## Community Health Assessment

Foxborough, MA

February 7th, 2022

Sophia Curto, Andrew Khalaj, Meaghan Walsh

#### **Academic Public Health Corps (APHC)**

APHC is a program of the Massachusetts Department of Public Health that connects public health students and professionals with local health department throughout the Commonwealth of Massachusetts.

APHC was created in response to the COVID-19 pandemic to strengthen support for local boards of health and build capacity for local public health.

#### **APHC Volunteer Efforts:**

- Health Communications and Social Media
- Community Outreach
- Translation Services
- Data Analysis, Mapping, and Presentation
- Mobilizing and Supporting Partnerships



#### **Project Overview**

<u>A Community Health Assessment</u> is defined as: a "state, tribal, local, or territorial health assessment that identifies key health needs and issues through systematic, comprehensive data collection and analysis."

Objective: Gather comprehensive information to gain understanding of the town's current health status, identify health needs, and develop plans to address action items.

#### **Limitations of the Data**

- For some indicators, most recent data is from 2013
  - May not reflect most current health profile
- "NS" = Data not shown due to insufficient sample sizes
  - A common finding in smaller populations to protect the identity of affected individuals
- Certain health metrics are not measured on the community level but only on state or county levels
  - COVID-19 data in terms of hospitalizations / deaths was not easily accessible on the community level

### **About Foxborough**

Demographics, Vital Statistics, and GIS

#### **Demographics: Population**

**6,805**Households
2015 - 2019

2.6
Persons per
Household
2020

82.5
Average Life Expectancy
2015

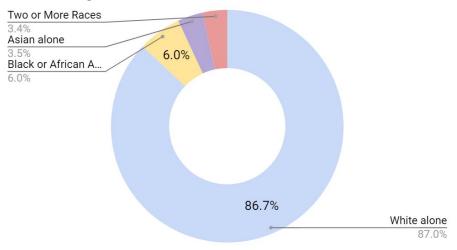
18,618
Total Population
2020

9.1% Change in Population 2010-2019 171
Average Number of Births
2011 - 2017

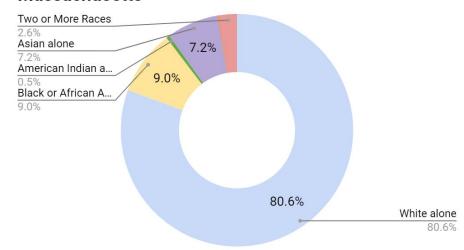
126
Average Number of Deaths
2011 - 2017

#### **Demographics: Race and Ethnicity**

#### **Foxborough**



#### Massachusetts

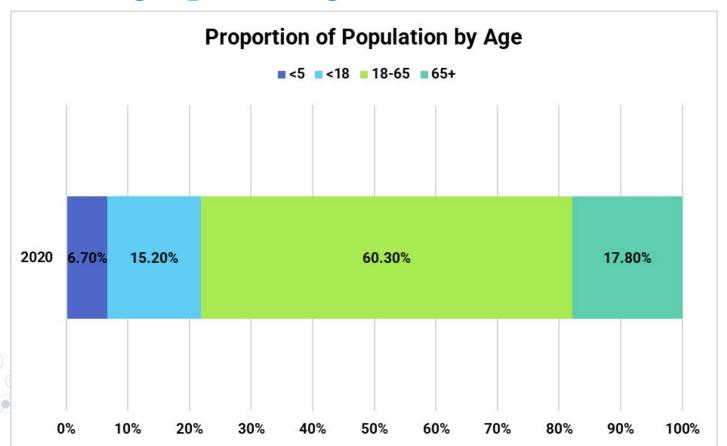


Hispanic or Latino: 5.3%

\*Hispanic or Latino origin may exist in all races and is therefore counted as a separate category

Hispanic or Latino: 12.4%

#### **Demographics: Age and Sex**



**50.6%** of the population identifies as female

**Source: Census** 

#### Demographics: Socioeconomic Measures



#### Housing

- **63.6**% owner-occupied housing rate
- \$427,500 median home value
- \$1,470 median gross rent



#### **Internet**

- 94.9% households with a computer
- 94.1% households with broadband internet



#### Income

- \$96,062 median household income
- \$50,396 per capita income



#### Education

- 94.1% high school graduate or higher among ages 25+
- **52.8**% bachelor's degree or higher among ages 25+



#### Work

- 38.5 minutes mean travel time to work
- 68.0% in civilian labor force, total, percent of population age 16+



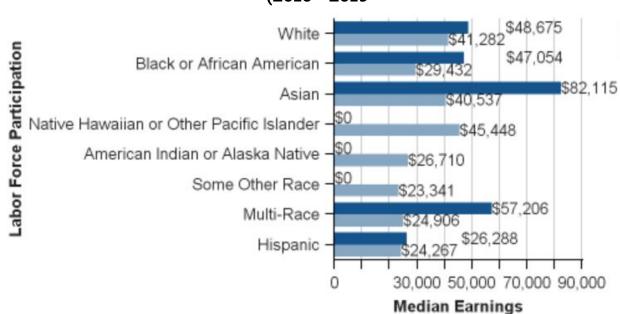
#### **Poverty**

• **5.9**% persons live in poverty

#### **Income Disparities**



#### Median Earnings by Race & Ethnicity (2010 - 2019

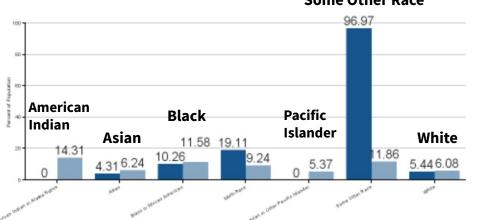


#### **Unemployment**

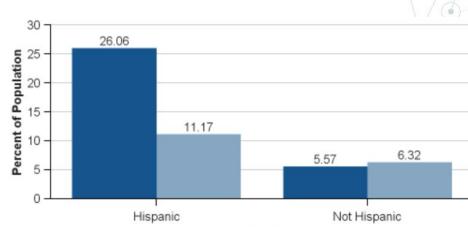


#### **Unemployment by Race**





#### **Unemployment by Ethnicity**



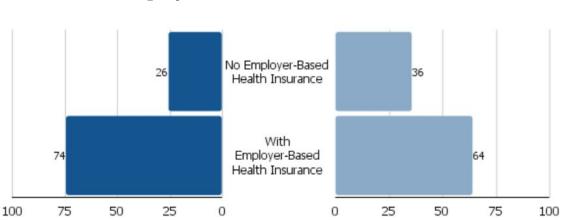


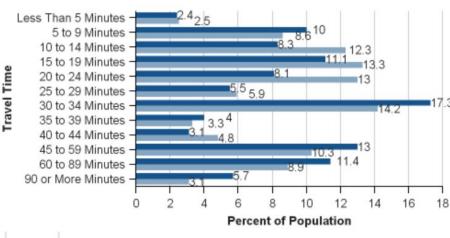
#### **Work-Related Statistics**

#### Average Commute Time (Min)



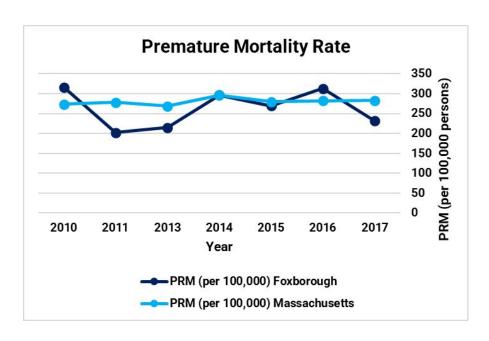
#### **Employment Based Health Insurance**

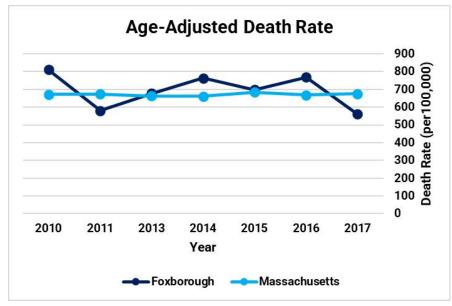




Source: Mass DPH Population Health Information Tool

#### **Premature Mortality Rate and Age-Adjusted Rate**



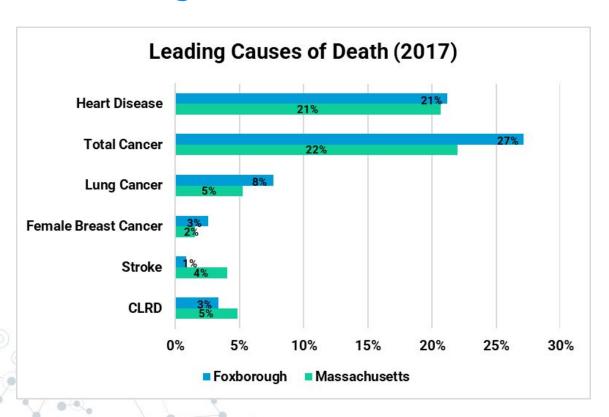


**Premature Mortality Rate (PMR)** measures the rate of death before the age of 75 years as a rate per 100,000 and is adjusted to the 2000 US population.

**Age-Adjusted Death Rate** describe the rate of death in a community adjusted for differences in population age distributions.

Source: Vital Statistics

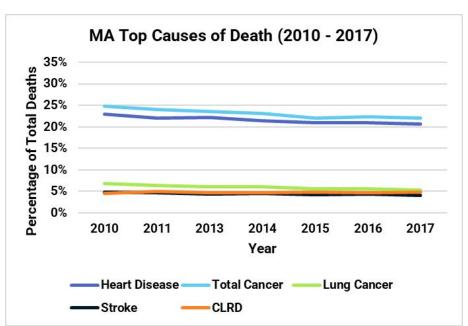
#### **Leading Causes of Death**

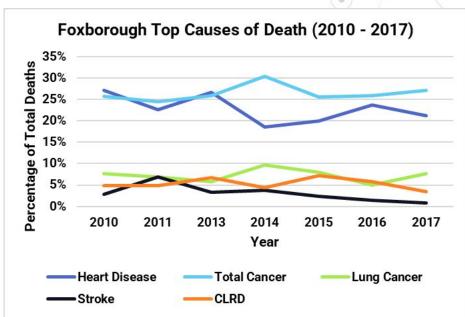


#### **Leading Causes of Death**

- Heart Disease
- Total Cancer
  - Lung Cancer
  - Female Breast Cancer
- Stroke
- Chronic Lower Respiratory Disease
- Diabetes
- Influenza & Pneumonia
- Motor Vehicle
- Homicide
- Suicide
- Opioid Related

#### Trends in the Top Five Causes of Death



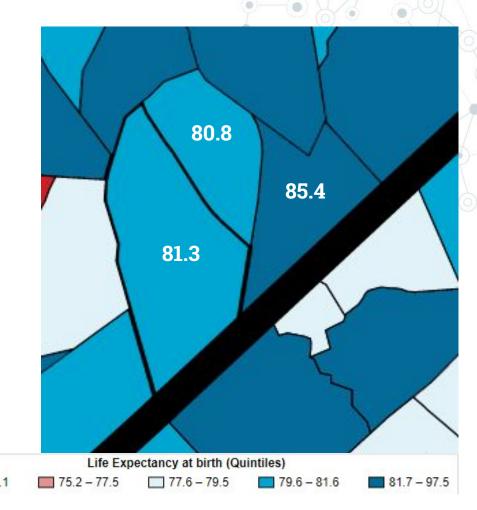


#### **Life Expectancy**

- **82.5 y.o.** Foxborough Life Expectancy
- **80.7 y.o.** MA Life Expectancy
- **77.0 y.o.** USA Life Expectancy

Foxborough has a higher life expectancy than the state and country averages.

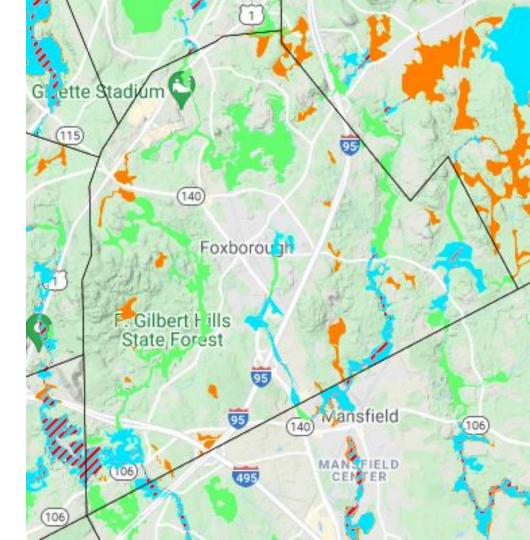
Yet, there is a large difference in expectancy among census tracts.



#### **FEMA Flood Risk**

#### FEMA National Flood Hazard Laver

- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AE: Regulatory Floodway
- AH: 1% Annual Chance of 1-3ft Ponding, with BFE
- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding,
  - with Depth
- VE: High Risk Coastal Area
- D: Possible But Undetermined Hazard
- X: 0.2% Annual Chance of Flooding
- X: 1% Drainage Area < 1 Sq. Mi.</p>
- X: Reduced Flood Risk due to Levee
- Area Not Included
- Area with no DFIRM Paper FIRMs in Effect

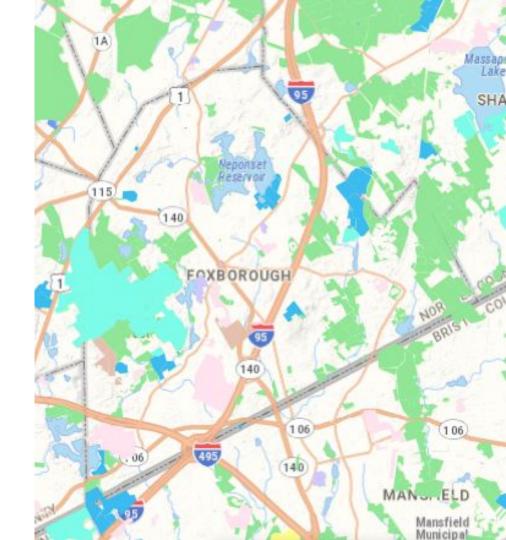


#### **Open Space**

#### Openspace by Primary Purpose

- CONSERVATION
- RECREATION
- CONSERVATION AND RECREATION
- AGRICULTURE
- HABITAT
- HISTORICAL/CULTURAL
- SCENIC (OFFICIAL DESIGNATION ONLY)
- WATER SUPPLY
- FLOOD CONTROL
- UNDERWATER
- OTHER



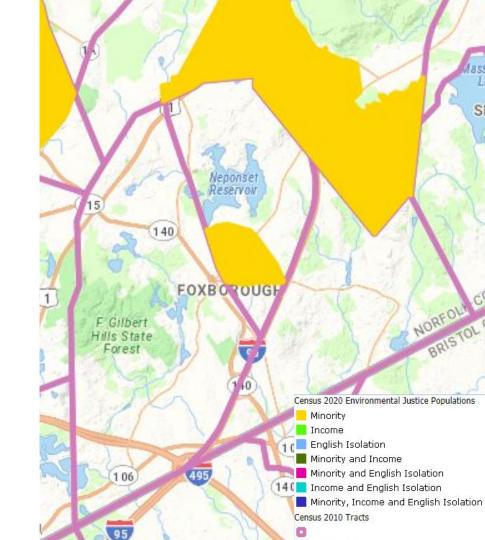


#### **Environmental Justice**

Environmental Justice communities are defined as:

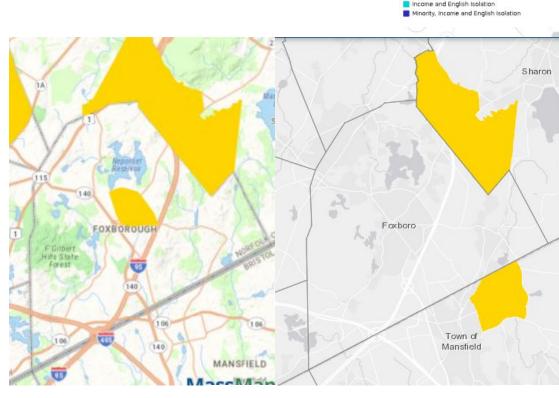
"U.S. Census block groups that meet one or more of the following criteria:

- 1. The median annual household income is at or below 65% of the statewide median income for Massachusetts
- 2. 25% of the residents are minority or 25% of residents are foreign born, or
- 25% of residents are lacking English language proficiency."



#### 2010 - 2020 Environmental Justice

- 2020 a new EJ block was categorized in Foxborough
- Characteristics of the group:
  - o 2019 population: **1,889** in **973** households
  - o Median household income: \$63,554
  - o Total minority population: **29.0%**
  - Households with language isolation: **1.6**
- Foxborough has a median household income of \$96,062



2020 2010

Census 2020 Environmental Justice

Populations Minority

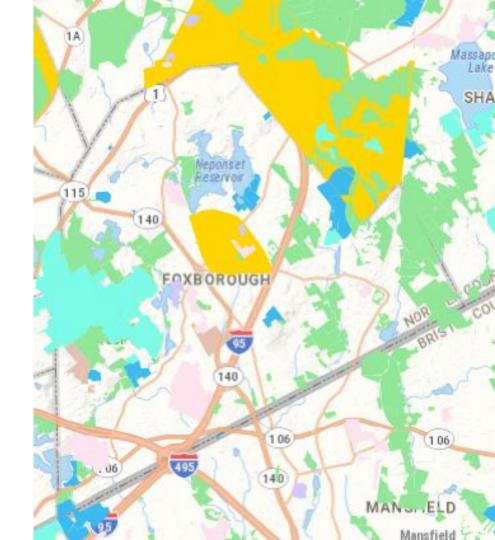
Income
English Isolation
Minority and Income
Minority and English Isolation

#### Open Space vs Environmental Justice

# Openspace by Primary Purpose CONSERVATION RECREATION CONSERVATION AND RECREATION AGRICULTURE HABITAT HISTORICAL/CULTURAL SCENIC (OFFICIAL DESIGNATION ONLY) WATER SUPPLY FLOOD CONTROL UNDERWATER OTHER UNKNOWN

#### Census 2020 Environmental Justice Populations

- Minority
- Income
- English Isolation
- Minority and Income
- Minority and English Isolation
- Income and English Isolation
- Minority, Income and English Isolation



Overall SVI - Tracts

#### **Social Vulnerability Index**

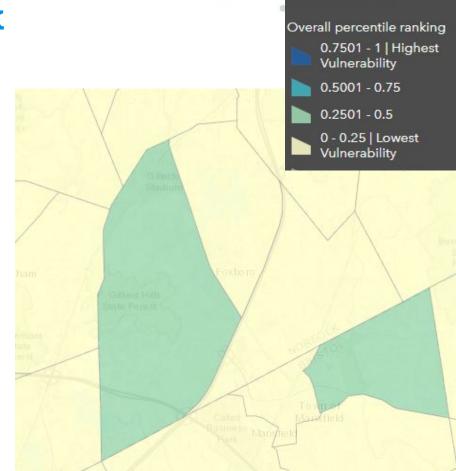
The Centers for Disease Control (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR) together developed databases for emergency response planners and public health officials with the goal to identify communities that will most likely need support in a hazardous incident.

- Hurricanes
- Disease
- Chemical Spills

The **Social Vulnerability Index** takes into account social determinants of health such as

- Poverty
- Transportation
- Housing

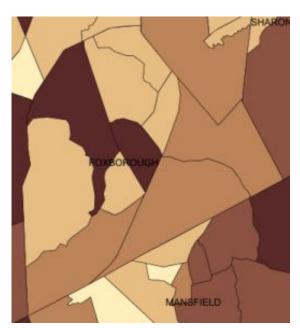
to analyze a community's ability to respond to a disaster.



#### **SVI: Housing & Socioeconomics**

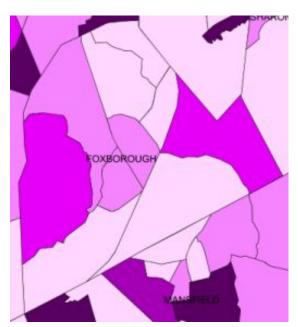


#### **SVI: Household Occupations and Rentals**



#### Census 2000 Total Occupied Housing

- 0 to 250 units
- 251 to 500 units
- 501 to 750 units
- 751 to 1000 units
- More than 1000 units



#### Census 2000 Rent As Percent of Housel Income

- Less Than 20 Percent of Income
- 20 to 25 Percent of Income
- 25 to 30 Percent of Income
- 30 to 35 Percent of Income

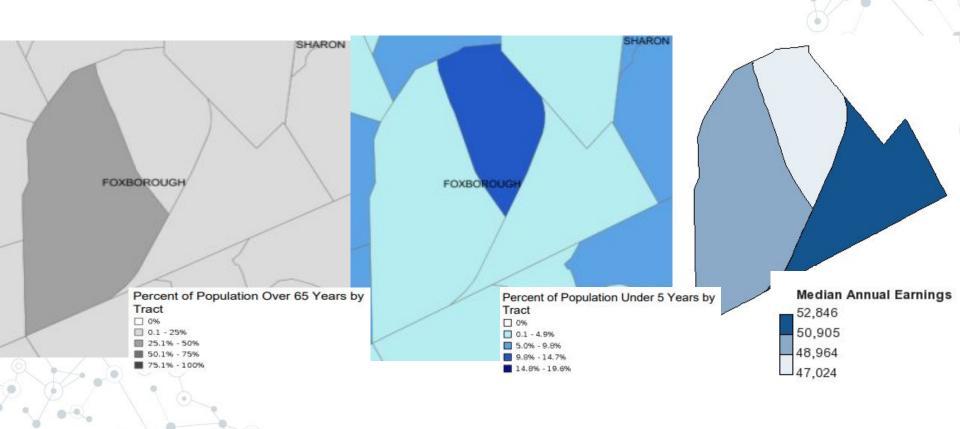
  More than 35 Percent of Income



#### Census 2000 Number of Renter-Occupied Housing Units

- 0 to 50 units
- 51 to 100 units
- 101 to 150 units
- 151 to 250 units ■ More than 250 units

#### **SVI: Population Distribution & Income**



# Healthy Aging

#### The 65+ Population

- On average, Foxborough has a slightly larger percentage of 65+ individuals compared to the state.
  - 51.6% percent of Foxborough's elderly population is above the age of 75.
- Foxborough's 65+ population is largely white (97.6%) and english speaking (96.2%).

	Foxborough	MA
White	97.60%	90.00%
African American	0.80%	4.30%
Asian	1.20%	3.20%
Other	0.40%	2.50%
Hispanic / Latino	0.00%	3.80%



#### **Senior Wellness and Prevention**

 Foxborough seniors are consistently more active than their statewide peers, with a larger percentage participating in physical activities, aerobic activities, and muscle-strengthening activities.

 Fewer Foxborough seniors are meeting important preventative health measures including:

- Physical exams
- o Annual flu-shots
- Shingles vaccines
- Colorectal cancer screenings
- HIV testing



#### **Seniors & Chronic Disease**

- Foxborough seniors trended below average for prevalence in common chronic diseases.
- Foxborough seniors had a lower prevalence of disease than their state counterparts for 15 common chronic conditions, including:
  - diabetes
  - o COPD
  - o asthma
  - ischemic heart disease
  - congestive heart failure
- Notably, Foxborough senior women have a higher prevalence of breast cancer (13.4%) compared to their state counterparts (10.9%)



#### **Seniors & Transport**

- Over half (56.0%) of Foxborough seniors reported poor access to the supermarket
  - Poor access to quality foods is detrimental to maintaining a healthy diet, low cholesterol levels, and healthy BMIs.
- Most Foxborough seniors report always wearing a seatbelt while driving (94.40%)
  - This is much higher than their state counterparts (86.3%).



### Summary Demographics, Vital Statistics, Mass GIS, & Healthy Aging

- Foxborough is majority white and english speaking.
- Foxborough has a large senior population. Seniors are healthier than their state counterparts but failing to meet preventative health measures.
- Foxborough has an average higher life expectancy than MA and the US.
   However, life expectancy varies by census tract.
- Overall, Foxborough is at low risk for natural disasters. If disaster strikes, certain census tracts are at a higher risk than others due to vulnerabilities in housing, socioeconomics, and transportation.

#### **Action Items**



- Focus on building transport infrastructure for seniors and those without cars.
  - Existing senior shuttles are restricted by operating schedules, have a limited number of seats, and/or require days notice.
  - Most are also only for seniors or those who qualify for disability under ADA.
- Ensure that hazard response planning pays particular focus to census tracts that are at higher risk due to socioeconomic, housing, and transportation vulnerabilities.

## **MA Environmental Tracking**

Pediatric Trends of Interest

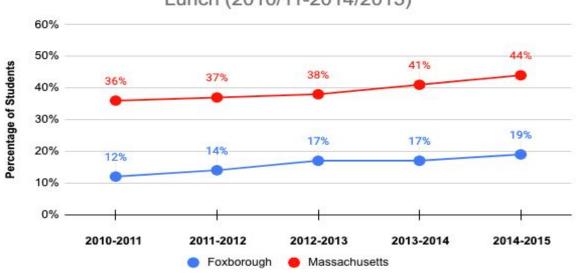
#### Pediatrics (<18)



- Child Population (2014-2018)= 3,863 (21.9% of total in Foxborough)
- Important Indicators (2015-2019)
  - Children in or Near Poverty (200% of poverty line)
    - **Foxborough** -> 418 (11% of Child Population)
    - Massachusetts -> 367,867 (27% of Child Population)
  - Children (Aged 3 and 4) Enrolled in Preschool
    - **Foxborough** -> 356 (**68**% of Child Population)
    - Massachusetts -> 89,178 (60% of Child Population)
- Children fair better **educationally/economically** compared to state (although some important trends to discuss)

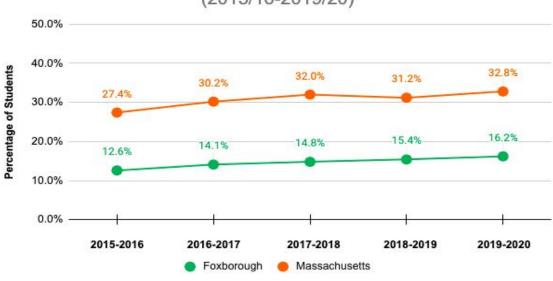
#### Pediatric Trends: Free/Reduced Lunch



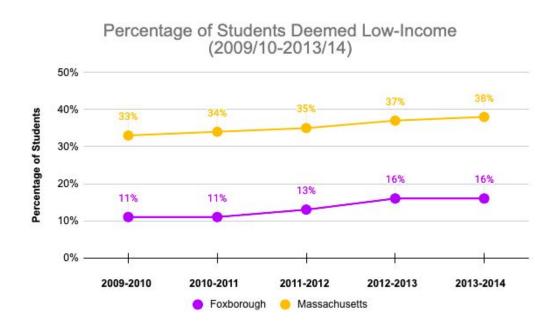


#### **Pediatric Trends: Economic Disadvantage**





## **Pediatric Trends: Low-Income Students**



# **Environmental/Disease Tracking**

- Positively Trending Areas
  - Chronic illness
    - Diabetes, CVD, Cancer, COPD
  - Environmental Indicators
    - Carbon Monoxide, Air/Water quality, Heat Stress
  - Healthy Behaviors
    - Fruits/Vegetables,
       Second-hand smoke, Exercise,
       Alcohol use
- Similarly Trending Areas
  - Poor sleep, Smoking rates



# **Summary of Health Data**

- Foxborough (MET) -> Ranked above
   MA average in 26 of 35 indicators (74%)
  - Below average in seven categories, approx. the same in three
  - Overall, very healthy + few areas of concern/interest
  - More indicators screened, but could not compare accurately due to lack of/incomplete data



### **Action Items**



#### Preventive Screening

- Annual physicals, cholesterol, mammograms, colorectal cancer
- Some positive areas-> Cervical cancer, dental visits

#### • Rising Economic Hardships for Children

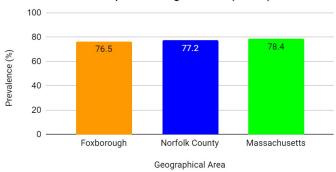
- Free/Reduced lunch, SES rates, etc.
  - Still better than MA, but some concern warranted

#### Pediatric Asthma

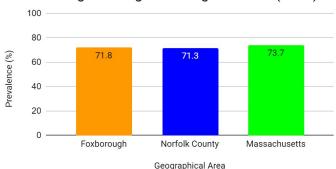
- Five-year average prevalence (2012-2017) = 13.8%
  - Norfolk County = 11.1%, Massachusetts = 12.2%
  - Source: Massachusetts Environmental Tracking

# **Preventive Care**

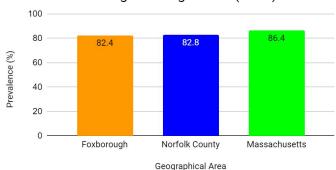
#### Age-Adjusted Prevalence of Annual Physician Checkups Among Adults (2018)



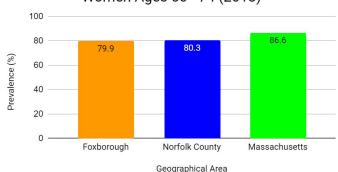
#### Age-Adjusted Prevalence of Colorectal Cancer Screenings Among Adults Ages 50 - 75 (2018)



#### Age-Adjusted Prevalence of Cholesterol Screenings Among Adults (2017)



#### Age-Adjusted Prevalence of Mammograms Among Women Ages 50 - 74 (2018)



# **Why Are These Factors Important**

- Preventive care keeps everyone healthy!
  - Lower rates of disease and death
  - Catch conditions in early stages
- Pediatric asthma has been linked to...
  - Higher rates of absenteeism in schools
  - Lower **quality of life** for students
- With rising economic instability, imperative that students have access to resources that keep them healthy
  - Free/reduced-price school lunch reduces food insecurity and obesity



### Recommendations

#### Preventive Care

- More public health outreach/education around the importance of annual checkups and screenings (social media, TV, infographics/flyers, etc.)
  - Collaborate with local clinics/hospitals to ensure message spreads

#### Childhood Economic Hardship

 Making sure that current programs adequately address the needs of all affected students (do low-income students feel supported?)

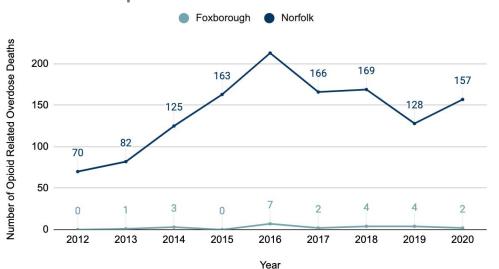
#### Pediatric Asthma

- Work with school district to evaluate any shortcomings in addressing this issue, and implement health-oriented policies to remedy gaps
  - Access to inhalers/medications, mental health support, and limiting exposure to tobacco smoke and debris from construction



# **Opioid Data**

#### **Opioid-Related Overdose Deaths**



- Under mortality data for Massachusetts
- Consistently low opioid overdose deaths in Foxborough compared to total in Norfolk County

# **Opioid Data**

#### Opioid Drug Overdose Hospitalizations:

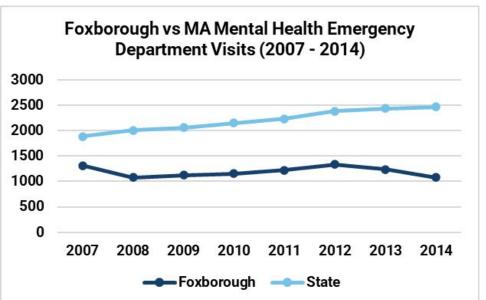
- Heroin Emergency Department Visits
- Non-Heroin Emergency Department Visit
- Heroin Admissions/Observations
- Non-Heroin
   Admissions/Observations

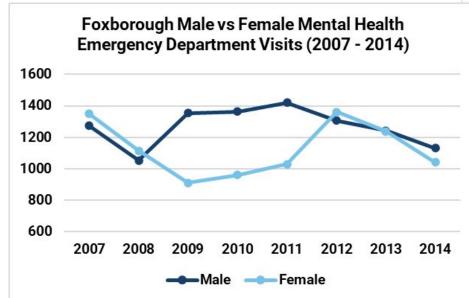
Data for Foxborough in all categories: NS (Not Shown)



# **Mental Health - Emergency Department Visits**

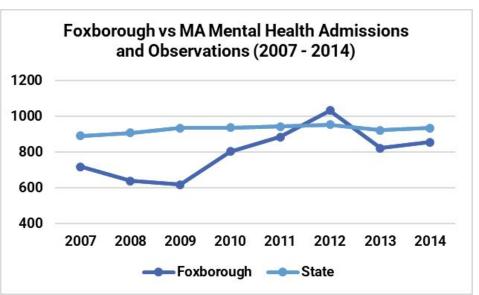
- The only mental health data available covered acute mental health episodes
- Foxborough had lower rates than the state for ED visits
- Males and females have similar rates of ED visits for most years

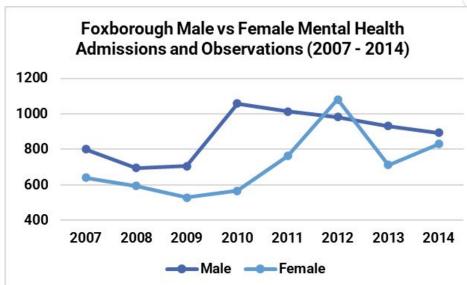




# **Mental Health - Admissions and Observations**

- Foxborough had lower rates of admissions and observations for mental health concerns compared to the state
- Males had higher rates of admission compared to females



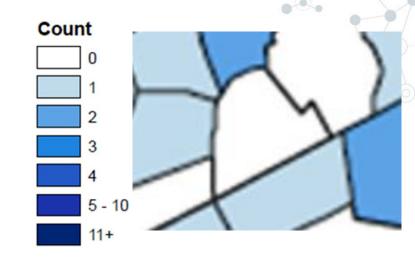


# **Other Injury Outcomes**

Motor-Vehicle Traffic Related Injuries = NS

Limited reporting/surveillance on work-related fatal injuries on the community level

- Most recently found data was 0 deaths for the years 2008 - 2013
- Need for occupational surveillance for hospitalizations, emergency department visits, deaths





Source: Mass DPH Population Health Information Tool

Mass DPH Bureau of Community Health and Prevention - Occupational Health Surveillance Program

# **Action Items & Recommendations**



#### **Surveillance and Data Collection**

- Need for consistent data collection annually
- Increase mental health surveillance for prevalence rather than acute episodes
  - Considerations for age, race/ethnicity, education level, sex

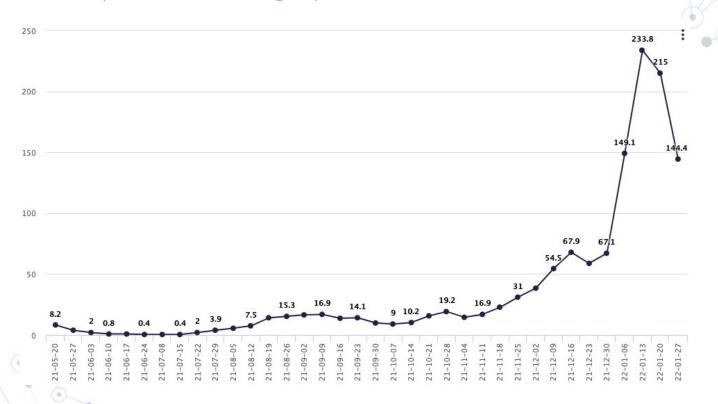
#### **Education**

 Continue educational programs and protocols regarding drug use, vehicle safety, mental health support services

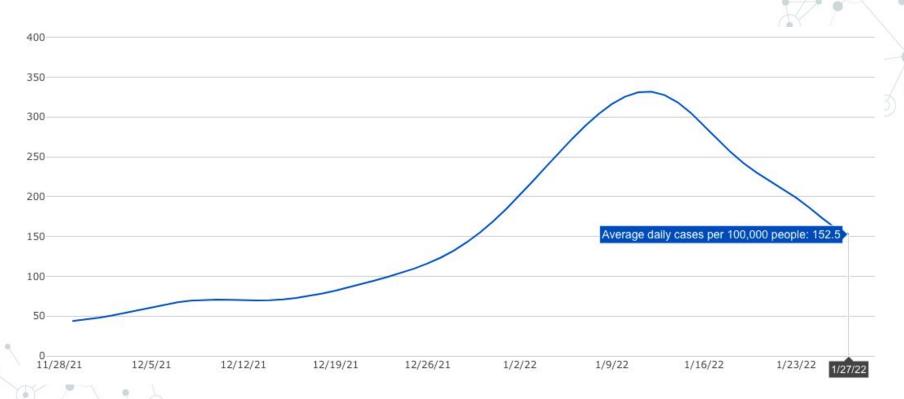


Incidence, Percent Positivity, and Vaccinations

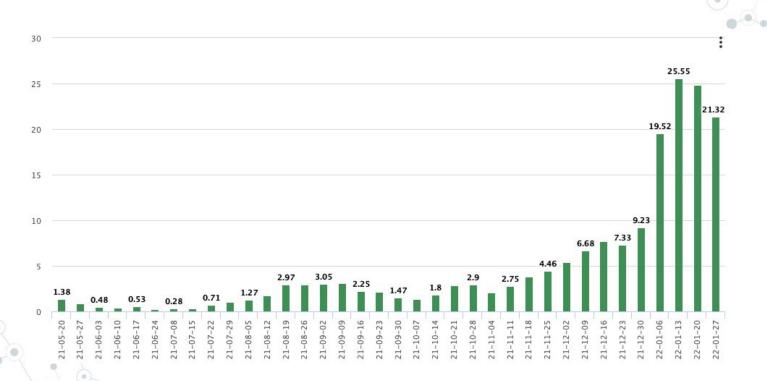
# 14-Day Average Daily Incidence Rate per 100,000 (Foxborough)



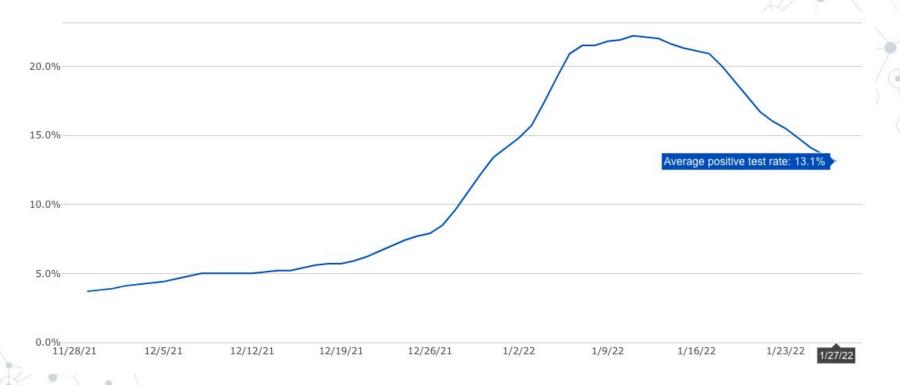
# 7-Day Average Incidence Rate (Massachusetts)



# 14-Day Test Percent Positivity (Foxborough)

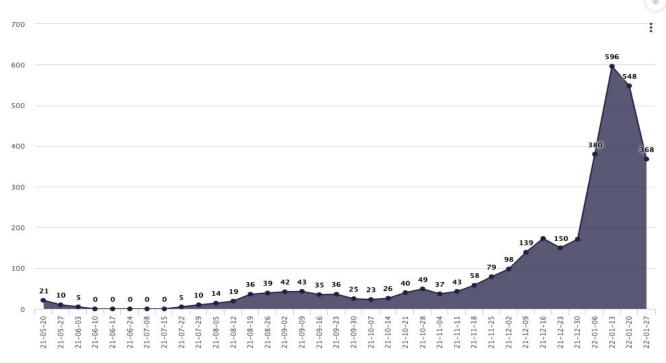


# 14-Day Percent Positivity (Massachusetts)





# 14-Day Case Count (Foxborough)



Note: O represents less than 5 reportable cases within the 14 day period.

# **Cases of COVID-19 in Schools**

(As of 01/27/2022)

School	Active- Cases In School Community (Isolating NOT attending school)	Cases 12/4/2021-3/12/2021 (Includes active cases)	Cases 8/31/2021-12/3/2021	School Enrollment	Current Town COVID Status	
Foxborough High School	1	173	27	782	GREY	
Ahern Middle School	5	200	48	759		
Burrell School	7	118	7	326		
Igo School	0	79	22	345		
Taylor School	3	59	29	248		
Total	16	629	133	2,460		



# **COVID-19 Vaccination Rates**

As of 01/27/2022

#### **Foxborough**

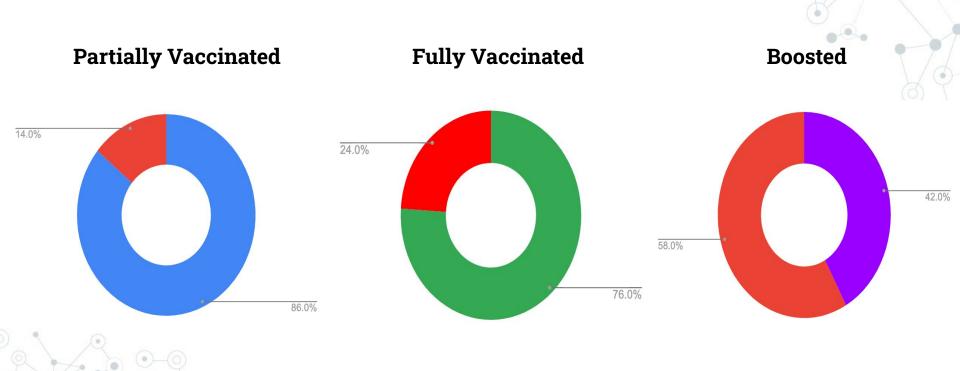
Town	Age Group		Individuals with at least one dose per capita	Fully vaccinated individuals	Fully vaccinated individuals per capita		Individuals with booster doses per capita
Foxborough	5-11 Years	781	53%	617	42%	-	0%
Foxborough	12-15 Years	748	80%	687	73%	90	10%
Foxborough	16-19 Years	805	88%	748	82%	333	36%
Foxborough	20-29 Years	1,968	90%	1,723	79%	762	35%
Foxborough	30-49 Years	4,007	87%	3,577	78%	1,910	41%
Foxborough	50-64 Years	4,084	>95%	3,702	91%	2,329	57%
Foxborough	65-74 Years	1,952	>95%	1,717	>95%	1,309	76%
Foxborough	75+ Years	1,340	>95%	1,133	92%	870	70%
Foxborough	Total	15,685	86%	13,904	76%	7,603	42%

#### **Massachusetts**

		Individuals with at least one dose per capita		Fully vaccinated individuals per capita		Individuals with booster doses per capita
6,984,723	6,519,543	94.6%	5,255,176	76.2%	2,467,516	35.8%

Sources: Mass.Gov & Our World In Data

# **COVID-19 Vaccination Rates**



# Recommendations



# **Community Involvement**

- Engage with youth for health ambassadors
  - Could managed social communications, host & plan community events
- Broadcast important health messages on local radio and TV stations
- Organize community events at highly trafficked and accessible
   centers

#### **Social Media**

- Utilize social media for spreading health messages and promoting campaigns
  - Facebook targets more adult demographics, tik tok targets younger demographics
- Find Foxborough specific pages or groups and use their platforms to spread messages



#### Foxboro Community Group

Public group · 108 members

The Foxboro Community Group is a new discussion group for F objective of this group is to provide a space to discuss issues th 3 posts a month































To prevent long-term complicati

To prevent long-term complications

They're less likely to infect others if they test positive

Side effects for kids are usually mild

It protects everyone in the household

It protects everyone in the household

To skip traditional quarantine if they're exposed











# **Local Partnerships**

- Foxborough's proximity to major hospital systems such as Mass General Brigham and Milford Regional make it well placed to utilize local resources
- MGB community health while primarily servicing the greater Boston area, may consider mobile clinics or preventative health screening days
  - Center for Community Health and Health Equity at BWH
  - In 2021, BWH planned to invest in expanding transportation access and mental health linkage systems in Foxborough as part of their Determination of Need Application
- The Kraft Group funds many philanthropic activities, many centered on health
- Partner with local food stores to give discounts on healthy foods and encourage ride services to perform more frequent trips on these days



#### **Evidence Based Campaigns**

- The CDC has a number of featured campaigns ranging from domestic violence to medication safety
- Promotional materials from successful campaigns should be adopted and implemented in the wider community

#### Media Campaigns



CDC supports a variety of campaigns to educate Americans on how to stay healthy and reduce the impact of chronic diseases on their quality of life. Check out the latest campaigns below.

#### **Surveillance**

- Improve collection of data on a community level in aforementioned categories including:
  - Mental health
  - Occupational Injuries



# **Summary**

- Foxborough ranks better (or similar) in a vast majority of health metrics when compared to the state
- Five core action items to address:
  - Preventive care (all ages)
  - Pediatric asthma
  - Transportation
  - Mental health surveillance
  - More complete data collection
- Outreach/messaging initiatives can help close these gaps

# Thank You!

#### **Sources**

- Centers for Disease Control and Prevention
- Kids Count Data Center
- <u>Massachusetts Environmental Public Health Tracking</u>
- Massachusetts Behavioral Risk Factor Surveillance System
- <u>Massachusetts Bureau of Geographic Information</u>
- <u>Massachusetts COVID-19 Vaccination Data and Updates</u>
- Mass GIS (Bureau of Geographic Information)
- Massachusetts Healthy Aging Collaborative
- <u>Massachusetts Population Health Information Tool</u>
- Mayo Clinic
- National Center for Health Statistics
- Our World In Data
- PLACES: Local Data for Better Health
- Registry of Vital Records and Statistics
- <u>Social Vulnerability Index</u>
- <u>Town of Foxborough COVID-19 Dashboard</u>
- United States Census Bureau