

Health of Boston Update

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Boston Public Health Commission
Board Meeting
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Research and Evaluation Office (REO)

- **Research**- conduct research on the health experience of Boston residents with community and academic partners and provide technical assistance to programs
- **Evaluation**- assist programs and various collaborative initiatives in identifying, measuring, and assessing outcomes of interest through the development of logic models, review of surveys and program data collection instruments and development of evaluation plans
- **Surveillance and Analysis**- systematically collect, analyze, and interpret Boston resident health-related data for dissemination through reports, presentations, data requests

Regular Surveillance Data Sources

(annual, biennial)

- Vital Records (Birth and Death Records) – MDPH
- Hospital Patient Encounters (ED visits, Hospitalizations, Observational Stays) – CHIA
- Substance Misuse Treatment Admissions– MDPH
- American Community Survey – U.S. Census Bureau
- Youth Risk Behavior Survey – Boston Public Schools
- Boston Behavioral Risk Factor Survey - BPHC

Boston Behavioral Risk Factor Surveillance System (BBRFSS)

- Biennial telephone survey conducted since 1999
 - Survey design **modeled after CDC BRFSS**
 - Independently conducted by BPHC, via vendor
 - Random digit-dial probability sample of **Boston adult residents** living in non-institutional households
 - Cross-sectional data – i.e., does not link respondents over time
- 10 surveys and total of 27,168 adult respondents since 1999
- Provides direct population estimates

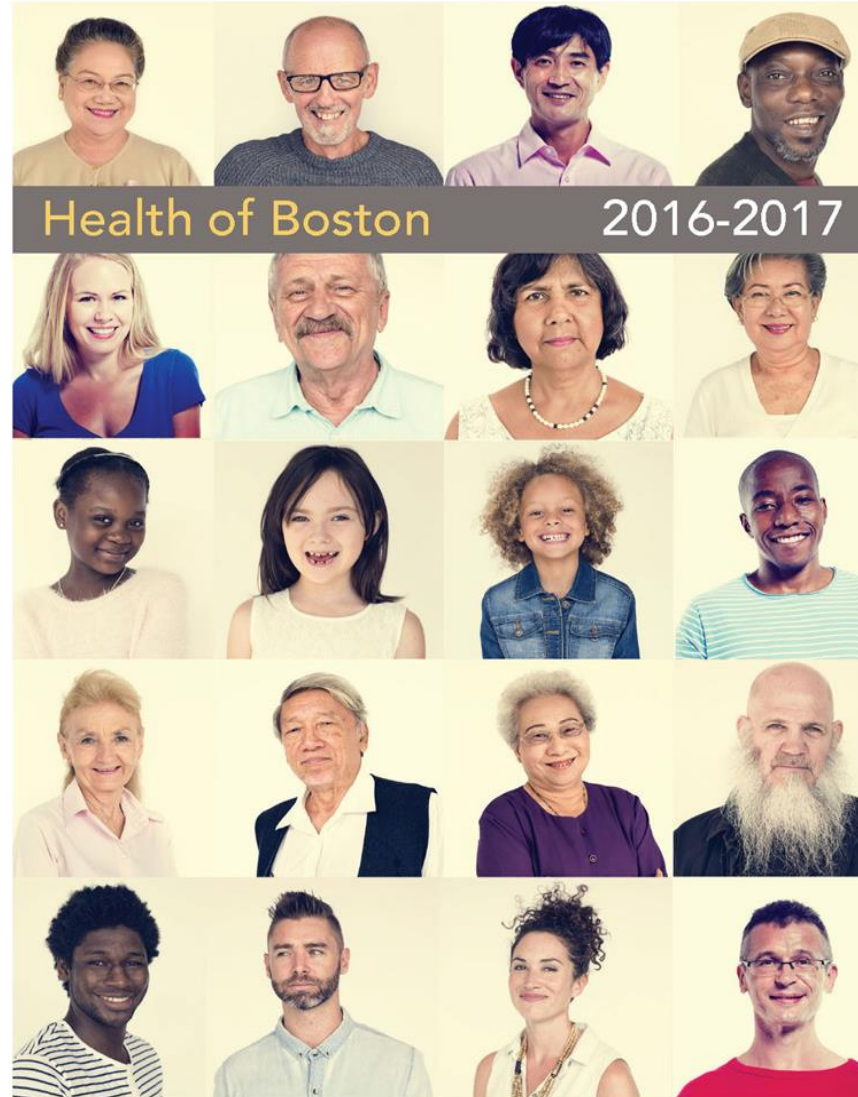
BBRFSS Indicators

- **Demographics/Social Determinants (stratifiers):** Race/Ethnicity, Sex, Age, Years Lived in U.S., Sexual Orientation, Gender Identity, Education Level, Household Income, Marital Status
- **Other Social Determinants (stratifiers):** Food Security, Housing Status, Perceived Neighborhood Safety, Violence, Racism, Adverse Childhood Experiences (ACEs)
- **Health Behavior Indicators:** Tobacco Use, Alcohol Use/Misuse, Marijuana Use, SSB consumption, Physical Activity
- **Chronic Disease Indicators:** Asthma, Obesity, Hypertension, Diabetes, Oral Health
- **General and Mental Health Indicators:** Days Health Not Good (Physical and Mental), Persistent Sadness, Persistent Anxiety, Treatment for Depression
- **Access to Care Indicators:** Cancer Screenings, Health Insurance, Dental Insurance, Primary Care Physician, Cost Barriers to Care

Who BBRFSS doesn't reach by design (*hard-to-reach* population groups):

- Homeless
- Incarcerated
- Nursing homes or long-term care facilities
- College students living in dormitories
- Residents who do not speak English or Spanish

Health of Boston



Health of Boston 2016-2017: Online Access

- <http://www.bphc.org/healthdata/health-of-boston-report/Pages/Health-of-Boston-Report.aspx>
(Individual Chapters and Data Tables Available as PDF files)
- [https://www.boston.gov/sites/default/files/health of boston 2016-2017.pdf](https://www.boston.gov/sites/default/files/health_of_boston_2016-2017.pdf) (Entire Report Available as PDF file)
- <https://analytics.boston.gov/app/health-of-boston-2017> (Online Data Visualization, Version 1.0)

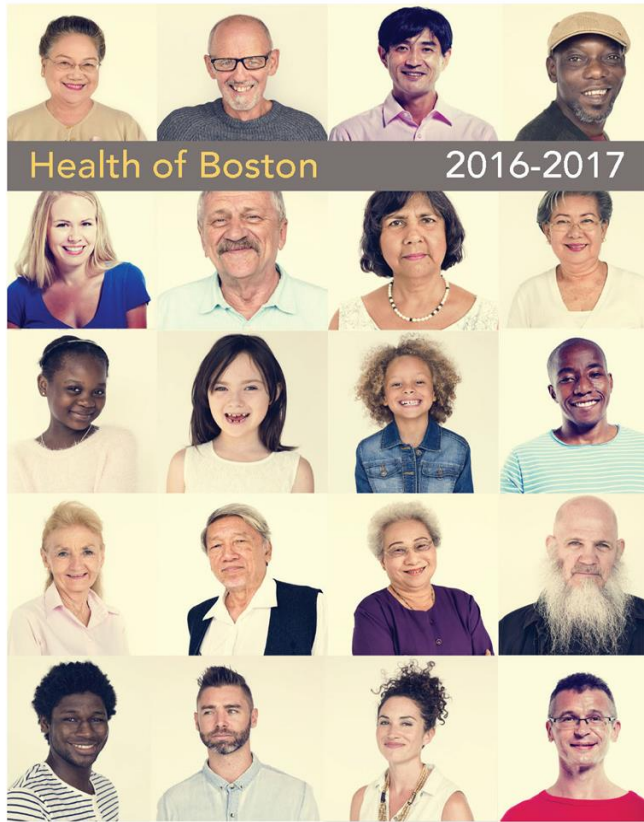
Health of Boston Contents

(15 Chapters, 663 pages of Descriptive Statistics)

- Executive Summary
- Summary Tables
- Health Equity
- Demographics
- Social Determinants
- Community Assets
- Environment Health
- Access to Care
- Maternal and Child Health
- Health-Related Behaviors
- Chronic Disease
- Cancer
- Infectious Disease
- Sexual Health
- Injury and Exposure to Violence
- Mental Health
- Substance Misuse
- Death

Health of Boston

- Assess the health of Boston residents using population-level health surveillance data
 - Estimate the scope and magnitude of health events and determinants across resident population/population groups
 - Estimate the geographic, demographic, and temporal distribution of health events and determinants
 - Focus on health inequities, social determinants of health (SDoH) and outcomes/status over the life course
 - More “what” than “why”
- Share information with those who can use it



Health of Boston Data
informing the
Boston Community Health Needs
Assessment (Boston CHNA)
informing the
Boston Community Health
Improvement Plan (Boston CHIP)

Health of Boston Data

Potential Areas For Improvement

- **Accessibility**
- **Timeliness of Data Roll Out**
- **Minimize Data Redundancy**
- **Expand beyond descriptive statistics**
- **Coverage of *hard-to-reach* population groups**

Health of Boston Rebrand

**From static biennial report to....
dynamic varied data/information streams**

- **Health of Boston Online Data Dashboard**
- **Health of Boston Topical or Population Group Reports**
- **Health of Boston Data Update Briefs**
- **Health of Boston Customized Data/Analysis Requests**

Health of Boston Rebrand

From static biennial report to dynamic varied information streams

Health of Boston Online Data Dashboard

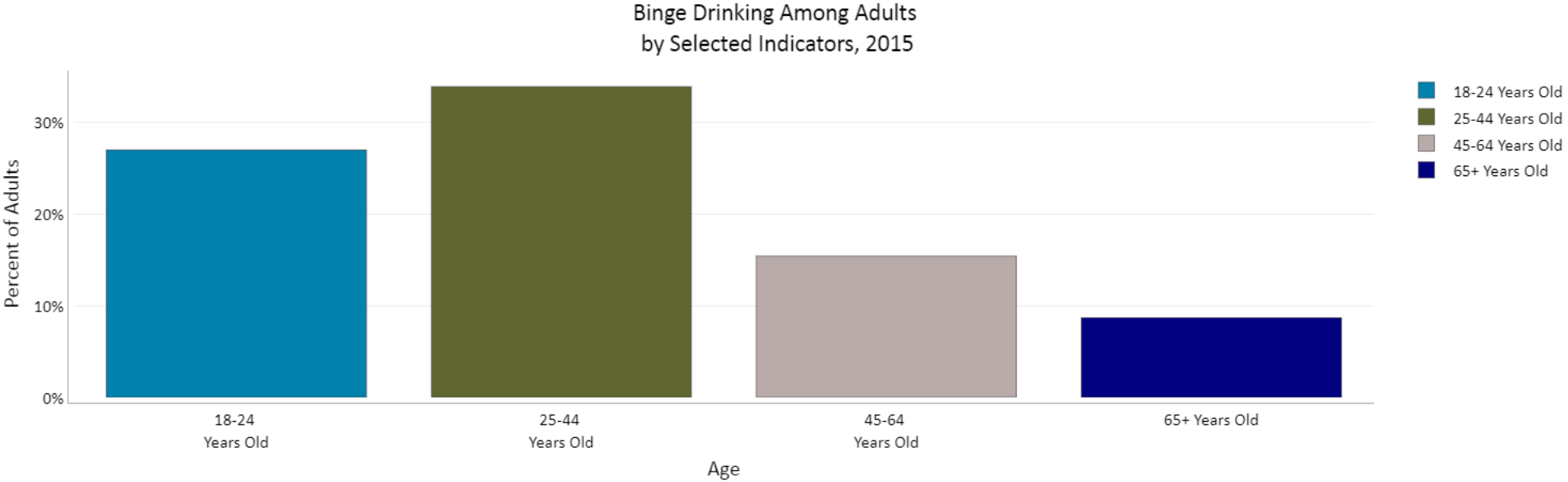
- Systematically presents analyzed Boston resident health-related data similar to data presented in legacy biennial reports **but without accompanying interpretive text**
- Will include analytical results based on statistical testing of comparisons and trends
- **Interactive/downloadable data in graphs, charts, tables, maps**
- Data and analysis **updated as data source updates received** (annually)
- Version 1.0 currently available at Boston Analytics (HOB 2016-2017)
- Version 2.0 in development

- 5 - Access to Care
- 6 - Maternal & Child Health
- 7 - Health Related Behaviors
- 8 - Chronic Diseases
- 9 - Cancer
- 10 - Infectious Diseases
- 11 - Sexual Health
- 12 - Injury and Violence
- 13 - Mental Health
- 14 - Substance Misuse Disorders
- 15 - Death
- Appendices

Selected Indicator:

Binge Drinking

- ☒ Age ☐ City and Sex ☐ Educational Attainment ☐ Employment Status ☐ Household Income ☐ Housing Status ☐ Race/Ethnicity ☐ Sex and Race/Ethnicity ☐ Year ☐ Years in U.S.
- ☒ 18-24 Years Old ☒ 25-44 Years Old ☒ 45-64 Years Old ☒ 65+ Years Old



Note: Binge drinking is defined as having 5 or more drinks on an occasion for men or 4 or more drinks on an occasion for women.
Data source: Boston Behavioral Risk Factor Survey (2015), Boston Public Health Commission

[Download Data](#) [Download Image \(click once\)](#)

Health of Boston Rebrand

From static biennial report to dynamic varied information streams

Health of Boston Topical and/or

Population Group-Based Reports

- Deeper-Dive (beyond basic descriptive statistics) reflecting BPHC priority areas including health equity, ***hard-to-reach*** population groups, the role of social determinants
- Examples: LGBT Resident Health, Chinatown Chinese Resident Health
- Optimizing data utility – applying fairly novel approaches/methods (e.g., PSM, combined data sources, weighted and unweighted data)
- Analysis informed by bureau/program and community input
- Opportunity for BPHC policy/program tie-in

Health of Boston Rebrand

From static biennial report to dynamic varied information streams

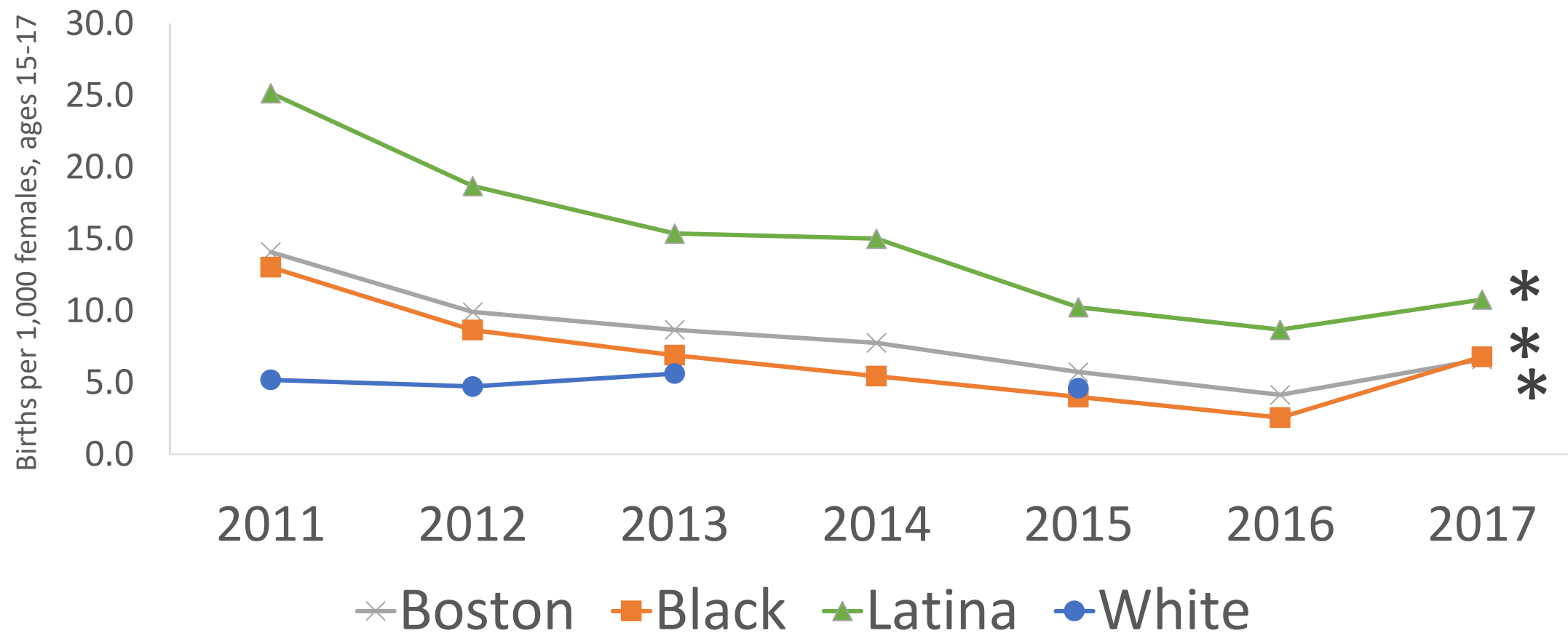
Health of Boston Data Update Briefs

- Periodic Specific mini-topic focus
- Quick release, highlighting latest data/findings

Health of Boston Customized Data/Analysis Requests

- Provide customized analyses not covered by the portal, reports, briefs on request (Research@bphc.org)

Births Among Females Ages 15-17 by Race/Ethnicity and Year

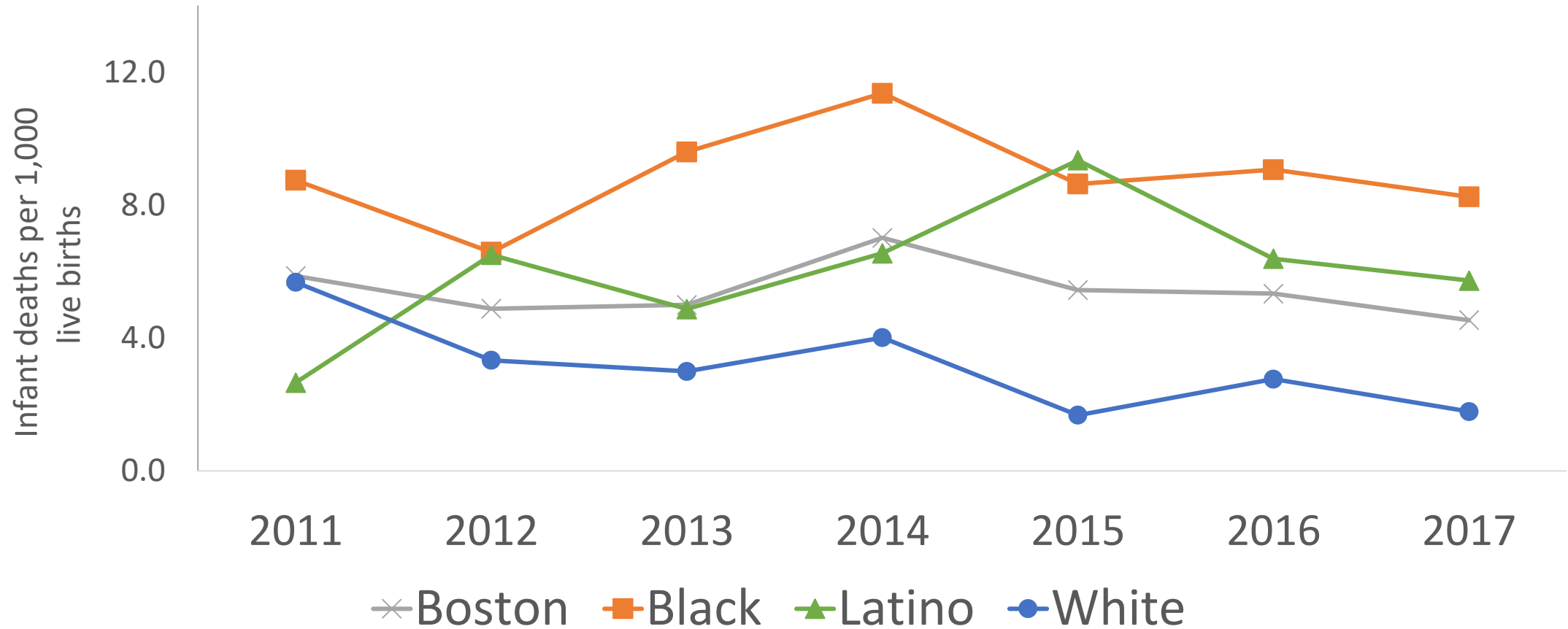


Data Source: Boston resident live births, Massachusetts Department of Public Health

- Statistically significant change over time (Bo-61, B-66,L-74)

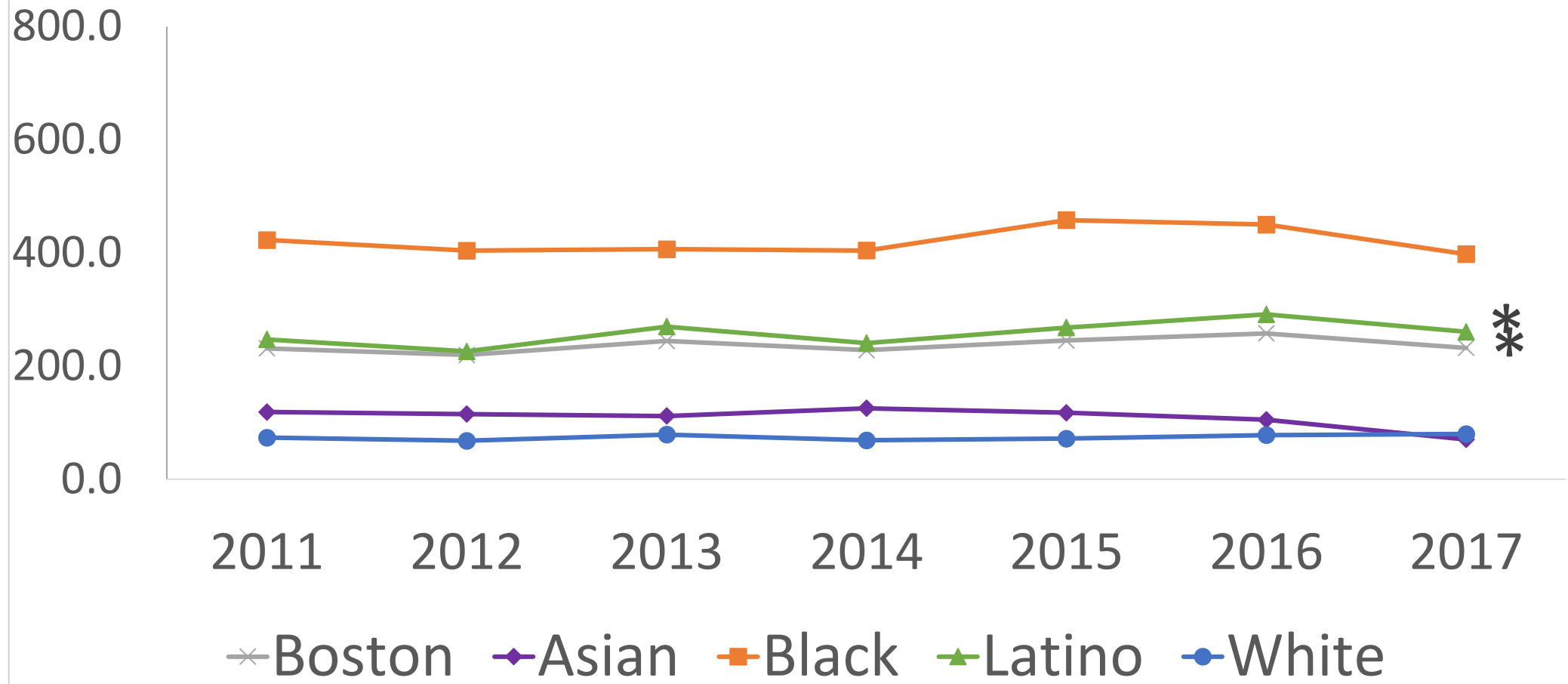
Data not presented for Asian residents or White residents (2014, 2016, 2017) due to small number of cases

Infant Mortality by Race/Ethnicity and Year

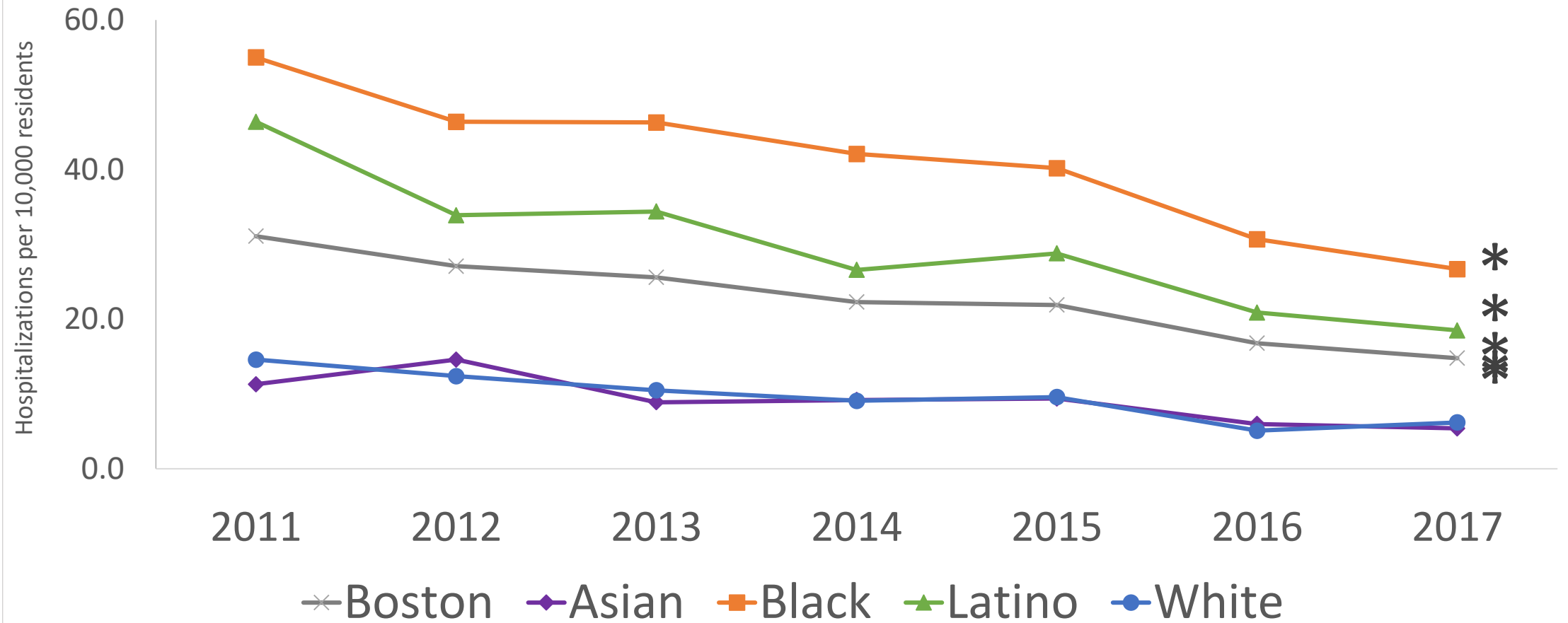


Data Source: Boston resident live births, Massachusetts Department of Public Health
Data not presented for Asian residents due to small number of cases

Asthma Emergency Department Visits†, Ages 0-5, by Race/Ethnicity and Year



Asthma Hospitalizations† by Race/Ethnicity and Year

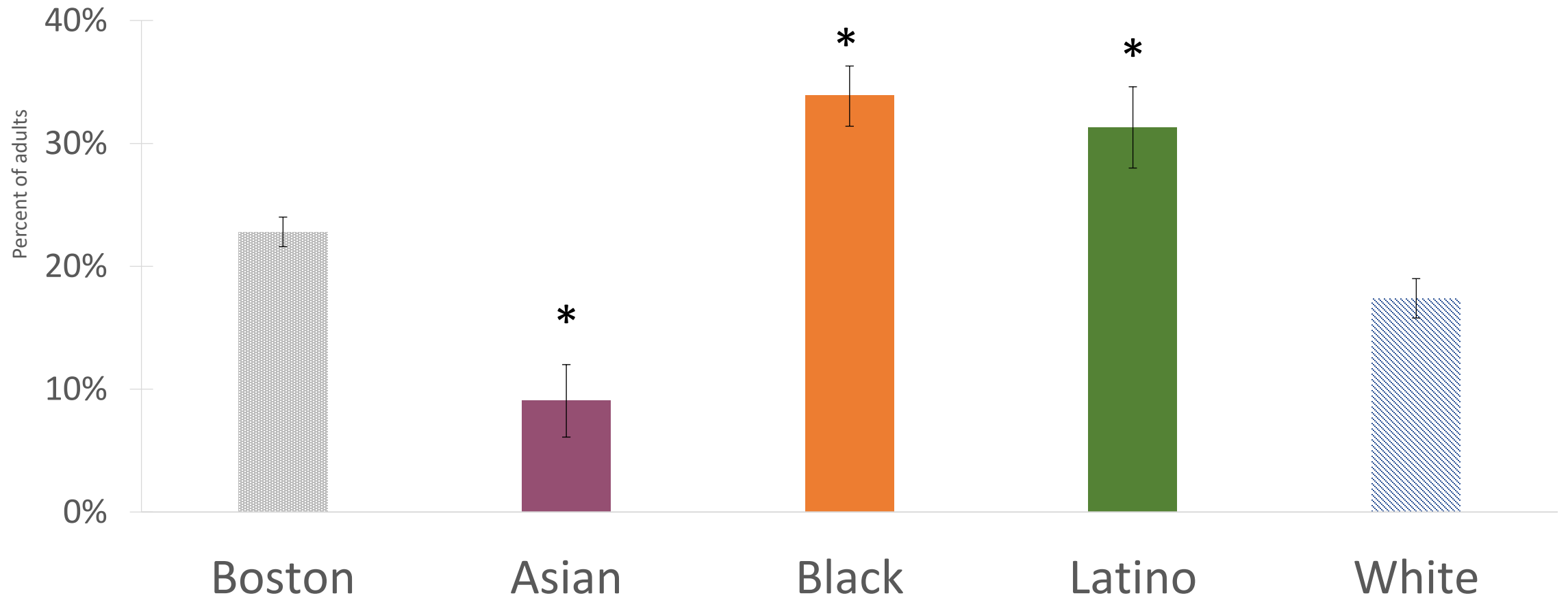


* Statistically significant change over time

† Age-adjusted rates per 10,000 residents

DATA SOURCE: Acute hospital case-mix databases, Massachusetts Center for Health Information and Analysis

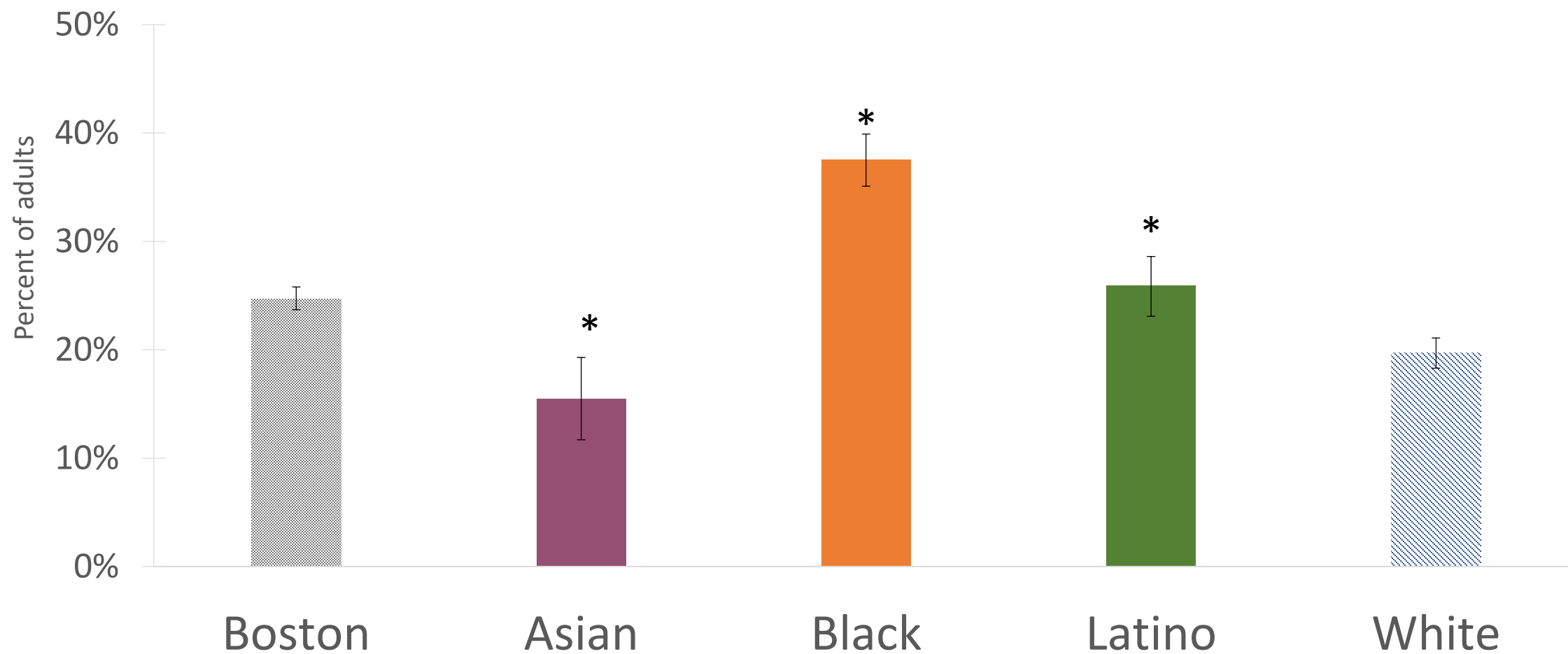
Obesity Among Adults by Race/Ethnicity, 2013, 2015, and 2017 Combined



* Statistically significant difference compared to White residents

SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015, 2017), Boston Public Health Commission

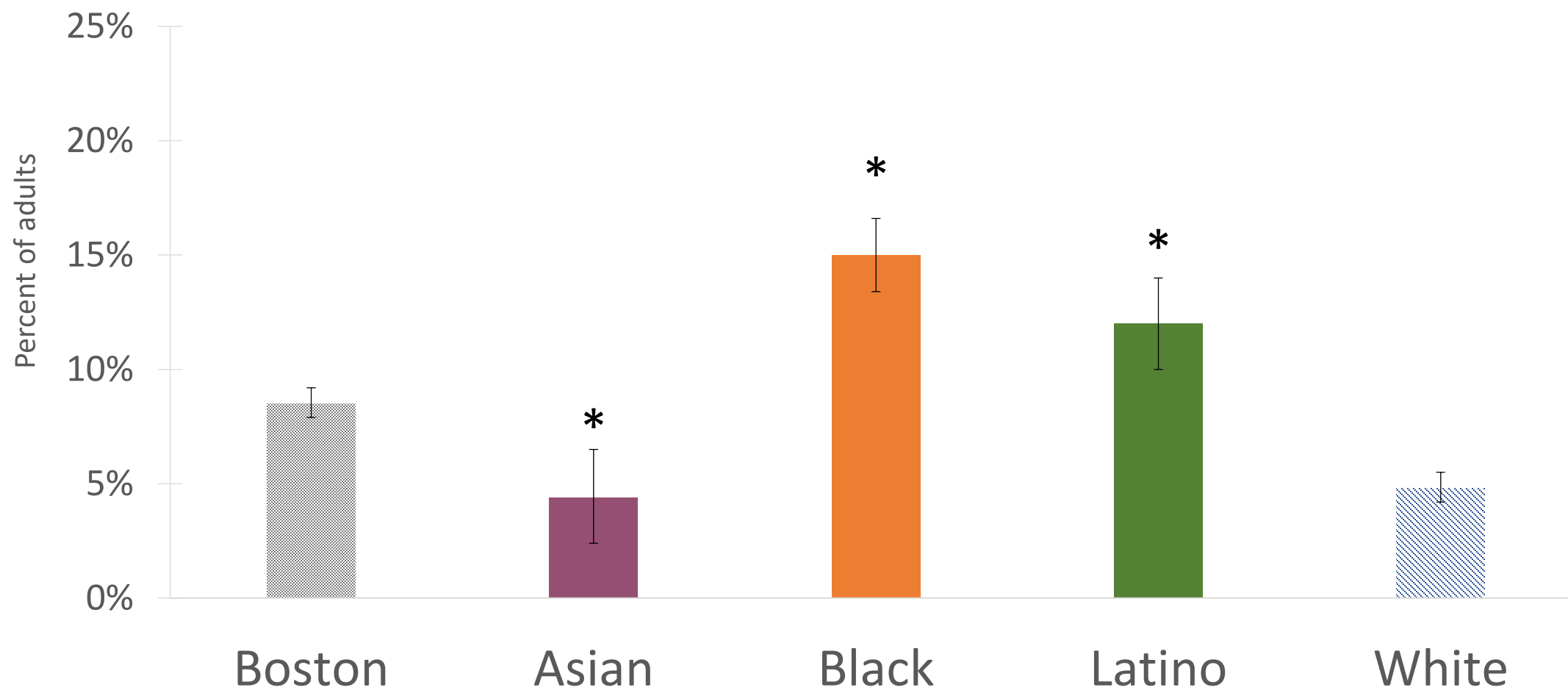
Hypertension Among Adults by Race/Ethnicity, 2013, 2015, 2017 Combined



* Statistically significant difference compared to White residents

SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015, 2017), Boston Public Health Commission

Diabetes Among Adults by Race/Ethnicity, 2013, 2015, 2017

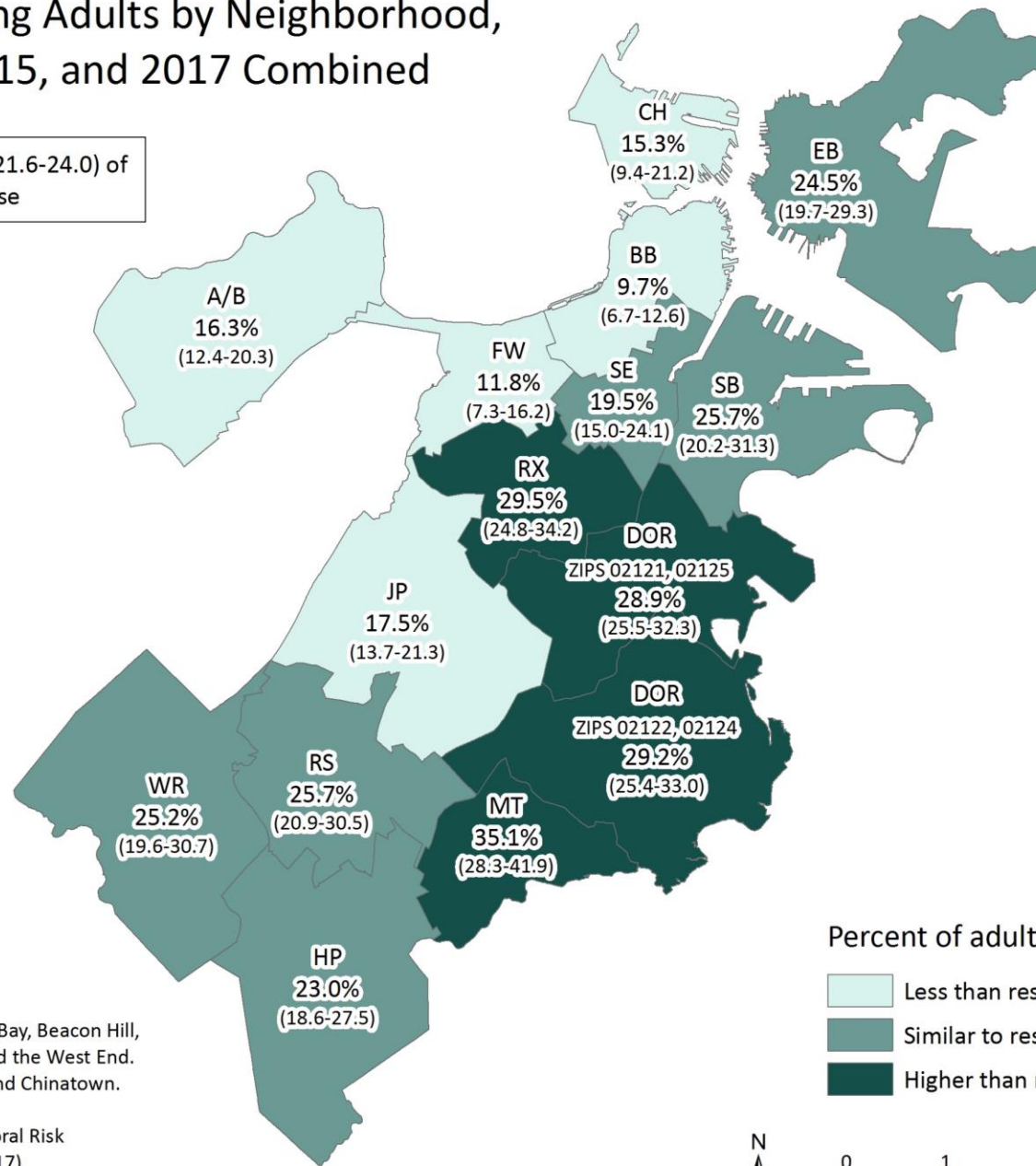


* Statistically significant difference compared to White residents

SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015, 2017), Boston Public Health Commission

Obesity Among Adults by Neighborhood, 2013, 2015, and 2017 Combined

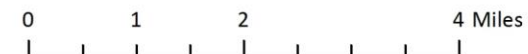
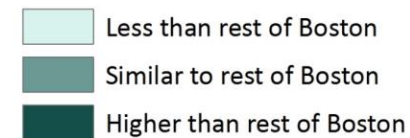
Boston: 22.8% (21.6-24.0) of
adults were obese



NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

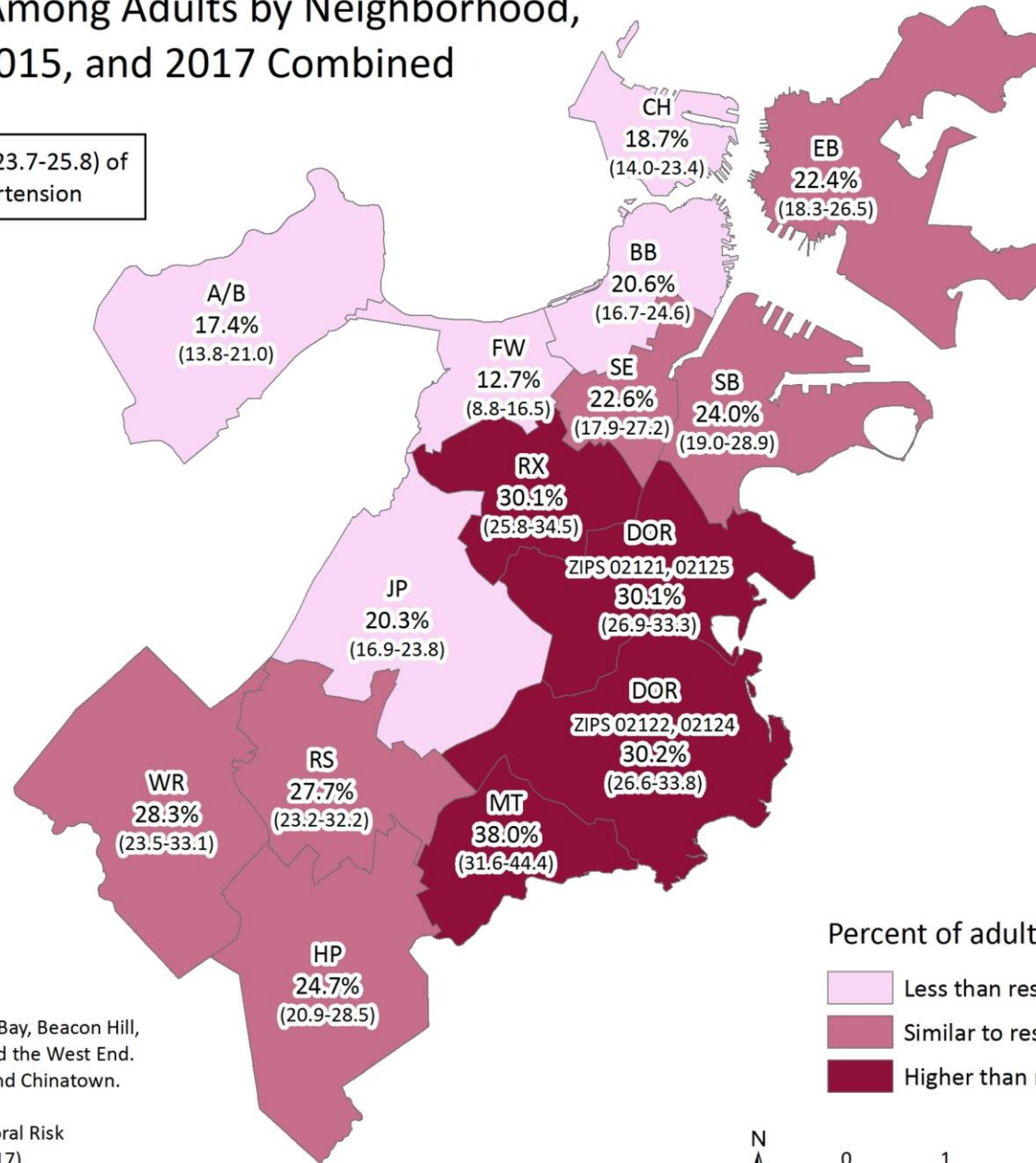
DATA SOURCE: Boston Behavioral Risk
Factor Survey (2013, 2015, 2017),
Boston Public Health Commission

Percent of adults with obesity



Hypertension Among Adults by Neighborhood, 2013, 2015, and 2017 Combined

Boston: 24.7% (23.7-25.8) of
adults had hypertension



NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

DATA SOURCE: Boston Behavioral Risk
Factor Survey (2013, 2015, 2017),
Boston Public Health Commission

Percent of adults with hypertension

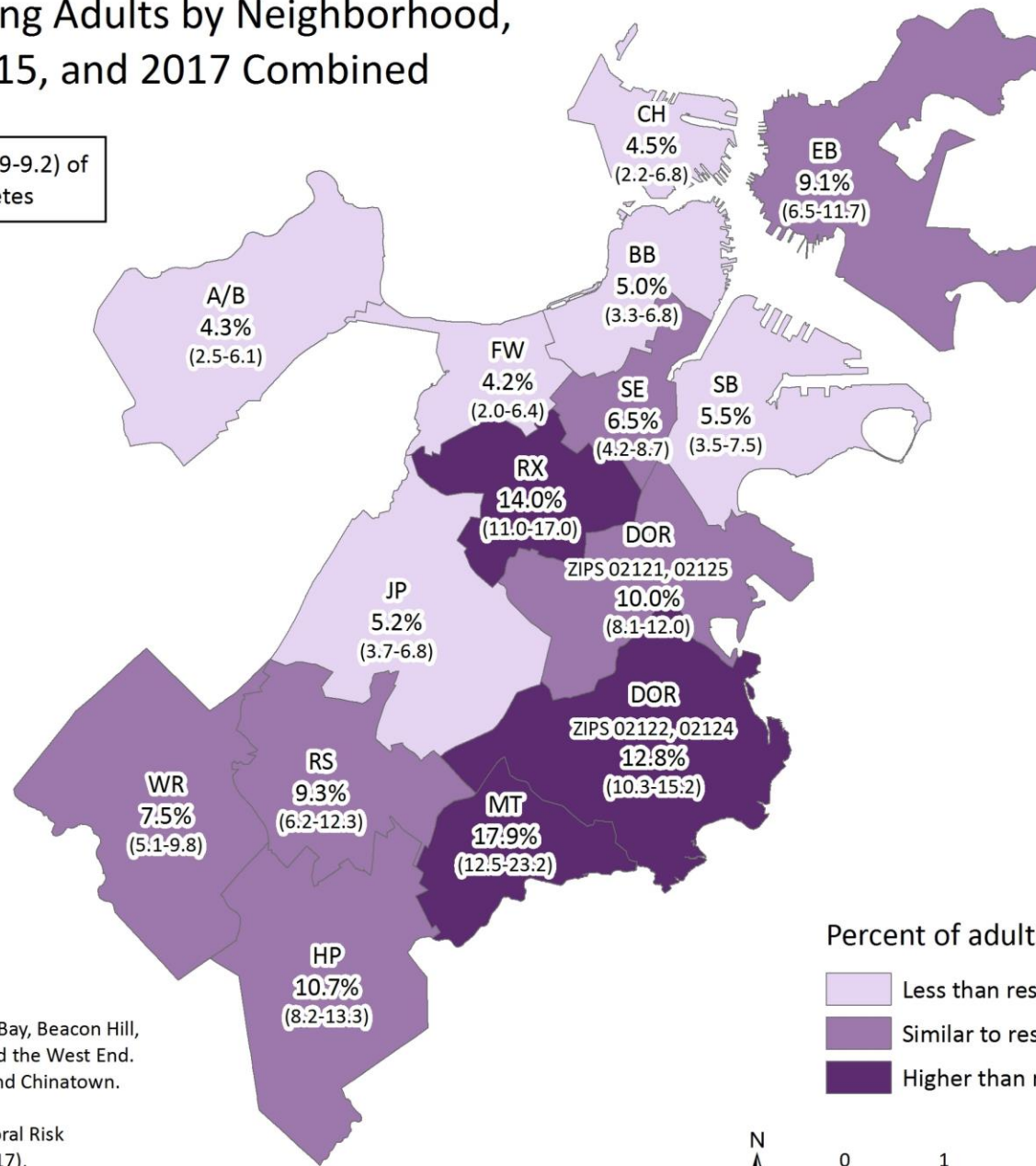
- Less than rest of Boston
- Similar to rest of Boston
- Higher than rest of Boston



0 1 2 4 Miles

Diabetes Among Adults by Neighborhood, 2013, 2015, and 2017 Combined

Boston: 8.5% (7.9-9.2) of adults had diabetes



NOTE: "BB" includes the Back Bay, Beacon Hill, Downtown, the North End, and the West End.
"SE" includes the South End and Chinatown.

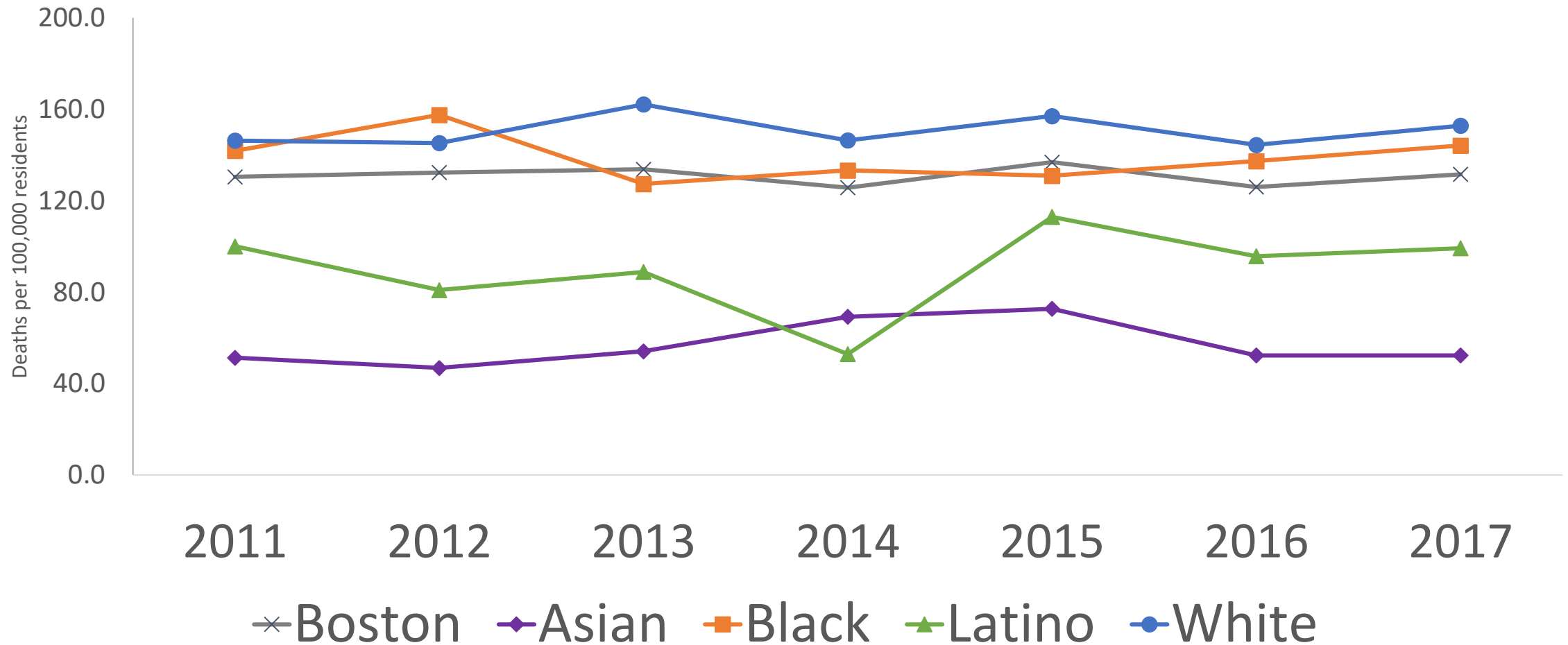
DATA SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015, 2017), Boston Public Health Commission

Percent of adults with diabetes

- Less than rest of Boston
- Similar to rest of Boston
- Higher than rest of Boston



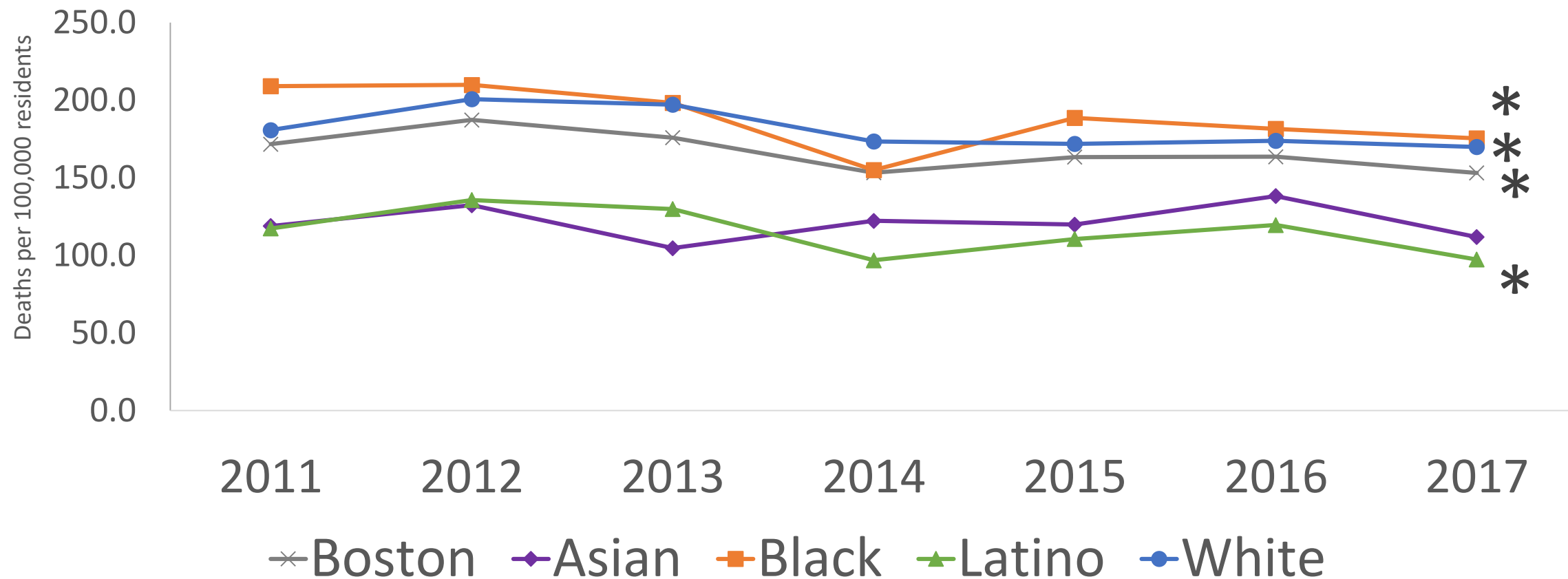
Heart Disease Mortality† by Race/Ethnicity and Year



† Age-adjusted rates per 10,000 residents

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health

Cancer Mortality† by Race/Ethnicity and Year

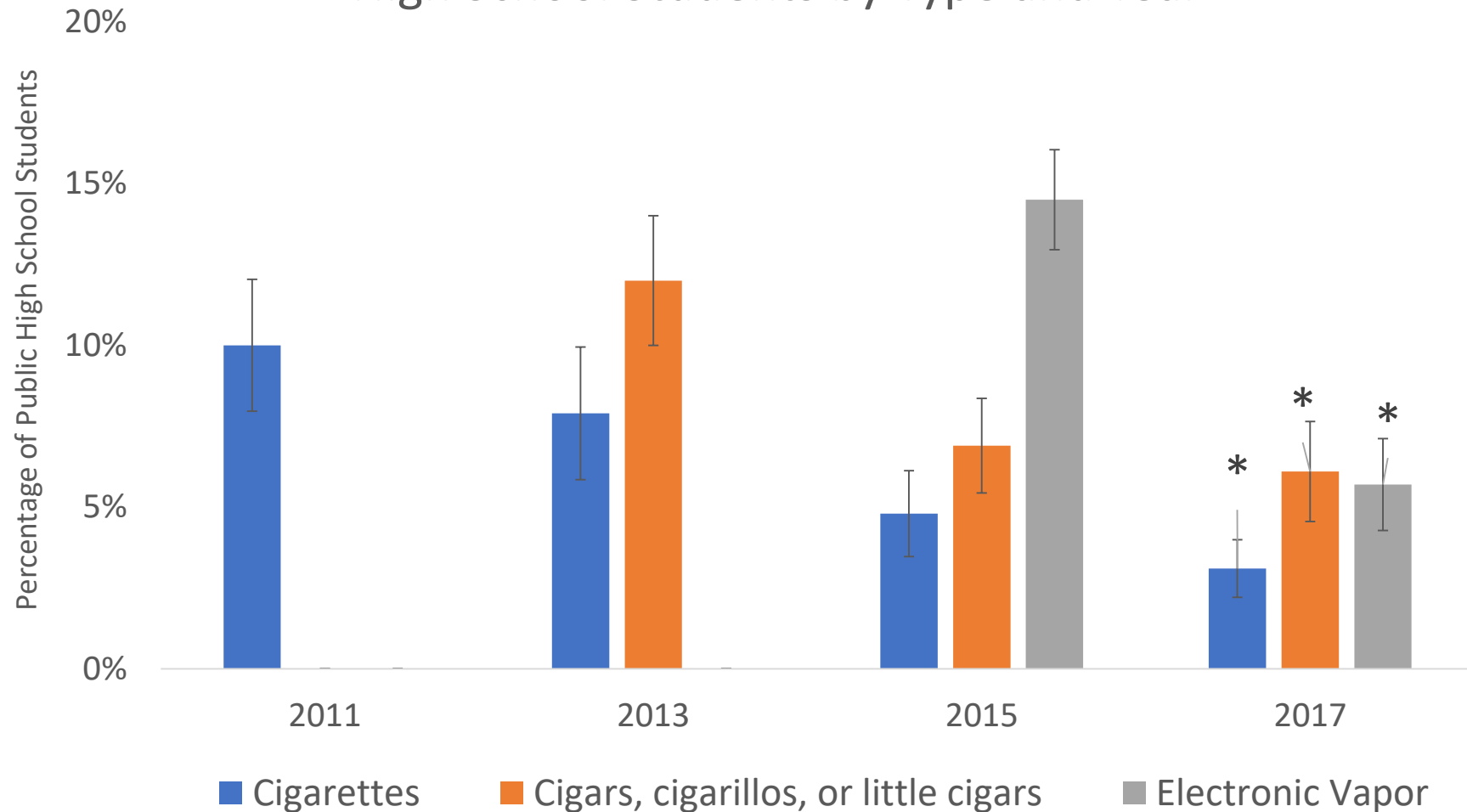


* Statistically significant change over time

† Age-adjusted rates per 10,000 residents

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health

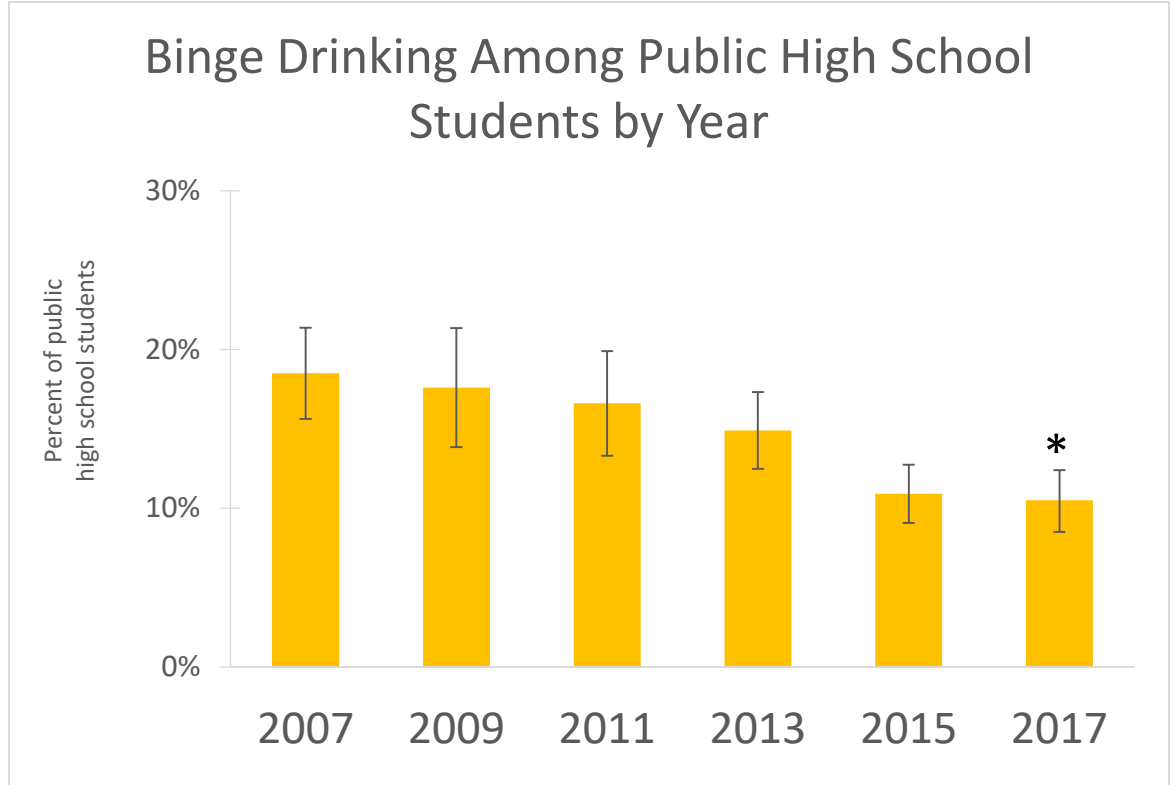
Tobacco Use During the Past 30 Days Among Public High School Students by Type and Year



* Statistically significant change over time

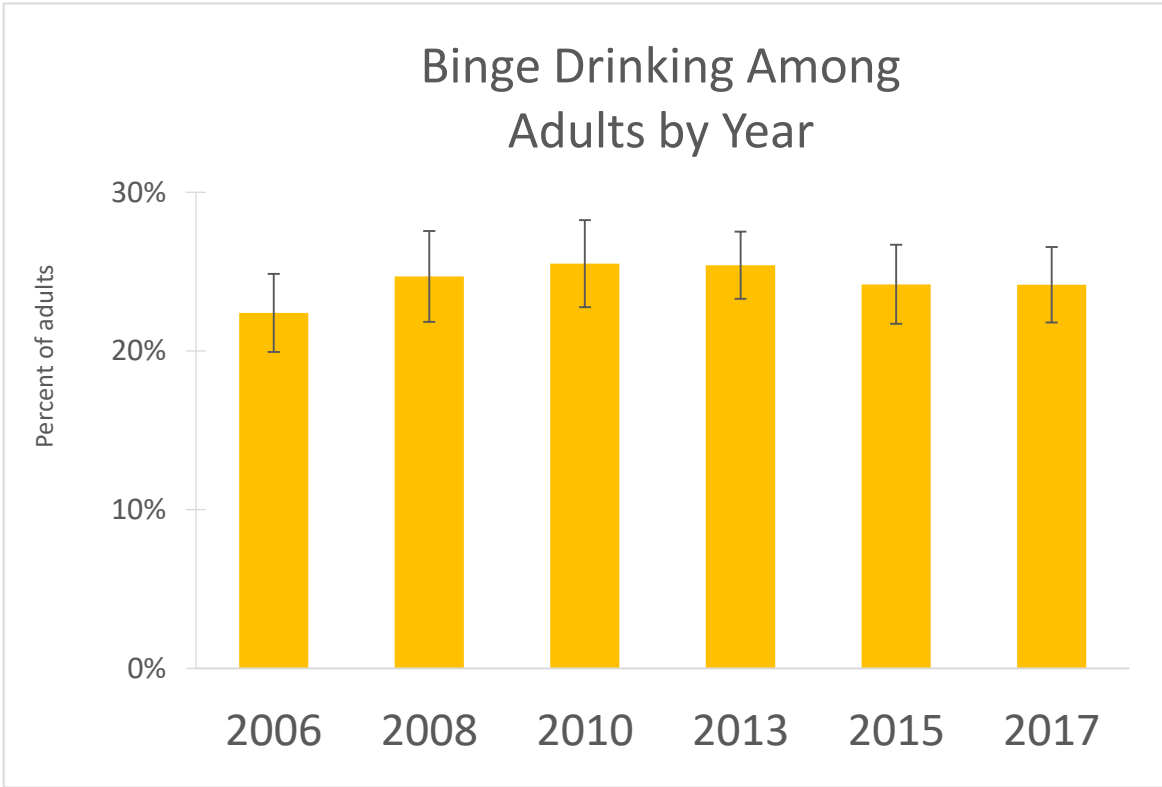
NOTE: Cigar, cigarillos or little cigar smoking in the past 30 days data not available for 2011. Electronic vapor data not available for 2011 and 2013.

DATA SOURCE: Youth Risk Behavior Survey (2011, 2013, 2015, 2017), Centers for Disease Control and Prevention and Boston Public Schools



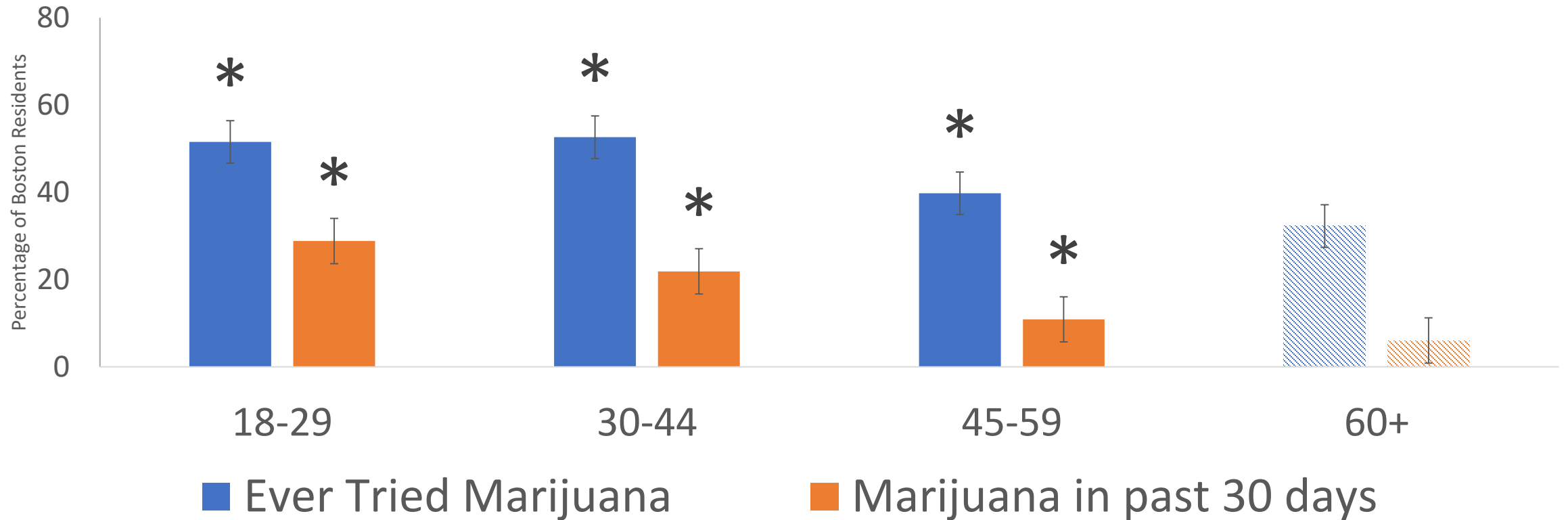
* Statistically significant change over time

DATA SOURCE: Youth Risk Behavior Survey (2007, 2009, 2011, 2013, 2015,2017), Centers for Disease Control and Prevention and Boston Public Schools



DATA SOURCE: Boston Behavioral Risk Factor Survey (2006, 2008, 2010, 2013, 2015,2017), Boston Public Health Commission

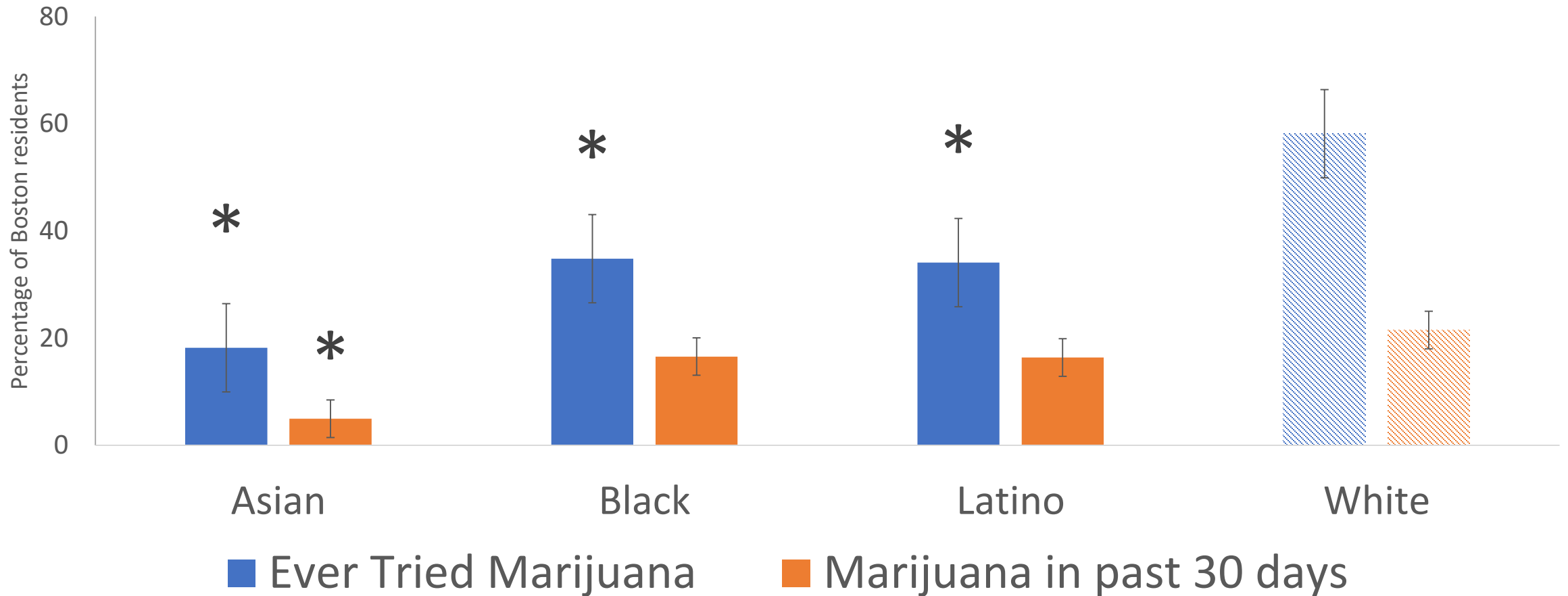
Marijuana Use Among Adults by Age, 2017



* Statistically Significant Compared to Reference Group

DATA SOURCE: Boston Behavioral Risk Factor Survey (2017), Boston Public Health Commission

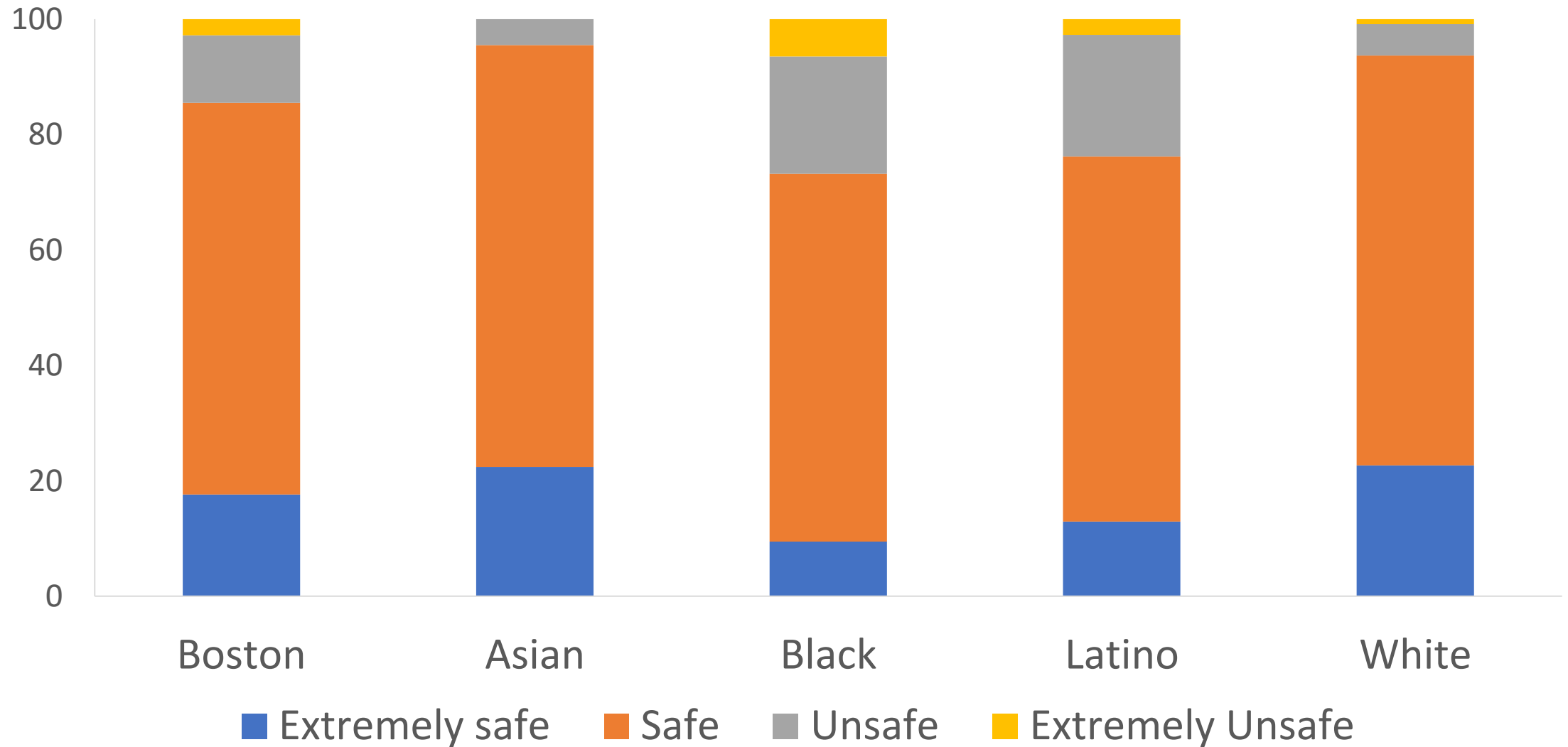
Marijuana Use Among Adults By Race/Ethnicity, 2017



* Statistically Significant Compared to Reference Group

DATA SOURCE: Boston Behavioral Risk Factor Survey (2017), Boston Public Health Commission

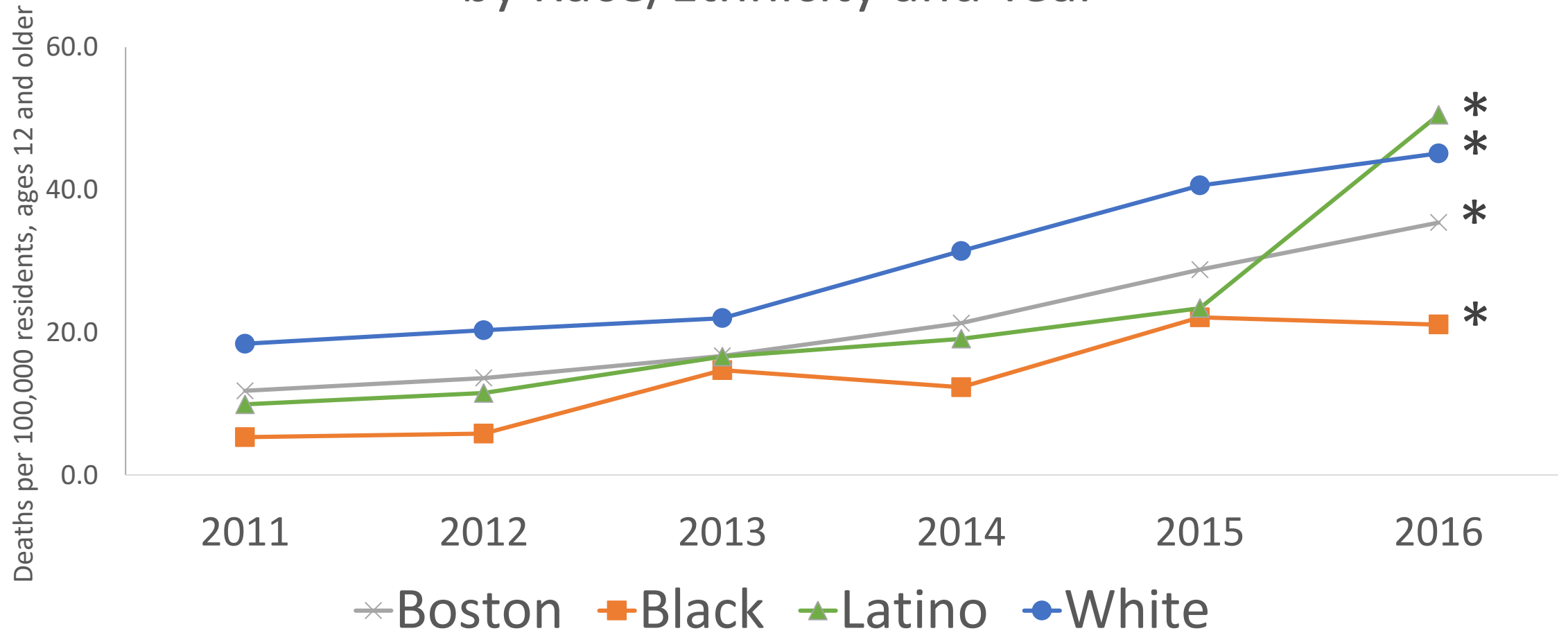
Adult Perceptions of Neighborhood Safety from Crime by Race/Ethnicity, 2017



Unsafe and Extremely Unsafe combined for Asian residents due to sample limitations

SOURCE: Boston Behavioral Risk Factor Survey (2013, 2015, 2017), Boston Public Health Commission

Unintentional Opioid Overdose Mortality† by Race/Ethnicity and Year



- Statistically significant change over time (Bos-222%, Black-300%, Latino-449%, White-174%)

† Age-adjusted rates per 100,000 residents ages 12 and older

DATA SOURCE: Boston resident deaths, Massachusetts Department of Public Health