

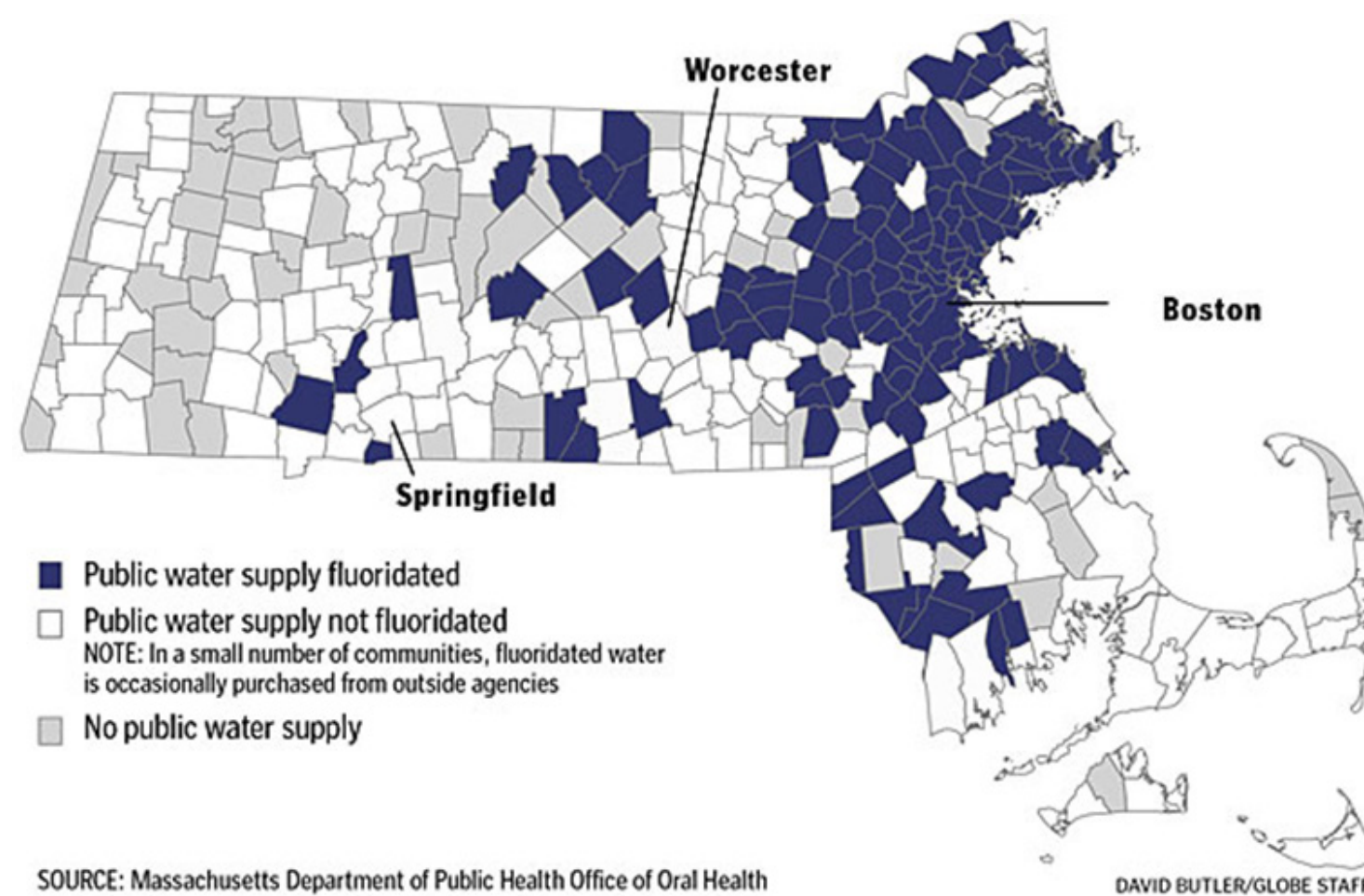
## OBJECTIVES

1. Understand role and history of water fluoridation in Worcester.
2. Define the population facing barriers to oral healthcare.
3. Outline pros/cons of water fluoridation for target population.
4. Identify implications of fluoridation debate for Worcester and assess availability of other options for oral health resources.

## BACKGROUND

### What is fluoride and where does it come from?

- Naturally-occurring mineral found in most all water sources.
- Helps prevent cavities by making enamel more resistant to the acid attacks that cause tooth decay.
- For the past 70 years, fluoride has been added to public water supplies in some areas nationwide.
- Dental and primary care providers can apply fluoride directly.
- Mouthwash with fluoride can be used for children >6 years old.
- Prescription fluoride supplements for children 6 months to 16 years who lack adequate fluoride in drinking water.<sup>1</sup>



### What is the historical context of fluoride in Worcester?

- Worcester water remains non-fluoridated despite strong endorsement from the American Dental Association.
- Residents voted down questions concerning water fluoridation 4 times since 1963, with the most recent in 2001.<sup>2</sup>
- Adjacent communities with fluoridated water include Northborough, Westborough, Holden, Rutland, and Shrewsbury, which protected their water fluoridation in a town meeting in 2015 when the practice was questioned<sup>3,4</sup>.

## FOCUS POPULATION

- Low income, under 18, Hispanic and Black, non-English speaking individuals and children with disabilities.
- At risk due to limited access to healthcare, insufficient insurance coverage, limited health literacy, intersecting comorbidities, and socioeconomic determinants that impede scheduling and affording appointments.
- Racial, ethnic, and linguistic minorities (especially Black and Hispanic groups) have higher prevalence of dental decay and lower annual dental care utilization.<sup>5</sup>

## FLUORIDATION OF PUBLIC WATER SUPPLIES DEBATE

### PROS<sup>6,7</sup>

- **Effective:** most effective solution to prevent tooth decay, especially in children, reducing dental decay by 20-40%.
- **Efficient:** every \$1 invested in city water fluoridation saves on average \$38 in dental treatment costs.
- **Pervasive:** reaches everyone, especially children and individuals without insurance.
- **Safe:** 60+ years of research and experience generated credible evidence supporting the safety of water fluoridation.
- **Precedented:** adding fluoride to water is similar to fortifying other foods or beverages, such as adding iodine to salt, vitamin D to milk, calcium to orange juice, and folic acid to bread.

### CONS<sup>8,9,10</sup>

- **Research:** no randomized control trials to support water fluoridation.
- **Informed Consent:** adding a “medication” to the public water supply without adequate consent.
- **Dosage:** no way to ensure that each person receives a safe dose. Child body compositions have higher total body water, which could increase body fluoride level.
- **Toxin:** fluoride in high concentrations is a dangerous chemical, posing an occupational hazard to those who handle it to add it to the water supply.

## LESSONS & CONCLUSIONS

### Prevalence of Our Focus Population in Worcester<sup>11</sup>

Percent of Worcester Residents	Demographic
22.4%	Below poverty line
26.9%	Immigrants
38%	African American
20.9%	Hispanic

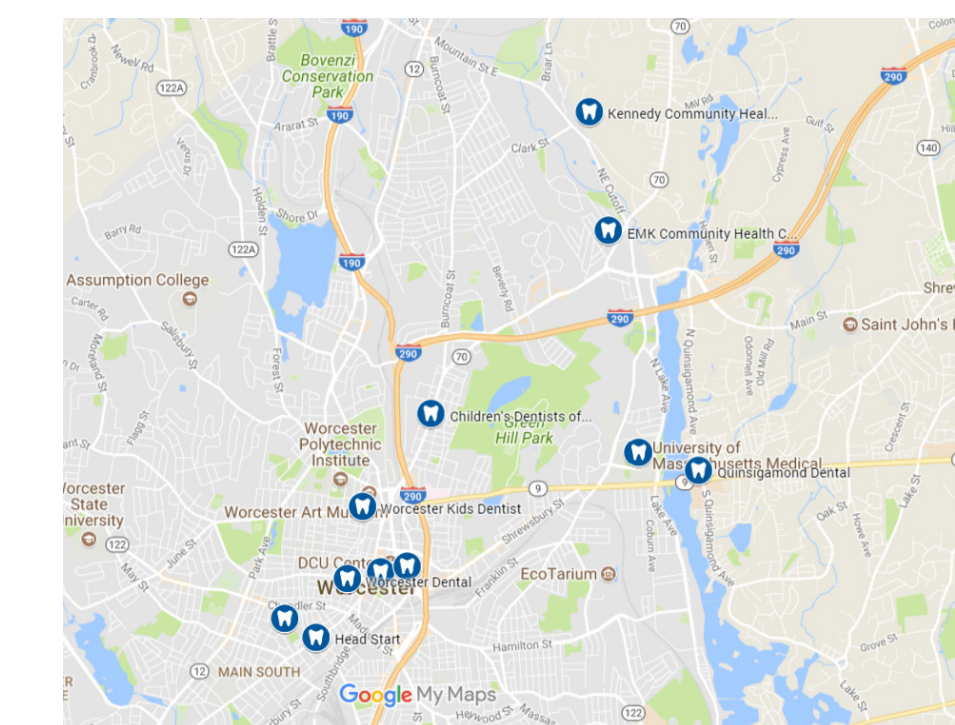
- These stats suggest Worcester has a large proportion of residents that could be at risk for dental neglect.

### Access to Dental Care – A Gap Exists

- Even with dental or medical coverage, access to dental providers accepting MassHealth is difficult; only 21% of dentists accept Medicaid.
- Only about 50% of patients see a dentist.<sup>12</sup>
- A shortage of dental providers exists, specifically in rural areas.
- Fluoridation of public water in Worcester could help to mitigate some of the access issues around oral health.<sup>13</sup>

### Improving Access to Care - Oral Health Resources

- Worcester has several oral health resources that improve access for many residents.



- Edward M. Kennedy Community Health Center
- Family Health Center
- Head Start
- MCPHS Dental Hygiene School
- New England Kids Dental
- Quinsigamond Dental Hygiene School
- UMass Memorial
- Worcester Kids Dentist

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