

# Tracking Cold Related Illness in Massachusetts



Photo: "Boston Winter Days" by bettlebrox

**Melanie Jetter, MS**  
**Environmental Analyst**  
**Massachusetts Department of Public Health**  
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Prolonged exposure to cold temperatures or winter weather conditions such as wind, snow, ice, and cold water can be dangerous and detrimental to health.

- **Cold-related illnesses (CRI)** include a number of health conditions including hypothermia, frostbite, chilblains, and trench foot.
- Those **most at risk of CRI** include older adults, children, people who are outside for long periods (e.g., homeless), and people living with chronic medical conditions.
- Tracking **CRI data can help** document changes over place and time, monitor at-risk areas and populations, and support evaluation of local cold illness prevention strategies.

# Overview

1. CRI Emergency Department Visits in Massachusetts
2. CRI Emergency Department Visits Among People Experiencing Homelessness in Massachusetts
3. Key Takeaways & Next Steps

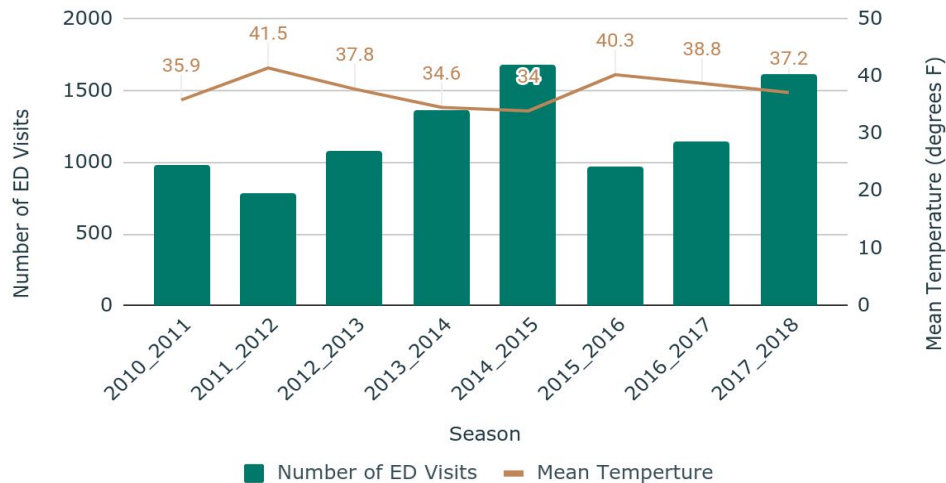
# CRI Emergency Department Visits in MA

## Analysis:

- Number of CRI ED Visits during 2011-2018
  - "Cold Season" = October - April
- Average Seasonal Temperatures
- Demographics (Age and Sex Distributions)
- Statewide and County Age-adjusted Rates

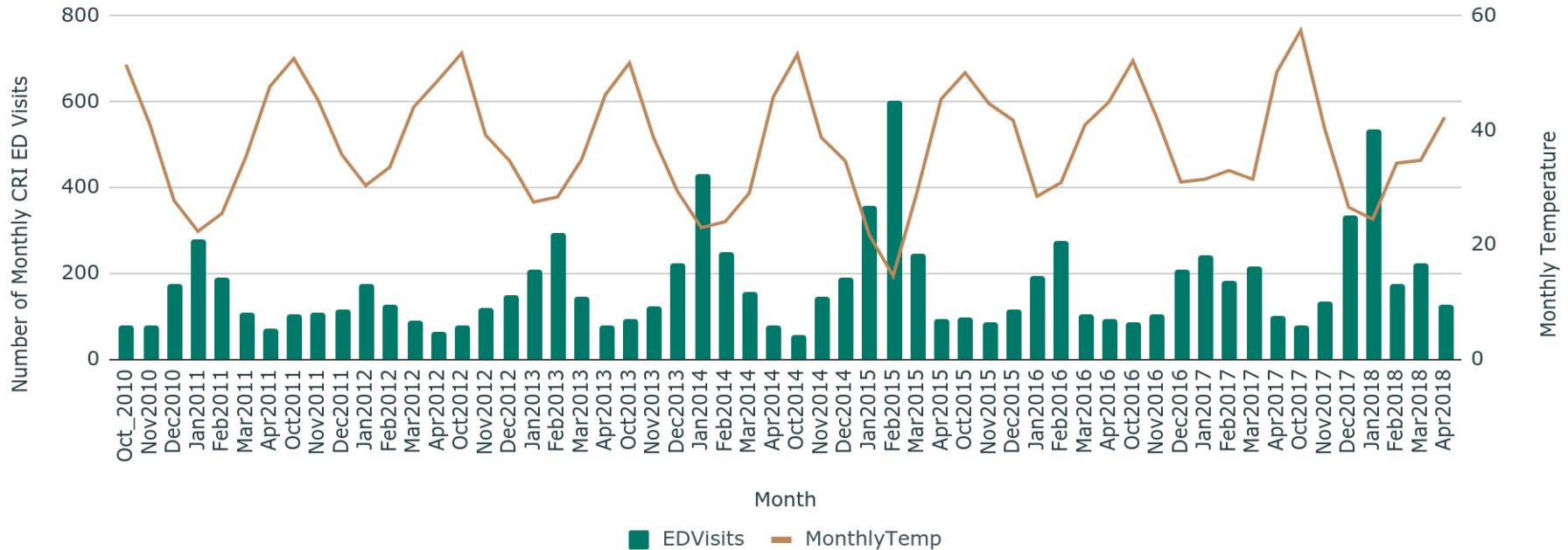
# CRI Emergency Department Visits in MA

## Number of CRI ED Visits and Mean Seasonal Temperature



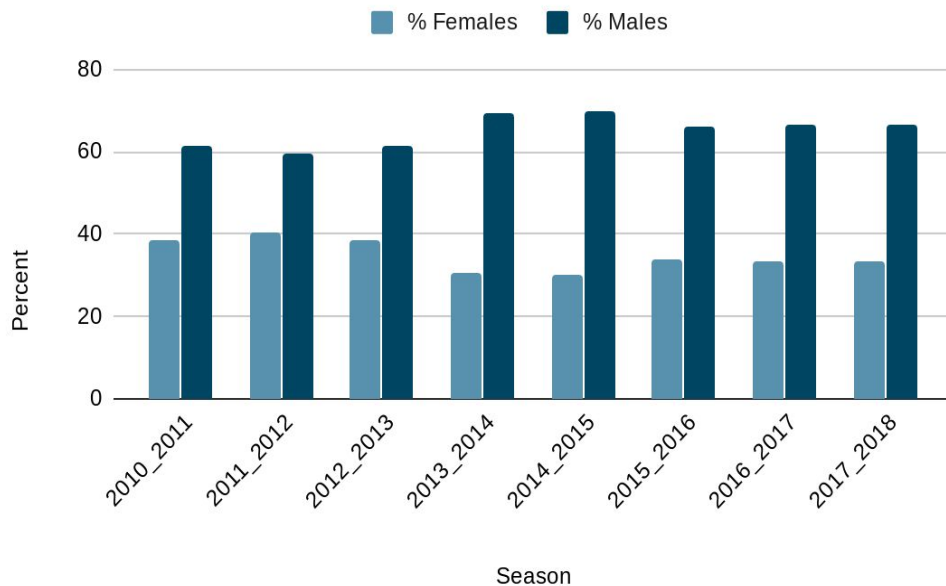
# CRI Emergency Department Visits in MA

## Number of Monthly CRI ED Visits and Monthly Temperature



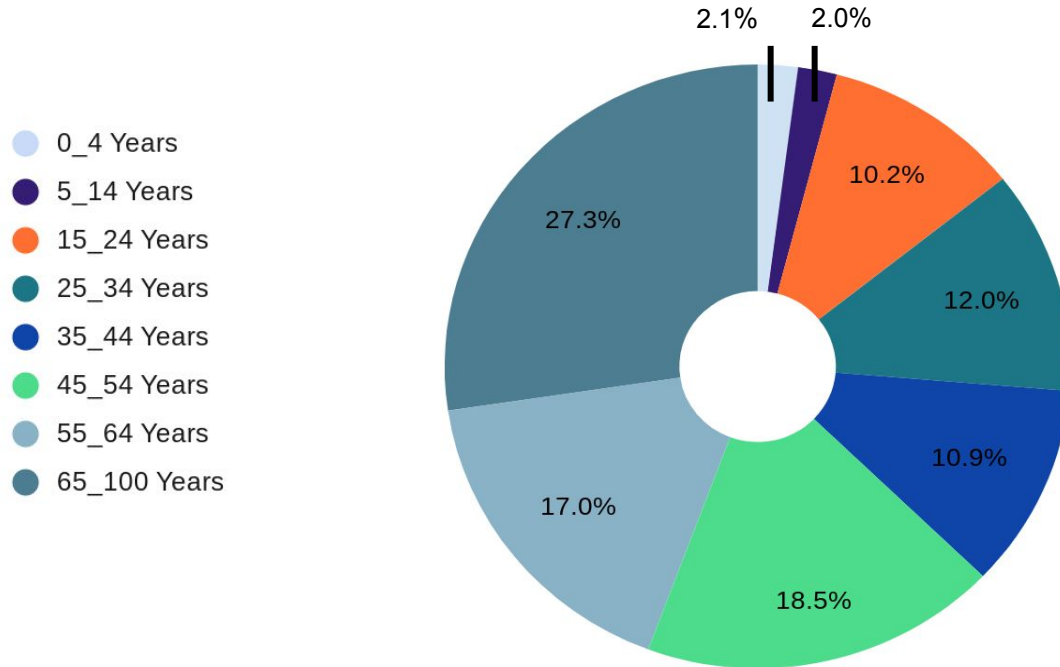
# CRI Emergency Department Visits in MA

## Percent of CRI ED Visits by Sex



# CRI Emergency Department Visits in MA

## CRI ED Visits Age Distribution, 2011-2018

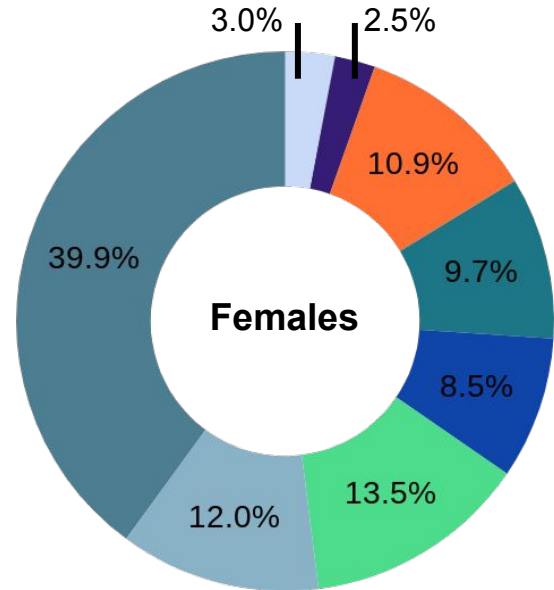
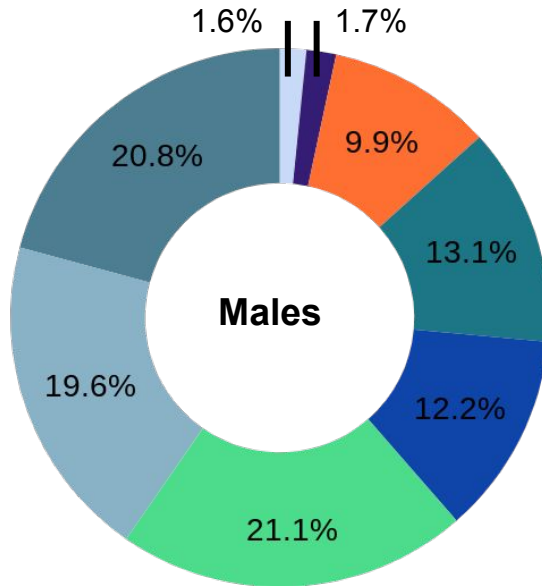




# CRI Emergency Department Visits in MA

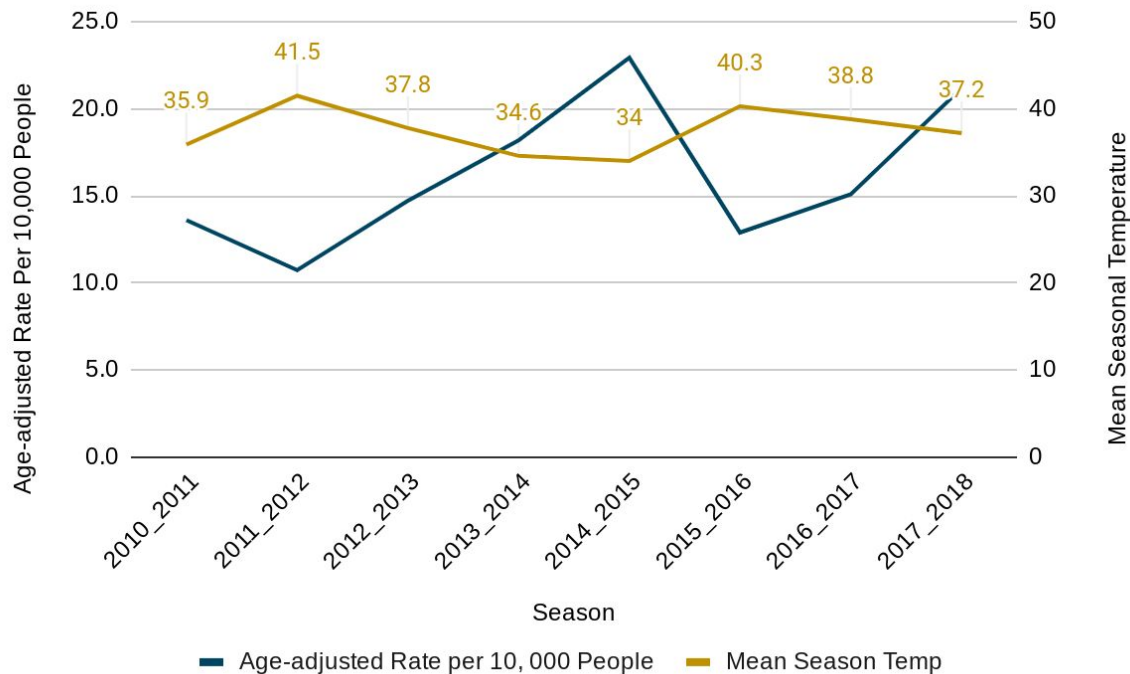
## CRI ED Visits Age Distribution, 2011-2018

- 0\_4 Years
- 5\_14 Years
- 15\_24 Years
- 25\_34 Years
- 35\_44 Years
- 45\_54 Years
- 55\_64 Years
- 65\_100 Years



# CRI Emergency Department Visits in MA

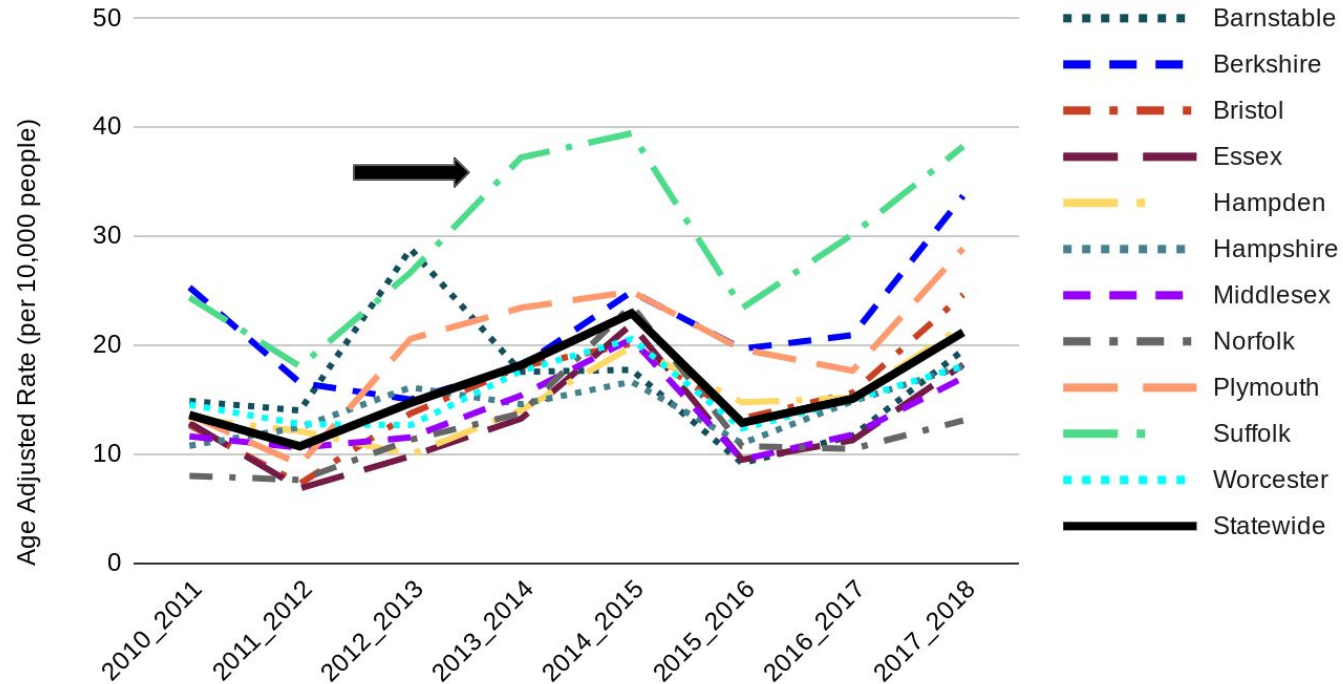
## Massachusetts CRI ED Visits Age-adjusted Rates and Seasonal Temperatures 2011-2018



Rates Age-Adjusted to the 2000 US Census Population.

Data Sources: NOAA National Centers for Environmental Information, Climate at a Glance: Statewide Time Series, <https://www.ncdc.noaa.gov/cag/>. Massachusetts Center for Health Information and Analysis Case-Mix Datasets, FY2011-FY2018

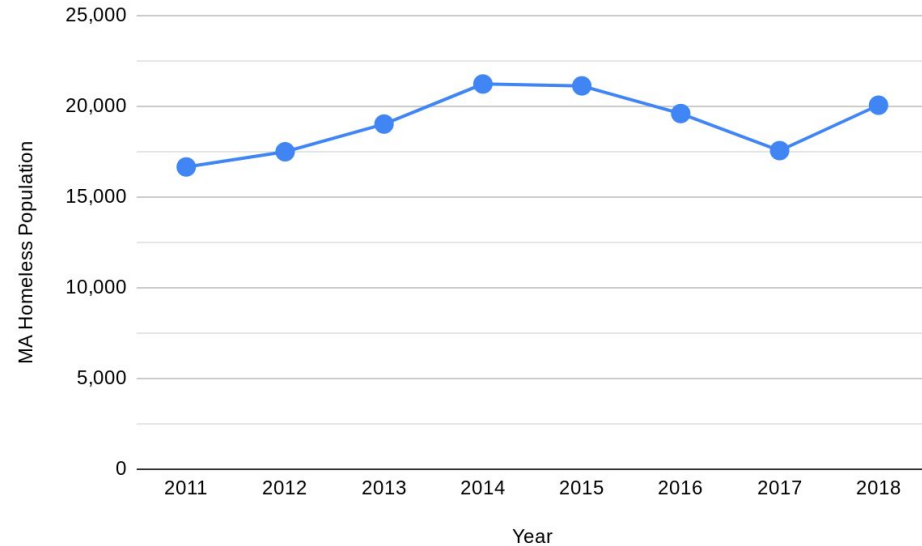
## Massachusetts CRI ED Visits Age-Adjusted Rates by County 2011-2018



# CRI Emergency Department Visits Among People Experiencing Homelessness in MA

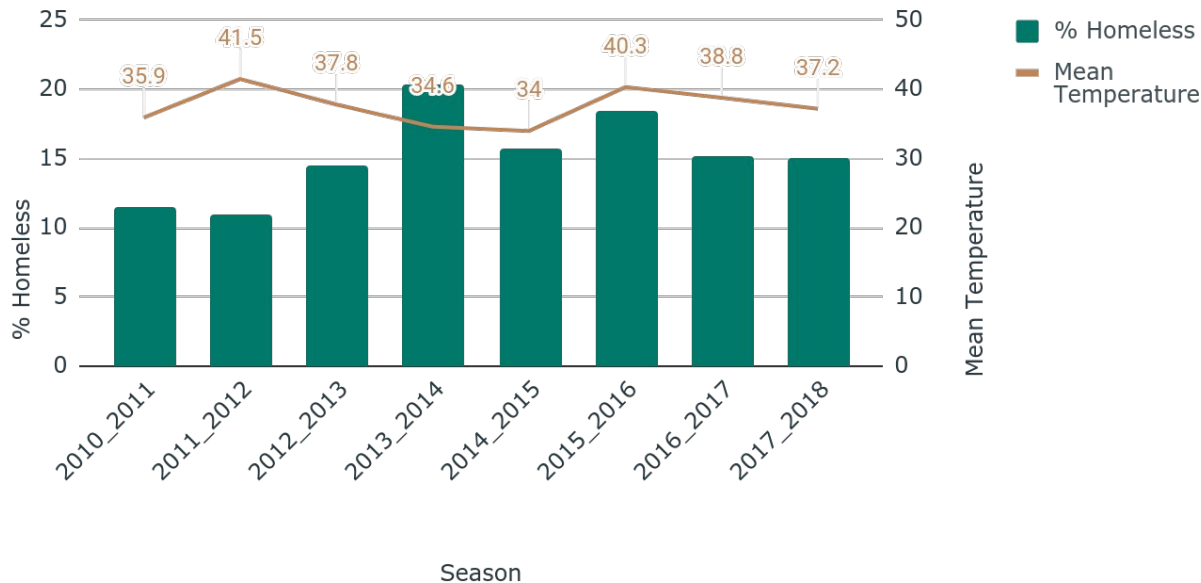
Individuals who experience homelessness often spend prolonged periods of time outside, which makes them particularly susceptible to the adverse effects of extreme cold weather conditions.

**Number of People Experiencing Homelessness in Massachusetts 2011-2018**



# CRI Emergency Department Visits Among People Experiencing Homelessness in MA

## CRI ED Visits Among People Experiencing Homelessness in Massachusetts

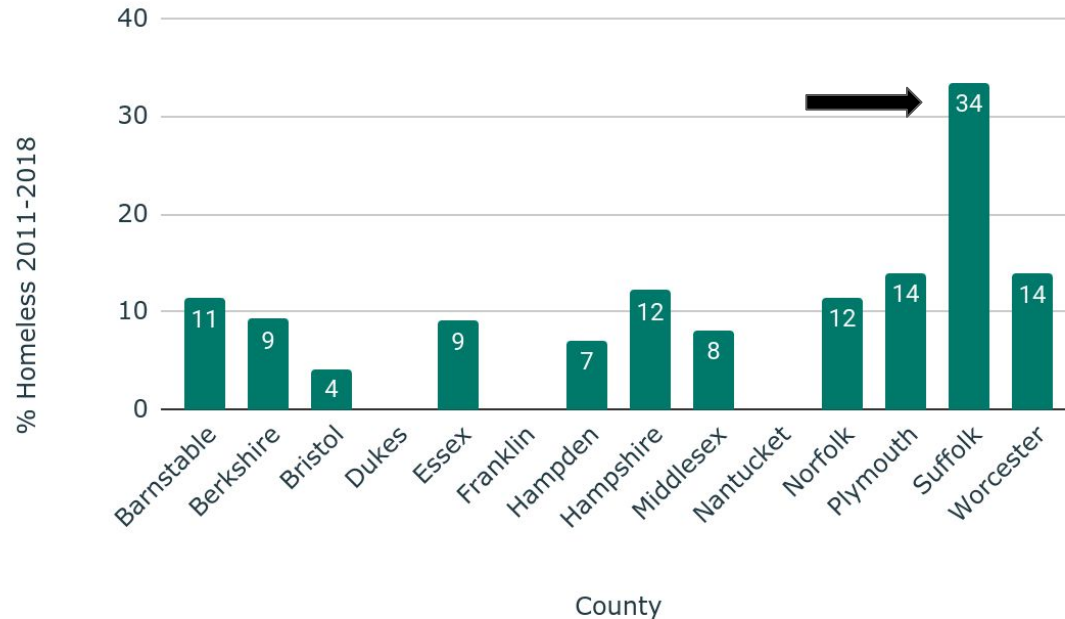


Data Source: HUD Exchange counts by CoC report 2007-2019

Data on homelessness are based on annual point-in-time (PIT) counts conducted by Continuums of Care (CoCs) to estimate the number of people experiencing homelessness on a given night  
Massachusetts Center for Health Information and Analysis Case-Mix Datasets, FY2011-FY2018

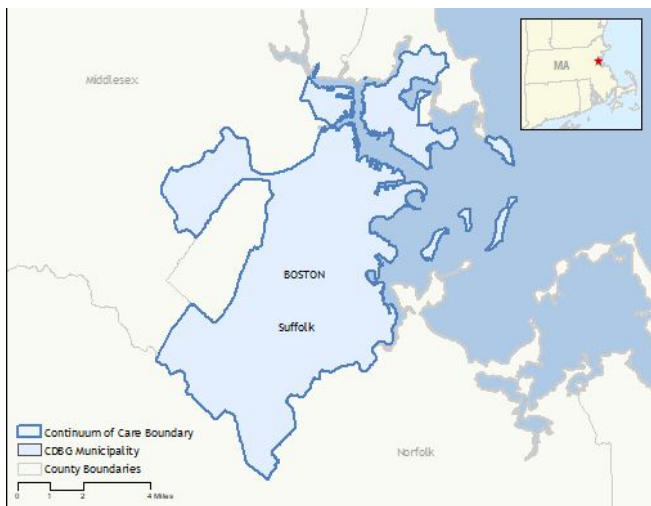
# CRI Emergency Department Visits Among People Experiencing Homelessness in MA

## CRI ED Visits Among People Experiencing Homelessness in Massachusetts Counties, 2011- 2018

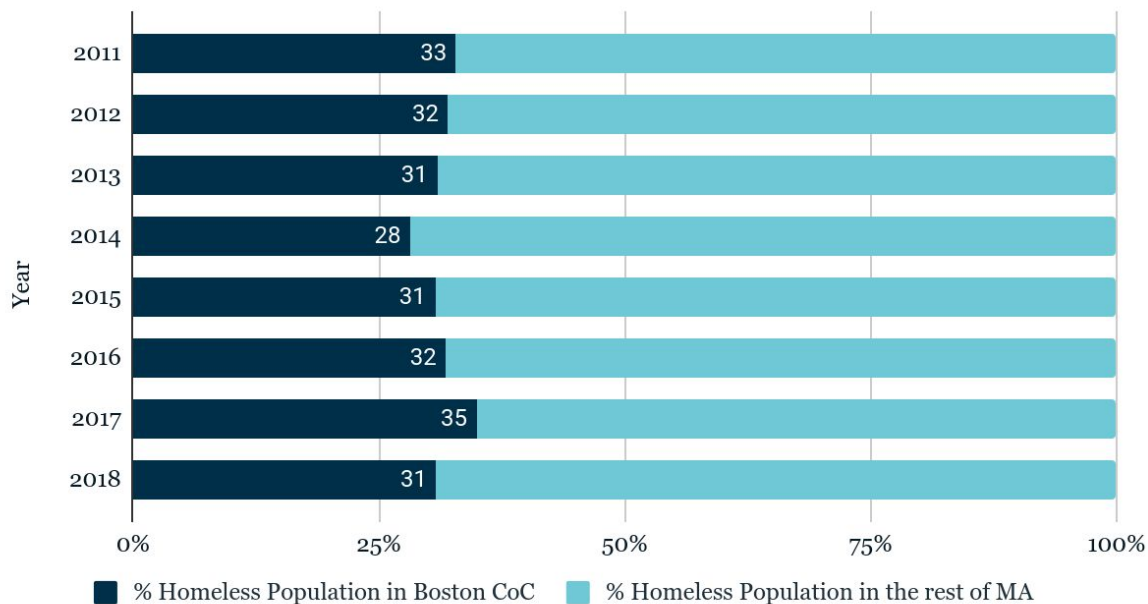


# CRI Emergency Department Visits Among People Experiencing Homelessness in MA

## The Boston Continuum of Care Program



### Percent of MA Homeless Population in Boston CoC



Data Source: HUD Exchange counts by CoC report 2007-2019

Data on homelessness are based on annual point-in-time (PIT) counts conducted by Continuums of Care (CoCs) to estimate the number of people experiencing homelessness on a given night

# Key Takeaways

## Key Takeaways:

- Peaks in the number of CRI ED Visits in MA often coincided with lower average seasonal temperatures.
- The age distribution of patients treated with CRI is generally older, but differences were seen between males and females.
- Age-adjusted rates in Suffolk County, MA are statistically significantly higher across all seasons.
- The proportion of ED visits among people experiencing homelessness varies across the state with Suffolk County contributing the largest proportion.



# Next Steps

## Next Steps:

- Make this dataset available for public use on the Massachusetts Environmental Public Health Tracking Data Portal.
- Conduct additional analyses:
  - Sub-county geographies
  - Sub-populations
  - CRI and Homelessness

# **Thank You**

**Contact Information:**

**Melanie Jetter**

**Melanie.Jetter@Mass.Gov**

**Bureau of Environmental Health Environmental Epidemiology Program  
Massachusetts Department of Public Health**