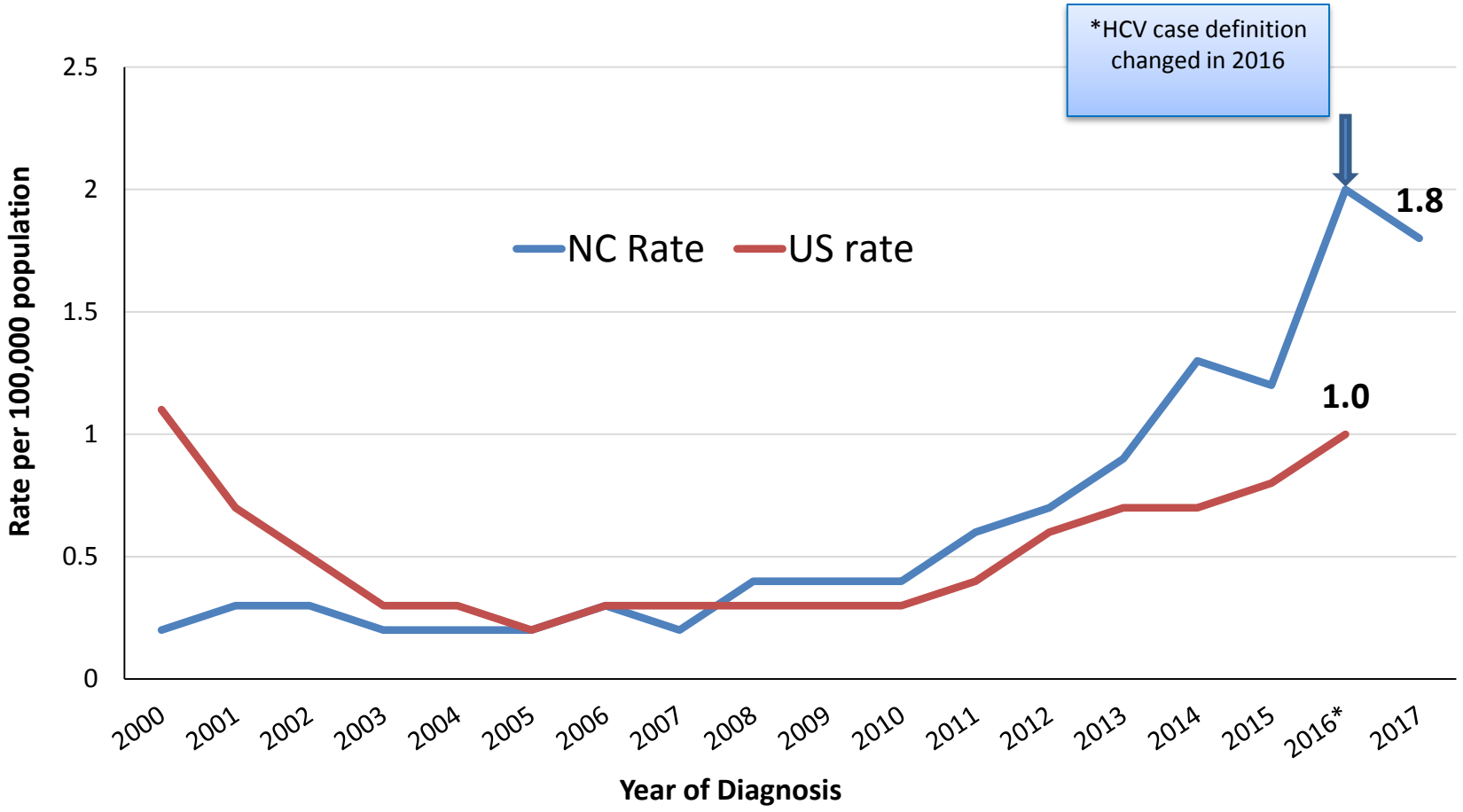
- A set of linked health problems involving two or more afflictions, interacting synergistically, and contributing to excess burden of disease in a population.

- Occur when health-related problems cluster by person, place, or time.

Syndemics


Viral Hepatitis,
HIV Infections
Addressing the Syndemic
• Expand access to treatment (substance use, infections, mental health)
• Expand access to syringe service programs, harm reduction services
• Identify and address stigma/disparities
Substance Use Disorders
Endocarditis/Bacterial Infections

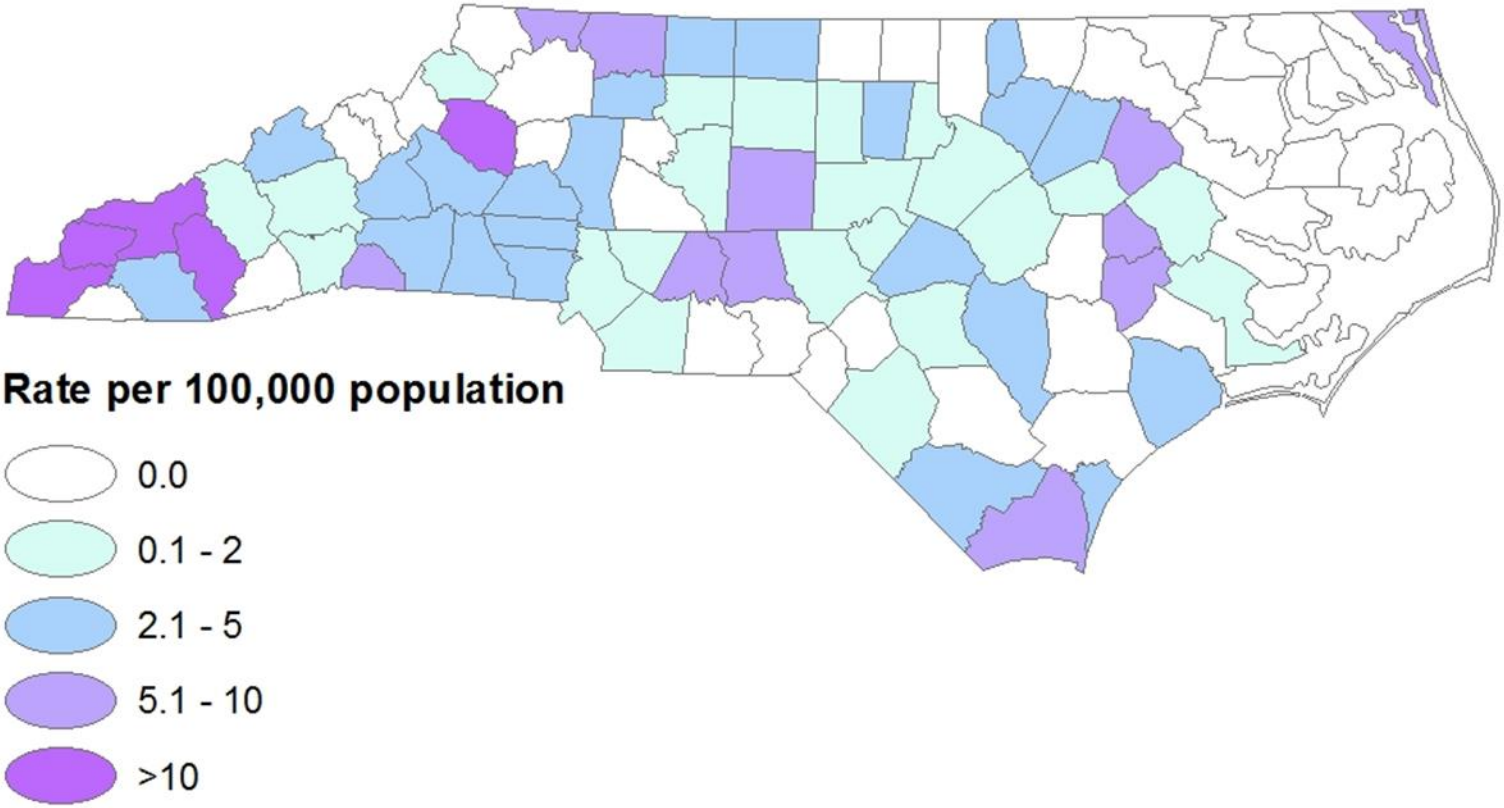
Acute HCV Rates in North Carolina and United States, 2000–2017



*Case definition for HCV changed in 2016.

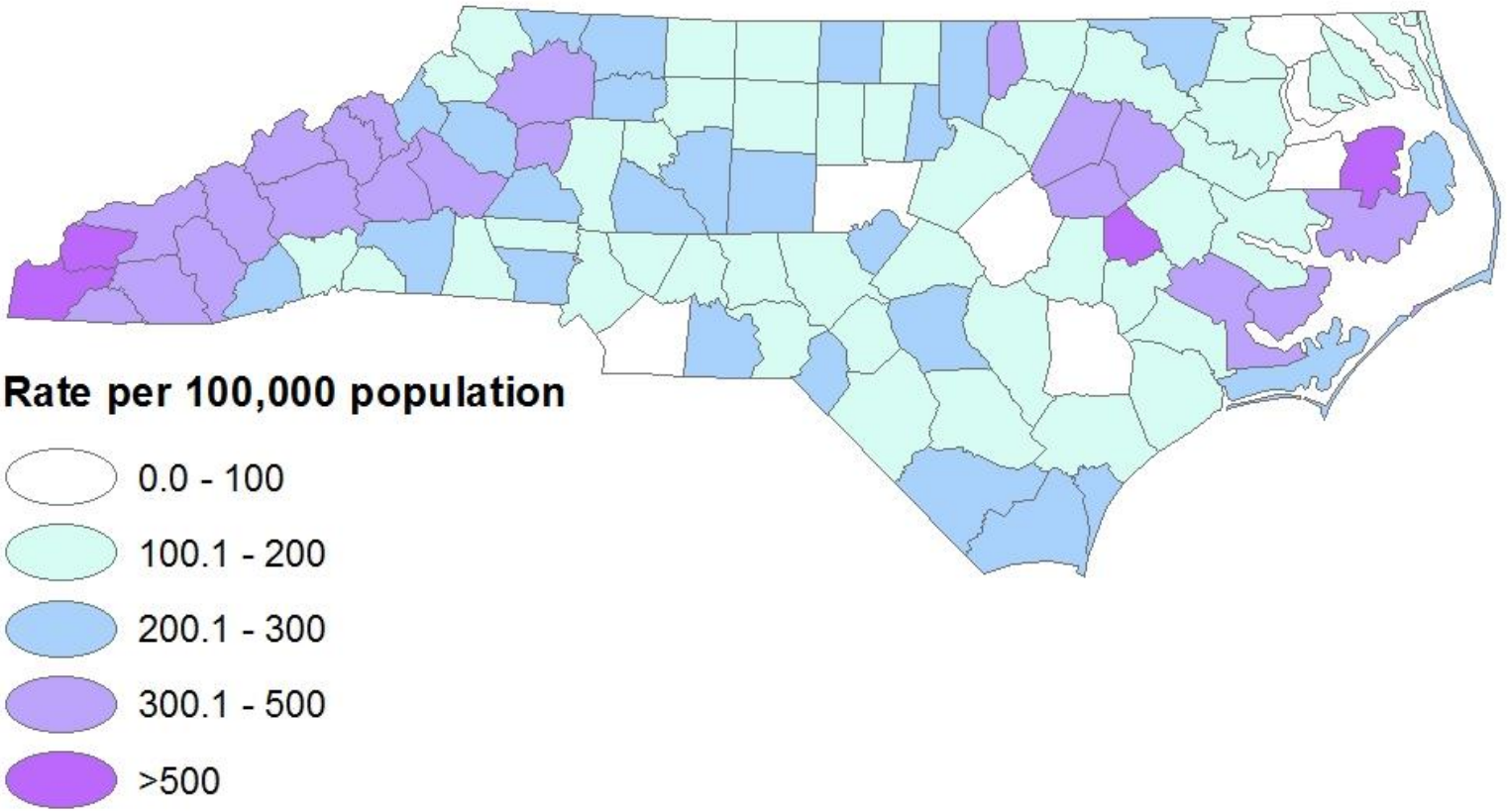
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of June 3, 2018) and Surveillance for Viral Hepatitis, United States, 2009-2015 CDC reports (https://www.cdc.gov/hepatitis/statistics/index.htm).

Acute HCV County Rates in North Carolina 2017



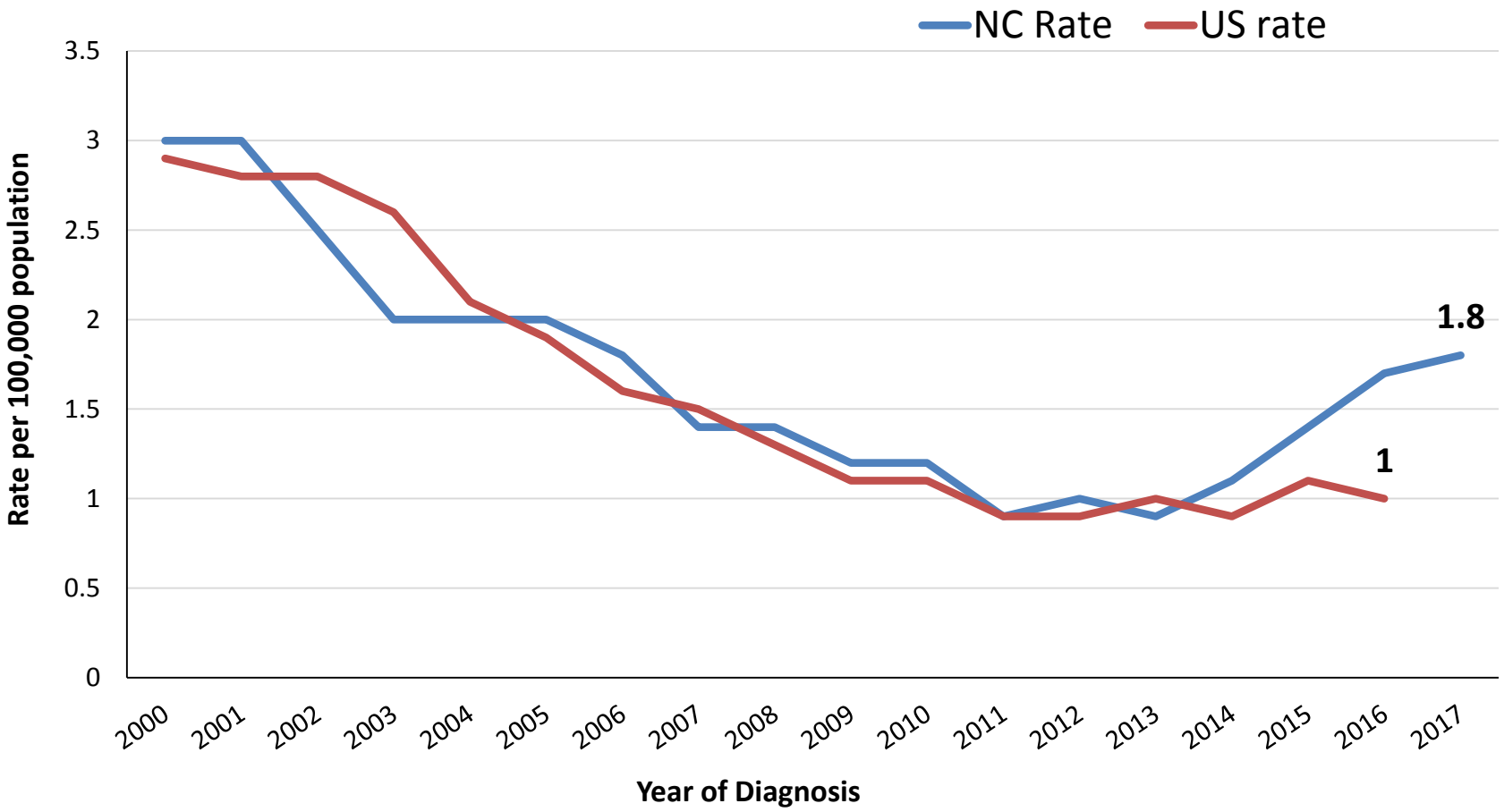
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of June 3, 2018).

Chronic HCV County Rates in North Carolina 2017



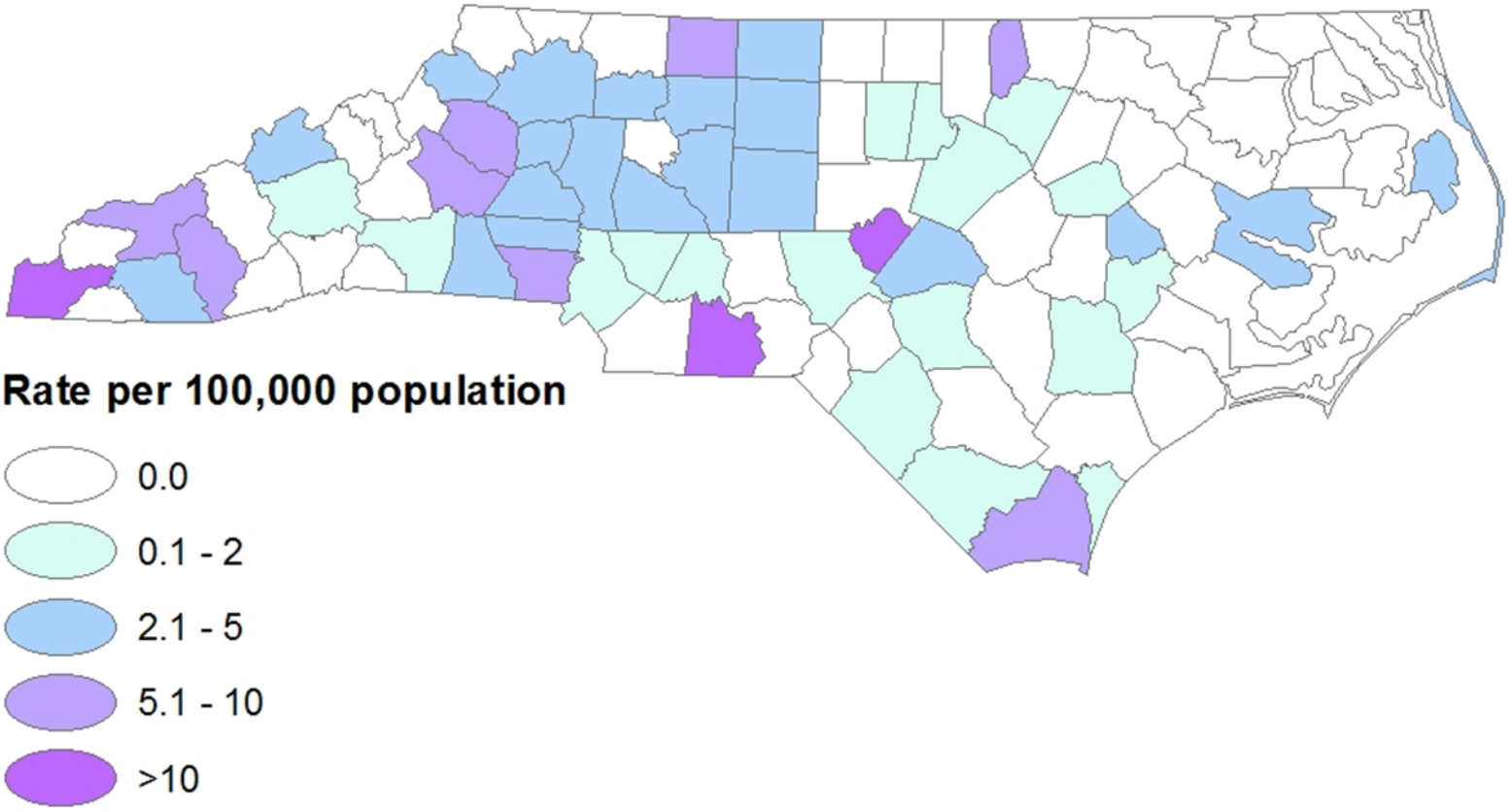
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of June 3, 2018).

Acute HBV Rates in North Carolina and United States, 2000–2017



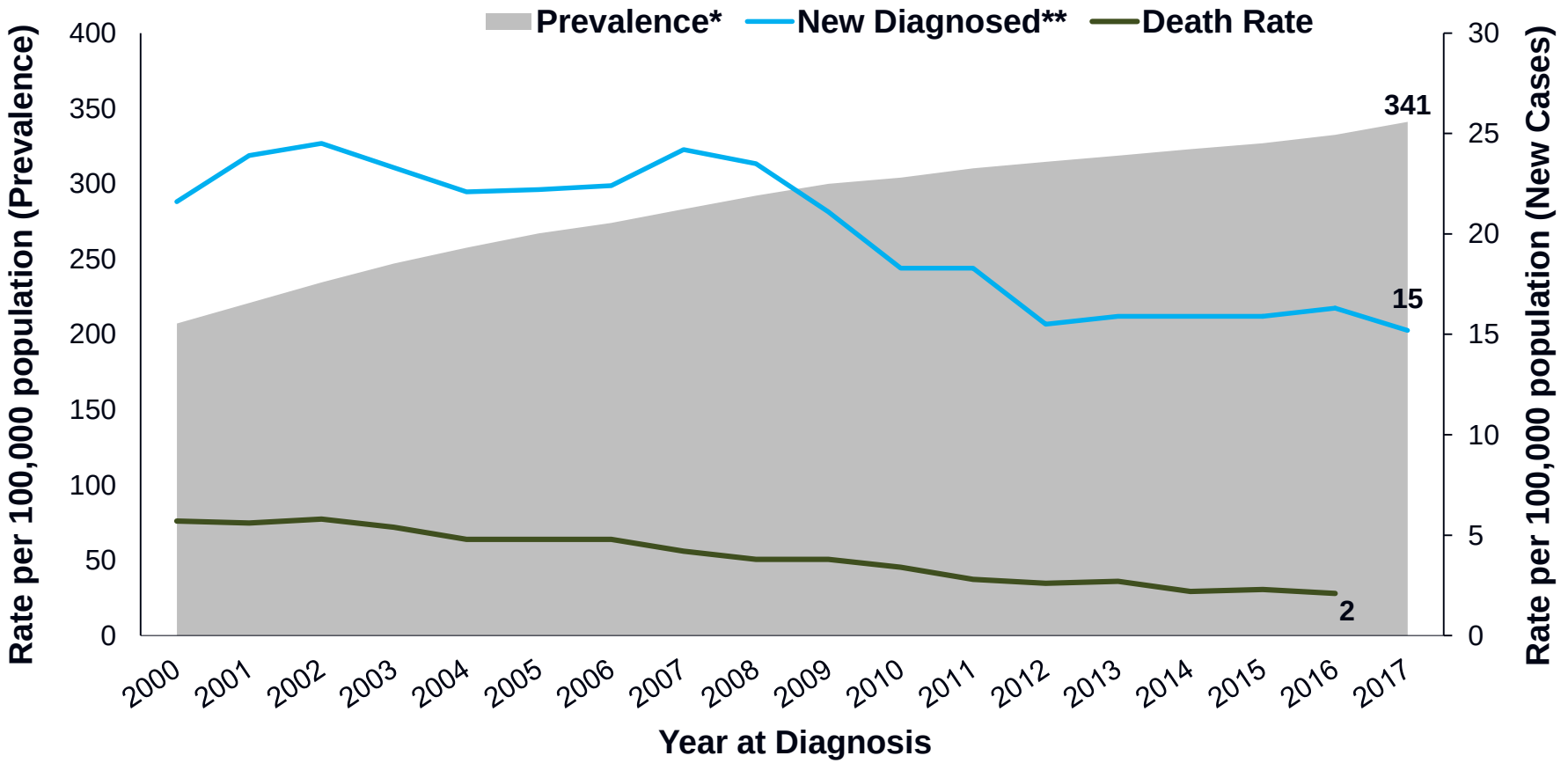
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of June 3, 2018) and Surveillance for Viral Hepatitis, United States, 2000-2016 CDC reports (https://www.cdc.gov/hepatitis/statistics/index.htm).

Acute HBV County Rates in North Carolina 2017



Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of June 3, 2018).

North Carolina HIV Infection Rates by Year of Diagnosis, 2000–2017

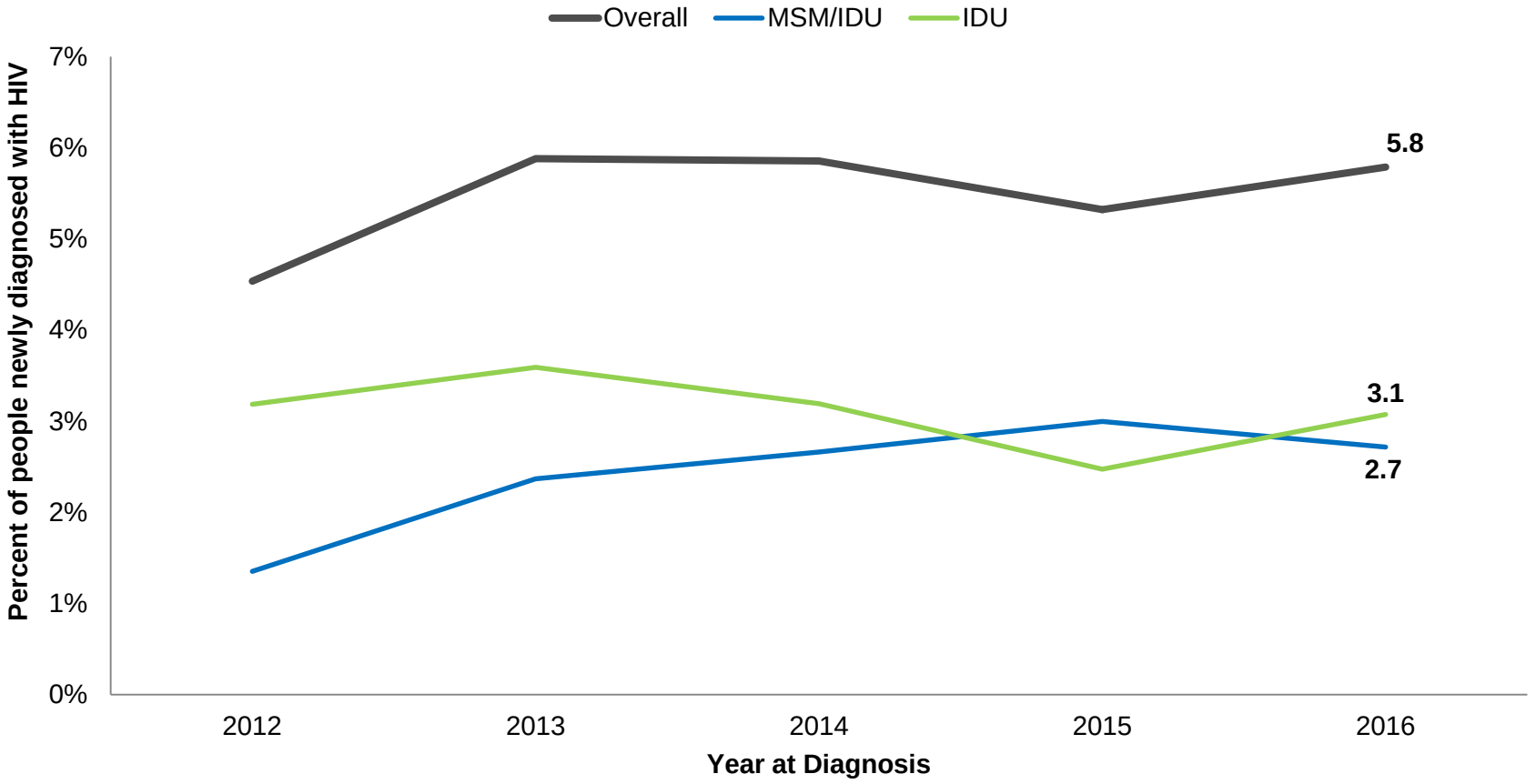


*Based on most recent address in eHARS as of December 31 of the given year.

**New cases are only among adults and adolescents (13 years and older).

Data Source: enhanced HIV/AIDS Reporting System (eHARS) (data as of June 27, 2018) and North Carolina Vital Statistics, Volume 2: Leading Causes of Death 2000-2016.

Newly Diagnosed HIV Cases by Reported Risk, North Carolina, 2012–2016



^Unknown risk has been redistributed. This includes people classified as MSM/IDU.
Data Source: enhanced HIV/AIDS Reporting System (eHARS) (data as of June 27, 2017).

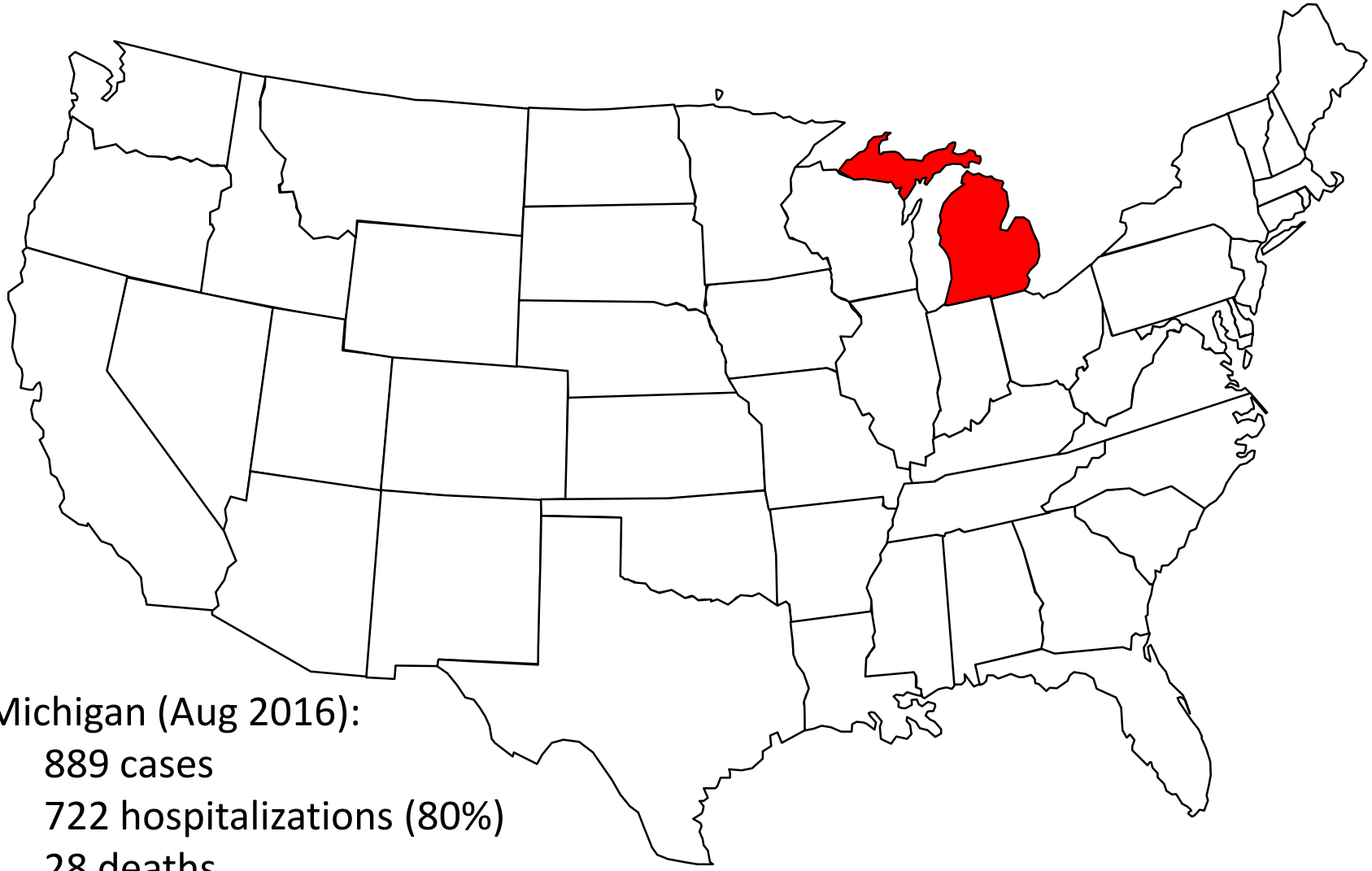
Scott County, Indiana

Hepatitis A Outbreaks, 2016–19

- Large, prolonged, expensive
- Common risk factors:
  - Drug use (not only injection)
  - Homelessness
  - (MSM)
- Many sub-crises within the outbreaks
  - Restaurant exposures
  - Facility outbreaks (e.g. correctional)

Hepatitis A Outbreaks, 2016–19

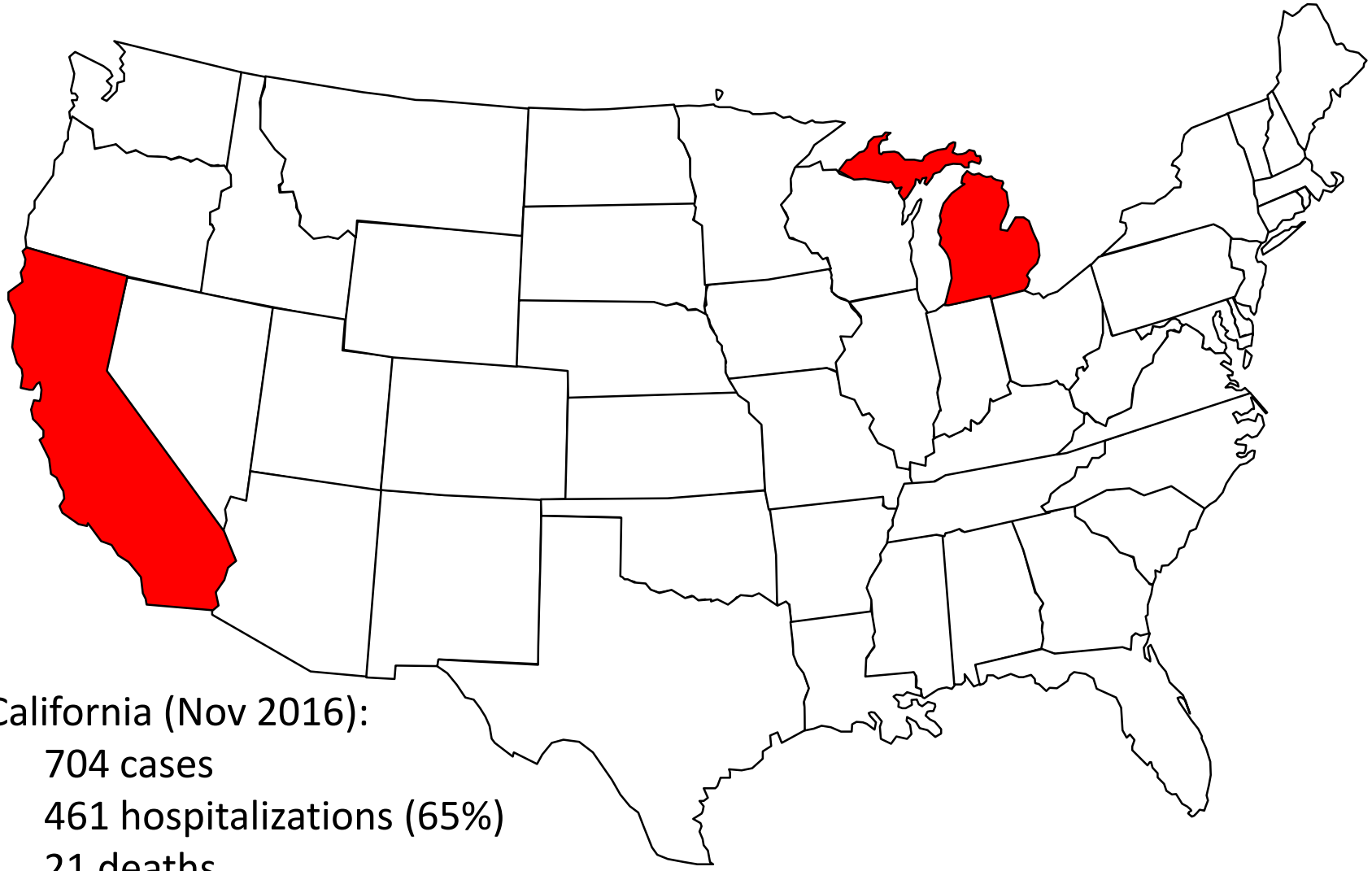
Hepatitis A Outbreaks, 2016–19



Michigan (Aug 2016):

- 889 cases
- 722 hospitalizations (80%)
- 28 deaths

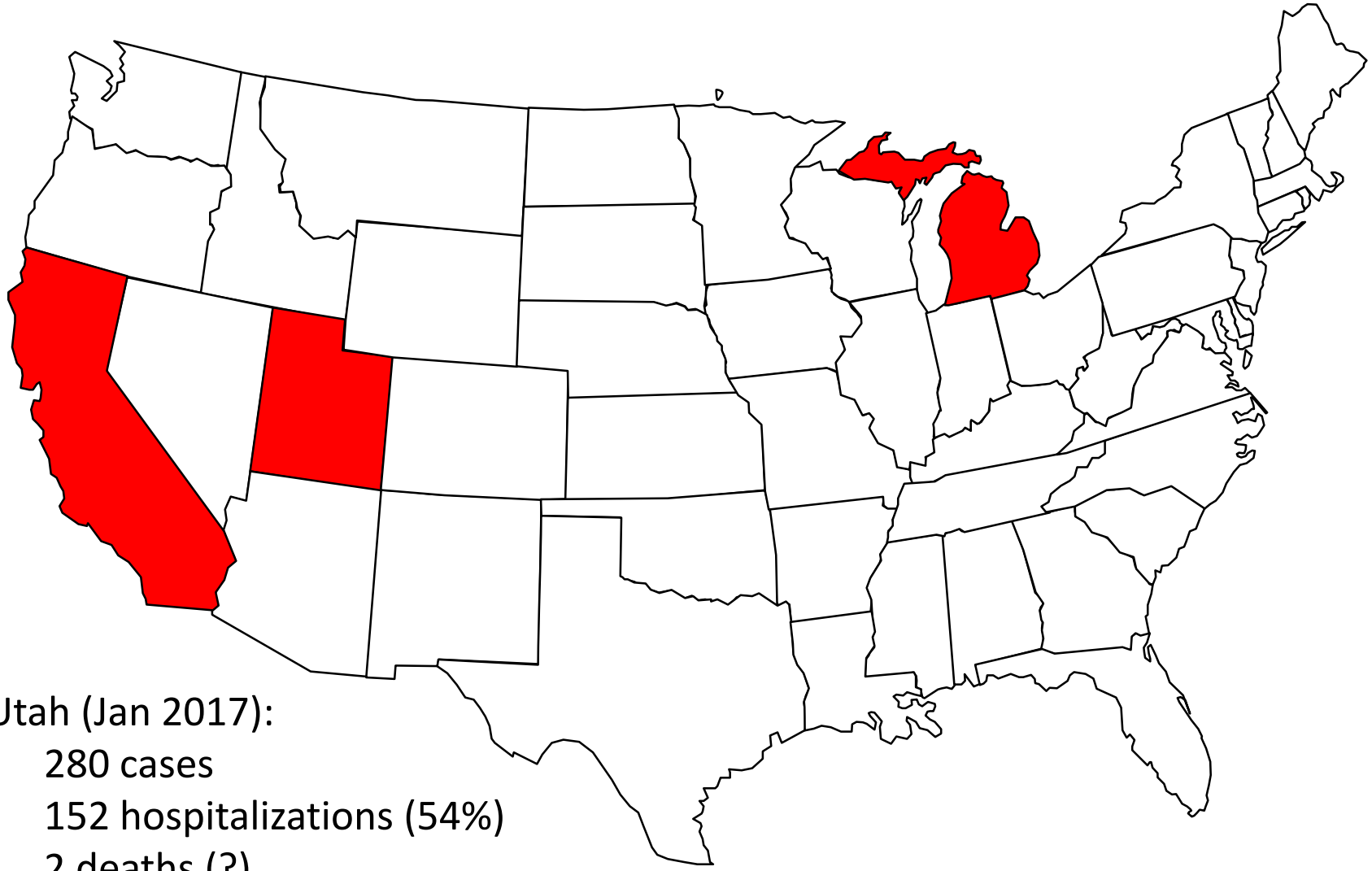
Hepatitis A Outbreaks, 2016–19



California (Nov 2016):

- 704 cases
- 461 hospitalizations (65%)
- 21 deaths

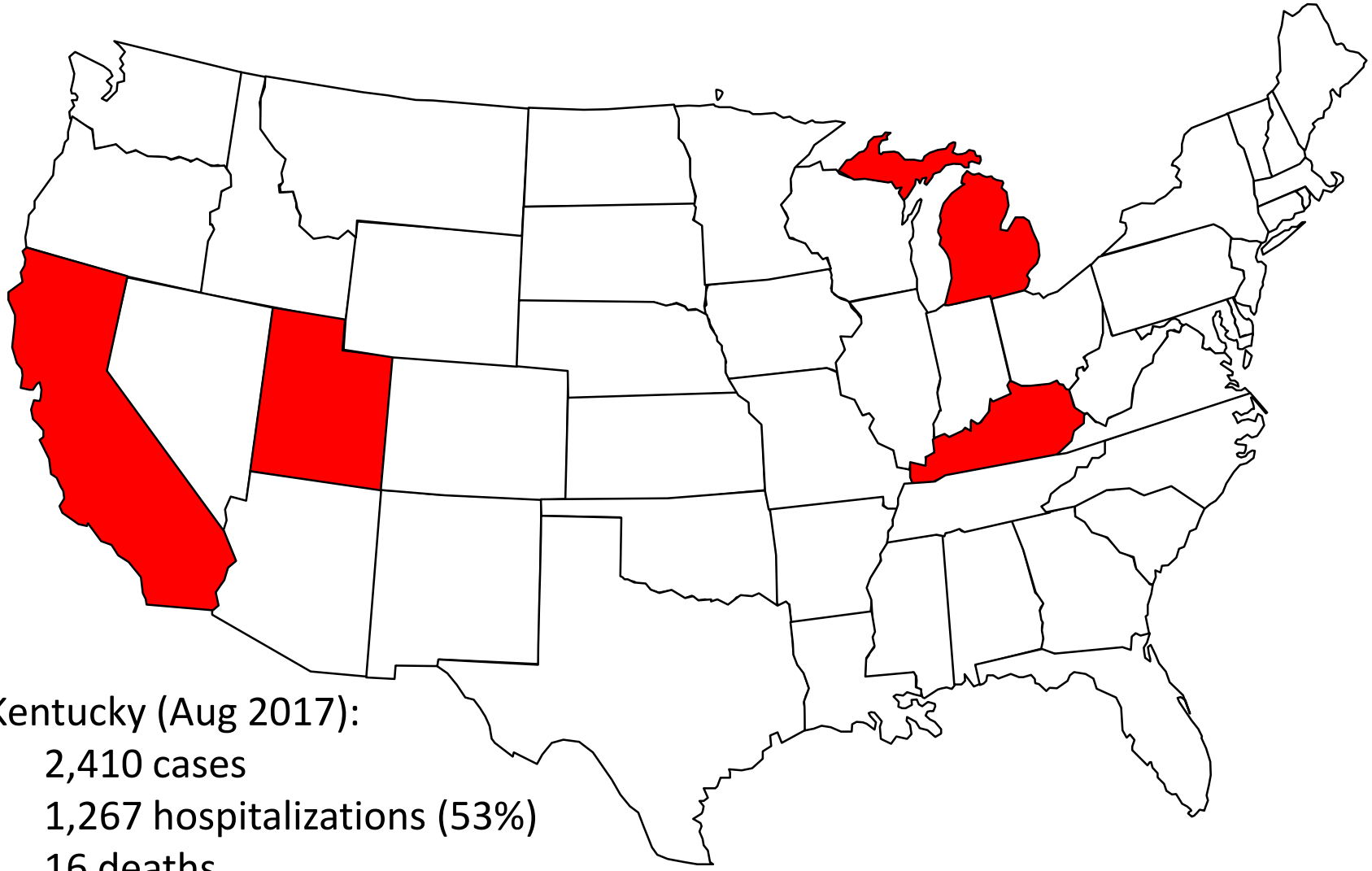
Hepatitis A Outbreaks, 2016–19



Utah (Jan 2017):

- 280 cases
- 152 hospitalizations (54%)
- 2 deaths (?)

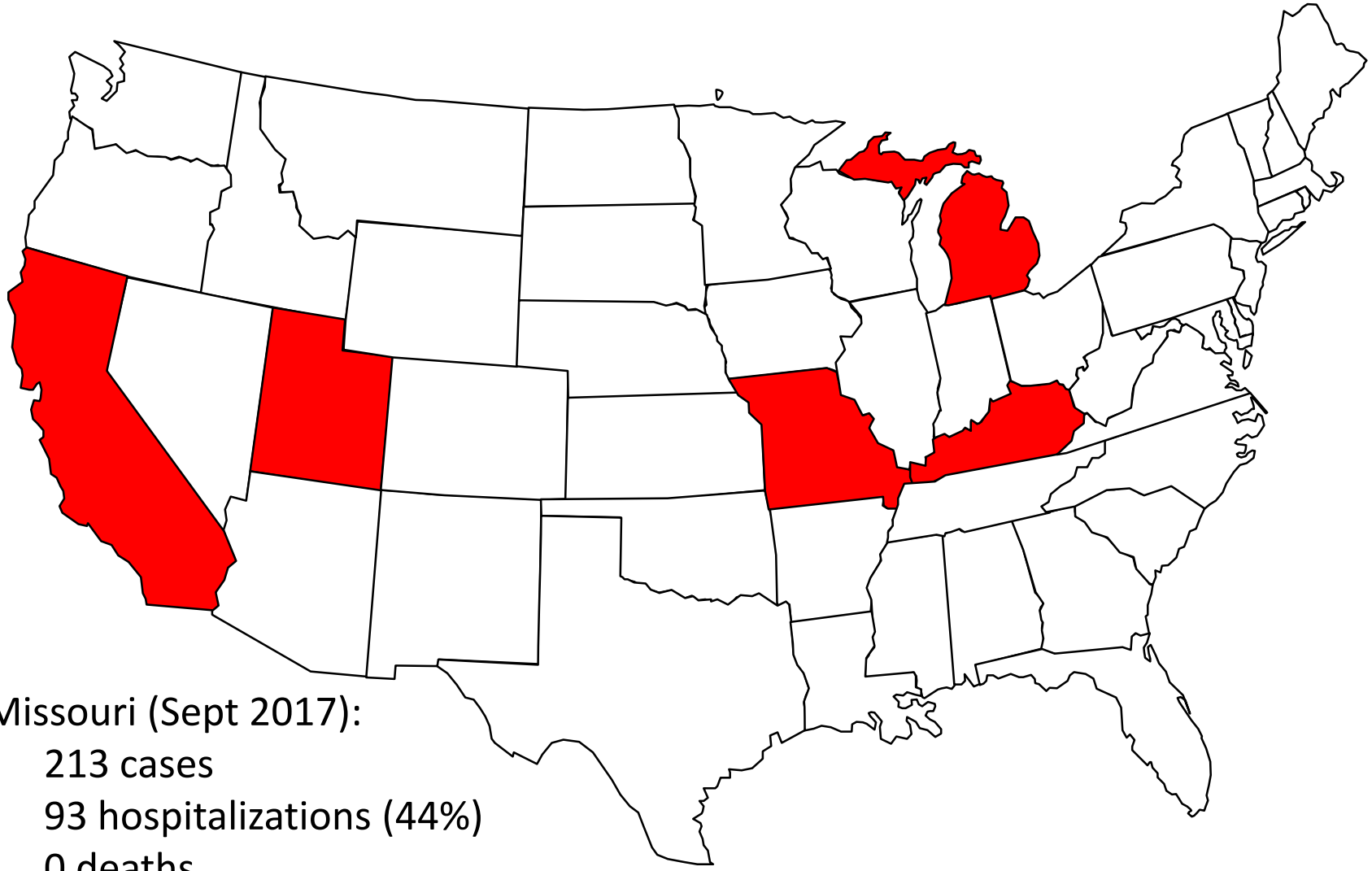
Hepatitis A Outbreaks, 2016–19



Kentucky (Aug 2017):

- 2,410 cases
- 1,267 hospitalizations (53%)
- 16 deaths

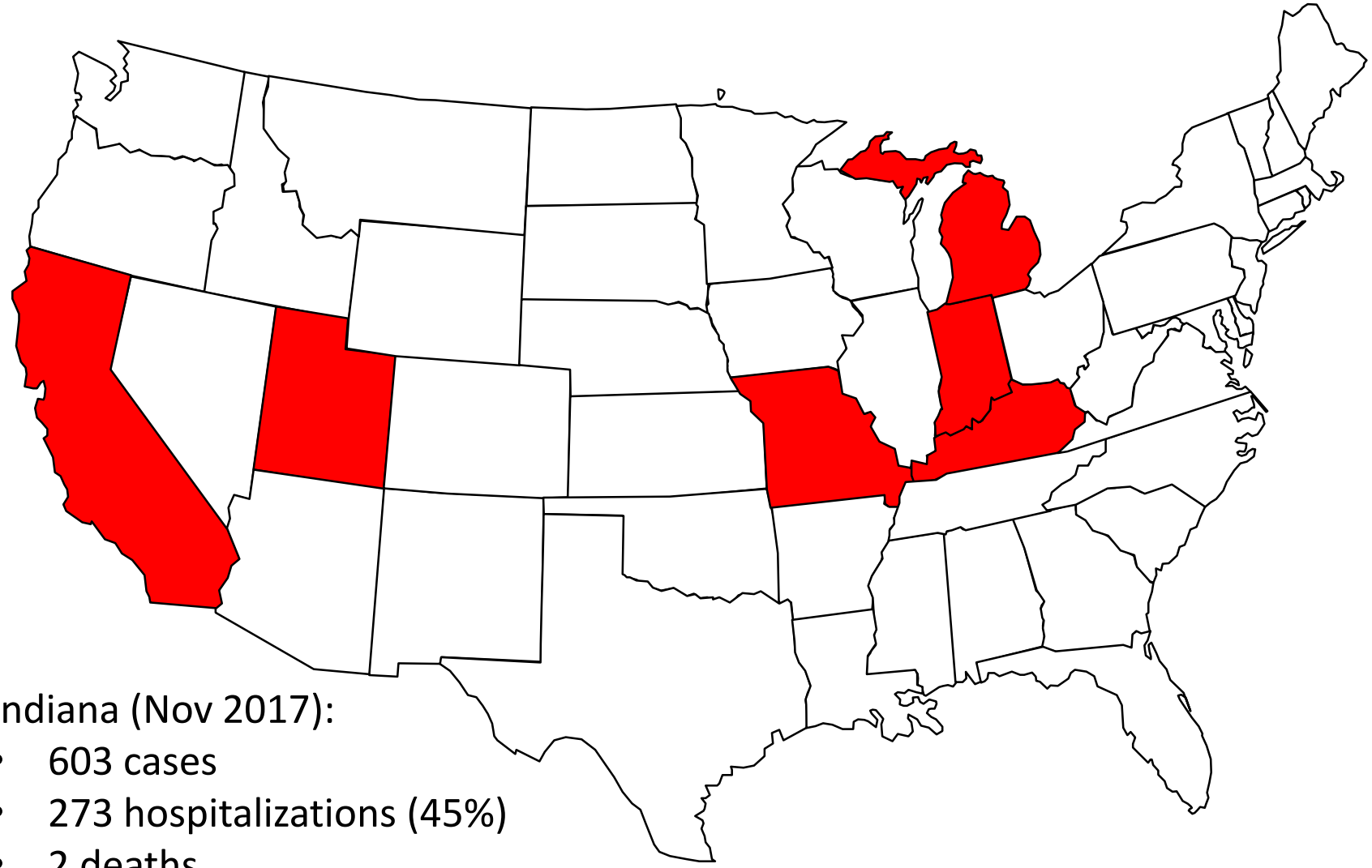
Hepatitis A Outbreaks, 2016–19



Missouri (Sept 2017):

- 213 cases
- 93 hospitalizations (44%)
- 0 deaths

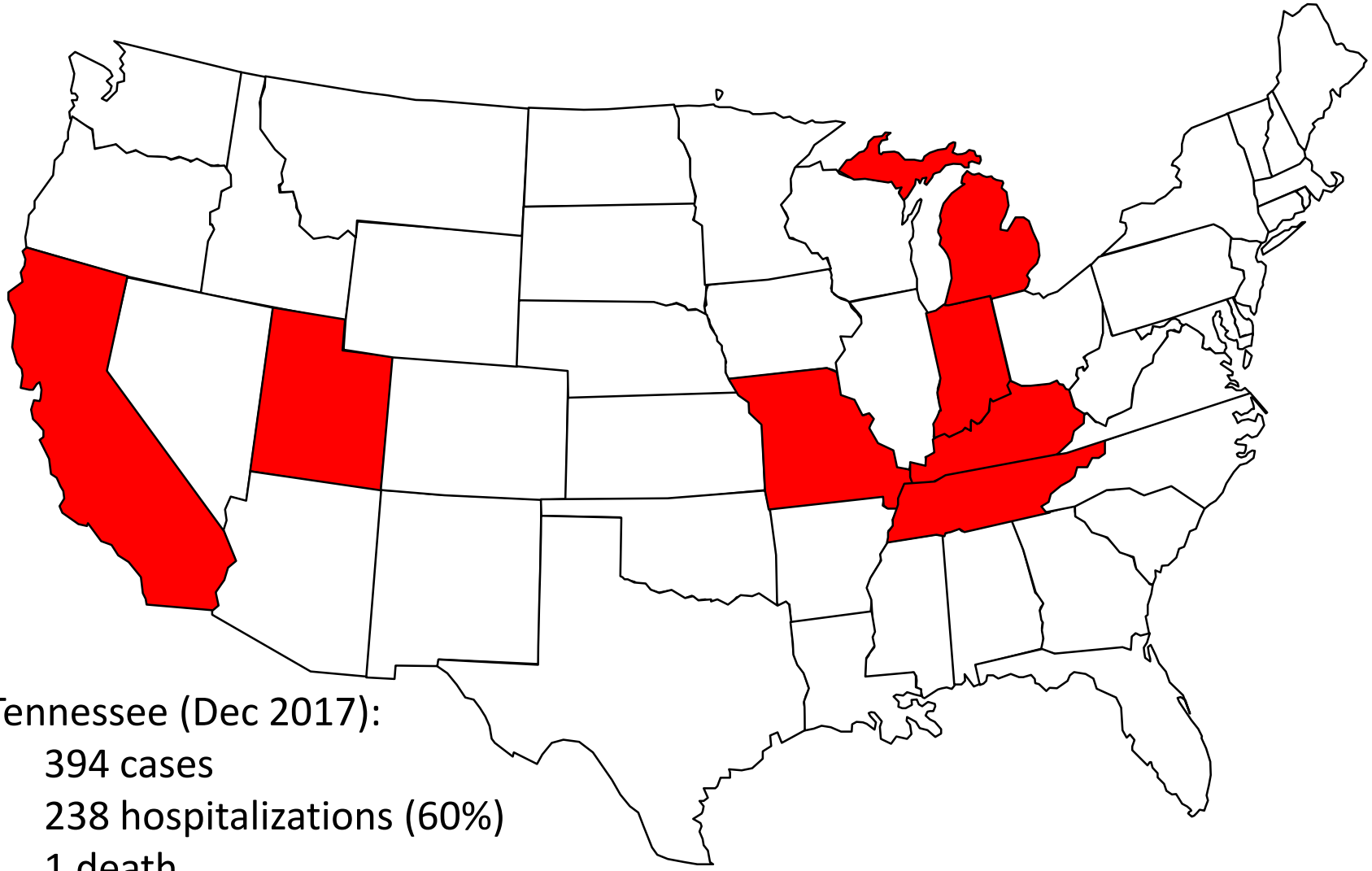
Hepatitis A Outbreaks, 2016–19



Indiana (Nov 2017):

- 603 cases
- 273 hospitalizations (45%)
- 2 deaths

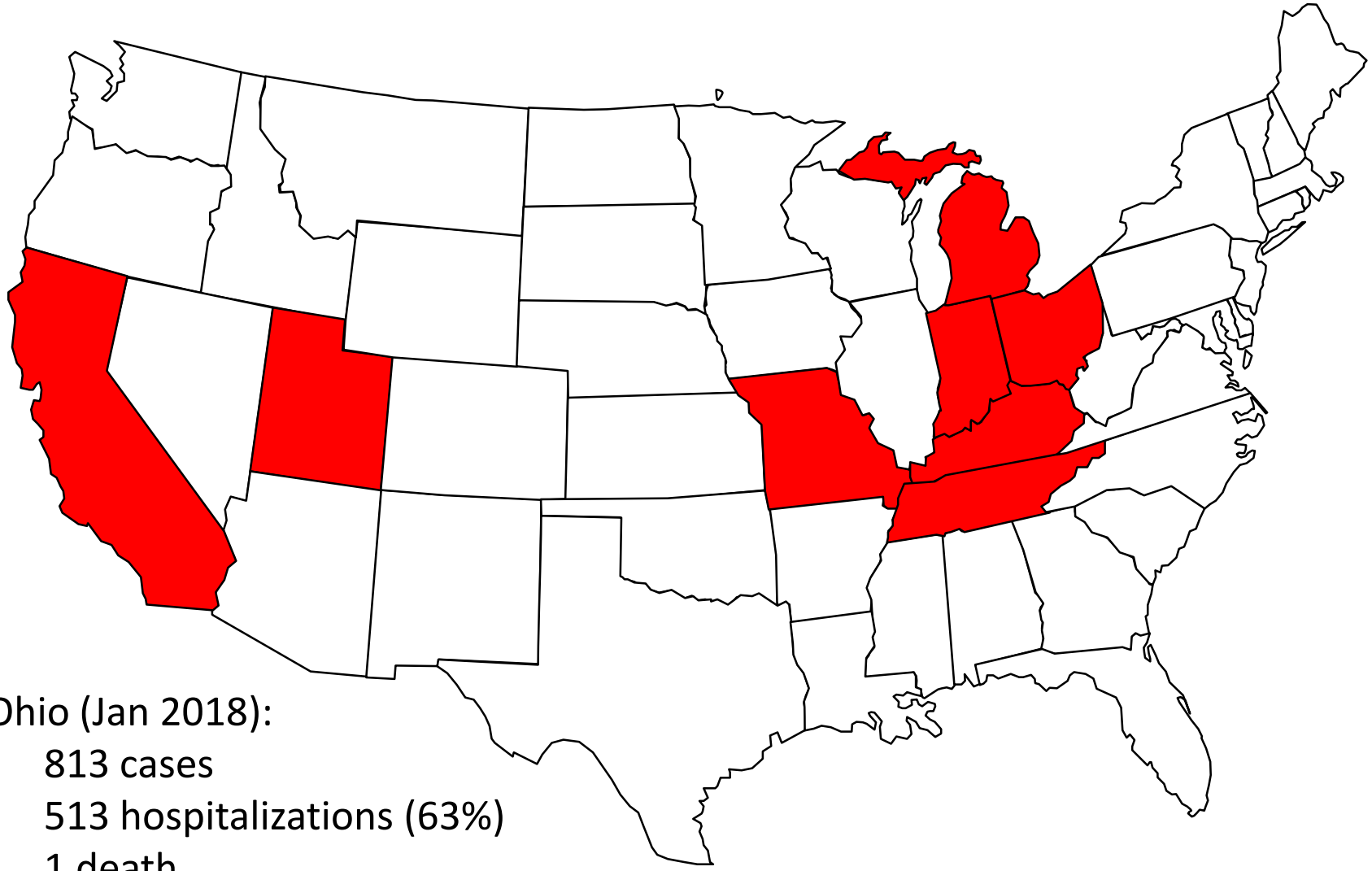
Hepatitis A Outbreaks, 2016–19



Tennessee (Dec 2017):

- 394 cases
- 238 hospitalizations (60%)
- 1 death

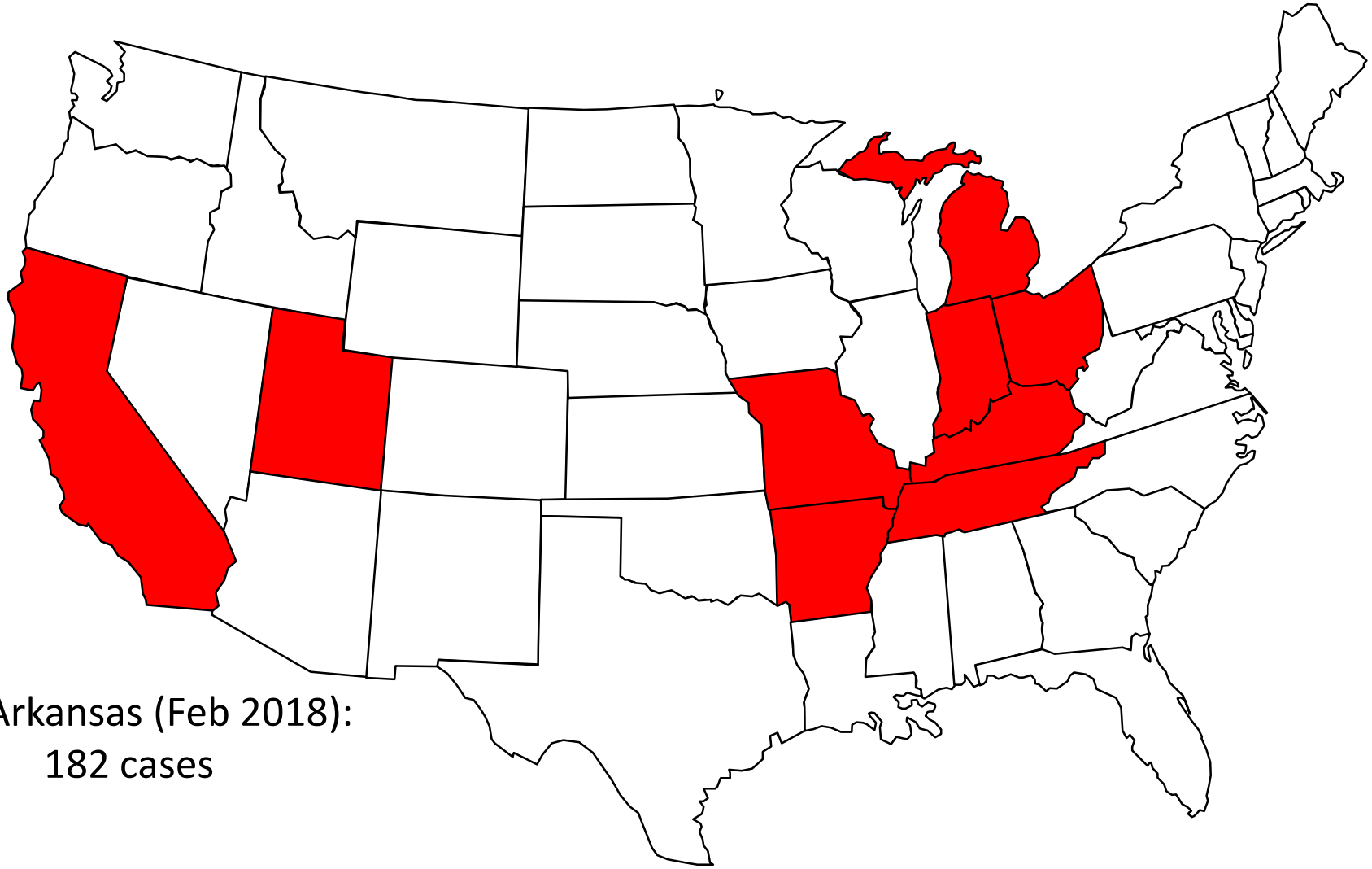
Hepatitis A Outbreaks, 2016–19



Ohio (Jan 2018):

- 813 cases
- 513 hospitalizations (63%)
- 1 death

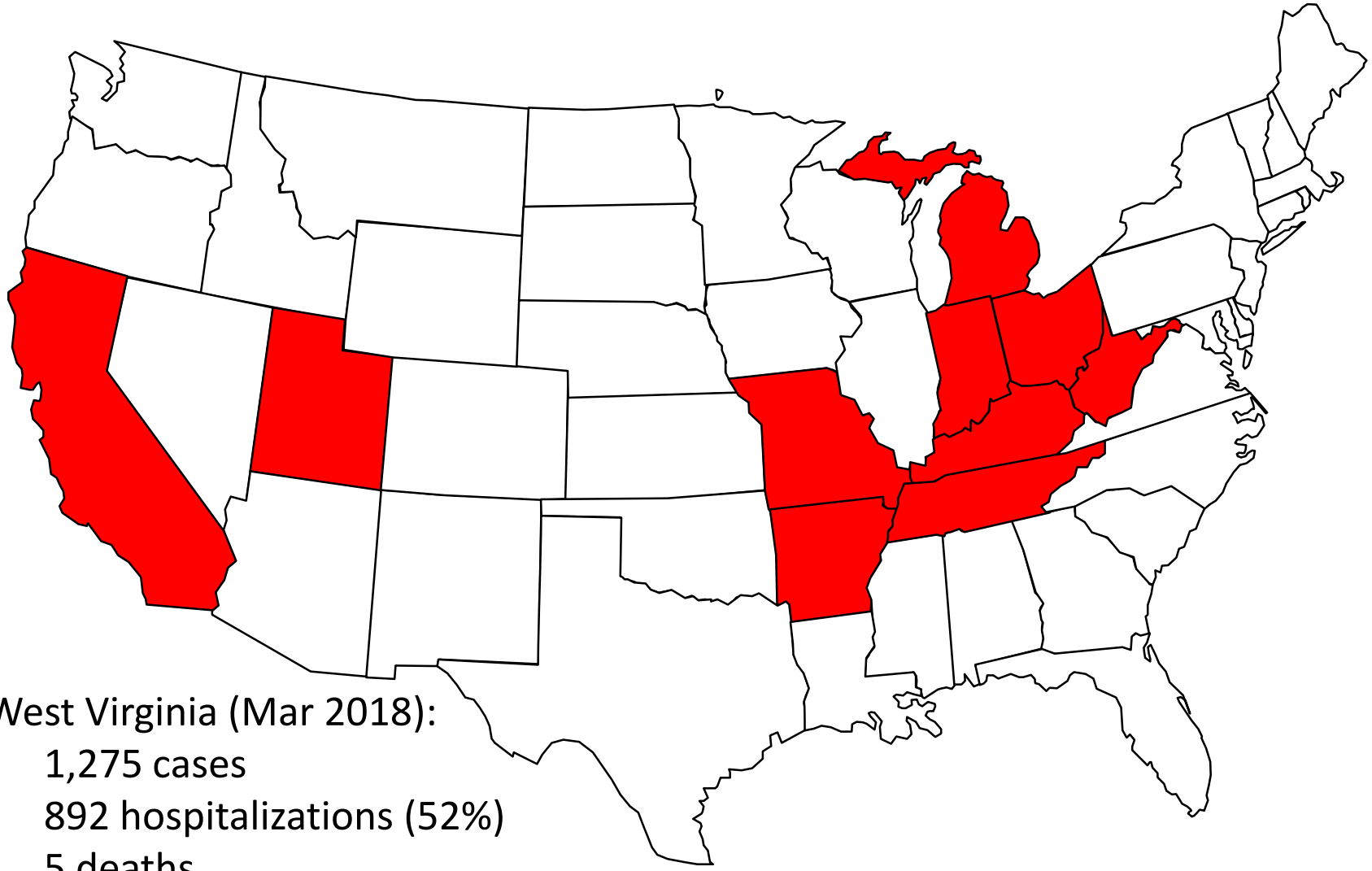
Hepatitis A Outbreaks, 2016–19



Arkansas (Feb 2018):

- 182 cases

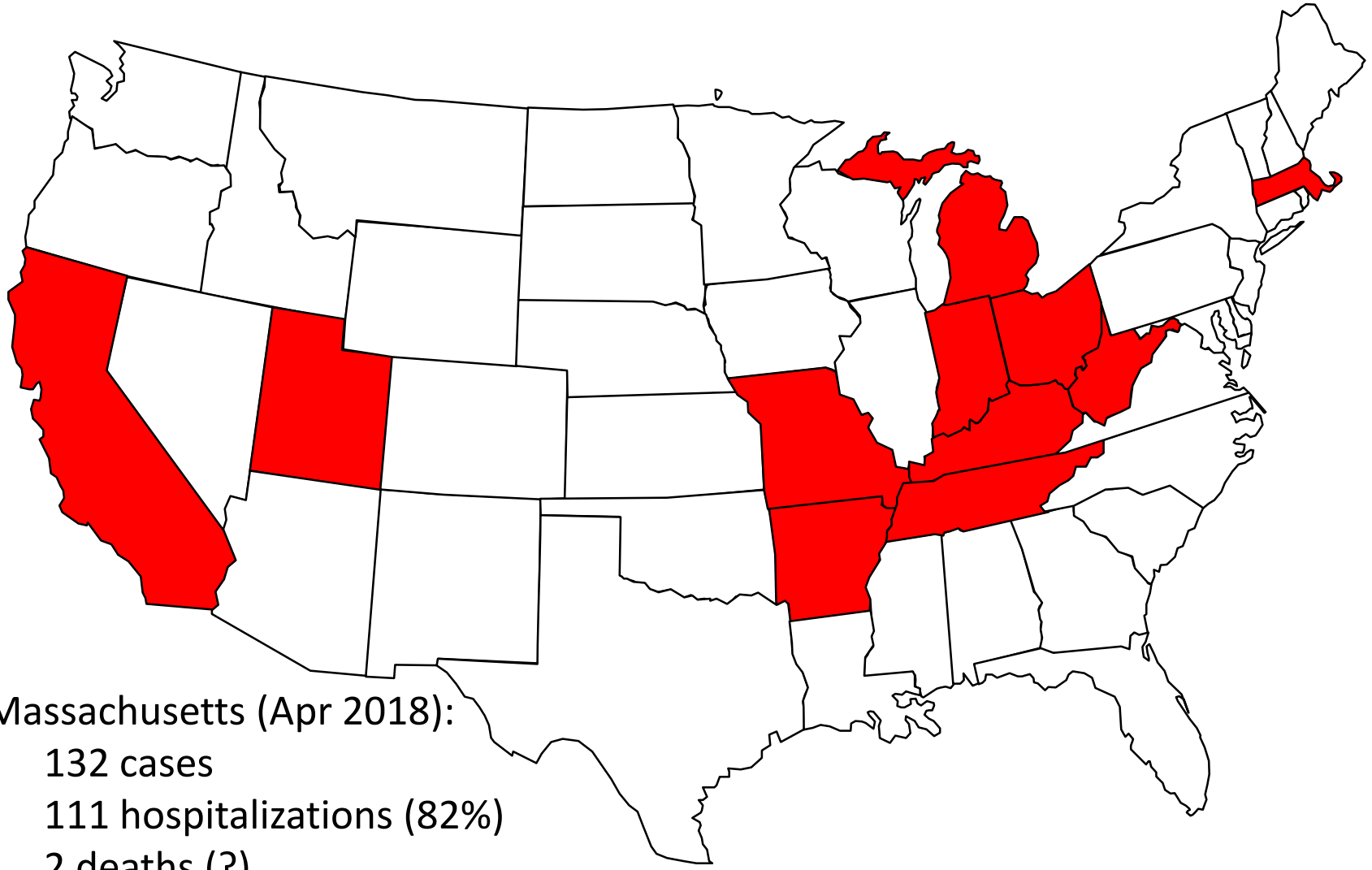
Hepatitis A Outbreaks, 2016–19



West Virginia (Mar 2018):

- 1,275 cases
- 892 hospitalizations (52%)
- 5 deaths

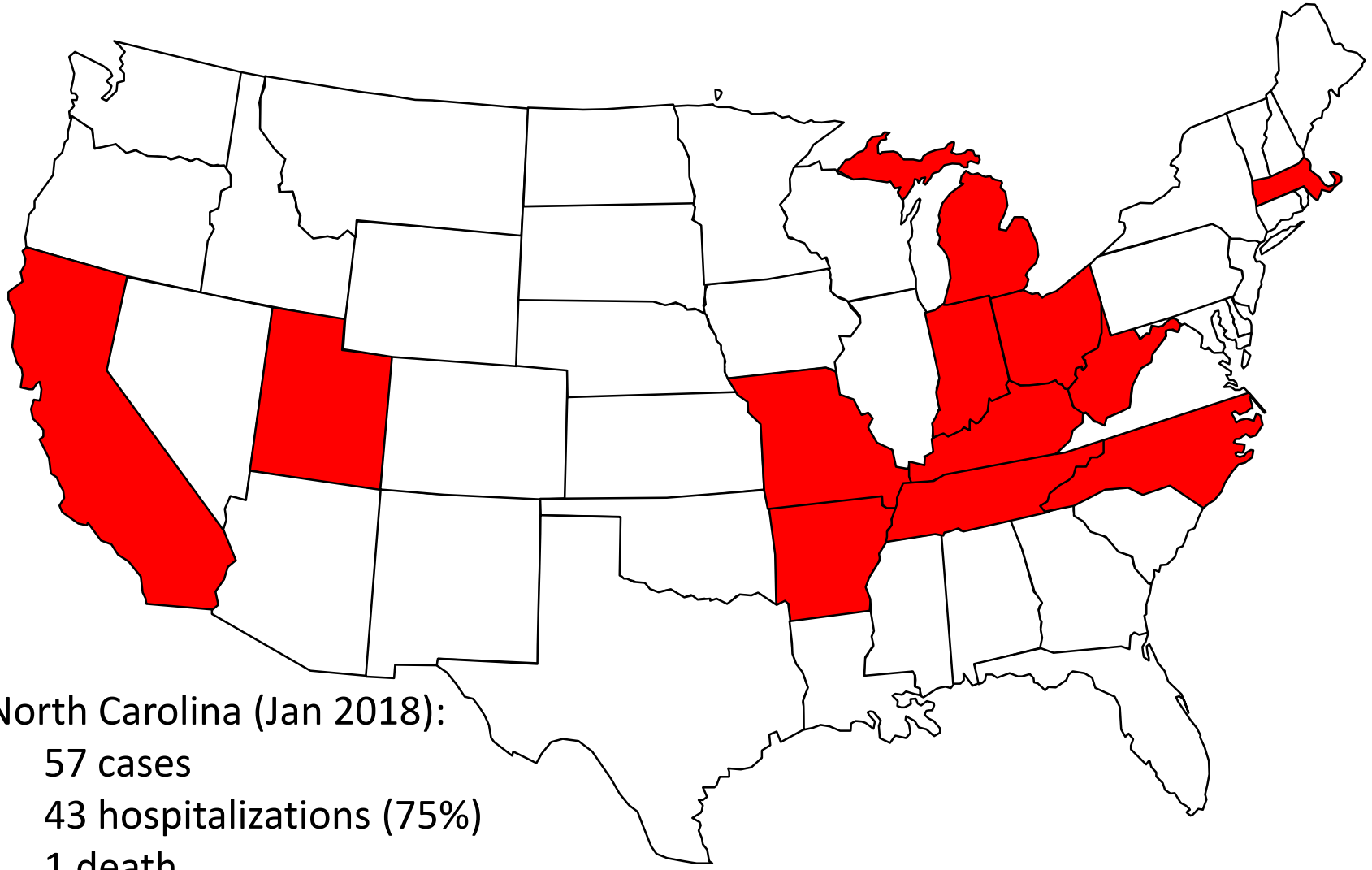
Hepatitis A Outbreaks, 2016–19



Massachusetts (Apr 2018):

- 132 cases
- 111 hospitalizations (82%)
- 2 deaths (?)

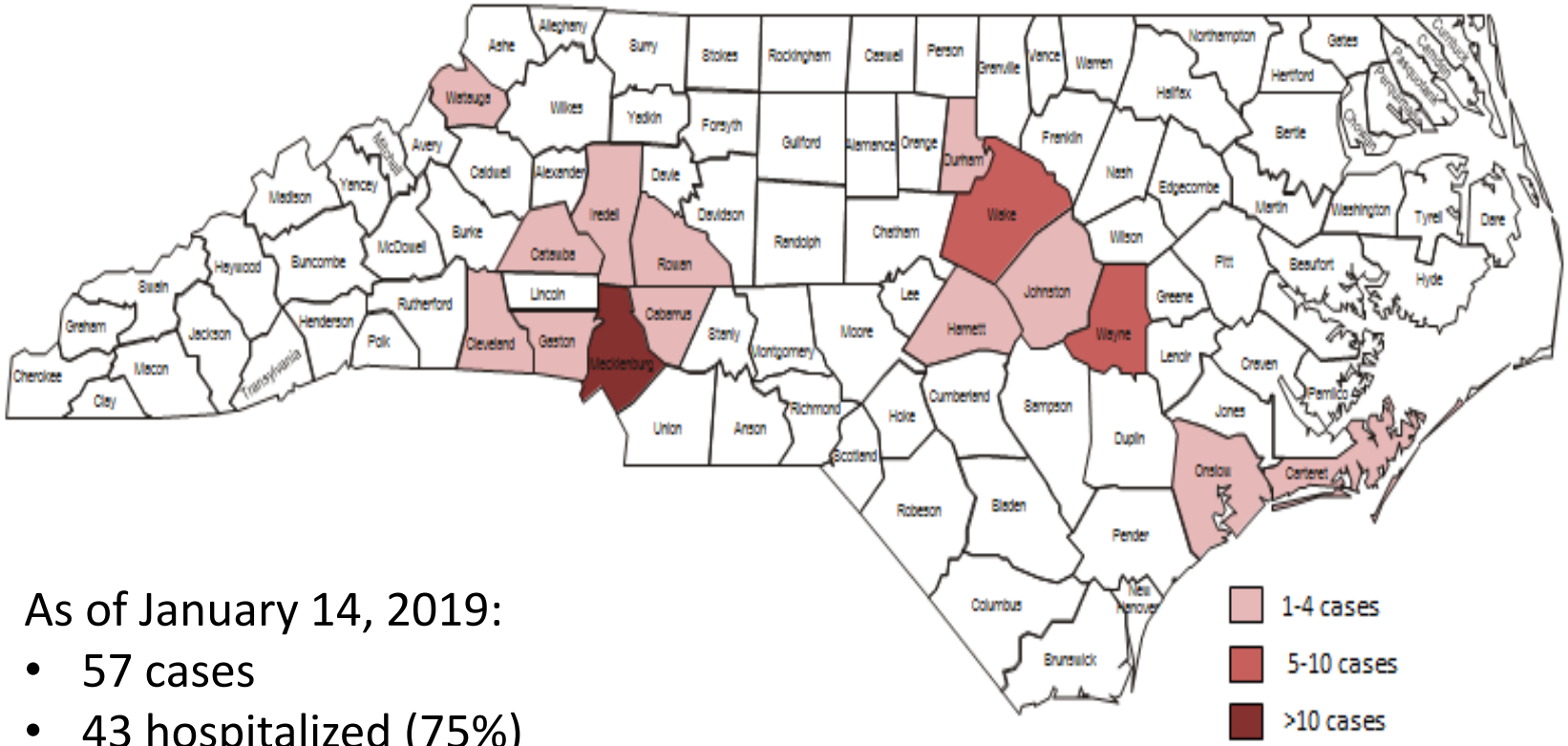
Hepatitis A Outbreaks, 2016–19



North Carolina (Jan 2018):

- 57 cases
- 43 hospitalizations (75%)
- 1 death

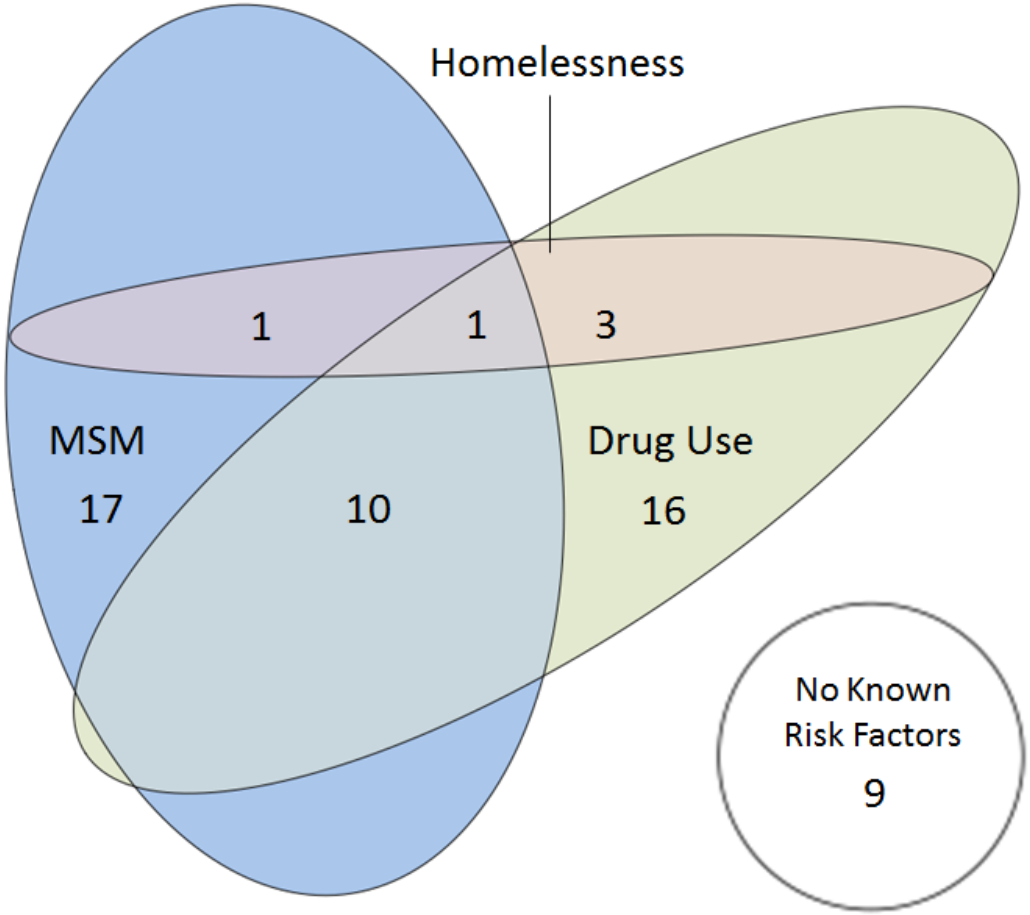
Hepatitis A Outbreak in North Carolina



As of January 14, 2019:

- 57 cases
- 43 hospitalized (75%)
- 1 death

Risk Factors among Outbreak-Associated Cases



Hepatitis A Response

- Increase vaccine coverage in high-risk groups
- Identify and work with partners
  - Substance treatment facilities
  - Jails and prisons
  - Health care facilities (STD clinics, CBOs, etc.)
  - Syringe service programs
  - Others?

Seriously?

Did you know **HEPATITIS A** liver infections are on the rise in North Carolina? If you are experiencing homelessness, use drugs or are a man who has sex with men, you are most at risk.

Protect yourself.
Protect others.
Get vaccinated.

Seriously.

Hepatitis A is spread when small, undetectable amounts of feces (poop) get into your mouth. You can get hepatitis A:

- By swallowing food or drink contaminated with the virus.
- Through oral or anal sex.
- By touching surfaces or objects contaminated with the virus, then putting your hands in your mouth.

Hepatitis A can also be spread by sharing drug injection equipment.

Ask your doctor or local health department about the hepatitis A vaccine.

NC Department of Health and Human Services • Division of Public Health • Epidemiology Section • Communicable Disease Branch
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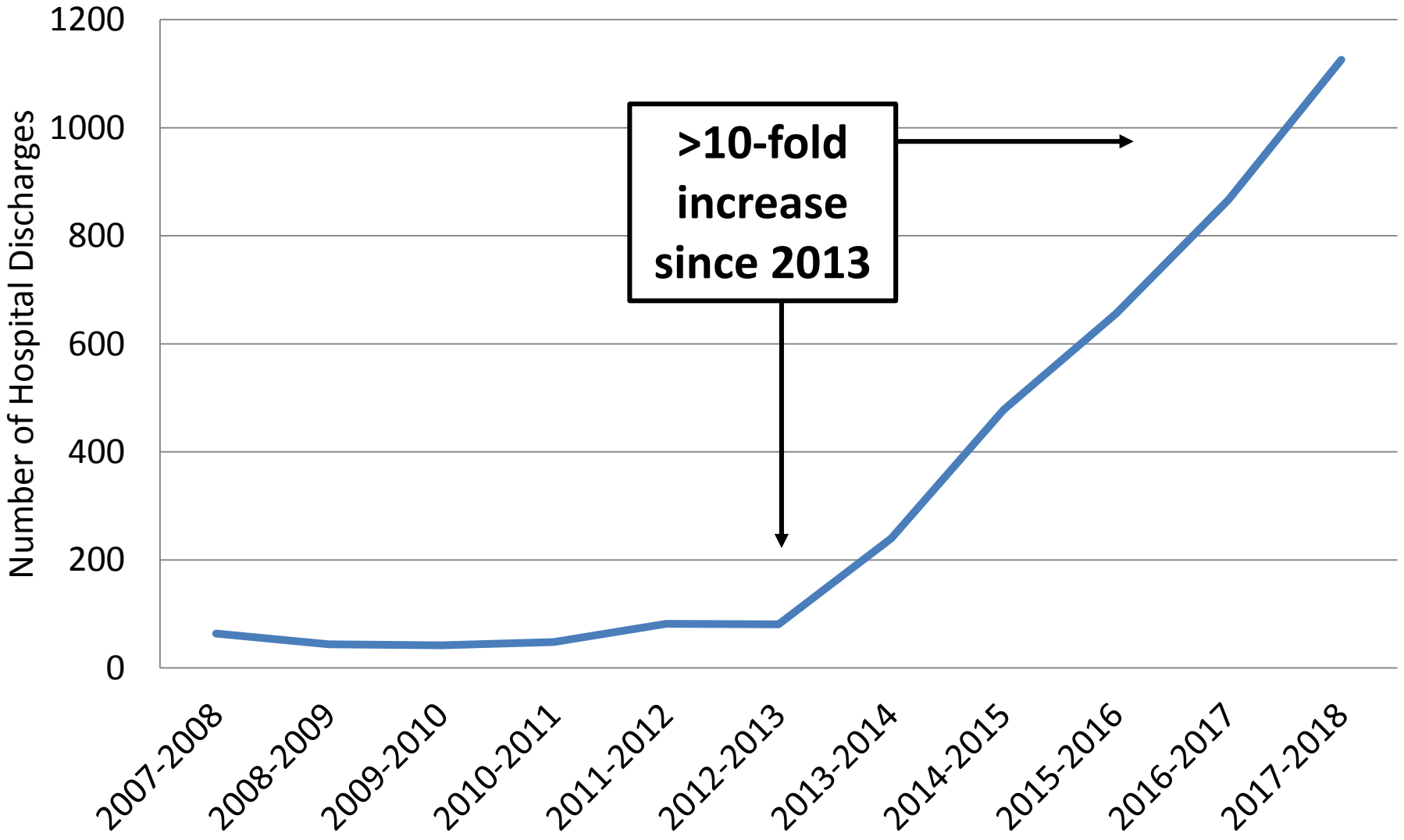
Drug-Associated Endocarditis Hospitalizations, 2007-2018



Endocarditis: Patient Characteristics

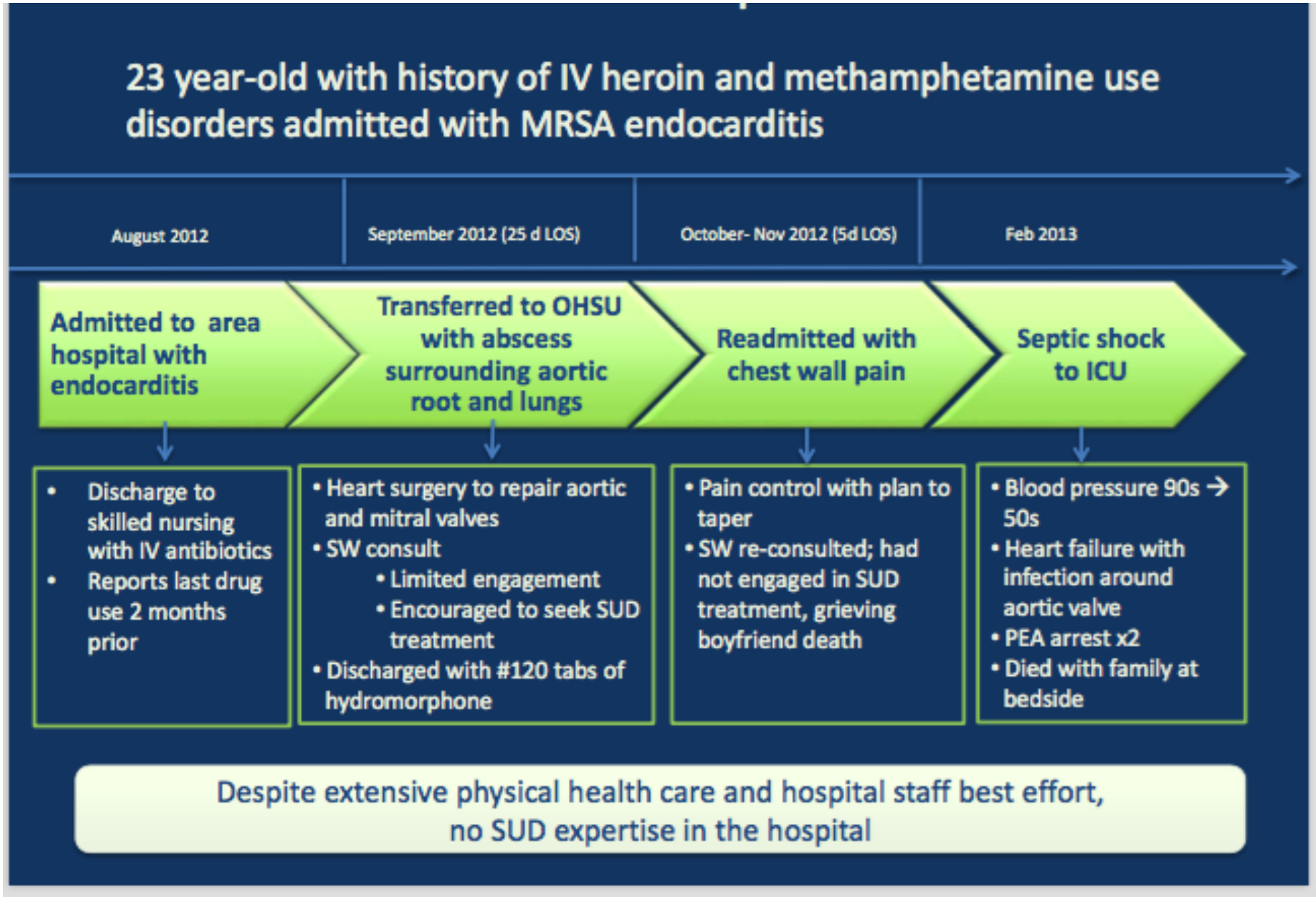
Characteristic	No. (%)
Age at hospital admission (yrs)	
18–25	82 (16)
26–40	245 (49)
41–60	131 (26)
>60	47 (9)
Gender	
Male	240 (48)
Female	265 (52)
Ethnicity	
Non-Hispanic	465 (92)
Hispanic	7 (1)
Unknown	33 (7)
Race	
African-American	41 (8)
White	440 (87)
Other	24 (5)
Geographic classification*	
Rural	302 (60)
Urban	75 (15)
Regional City	128 (25)
Other infections	
Hepatitis C virus (HCV)	181 (36)
Human immunodeficiency virus (HIV)	7 (1.4)

Young

White

Rural

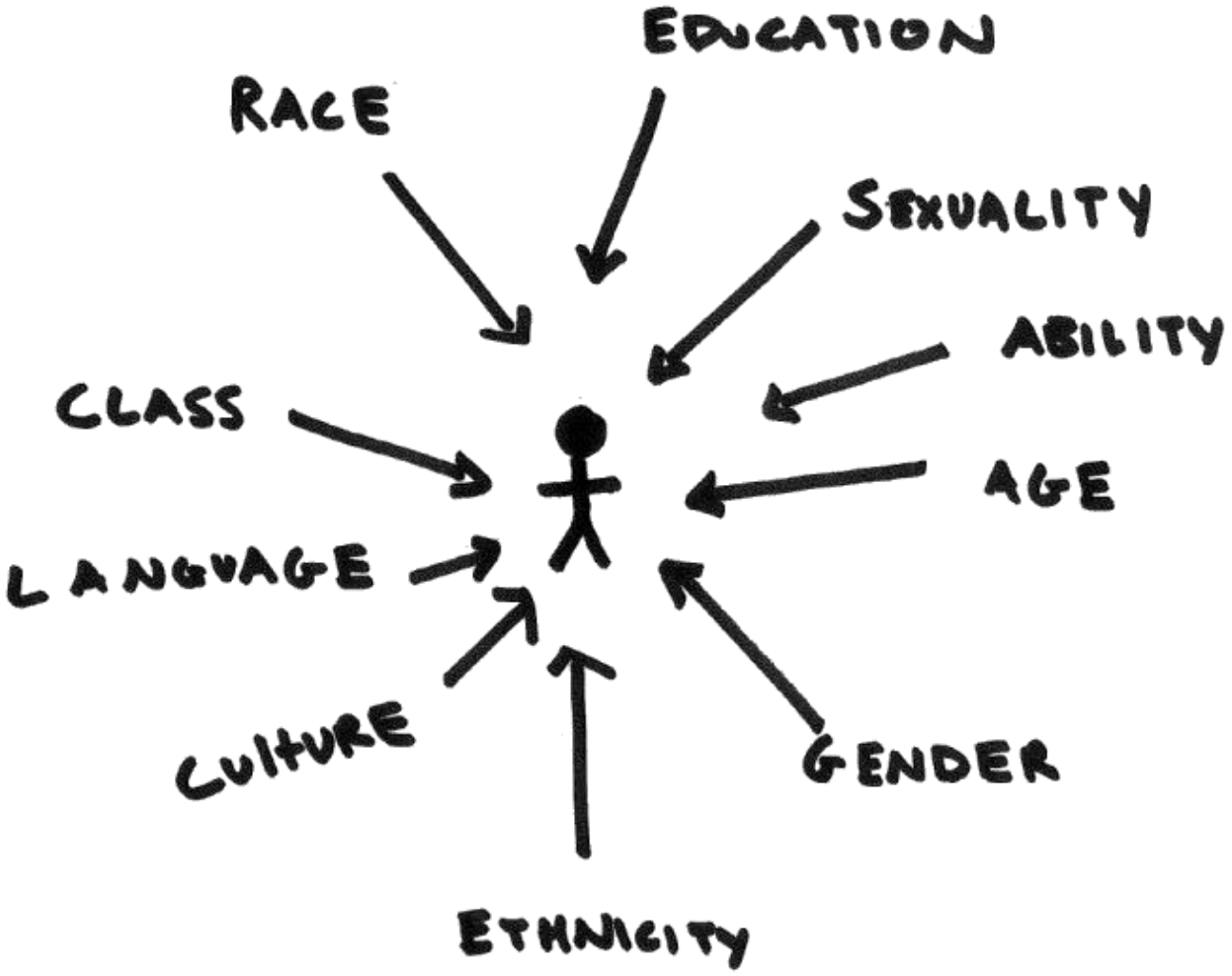
HCV-infected



http://www.nationalacademies.org/hmd/~/media/Files/Activity%20Files/PublicHealth/Opioid-Workshop/Englander-Honora.pdf

Drug User Health

Drug User Health



Drug User Health

Myths:

- ✓ *People who use drugs don't care about their health*
- ✓ *People who use drugs can't manage medication routines*
- ✓ *People who use drugs are only interested in getting narcotics / opiates*
- ✓ *People who use drugs "brought their health condition upon themselves" and thus don't deserve quality care*

Roles for Public Health

- Remove barriers to access
  - Identify and address stigma, disparities
  - Support/engage bridge counselors
  - Use non stigmatizing language
  - Address integrative health care, rather than one risk
- Promote prevention
  - Provide/support harm reduction services and education
  - Hep A and B vaccines
  - HBV, HCV, HIV, STD testing

Roles for Public Health

- Surveillance and response
  - Better tracking of infections, sharing of data
  - Improve identification and investigation of transmission/outbreaks in drug use networks
  - Identify at-risk groups, link to services
- Be the convener for community partners