

# **Hepatitis A and B outbreaks in Massachusetts, 2017-2018**

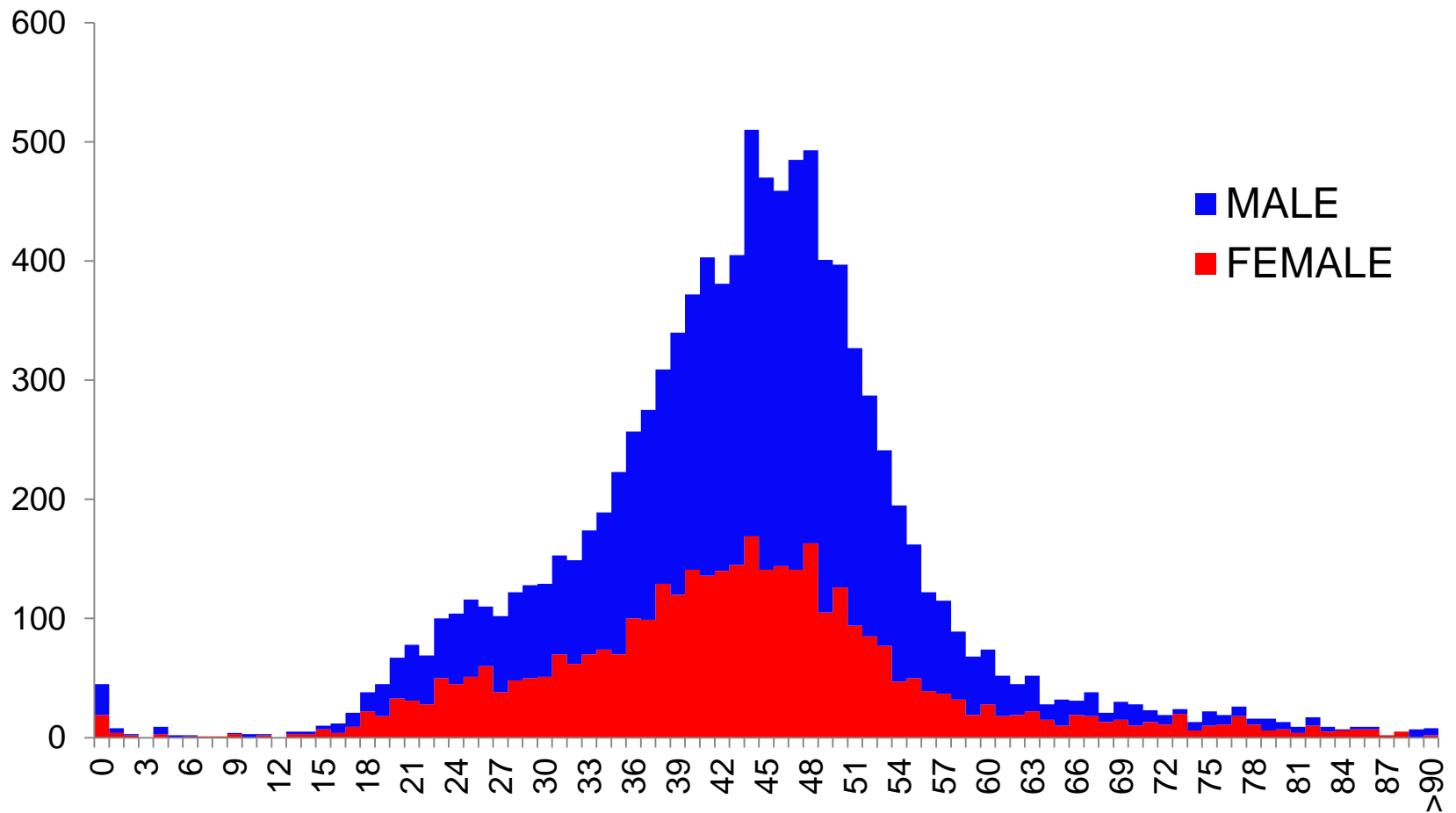
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Massachusetts Department of Public Health

# Massachusetts Background

- Population: 6.86 Million
- 10,565 mi<sup>2</sup>
- 10.4% of population live below the poverty line
- In 2007, we identified an increase Hepatitis C linked to injection drug use
- In 2015, Governor declared an opioid crisis in the state

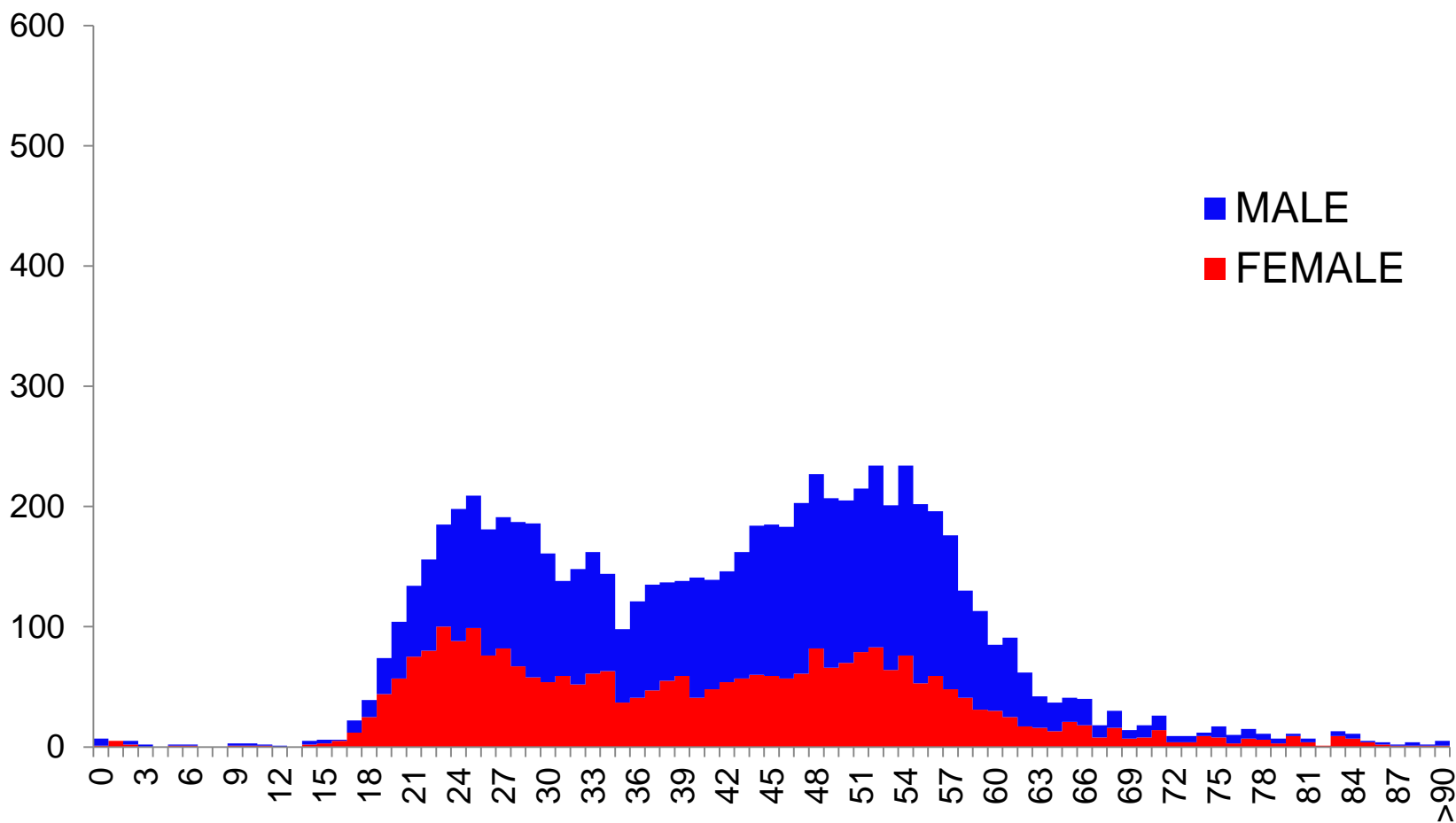
# Confirmed and Probable HCV Cases in MA 2002 (N=10,646)



Missing age or gender: 149

Data Source: MDPH Division of Epidemiology and Immunization, Data current as of 14 Aug 2018 and subject to change

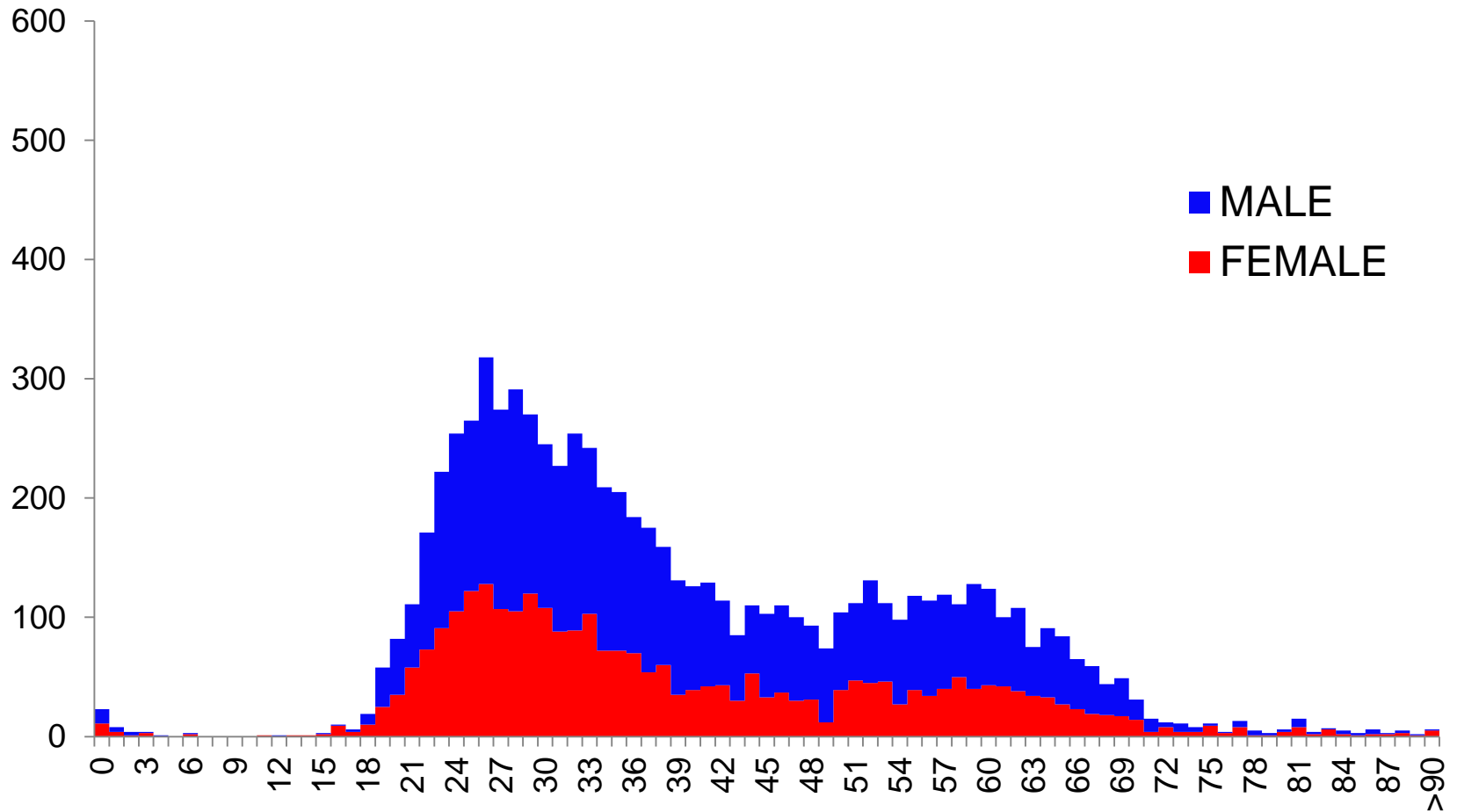
# Confirmed and Probable HCV Cases in MA 2009 (N=8,224)



Missing age or gender: 585

Data Source: MDPH Division of Epidemiology and Immunization, Data current as of 14 Aug 2018 and subject to change

# Confirmed and Probable HCV Cases in MA 2016 (N=7,810)

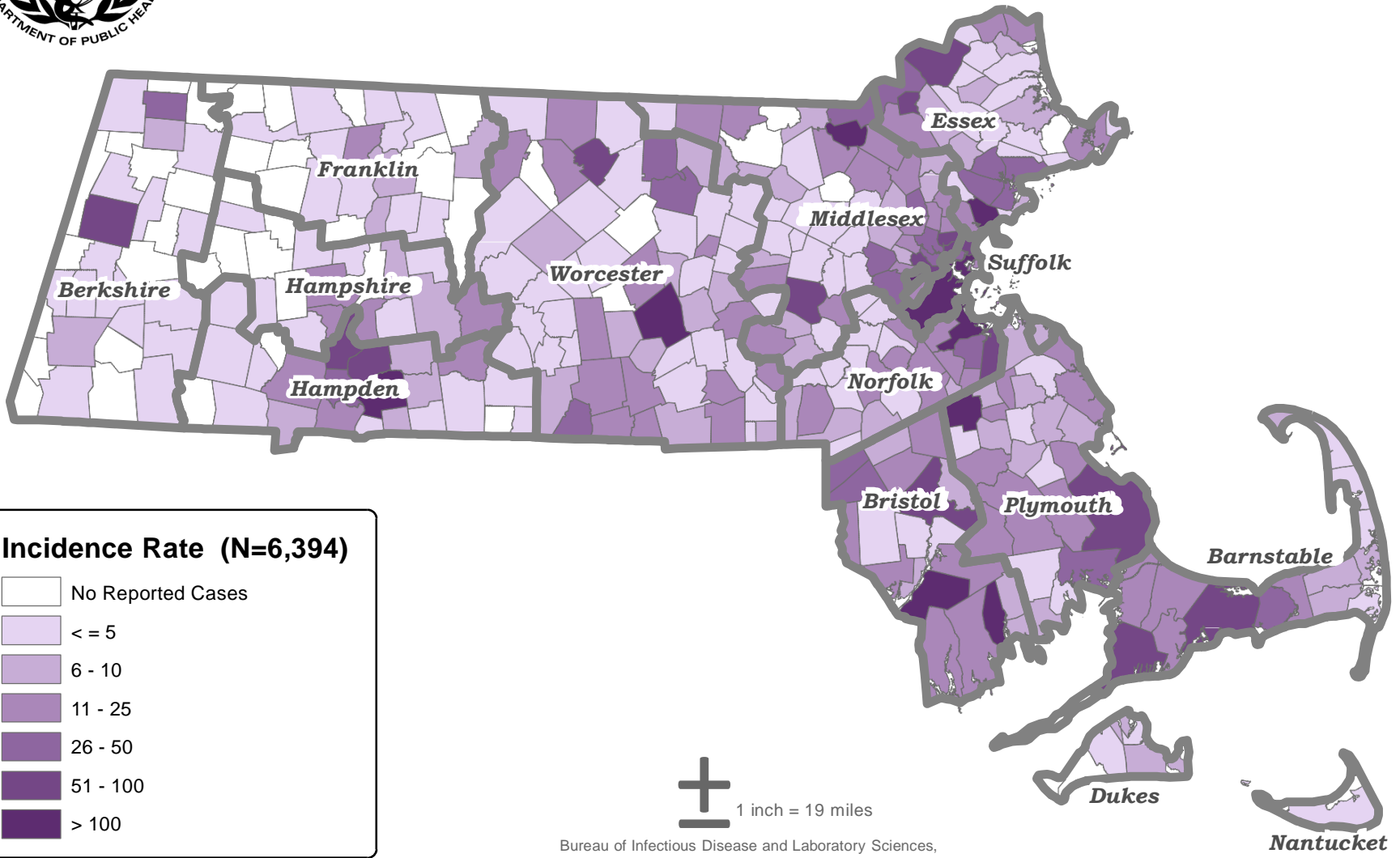


Missing age or gender: 213

Data Source: MDPH Division of Epidemiology and Immunization, Data current as of 14 Aug 2018 and subject to change



# Count of Reported Confirmed and Probable Hepatitis C Virus Infection Cases by Official Massachusetts City/Town: 2016\*



**Incidence Rate (N=6,394)**

- No Reported Cases
- < = 5
- 6 - 10
- 11 - 25
- 26 - 50
- 51 - 100
- > 100


 1 inch = 19 miles

Bureau of Infectious Disease and Laboratory Sciences,  
Office of Integrated Surveillance & Informatics Services

\* Unknown Official City (N = 690)

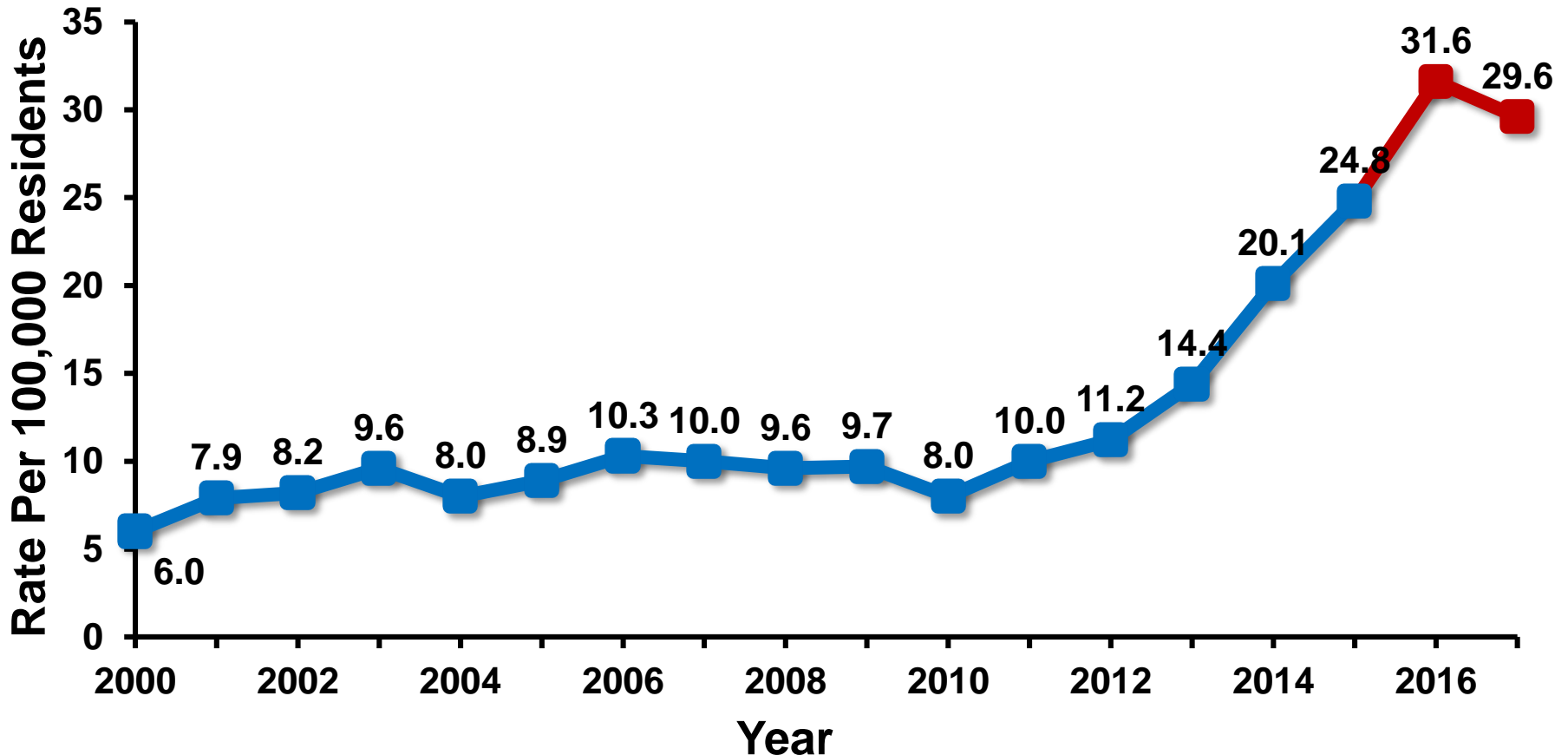
Note: 608 cases with residences listed in the 33 federal, state, and county correctional institutions in Massachusetts were excluded.

\* Data as of 13 NOVEMBER 2017 and are subject to change.

# Opioid-Related Deaths

*Massachusetts Residents, 2000–2017*

## Rate of Opioid-Related Deaths (All Intentions), by Year<sup>a</sup>



Data points in red are estimates.

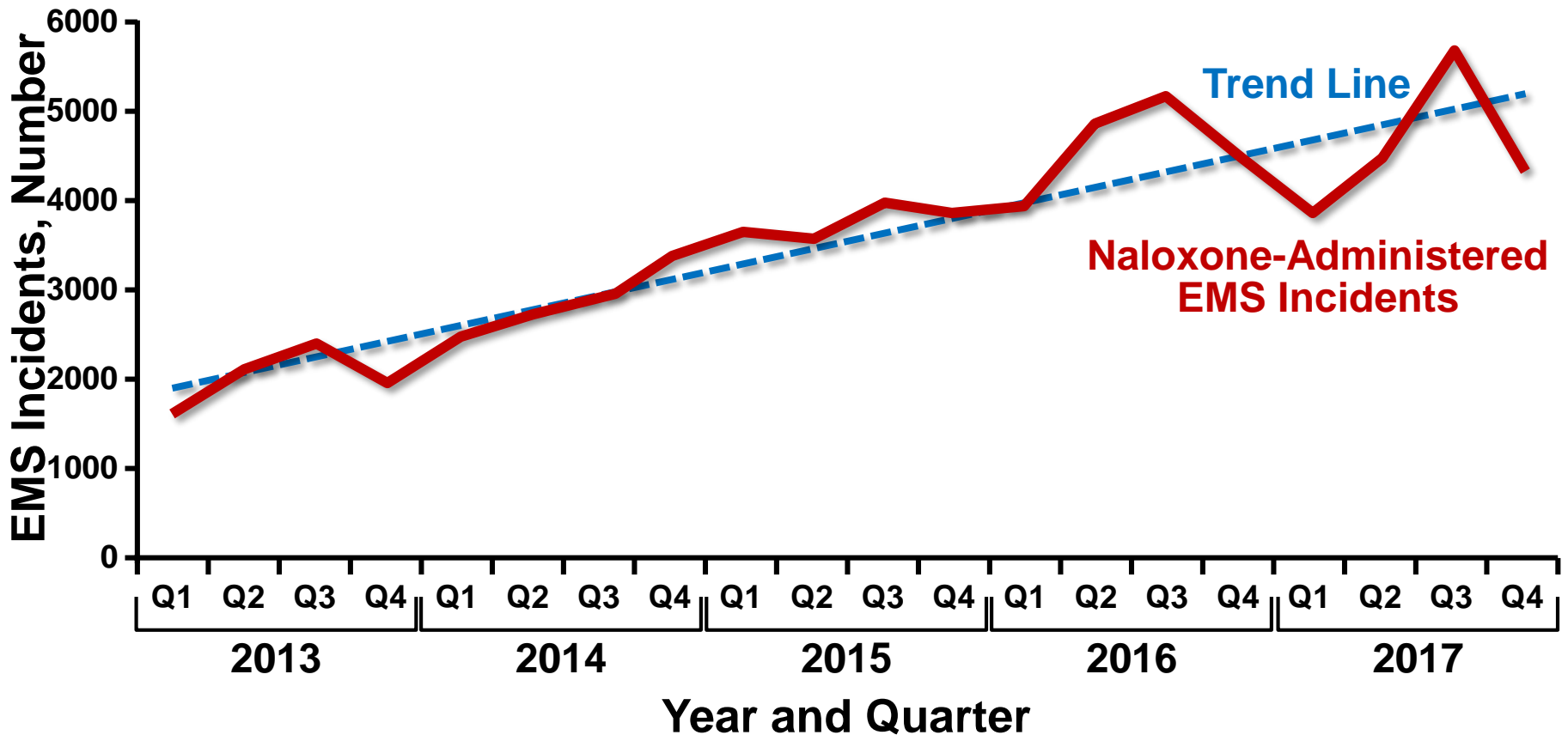
<sup>a</sup>Opioids include heroin, opioid-based prescription painkillers, and other unspecified opioids.

MDPH. 2018. <https://www.mass.gov/lists/current-opioid-statistics#updated-data---q1-2018---as-of-may-2018>. Accessed August 20, 2018.

# The Massachusetts Opioid Epidemic

## *EMS Data, 2013–2017*

Count of All EMS Incidents Involving Naloxone Administration, by Year



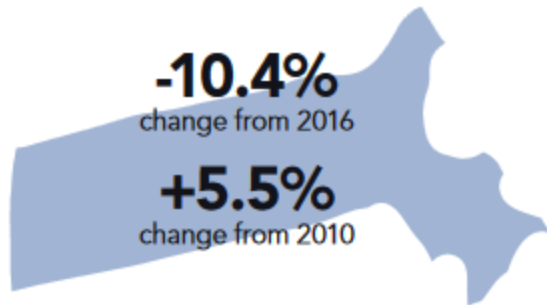
EMS, emergency medical services

MDPH. 2018. <https://www.mass.gov/lists/current-opioid-statistics#updated-data---q1-2018---as-of-may-2018->. Accessed August 20, 2018.



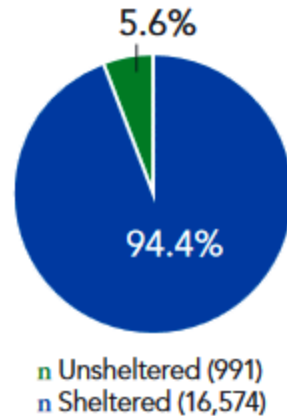
# Homelessness In Massachusetts

## MASSACHUSETTS



Total Homeless, 2017  
**17,565**

**26** in every **10,000**  
people were experiencing  
homelessness



### Estimates of Homelessness

**6,267** individuals

**11,298** people in families  
with children

**469** unaccompanied  
homeless youth

**853** veterans

**1,238** chronically homeless  
individuals

2881 (16%) people experiencing homelessness  
reporting substance use disorder

# Viral Activity 2017-2018

- In October 2017, MDPH observed an increase in cases of acute HBV infection reported from a city of about 95,000 in southeastern Massachusetts.
- In November 2017, MDPH distributed a clinical alert due to an identified increase in the proportion of newly diagnosed and acute HIV infections associated with injection drug use.
- In April 2018, MDPH began seeing an increase in cases of HAV infection associated with people who were unstably housed or report substance use disorder.

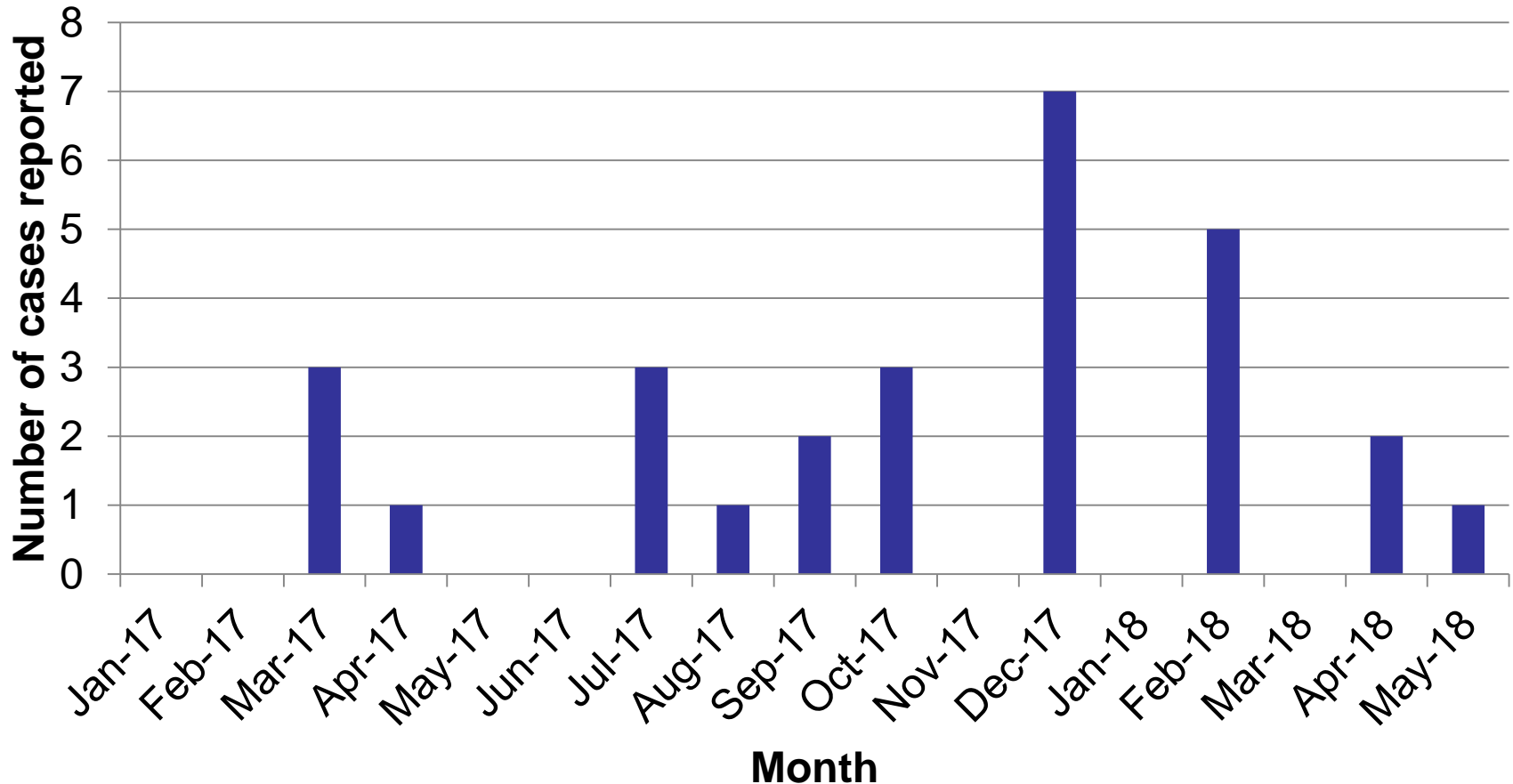
# HAV and HBV in Massachusetts

- Hepatitis B
  - Acute cases reported have been decreasing over time. (48 cases/year)
  - High vaccination rates for children and adolescents
    - 97% coverage for children (91% US)
    - 95% coverage adolescents 13-17 (92% US)
  - Only 37% adults estimate
- Hepatitis A
  - Typically, 50 acute cases/year (25% associated with travel)
  - Vaccination rates 67% children (61% US) children
  - Males and females affected equally
  - 50% hospitalization rate

# HBV Cluster in Southeastern MA

- Between January 1, 2017 and May 22, 2018, 28 acute cases reported in cluster area
  - Monthly average more than twice monthly average from 2010-2016
- 25 with injection drug use or laboratory evidence of HCV exposure
  - 3 cases reported with other addresses were known to have recent addresses in cluster area and fit same risk profile
  - Cluster defined as these 28 cases

# Acute HBV cases by month, cluster-associated, 2017-2018

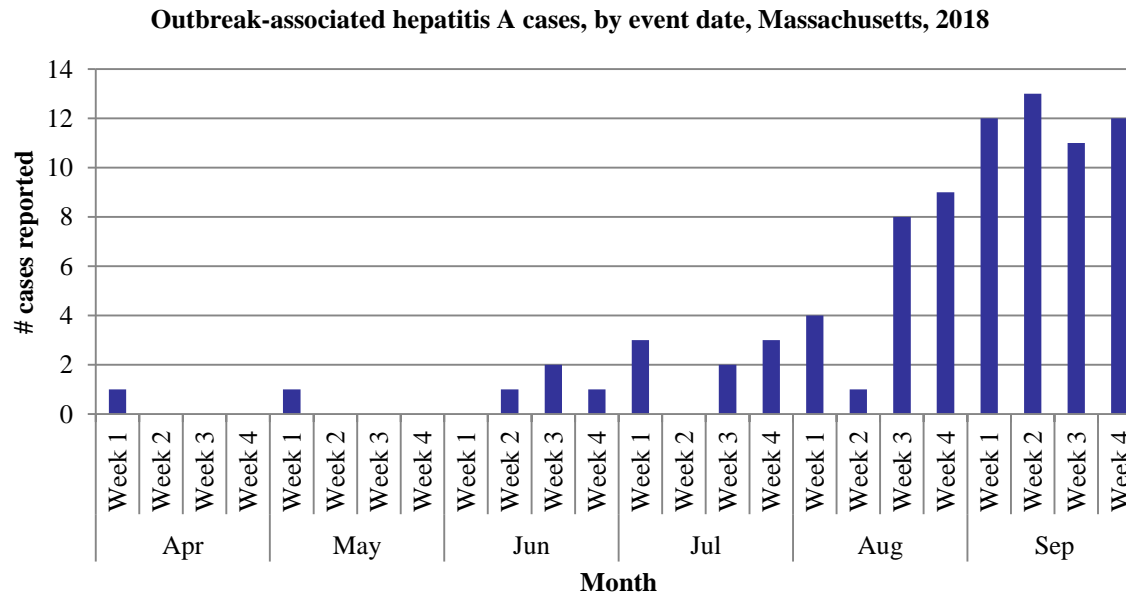


# Cluster-associated cases (N = 28)

Gender	21 males, 7 females
Age	Median 38, range 24-55
Race/ethnicity	21 white, 1 black, 4 “other,” 2 unknown race; 5 Hispanic, 12 non-Hispanic, 1 Portuguese, 10 unknown ethnicity
Vaccine history	1 with full vaccine series, 3 with 1 dose
Risk history	22 with known recent injection drug use Little data on sexual risk history
Unique address condition	4 experiencing homelessness, 1 incarcerated
Coinfection	21 cases with lab evidence of HCV exposure; 15 tested positive for HCV first

# Outbreak in Massachusetts

- Since April 2018, 90 cases reported to MDPH in individuals experiencing homelessness and/or substance use disorder



Cases occurring in October excluded. Data for more recent weeks may be incomplete due to diagnosis and reporting delays.

Data source: MDPH Bureau of Infectious Disease and Laboratory Sciences. Data as of 10/9/2018 and subject to change.

# Outbreak cases (N= 90)

- Complications
  - Hospitalization rate: 89%
  - Mortality rate: 1%
- Demographics
  - Gender: 63% male
  - Age: Range 21-78, Median 32
- Risks:
  - Homelessness/unstable housing: 61%
  - Injection drug use: 68%
  - Any illicit drug use: 88%

Data as of 10/9/2018 and subject to change.



# Outbreak cases (N= 90)

- **Coinfections**
  - Confirmed chronic hepatitis C infection: 64%
  - HIV infection: 7%
- **Affected towns/cities**
  - 44% of cases from the City of Boston
  - Increasing number of cases reported from other regions, including the Southeast and metro-Boston
- **Genotyping/sequencing analysis (CDC) to date**
  - 11 cases with genotype IIIA (10 identical, 1 unique)
  - 1 case with genotype IB (unique)
  - 9 negative

Data as of 10/9/2018 and subject to change.

# Challenges Identified

- PWID are often challenging to engage through our usual investigation efforts
- Our smaller local health departments have limited capacity in these outbreaks
  - Some are less engaged with the most at risk in their community
  - They are doing less routine vaccinating and may lack vaccine storage capabilities
- Our communication network has significant gaps

# Leveraging resources

- Utilized STD Field Epidemiologists for contact tracing
- Identified funded resources through Office of HIV/AIDS for field vaccination efforts
  - Sites are already funded to support viral hepatitis
  - Mobile Van provided vaccine where at risk population was located (HBV)
  - Syringe Service Providers able to vaccinate clients
- Partnered with Boston Public Health Commission and local shelter
- Identified state resources for utilizing 2 dose vaccine for HBV

# Communication

- Communicate early and often
  - Clinical alerts and advisories
  - Conference calls
  - Direct outreach
- Make sure those communications are reaching the people you want them to reach
- For communicating with those at risk: many great resources already exist

# Lessons learned

- Identify your partners now
- Ask what additional resources you and they would need
- Check for gaps in your lines of communication
- Start vaccinating now or expand the vaccination efforts you already have

# Thank you

Lindsay Bouton and Daniel Church who have been leading the overall investigations, and to the Epidemiology program staff who investigate these cases daily

Our partners within and outside BIDLS, especially OHA, STD, Vaccine Unit, Boston Public Health Commission, and our SSP programs

Questions?

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