



Massachusetts Oral Health Report

Mapping Access to Oral Health Care in Massachusetts

A Report of the Oral Health Collaborative of Massachusetts
October 2006

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Boston University School of Dental Medicine
Florida State University

About the Oral Health Collaborative of Massachusetts

The Oral Health Collaborative of Massachusetts is a group of public and private sector organizations promoting information-based solutions to oral health issues in Massachusetts. Current members of the Collaborative are listed on page 18 of this report.

About the Catalyst Institute

The Catalyst Institute is committed to the creation, translation, and transfer of knowledge that improves the effectiveness and efficiency of the systems that contribute to improving oral health. Through direct research, demonstration projects, education and training, the Institute is transforming oral health.

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Executive Summary

Many Massachusetts residents lack easy access to routine dental care, often leading to profound impacts on overall health and social functioning. The greatest barriers to access to dental care are experienced by minorities, the poor, the uninsured, and persons in relatively poor health.¹⁻⁵ For those groups and many others, however, access to dental care may also be powerfully impacted by the availability of dentists, the geographic distribution of dentists, and the number and distribution of dentists who accept MassHealth (Medicaid). This report displays information about the location of dental providers in Massachusetts. The major findings of this report include:

- Many rural areas of Massachusetts lack easy access to dental care providers.
- 30% of cities/towns in Massachusetts don't have enough dentists to care for the people who live there.
- 69 cities/towns in Massachusetts have NO dentist.
- 74% of cities/towns in Massachusetts have no dental specialists.
- 65% of cities/towns in Massachusetts have no pediatric dentist.
- More than 50% of cities/towns in Massachusetts have no dentist that accepts MassHealth (Medicaid).
- The majority of MassHealth dentists in Massachusetts are clustered in urban areas.

Past success illustrates how policy change can improve the situation. In 2000, the Special Legislative Commission on Oral Health made recommendations to improve access to dental care for the residents of Massachusetts. These recommendations helped to ensure an adequate safety net of providers by increasing the number and geographic distribution of Community Health Center and hospital dental facilities. Since 2000, the number of safety net dental facilities has nearly doubled.

Significant improvements are still needed. Large areas of the Commonwealth continue to face barriers to accessing dental care due to a lack of dental providers. The lack of providers is especially acute for dental specialty services, such as pediatric dentistry. The elimination of adult dental services through MassHealth in 2002 dramatically decreased the availability of dental providers in some areas of the Commonwealth, a trend which will likely reverse itself with the recent reinstatement of this important coverage. However, the current distribution of dental providers points out the need to return to the original recommendations of the Special Commission that support the private provider community and other innovative models of enhancing access to dental care.

Introduction

Dental Access in the United States

Across the United States, access to dental health care remains a problem. Despite public health efforts, the greatest barriers to access to dental care are experienced by minorities, the poor, the uninsured, and persons in relatively poor health.¹⁻⁵

For those groups and many others, however, access to dental care may also be powerfully impacted by the availability of dentists, the geographic distribution of dentists, and the number and distribution of dentists who accept Medicaid.

The repercussions of a lack of access to dental care can be severe. The health literature has consistently associated oral health with overall health and well being. The 2000 Surgeon General's report noted the relationship between oral health and quality of life. People living with pain and infection have difficulties speaking and eating. Those with discolored and missing teeth have diminished self esteem and social interactions, which may negatively impact their employment opportunities and financial status.⁶ Recent studies have linked dental conditions to a variety of health problems such as cardiovascular disease and low birth weight.⁷⁻⁹ Access to dental care and periodic oral examinations are key to preventing oral diseases, as many oral problems can be detected early and/or prevented. Guidelines from the US Department of Health and Human Services¹⁰ and The American Cancer Society¹¹ recommend an annual dental examination.

"Few studies have examined the ways in which provider barriers determine or predict access to dental care. Provider barriers may be related to the number of dentists, their distribution, and/or their availability."

Most of the literature on access to care focuses on individual patient indicators such as race, socioeconomic status, and health insurance coverage. Studies have shown that children living in poverty suffer more tooth decay than their more affluent peers because of dietary, behavioral, and environmental factors.

Children with the greatest dental treatment needs are often those who have the least access to dental care.¹ Other studies demonstrate that lack of dental insurance could limit the utilization of dental services.¹²

Few studies have examined the ways in which provider barriers determine or predict access to dental care. Provider barriers may be related to the number of dentists, their distribution, and/or their availability. There is a declining trend in the dentist-to-population ratio in the United States.⁶ The American

Dental Association estimates that the dentist-to-population ratio will range from approximately 48 to 53 dentists per 100,000 people by 2020, compared to approximately 60 dentists per 100,000 in 1990. Many dentists, who joined the profession as a result of the Health Professions Educational Assistance Act of 1976, are now close to retirement. There are currently not enough dentists in the pipeline to replace them.¹³ In addition to overall numbers there are other provider accessibility issues. Many dental practices are located in urban and suburban areas, making it difficult for those who live in rural areas to find a dentist or to get to a dental office. Having dental insurance does not guarantee receiving dental care if there is no dentist available to provide it. According to the latest data available from the Behavioral

Risk Factor Surveillance System (2004), BRFSS, 33% of people ages 18+ did not visit a dentist or dental clinic within the past year in the US.¹³

Dental Access in Massachusetts

Access to dental care in Massachusetts does not differ significantly from that in the United States as a whole. In Massachusetts, the number of dental visits was somewhat better, about 21% of people ages 18+ did not visit a dentist or dental clinic within the past year. People of low socioeconomic status, Blacks, Hispanics, and the elderly were the least likely to visit a dentist or dental clinic in the last year¹³. According to the latest state oral health survey, 26.6% of 3rd grade students in Massachusetts public schools had untreated tooth decay. Children who had not seen a dentist in the past year were far more likely to have untreated tooth decay than those who had seen a dentist.¹⁴

Of the approximately 5,000 active registered dentists in Massachusetts, close to 2,000 are enrolled as MassHealth (Medicaid) providers. Among those, only 878 dentists, approximately 18%, billed for at least one claim between July 1, 2004 and June 30, 2005. The adult MassHealth dental coverage reductions that occurred in March 2002 had a major impact on access to dental care. A report analyzing the effects of the adult benefit reduction in Massachusetts showed that of the 640,000 adults who had MassHealth coverage in 2004, only 68,000 received dental services reimbursed by the program, a number significantly lower compared to 168,000 of the 693,000 enrollees in 2001¹⁵. The Division of Medical Assistance receives 4,000 calls per month from Medicaid members unable to find dental

care. (The next highest number of calls is for mental health services at 700 per month). This also was seen in Boston, where dental care was the second most requested health service in calls to the Mayor's Health Line from 1995 to 1998.¹⁶

The literature in the field of access and utilization of dental care has lacked a focus on the geographic distribution of dentists as indicators or predictors of access to dental care, creating the landscape in which this report was created.

Methods

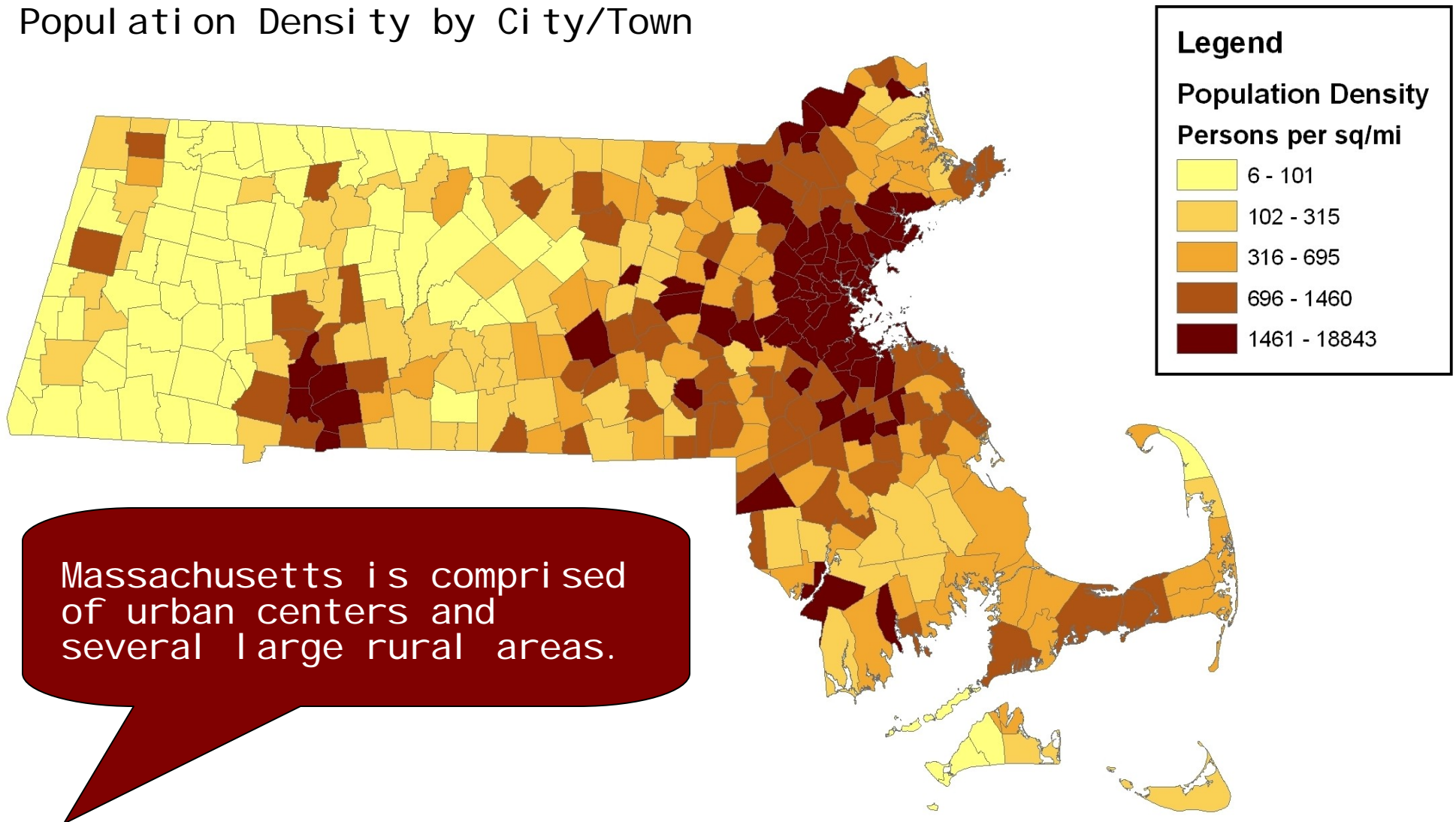
Four databases containing data on dentists in the Commonwealth of Massachusetts were identified for this study. The first data source, for all dentists in the Commonwealth of Massachusetts, is the database maintained by the Massachusetts Dental Board. This database includes all 7,072 dentists licensed to practice in the Commonwealth of Massachusetts. The second database, of 6,747 dental providers, was from Dental Service of Massachusetts (DSM), the leading dental insurance carrier in the Commonwealth. Approximately 95% of the dentists in Massachusetts are premier providers with Dental Service of Massachusetts. The DSM database is up to date, including current data on dentists' practice locations with zip code and city or town information. The DSM provider data was supplemented by the Massachusetts Dental Board data to account for the 5% of Massachusetts dental providers that are not registered with DSM. The third database is of 878 dentists that billed the Medicaid program in FY2004 (July 1, 2004-June 30, 2005). The fourth database used in this study comes from safety net clinics – community health centers,

dental schools, and hospitals – that provide free or low-cost dental care, often through MassHealth.

The four sources of dentists' information were merged using Geographic Information Systems software (GIS), which allows for the simultaneous display of data on a single map. To do this, the data in each database were geocoded. Geocoding is the assignment of spatial coordinates, based on a given street address, county, or zip code, so that the location may be referenced by GIS and simultaneously displayed on a map. ArcMap 9.1 was the software used for geocoding and mapping purposes. ArcMap 9.1 generated various maps at both the city/town and zip code levels.

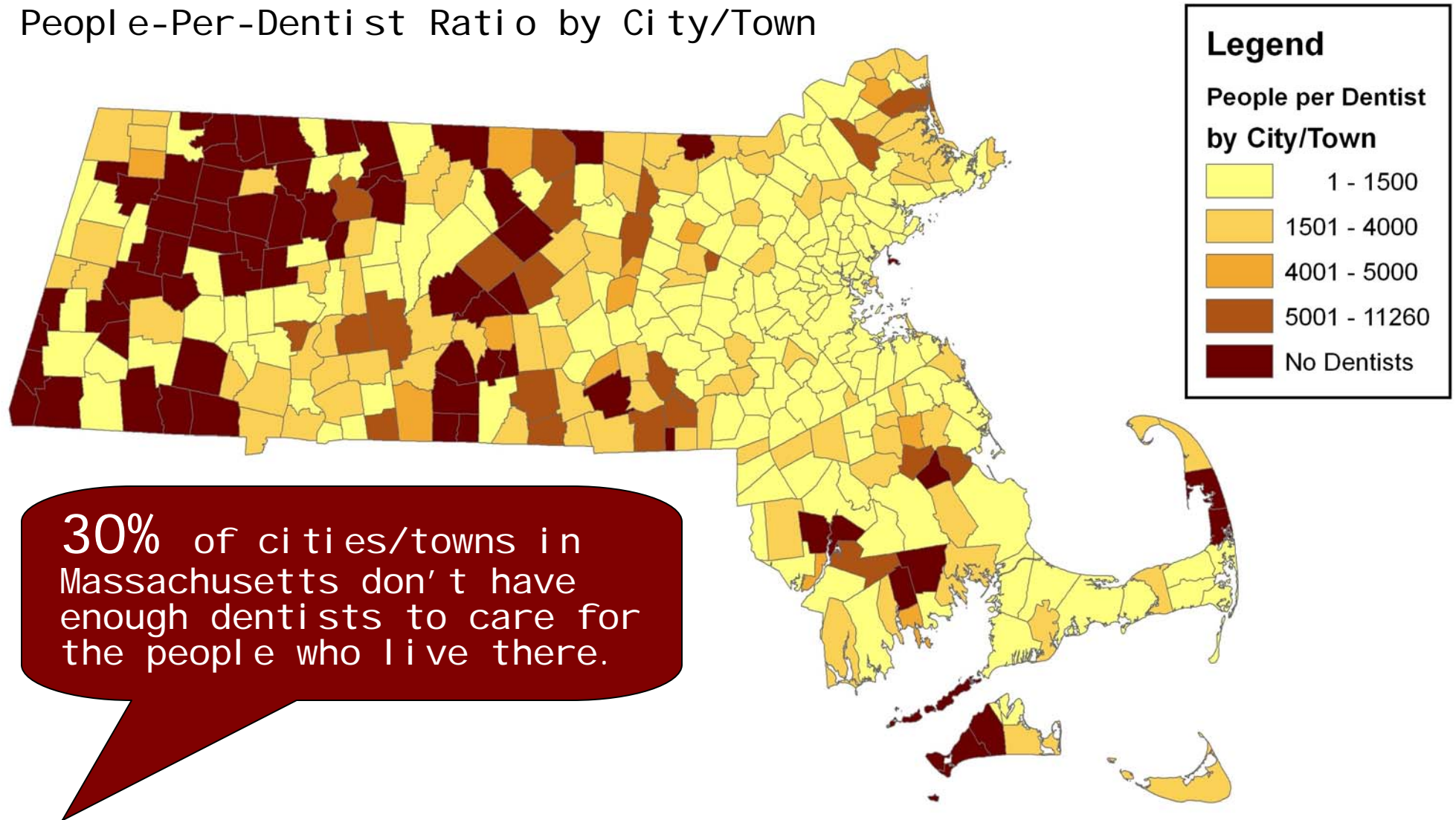
The dentist to population ratio for Massachusetts at the city/town and zip code levels was also calculated and mapped. Estimates of the U.S. population for the same timeframe were obtained from the U.S. Census Bureau's website (www.census.gov).

Population Density by City/Town



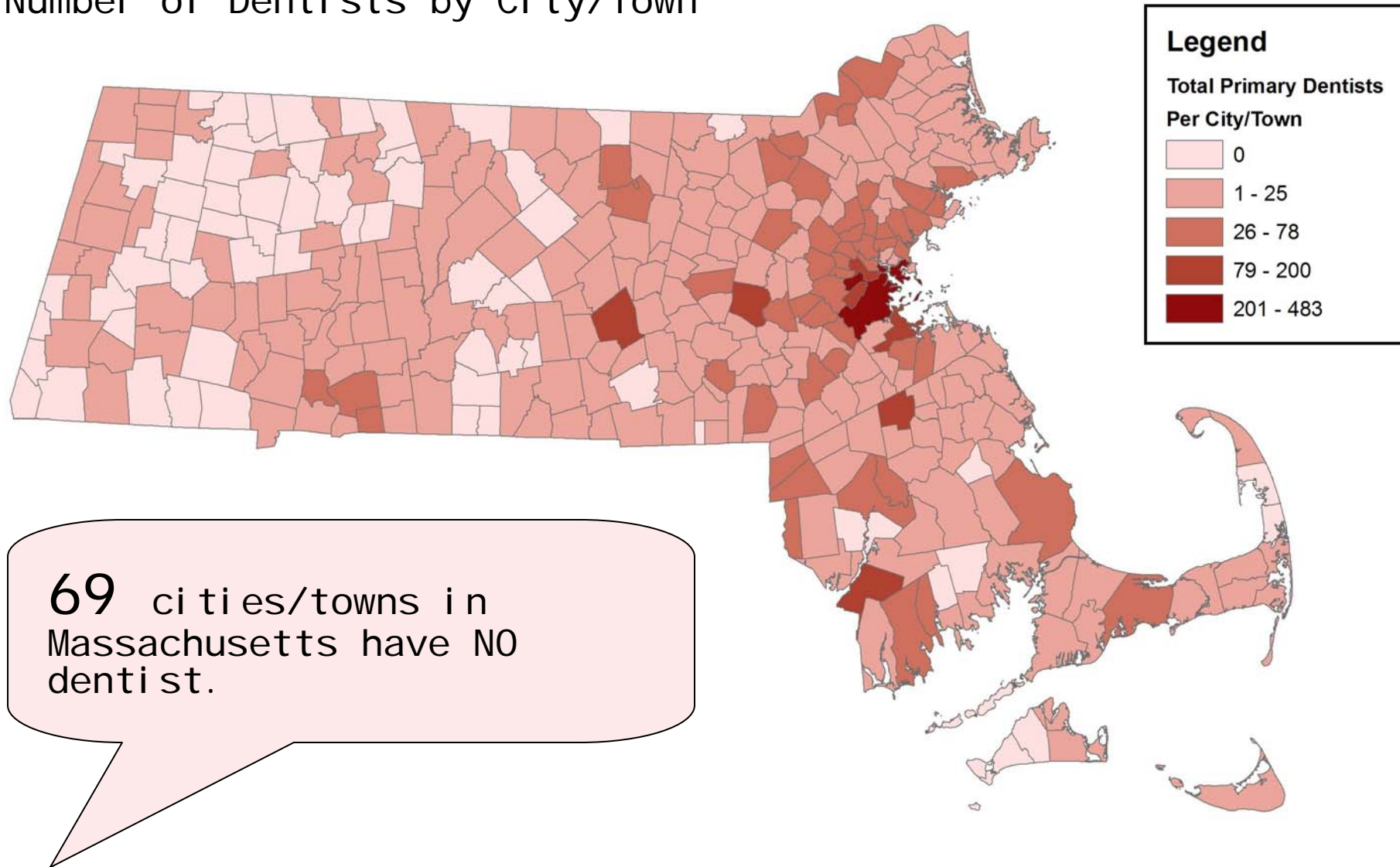
Population Density by City/Town – Massachusetts, according to the 2000 United States census, has a population of 6,349,097 and a gross area of 8,257 square miles. It ranks 13th in population and 45th in area nationwide. Massachusetts is made up of 13 counties, which in turn are divided into 351 cities and towns. As this map depicts, the majority of the Commonwealth's population is clustered in and around major cities and towns. Because more than half of Massachusetts' total population lives in the Greater Boston area, the needs of rural communities, and the people who live in them, may receive less attention. Disparities in health and access to care are often the result.

People-Per-Dentist Ratio by City/Town



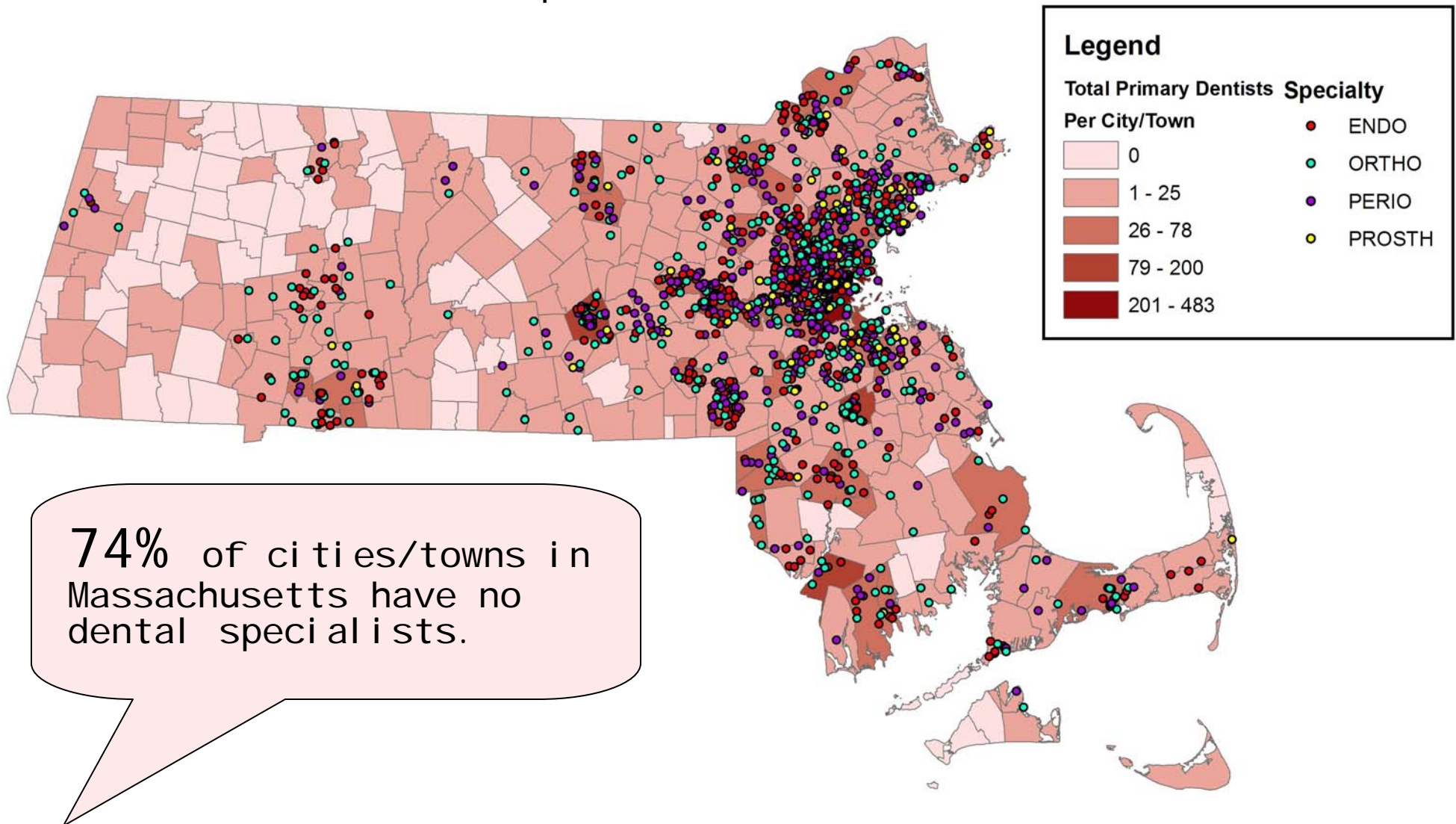
People-Per-Dentist Ratio by City/Town – Based on national standards, a people-per-dentist ratio of any higher than 4,000:1 indicates a serious shortage of dentists in an area. This map graphically depicts, in shades of red and dark orange, the communities in Massachusetts that do not have an adequate number of dentists to care for the people who live there. These areas, including more than half of the Commonwealth west of Framingham, are considered Health/Dental Professional Shortage Areas. In total, the residents of 105 towns in Massachusetts live without easy access to routine dental care.

Number of Dentists by City/Town



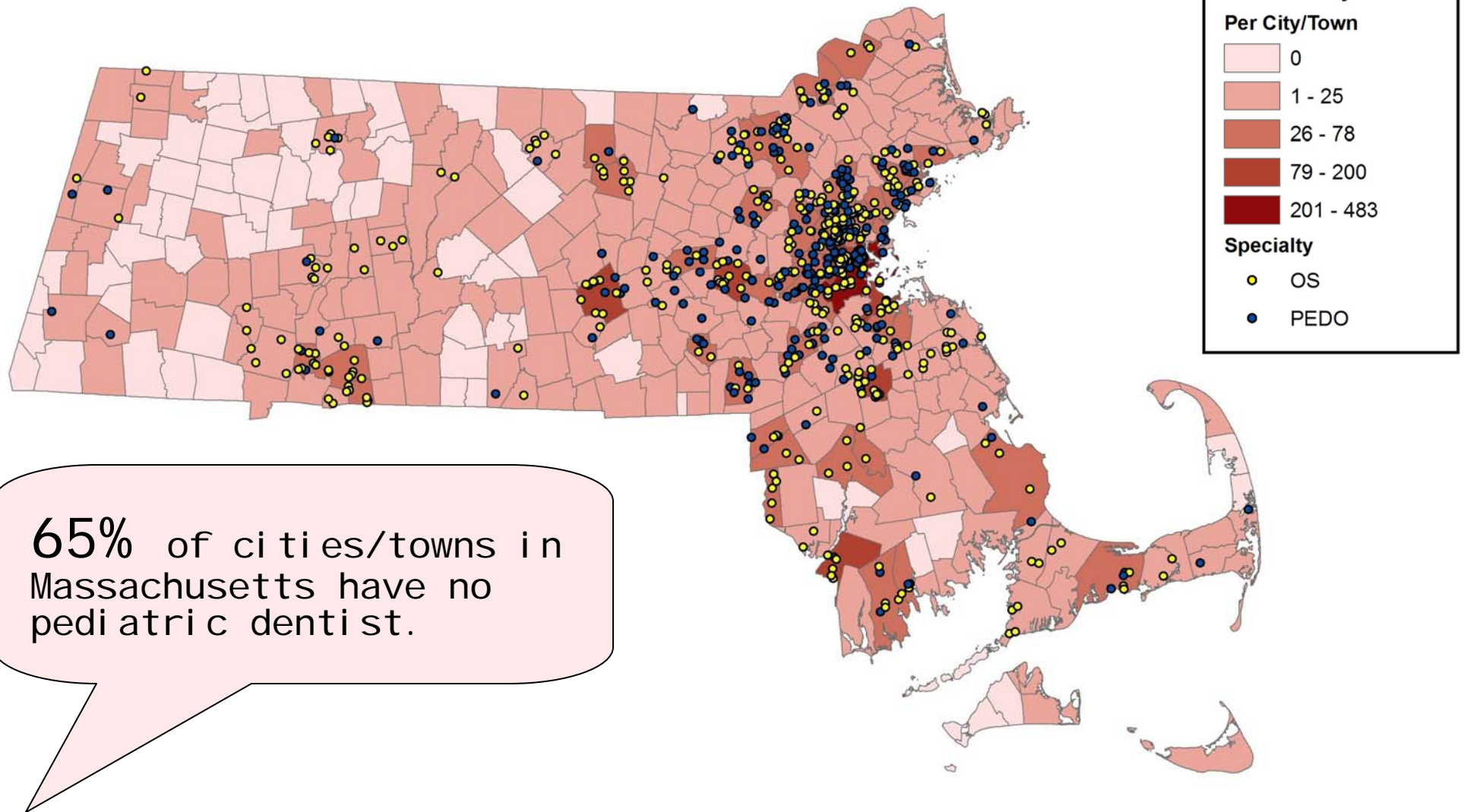
Number of Dentists by City/Town – 20% of cities/towns in Massachusetts have NO dentist. This leaves large areas of the state, and the people who live in them, without easy access to routine dental care. In some towns in western Massachusetts, residents must travel far distances to reach the nearest dentist.

Distribution of Dental Specialists



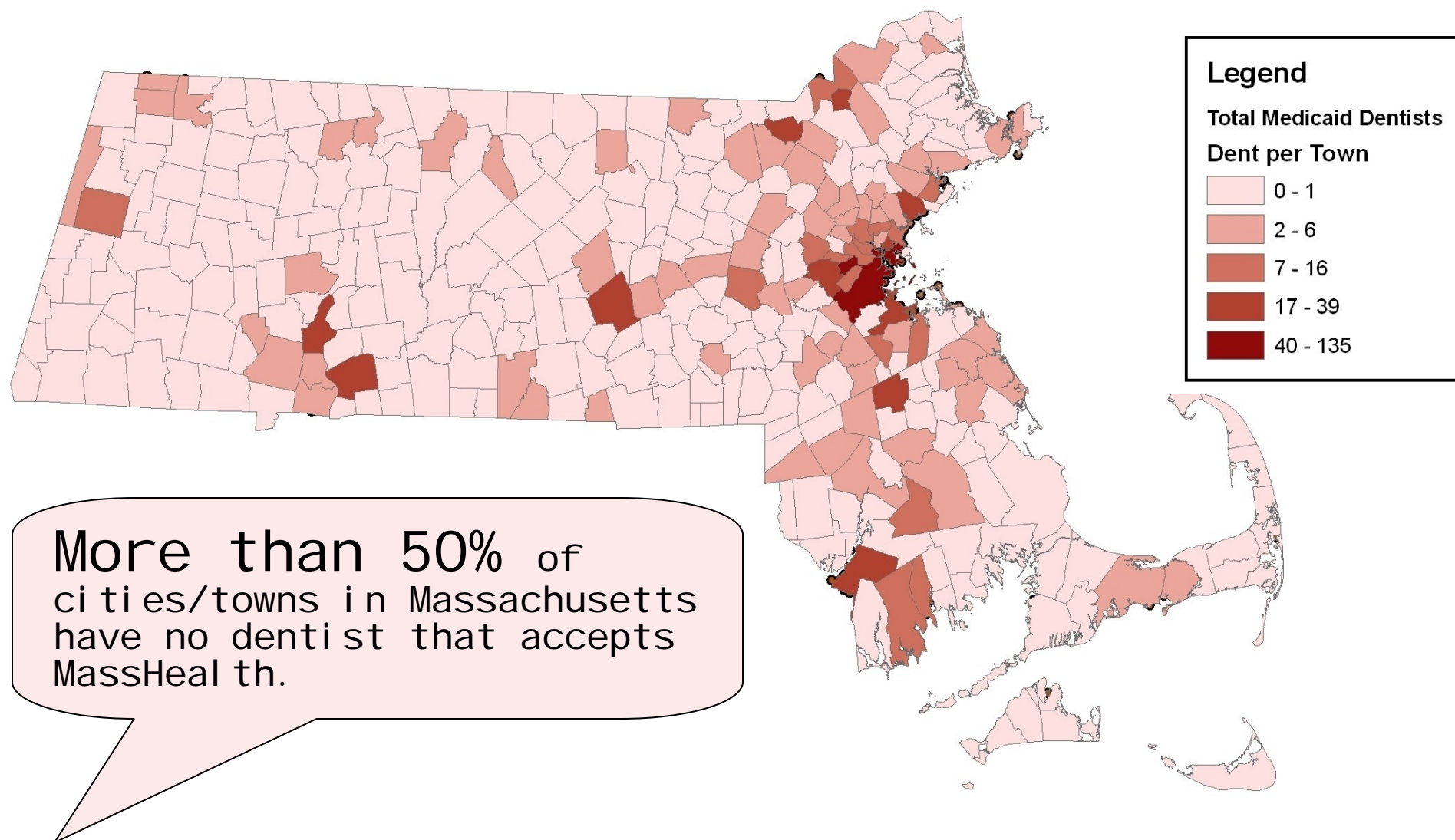
Distribution of Dental Specialists – 203 cities/towns in Massachusetts have no dental specialists. This map depicts the distribution of primary dental care providers in shades of red, overlaid with the distribution of dental specialists (Endodontics (root canals), Orthodontics, Periodontics (gum treatment), and Prosthodontics (caps and false teeth)). Most of the specialists that practice in Massachusetts are associated with primary dentists and located in and around the Commonwealth's largest cities and towns, leaving large areas of the state without ready access to specialized dental care.

Distribution of Pediatric Dentists and Oral Surgeons



Distribution of Pediatric Dentists and Oral Surgeons – Pediatric dentistry and oral surgery are two important dental specialties that help to create communities with optimal oral health. The dental health of our children is critical to their future oral and overall health. 260 cities/towns in Massachusetts have no pediatric dentist. In addition, most of the pediatric dentists and oral surgeons in Massachusetts are located in and around the Commonwealth's largest cities and towns.

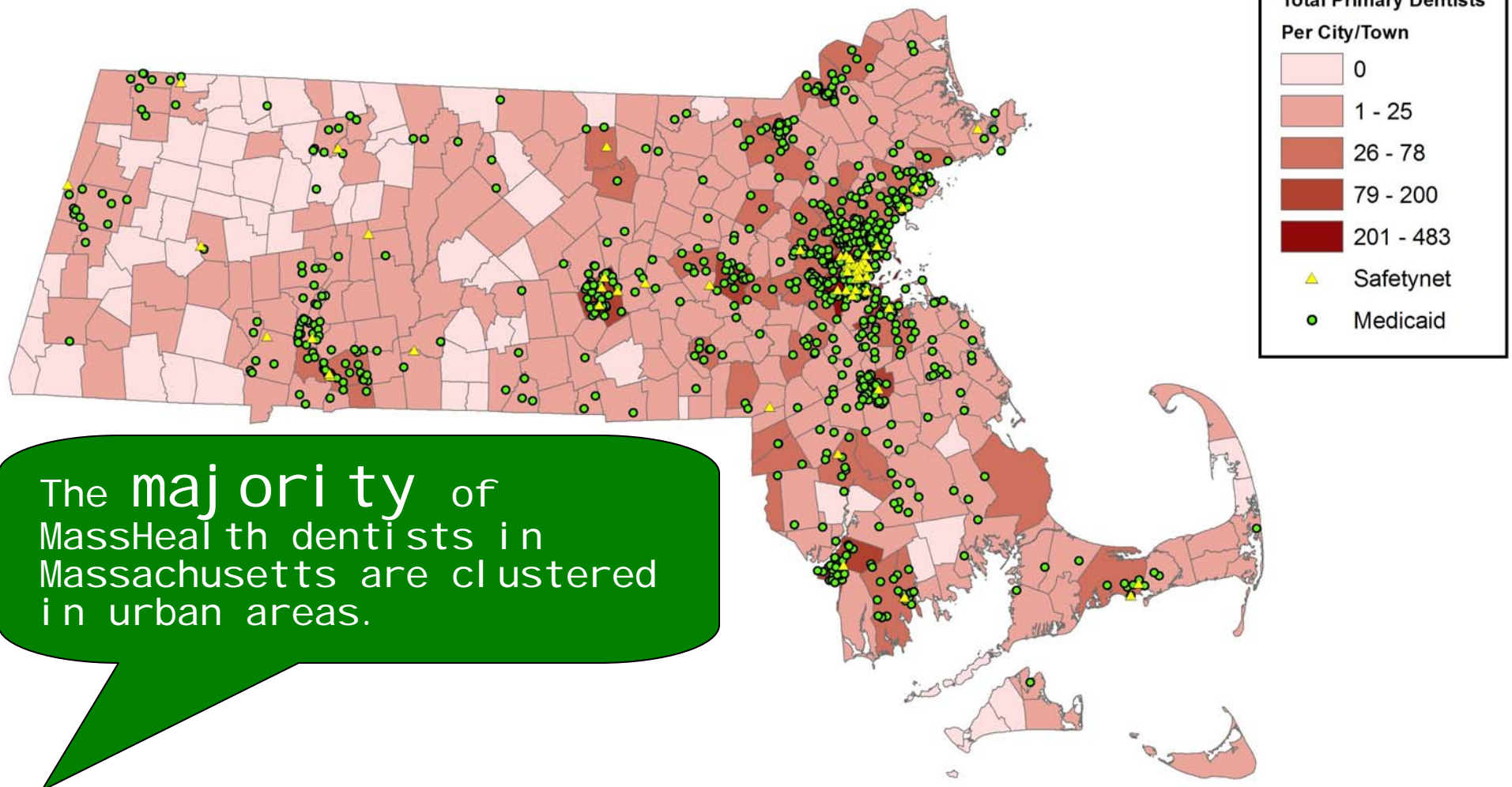
Number of MassHealth* (Medicaid) Dentists by City/Town



Number of MassHealth Dentists by City/Town – 187 cities/towns in Massachusetts have no dentist that bills MassHealth. Only 18% of Massachusetts dentists billed MassHealth in FY 2004. In many rural towns, particularly in the area of the state west of Worcester, almost no dentists bill MassHealth.

* The MassHealth program provides comprehensive health insurance-or help in paying for private health insurance-to nearly one million Massachusetts children, families, seniors, and people with disabilities.

Distribution of MassHealth* (Medicaid) Dentists



Distribution of MassHealth Dentists – Although many Massachusetts residents who require dental care funded by MassHealth live in rural areas, most of the dentists who accept MassHealth are located in and around the Commonwealth's largest cities and towns. Cities/towns with the highest density of primary dentists, particularly Boston, Brockton, Framingham, Fall River, Quincy and Worcester, are also the cities with the highest number of MassHealth providers and Safety Net** clinics. Outside of major urban areas, there are very few Safety Net Clinics and dentists who accept MassHealth.

* The MassHealth program provides comprehensive health insurance-or help in paying for private health insurance-to nearly one million Massachusetts children, families, seniors, and people with disabilities.

**The Safety Net refers to the network of providers, including community health centers, community hospitals, dental schools and social service agencies which provide oral health care to underserved populations.

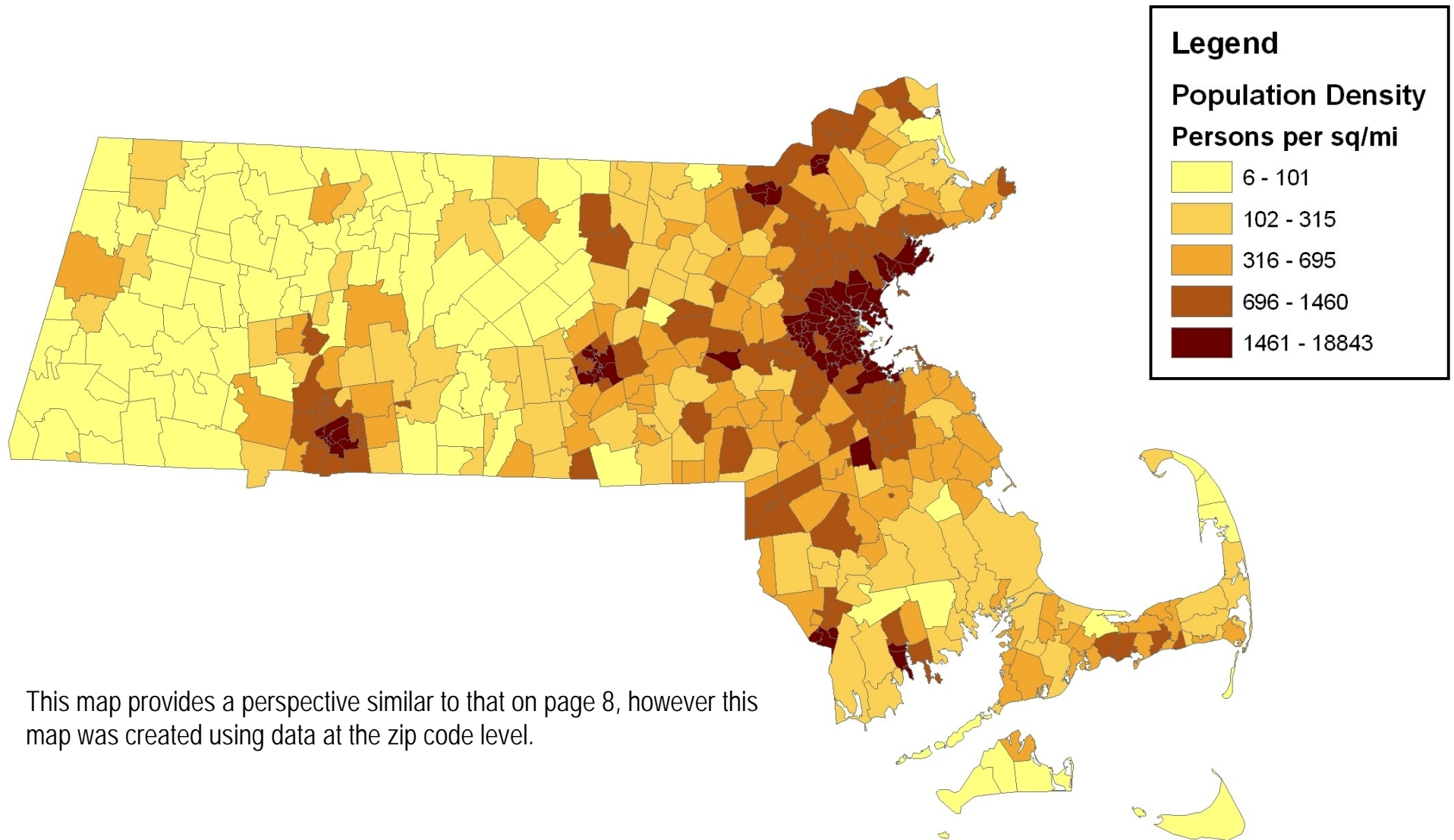
Implications and Solutions

Despite the progress since the Massachusetts Special Legislative Commission on Oral Health made its recommendations in 2000, considerable improvements are still needed. The findings of this report suggest the urgent need return to the Commission's original recommendations. Presented here, these efforts, if undertaken, would propel the Commonwealth forward in ensuring improved access to oral health care for all its residents. The Commission's original recommendations include:

1. Improve access to oral health screening and treatment services for all residents of the Commonwealth by increasing the private and public capacity to provide dental services.
2. Fund expansion of the service capacity of safety-net providers, such as community health centers, and expansion to locations where residents still face barriers to care.
3. Develop and improve safety-net provider locations:
 - a. Provide funds for capital, expansion, start-up, and initial operating expense safety-net provider locations, with a special focus on community health centers and hospitals, to fund more dental services, or to start up dental programs where there are currently none.
 - b. Provide technical assistance for safety-net providers to enhance business and financial stability.
 - c. Identify and submit applications for all underserved areas within the Commonwealth that may be eligible for federal Dental Health Professional Shortage Area designation.
4. Facilitate and improve human resources associated with safety-net providers:
 - a. Create state loan forgiveness and tuition reimbursement programs for dentists, hygienists and dental assistants who commit to serve in underserved areas or to serve high-risk populations for two or more years.
 - b. Provide low cost loans to establish dental offices in underserved areas.
 - c. Investigate the creation of a state Dental Service Corps, which would focus on providing care in low-access areas.
 - d. Explore state tax credits for dentists who establish dental offices in under-served areas and/or participate in MassHealth.
 - e. Develop strategies to increase dental, dental hygiene, and dental assisting schools' enrollment and professional participation for cultural, linguistic, and racial minorities and low-income students.
 - f. Create scholarships, state tuition reimbursement, and loan forgiveness programs for under-represented minorities, including African-American, Hispanic, and Native American students, who commit to serve in underserved areas for two or more years so that the dental workforce reflects the population's diversity, and to encourage under-represented populations to choose dental careers.

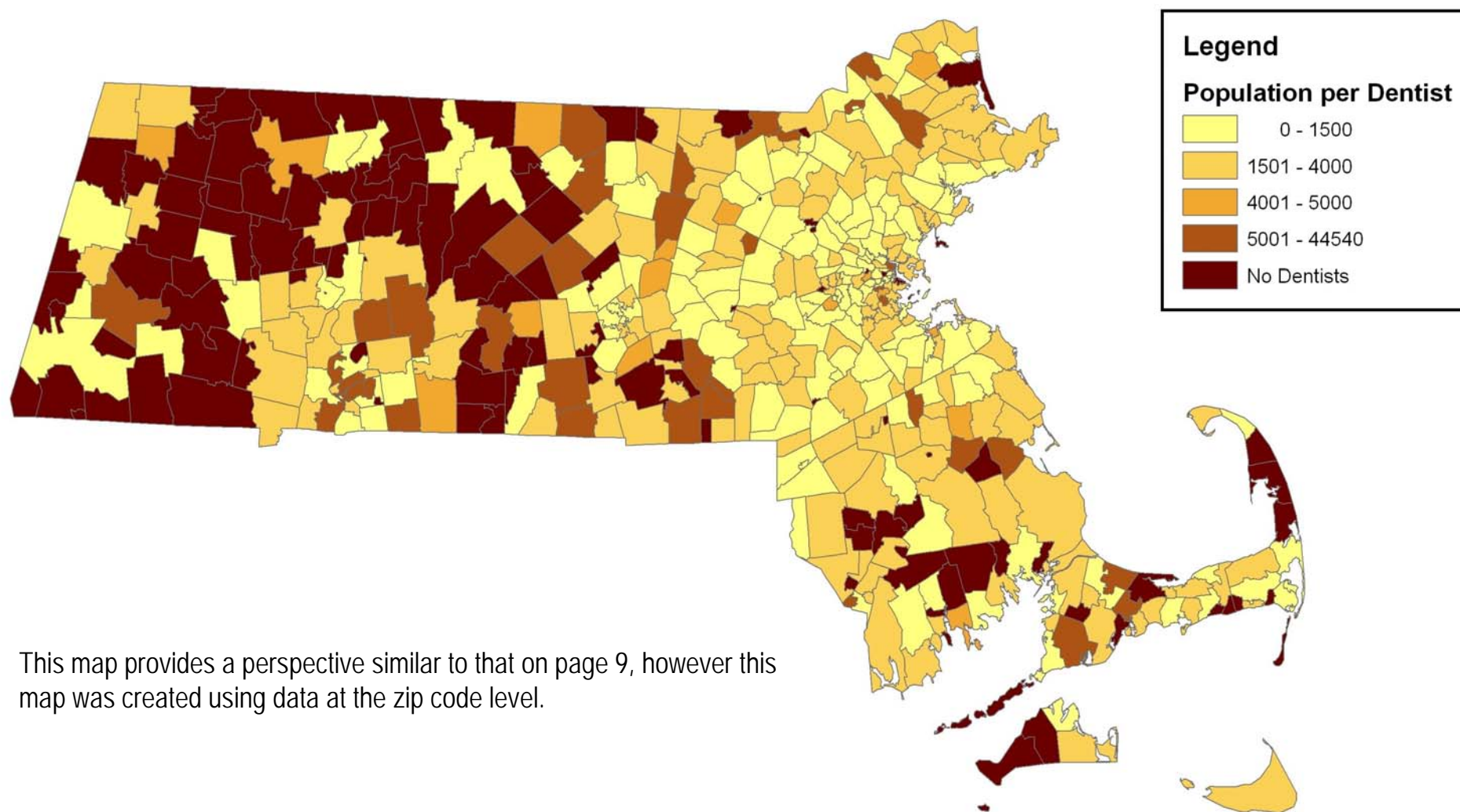
Although the Commonwealth has made progress, there are still large areas of Massachusetts with limited access to dental providers. Following these well-crafted recommendations will improve access in the future.

Appendix: Population Density by Zip Code



This map provides a perspective similar to that on page 8, however this map was created using data at the zip code level.

Appendix: People-Per-Dentist Ratio by Zip Code



This map provides a perspective similar to that on page 9, however this map was created using data at the zip code level.

Oral Health Collaborative of Massachusetts

Dean Spencer Frankl	Chair, Boston University School of Dental Medicine
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Helene Bednarsh	Dental Ryan White Ombudsman, Boston Public Health Commission
Richard Lord	President & CEO, Associated Industries of Massachusetts
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Jan Yost	President and CEO, the Health Foundation of Central Massachusetts
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John G. (Sean) Palfrey	Massachusetts Chapter American Academy of Pediatrics
Marylou Buyse	President and CEO, MA Association of Health Plans
Susan Webb	Massachusetts Medical Society

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