MASSACHUSETTS
HEALTH POLICY COMMISSION

# Health Planning in Massachusetts: Existing Assets and Future Needs

*Pursuant to Section 64 of Chapter 260 of the Acts of 2020*

June 2024

# Outline

## INTRODUCTION

Health Needs Assessments

Health Care Resource Inventories

Appendix

# The Massachusetts Legislature directed the HPC to assess health care supply, utilization, and outcomes as part of Chapter 260 of the Acts of 2020.

The act charged the HPC with issuing a report that includes:

## DISPARITIES

- An **analysis of health care disparities** that exist in the Commonwealth due to economic, geographic, racial, or other factors

## IMPACT OF COVID-19

- The **effects of the COVID-19 pandemic on the Commonwealth's health care delivery system** (published Apr. 2021)
- An analysis of the **impact of COVID-19 on the health care workforce** (published Mar. 2023)

## SUPPLY AND DISTRIBUTION

- **Essential components of a robust health care system** and the distribution of services and resources necessary to deliver high-quality care
- An **inventory and description** of all health care services (this report)
- An examination of the **closures of services classified as essential,** including the **impact** that the loss of such essential services has **on access to and the quality of health care services** (this report)

# Introduction

- Massachusetts generally has **more health care resources per capita** than most other states, including for primary care physicians, specialists, behavioral health clinicians, psychiatric hospital beds, and total hospital beds.
- However, these health care resources **may not be accessible to those who need them and the distribution of resources across the state is variable**, primarily reflecting investment and resource allocation decisions by private actors in response to market incentives.
- As a result, certain populations can face **access challenges** and **impaired health outcomes**.
- Many have suggested that Massachusetts could better **align its health care resources with the health care needs** of the population by undertaking comprehensive health planning.
- In this report, we:
  - **Describe** MA's existing tools to conduct health care needs assessments;
  - **Inventory** some of MA's current health care resources and analyze how supply and distribution has changed in recent years;
  - **Identify** additional data and capabilities that MA will need to engage in robust health planning.

# Health Planning Overview

- Health planning is the process of working **proactively to align healthcare supply with health care needs**.
- Health planning has been used as **a tool to address multiple health care resource concerns**, including:
  - The dearth of health services in rural areas,
  - The proliferation – and sometimes duplication – of expensive technologies and capital projects,
  - Rising health care costs, and
  - Inequities in access to health care resources.

# Health Planning Overview

- Health planning is **used across the globe**, though the goals, processes, and outputs vary significantly.
  - In government-run health care systems, health planning can help inform budgeting, facility planning, and resource allocation decisions.
  - In market-based systems, health planning can help address market failures, such as misaligned payment incentives and information asymmetry, that result in misalignment of need and supply
- US **states were required to engage in health planning** in the 1960s–80s under the Comprehensive Health Planning law of 1966 and the National Health Planning and Resources Development Act (NHPRDA) of 1974, but much of the federal funding was cut in 1983 and the NHPRDA was repealed in 1986.
- States that engage in health care resource distribution planning may face challenges related to the staff and **resource intensity** of health planning, a **lack of enforcement tools** to effectuate the goals of a state health plan, and the **practical challenge** of influencing the behavior of large provider systems.

# An Abbreviated History of Health Planning in the US

## COMPREHENSIVE STATE PLANNING

- Comprehensive Health Planning (CHP), enacted in 1966, constituted the **first federal mandate for health planning**:
  - **Comprehensive, statewide planning** at the state agency level; and
  - **Areawide planning** conducted by local public or nonprofit agencies
- State planning agencies were required to have **advisory councils** with consumer majorities.
- The original law did not include authority for the health planning agencies to implement or enforce their plans.

## FIRST STATE CON PROGRAMS

- **New York** established the **first CON program** in 1964; additional states followed.
- Early CON programs typically regulated capital expenditures greater than $100,000, facilities expanding their bed capacity, and facilities establishing or expanding health care services.

## NATIONAL MANDATE

- The **National Health Planning and Resources Development Act** increased federal funding and guidance for state and local health planning and **required states to establish a CON program** to be eligible for funding.
- State agencies that implemented CON programs were also **required to create a preliminary state health plan**. States began considering the state health plan when reviewing applications for new or expanded facilities.

## MANDATE REPEAL

- **Congress repealed the federal mandate** for CON and the entire NHPRDA in 1986. Many states subsequently **repealed their CON laws**, citing administrative burden, an interest in allowing the market to dictate hospital growth rather than regulation, and evidence that other states repealed CON without resulting dramatic cost increases.

Source: Melhaldo, Evan M. Health Planning in the United States and the Decline of Public-interest Policymaking. The Millbank Quarterly. 2006. 84(2). Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2690168/pdf/milq0084-0359.pdf.
National Conference of State Legislatures. Certificate of Need State Laws. Updated February 26, 2024. Available at: https://www.ncsl.org/health/certificate-of-need-state-laws#:~:text=History,or%20expanding%20health%20care%20services.

# Health Planning: Four Basic Steps

## SET GOALS

- Goals are formal, transparent, and widely-shared by stakeholders
- Goals determine which analytic questions are asked and how they're answered
- Planners monitor whether goals are attained

## DEFINE HEALTH CARE NEEDS

- Health care needs can be defined statewide and for specific geographies or demographic groups
- Planners use data on demographics, health and vital statics, utilization patterns, insurance characteristics, etc.

## DEFINE HEALTH CARE RESOURCES

- Health resources can be inventoried using broad (e.g., inpatient) or narrow (e.g., MRI scanners) units
- Capacity adjustments, such as full-time equivalency data, improve accuracy
- Sufficiency of current resources is assessed, and results are used to inform future need predictions

## PROMOTE ADOPTION

- Results are translated into a set of priorities and should align with the goals of the health plan
- In market-based systems, promoting adoption may include incentivizing, prohibiting, or regulating service expansions or contractions

# Outline

Introduction

**HEALTH NEEDS ASSESSMENTS**

Health Care Resource Inventories

Appendix

# Understanding Health Needs in Massachusetts

- Many states seek to ensure that resource allocation and policy decisions are informed in part by a thorough **understanding of the current health and healthcare needs** of the population.
- The Massachusetts Department of Public Health (DPH) periodically undertakes **statewide health assessments**.
  - Since 2010, DPH has released 3 statewide health assessments as well as results from two extensive surveys, which provide information on a wide variety of health conditions and health barriers.
- Massachusetts also has several tools to **assess health needs in a particular context**:
  - Targeted assessments of need in response to a specific concern (e.g., DPH's 2023 North Worcester County Area Essential Services Review, EOHHS's Behavioral Health Roadmap)
  - Health care entities that seek to add or expand certain services must provide evidence of community need for the service through DPH's Determination of Need review process
  - Community Health Needs Assessments regularly conducted by non-profit hospitals (not required of for-profits)
  - Ongoing local and regional health needs and planning processes

# Overview of DPH Health Assessments

| REPORT | DPH STATED GOALS | TOPIC AREAS | |
|---|---|---|---|
| 2010 Health of Massachusetts | ▪ Provide baseline data all in one place<br>▪ Explore the breadth and depth of health topics<br>▪ Include outside expert perspectives<br>▪ Highlight DPH's work | ▪ Alcohol, tobacco, and other drug use<br>▪ Community assets<br>▪ Demographics and socioeconomics<br>▪ Environmental health<br>▪ Health care access<br>▪ Health care quality | ▪ Infectious disease<br>▪ Mortality<br>▪ Natality and early childhood<br>▪ Occupational health<br>▪ Unintentional injury, suicide and self-inflicted injury<br>▪ Violence<br>▪ Wellness and chronic disease |
| 2014 State Health Improvement Plan | ▪ Inform DPH's strategic plan for the next 3-5 years<br>▪ Outline the key health priority areas for the state<br>▪ Serve as a framework for organizations to use in leveraging resources, engaging partners, and identifying their own priorities and strategies | ▪ Active living, healthy eating, and tobacco-free living<br>▪ Chronic disease prevention and control<br>▪ Environmental risk factors and health<br>▪ Infectious disease prevention and control | ▪ Injury, suicide, and violence prevention<br>▪ Maternal, child, and family health<br>▪ Substance abuse prevention, intervention, treatment, and recovery |
| 2017 State Health Assessment | ▪ Collect, analyze, and interpret a prioritized subset of available state level data<br>▪ Provide context for health in Massachusetts<br>▪ Describe assets and resources to support health | ▪ Addiction<br>▪ Environmental health<br>▪ Health systems and health care access<br>▪ Infectious disease | ▪ Injury and violence prevention<br>▪ Maternal, infant, and child health<br>▪ Population characteristics<br>▪ Wellness and chronic disease |

Source: MA Department of Public Health, Health of Massachusetts (April 2010). Available at https://www.mass.gov/files/2017-08/health-mass.pdf; MA Department of Public Health, Massachusetts State Health Improvement Plan (October 2014). Available at https://www.mass.gov/doc/state-health-improvement-plan/download; MA Department of Public Health, 2017 Massachusetts State Health Assessment (October 2017). Available at https://www.mass.gov/files/documents/2017/11/03/2017%20MA%20SHA%20final%20compressed.pdf

# Overview of DPH Health Assessments

| REPORT | DPH STATED GOALS | TOPIC AREAS | |
|---|---|---|---|
| 2020 COVID Community Impact Survey | ▪ Understand the immediate and long-term health needs, including social and economic consequences, facing MA due to the pandemic<br>▪ Use and share data to prioritize pandemic response and to develop solutions with community partners | ▪ Access to health care<br>▪ Basic needs<br>▪ Demographics<br>▪ Employment | ▪ Mental health<br>▪ Perceptions and experiences of COVID-19<br>▪ Safety<br>▪ Substance use |
| 2023 Community Health Equity Survey | ▪ Better understand the most pressing health needs facing Massachusetts residents, including social circumstances, economic situations, and environmental needs.<br>▪ Help communities, along with state and local partners, prioritize changes to policy and how and where resources go. | ▪ Access to health care<br>▪ Basic needs<br>▪ COVID-19 experiences<br>▪ Demographics<br>▪ Education<br>▪ Employment | ▪ Information sources<br>▪ Mental health<br>▪ Neighborhood<br>▪ Safety and social context<br>▪ Substance use |

Source: MA Department of Public Health, About the COVID Community Impact Survey (CCIS), https://www.mass.gov/info-details/about-the-covid-community-impact-survey-ccis; MA Department of Public Health, About the Community Health Equity Survey (CHES), https://www.mass.gov/info-details/about-the-community-health-equity-survey-ches

# Example Findings from Across DPH Health Assessments

Certain topic areas were identified in each report as **priority areas for improvement in Massachusetts** between 2010 and 2017, including:

- Wellness and chronic disease,
- Substance use,
- Maternal and child health,
- Infectious disease,
- Environmental health, and
- Injury and violence prevention.

In each topic area, the reports identified **disparities in access and outcomes** for certain MA residents, including by race, ethnicity, geography, income, gender, disability status, sexual orientation, and age.

Source: MA Department of Public Health, Health of Massachusetts (April 2010). https://www.mass.gov/files/2017-08/health-mass.pdf; MA Department of Public Health, Massachusetts State Health Improvement Plan (October 2014). https://www.mass.gov/doc/state-health-improvement-plan/download; MA Department of Public Health, 2017 Massachusetts State Health Assessment (October 2017). https://www.mass.gov/files/documents/2017/11/03/2017%20MA%20SHA%20final%20compressed.pdf

## Example Demographic Disparities

- Black and Hispanic residents had consistently higher rates of diabetes and higher rates of death from diabetes than their White counterparts. Additionally, Black, non-Hispanic residents had nearly 5x the rate of diabetes-related ED visits compared to White, non-Hispanic residents.
- Health outcomes for women, infants, and children are some of the best in the nation; however, some disparities have persisted over time. For example, Black and Hispanic infants had higher infant mortality rates than White infants as noted in both the 2010 and 2017 reports.

## Example Economic Disparities

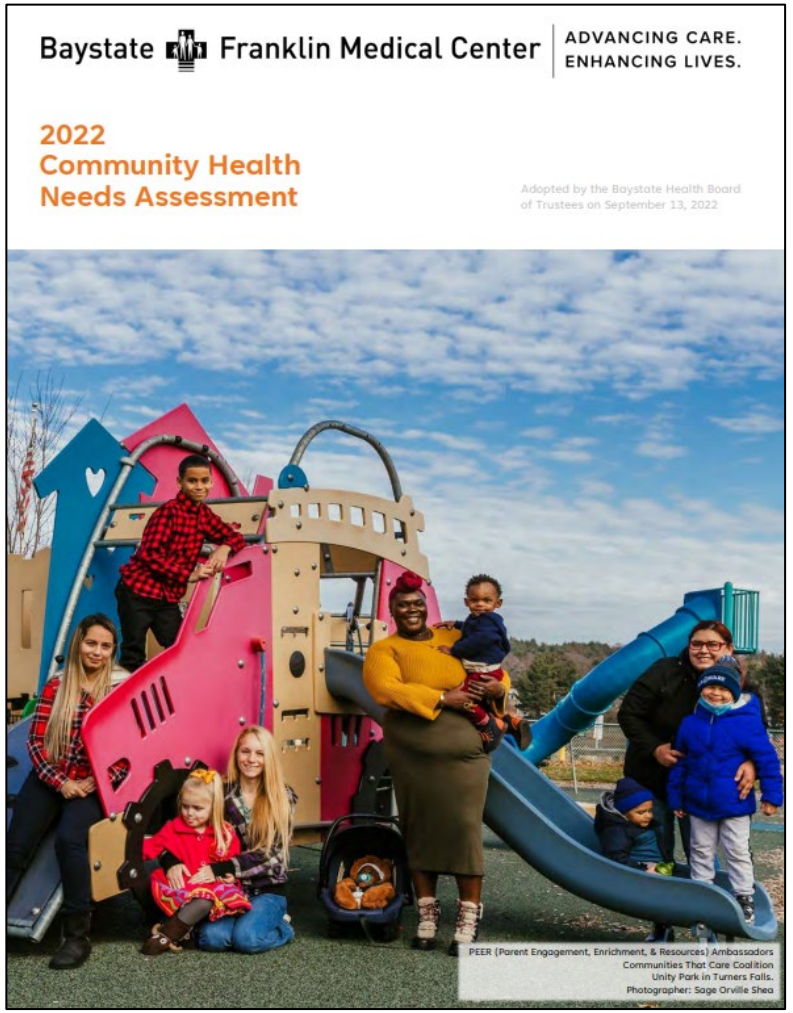
- Oral health conditions such as dental disease, tooth decay, and tooth loss disproportionately affect those with lower incomes and lower education levels. Vulnerable populations are less likely to receive preventive health and dental care due to issues of accessibility. As reported in 2017, only 59.4% of adults making $25,000 or less had a dental visit in the last year compared to 86% of adults making $75,000 or more. Those with higher levels of education are also more likely to have had a dental visit in the past year.

## Example Geographic Disparities

- There is a higher prevalence of substance use disorders (SUD) in both the most urban and the most rural areas. Additionally, residents of more rural regions face physical barriers, such as available and affordable public transportation, to accessing needed SUD treatment.

# Community Health Needs Assessments

- Non-profit hospitals also conduct **community health needs assessments** (CHNA) that provide insight into current health and healthcare needs in the surrounding communities.
- To qualify for tax-exempt status, **nonprofit hospitals** are required to conduct a CHNA at least once every three years and develop implementation strategies to meet the needs identified in the assessment.
- As part of the CHNA, a hospital must seek **broad community input**, collecting quantitative and qualitative data to identify unmet health needs in its community from a variety of sources and inventory programs currently available to address those needs.
- The assessment must address both financial and other barriers to care, including **social, behavioral, and environmental factors** that influence the community's health.




Sources: https://www.healthaffairs.org/do/10.1377/hpb20160225.954803/full/; https://www.mass.gov/files/documents/2018/02/07/Updated%20Hospital%20Community%20Benefits%20Guidelines.pdf

# Findings from Latest Community Health Needs Assessments

As part of the 2017 State Health Assessment (SHA), DPH collected and analyzed Community Health and Health Needs Assessments from health systems, hospitals, organizations, and municipalities to ensure that the SHA included key health issues identified in these documents.

The HPC built upon DPH's work to review hospitals' most recent CHNAs from 2018-2023 to identify key health issues and barriers.

## Most cited health issues

- Mental health
- Alcohol and substance use
- Chronic disease, including heart disease, diabetes, cancer, overweight/obesity, asthma and, other respiratory diseases
- COVID-19

## Most cited health barriers

- Access to healthy food
- Lack of affordable housing
- Lack of education
- Poverty/financial insecurity
- Transportation
- Unemployment
- Discrimination
- Built environment
- Violence/trauma

## Most cited health care barriers

- Lack of services/providers/resources
- Language barriers
- Cost of care / insurance
- Transportation
- Insurance coverage
- Cultural barriers
- System complexity
- Health literacy issues
- Technology

Source: Massachusetts Department of Public Health, Scan of Community Health & Health Needs Assessments from Across Massachusetts, 2012 – 2017 (July 2017). Available at https://www.mass.gov/doc/complete-scan-of-community-health-and-health-needs-assessments-across-massachusetts-2012-2017/download; HPC analysis of 2018-2023 Community Health Needs Assessments

# Massachusetts Health Care Needs: Current Strengths and Additional Needs

## Current Assets and Strengths

- **Broad examinations** of statewide performance on a variety of topics covering both health needs and health care needs
- **Concerted efforts by DPH to reach many different populations**
  - For instance, the Community Health Equity Survey is open to American Sign Language users and is available in 10 languages.
- Important insight into the needs and priorities of **local communities** via CHNAs

## Additional Needs

- Results published at **regular intervals** and using **standard metrics and topic areas** to be able to track trends over time
- **More detailed data** on priority issues identified based on statewide results, regional results, population-specific results, and trends over time
- Agreement on how specific health care conditions or diagnoses relate to health care resource needs to be able to inform **resource planning**

# Outline

Introduction

Health Needs Assessments

**HEALTH CARE RESOURCE INVENTORIES**

Appendix

# The Importance of Health Care Resource Supply Levels

- While the supply and distribution of providers is only one of many factors that influence health outcomes, it directly impacts the **accessibility, affordability, and quality of care**.
- **Adequate supply levels** are associated with better health outcomes; for example, a higher density of physicians and nurses has been associated with better self-reported physical health, mental health, and quality of life.[1]
- **Inadequate supply** can negatively impact health system functioning and outcomes. For example, an insufficiency of inpatient hospital beds can lead to admission and surgery cancellations, delays in ER admissions or patient transfers between units, and early patient discharge.[2,3,4]
- **Excess supply** can contribute to supplier-induced demand, increase spending, divert capital and resources from higher-need projects, and negatively impact quality and utilization.[5,6]
- Governments have an interest in **monitoring health care supply** and may seek to influence its distribution through various tools, such as DoN requirements, Essential Service Closure notices, or designation of shortage areas.

Sources: 1. National Academies of Sciences, Engineering, and Medicine 2021. Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care. 2. BMC Health Services Research, 2020. Models and methods for determining the optimal number of beds in hospitals and regions: a systematic scoping review. 3. Green LV. How many hospital beds? INQUIRY. J Health Care Organization, Provision, and Financing. 2002;39(4):400–12. 4. Liu TM. A generic bed planning model: University of Toronto (Canada); 2012. 5. Nguyen J, Six P, Antonioli D, Glemain P, Potel G, Lombrail P, et al. A simple method to optimize hospital beds capacity. Int J Med Inform. 2005;74(1):39–49. 6. Redeker, S., et. al. Induced demand in kidney replacement therapy. Health Policy. 2022. 126: 1062-1068.

# Health Care Resource Inventories

| EXAMPLES OF HEALTH CARE RESOURCE INVENTORIES | | | |
|---|---|---|---|
| **Supply Type** | **Data Set(s)** | **Data Steward(s)** | **Example Data Elements** |
| Inpatient Hospital Beds | 1. Licensure files<br>2. Hospital cost reports | 1. MDPH<br>2. CHIA | 1. Address, number of licensed beds<br>2. Address, average number of licensed, staffed, and available beds in previous FY |
| Hospital Outpatient Departments | 1. Licensure files<br>2. MA Registration of Provider Organizations | 1. MDPH<br>2. HPC/CHIA | 1. Address<br>2. Address, broad service category offerings (e.g., medical, surgical, radiology) |
| Clinicians | Licensure files | State Licensing Boards | Business address, specialty, accepting new patient status, accepting Medicaid status |
| Nursing Homes | Licensure files | MDPH | Address, bed count |
| Primary Care Physicians | 1. MA Registration of Provider Organizations<br>2. Area Health Resource File | HPC/CHIA | Location(s), specialty(ies), system affiliation, PCP vs. specialist status, employment status |

- MA has several health care resource inventories that include counts and locations of providers and facilities (e.g., physicians, hospital beds).
- Each inventory captures information on providers that meet the inventory's defined criteria, such as holding a license with a licensing body, or meeting a regulatory threshold for reporting.
- Due to the time and effort involved, inventories are generally updated periodically (e.g., on annual or biannual data collection cycles).

# Example Inventory: DPH Licensed Facility Dashboard

Total Licensed and/or Certified

58

## Facilities by Type & Location

04/29/2024
Date Refreshed

Clear All Filters

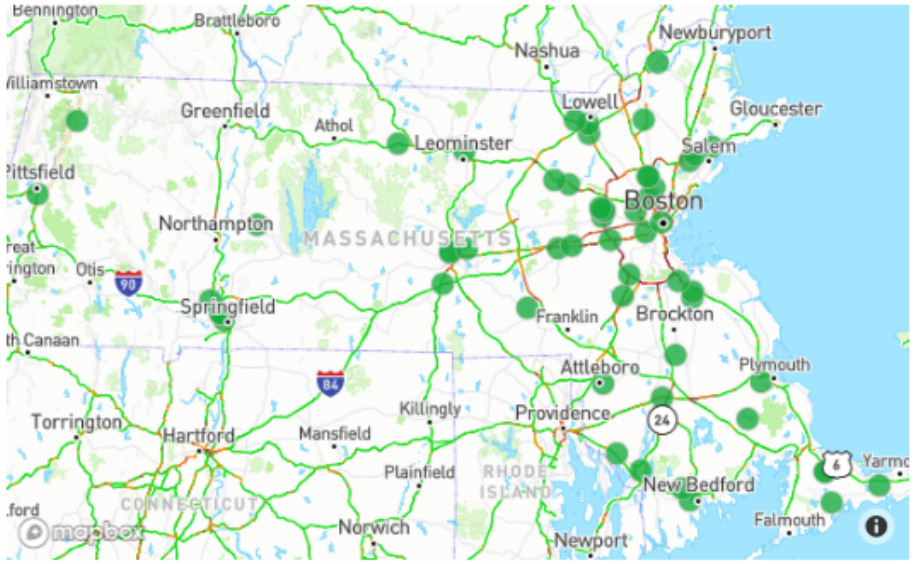
| EMS Region | Number of Facilities |
|---|---|
| Region 2 (Central Mass) | 7 |
| Region 1 (Western Mass) | 8 |
| Region 3 (Northeastern Mass) | 12 |
| Region 5 (Southeastern Mass/Cape Cod) | 13 |
| Region 4 (Metropolitan Boston) | 18 |

Click to view EMS Map

Select a Facility Type

Ambulatory Surgical Center

| County | Number of Facilities |
|---|---|
| Barnstable | 4 |
| Berkshire | 2 |
| Bristol | 6 |
| Essex | 5 |
| Hampden | 5 |
| Hampshire | 1 |
| Middlesex | 17 |
| Norfolk | 7 |
| Plymouth | 3 |
| Suffolk | 1 |
| Worcester | 7 |




| Town | Facility Name | Address | Telephone |
|---|---|---|---|
| Dartmouth | Advanced Eye Surgery Center,Llc | 500 Faunce Corner Road,Suite 180 | (508) 717-0270 |
| Sandwich | Amblatory Srgry & Laser Ct Cape Cod | 280 Heritage Park | (508) 833-6050 |
| Springfield | Baystate New England Orthopedic Surgery Center | 50 Wason Avenue, 2Nd Fl | (413) 286-1020 |
| Pittsfield | Berkshire Cosmetic And Reconstructi | 426 South Street | (413) 496-9272 |
| Wellesley | Boston Endoscopy Center | 175 Worcester Street | (781) 754-0813 |

Source: Massachusetts Department of Public Health: https://www.mass.gov/info-details/health-care-facilities-in-massachusetts

The DPH Licensed Facility Dashboard includes the location of each facility or service type that it licenses across 21 categories.

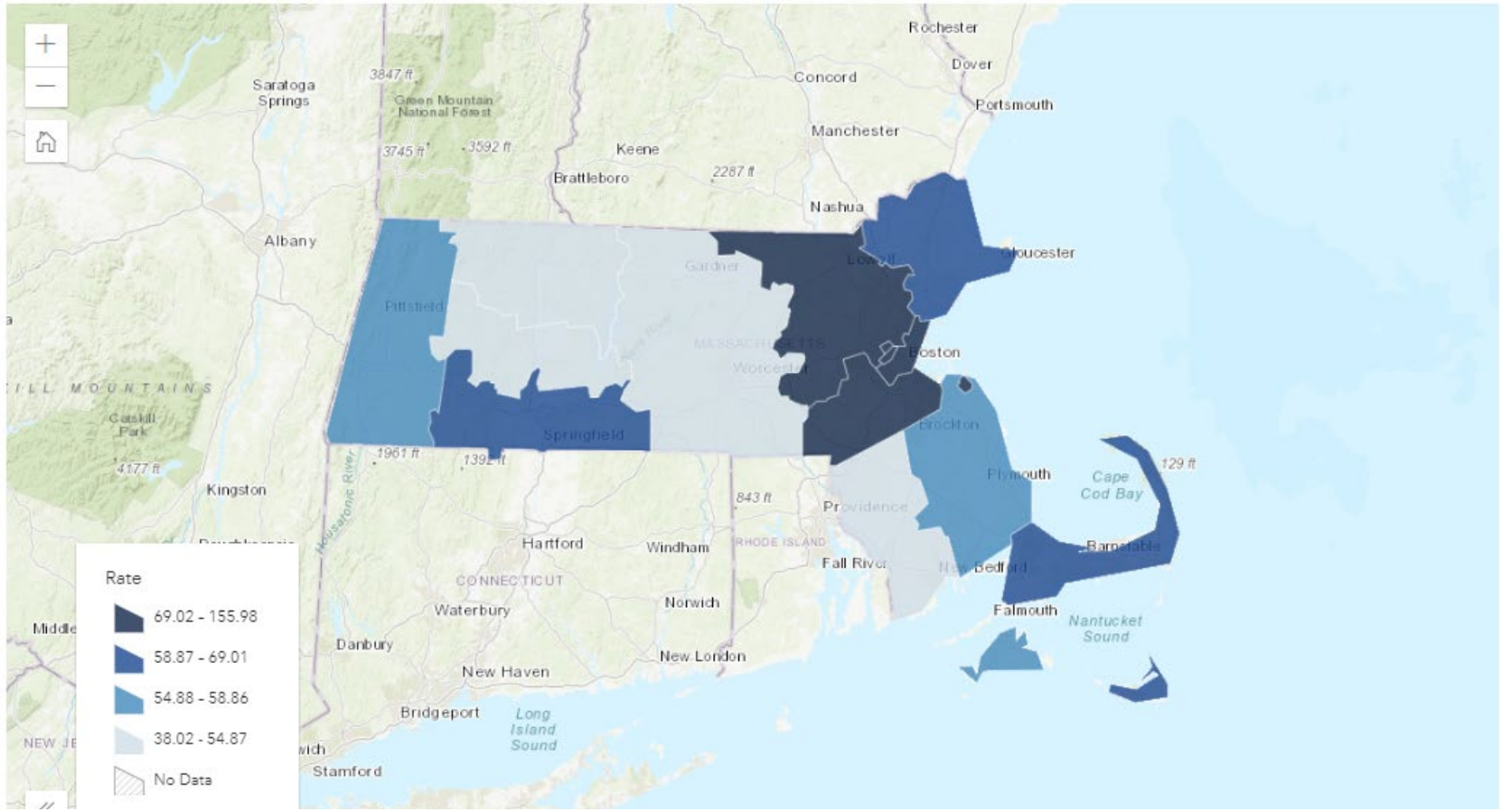
# Example Inventory: Area Health Resources File

AHRF Release Year

The AHRF is released annually by the Bureau of Health Workforce. The AHRF release year corresponds to the fiscal year (October 1 to September 30) the data was published. In each release, the data source years i... More

Dentist (County Level File) – Total Active Dentist

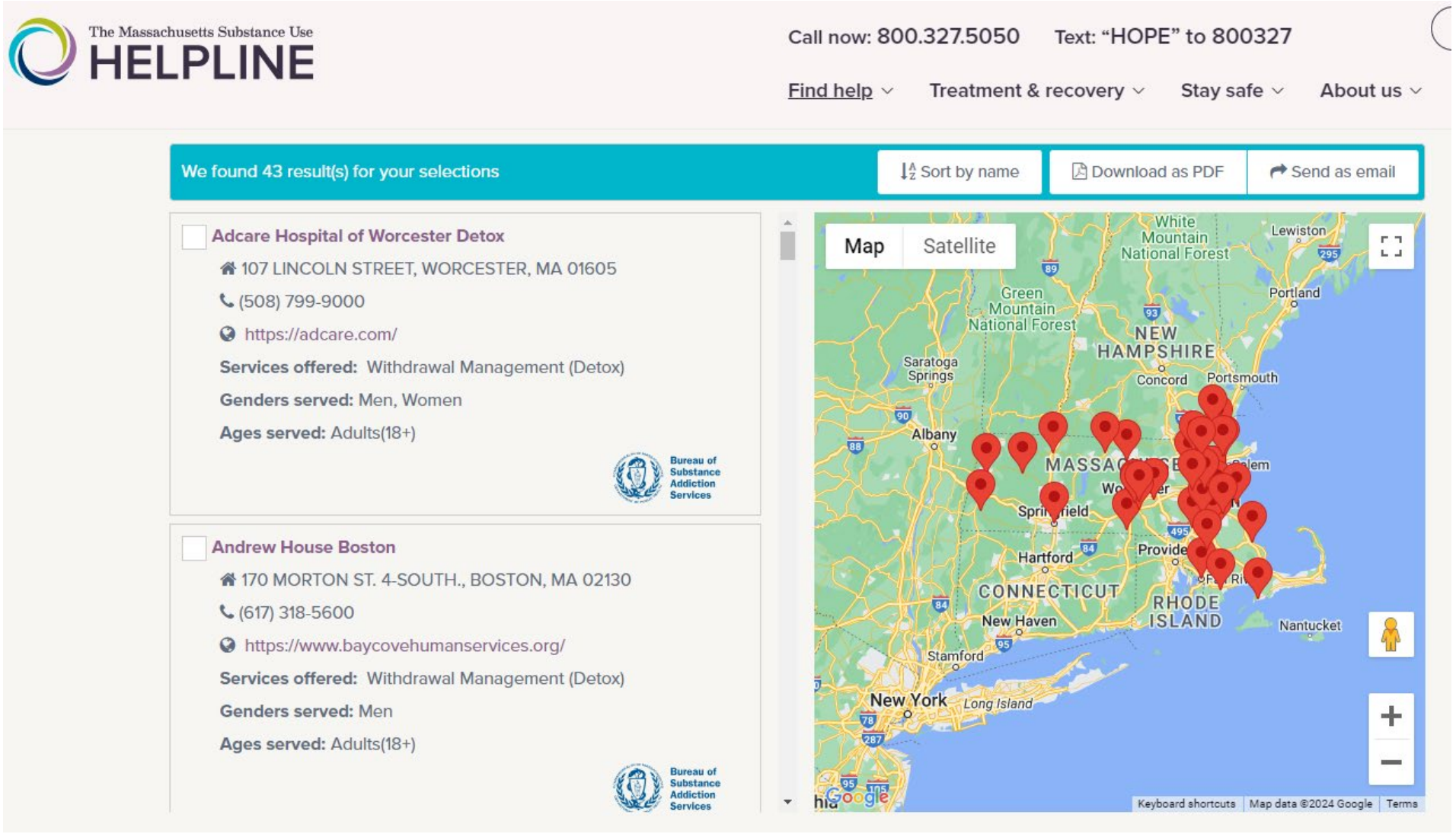
Includes Dentists with professionally active status.




Source: Health Resources and Services Administration. Area Health Resources File. Available at: https://data.hrsa.gov/topics/health-workforce/ahrf

- The federal Area Health Resources File includes county-level and state-level counts of health care professionals by license type.
- The accompanying dataset includes additional variables such as site of practice type and major professional activities.

# Example Inventory: MA Substance Use Helpline




The Massachusetts Substance Use Helpline. Search for Services: https://hub.helplinema.org/findhelp

The MA Substance Use Helpline provides an inventory of providers based on specific parameters, such as patient age, gender, distance to treatment, and services needed.

# Massachusetts Supply Counts

- The following slides provide a **point-in-time snapshot** of per capita provider supply levels for Massachusetts overall and by county.
- We use national data sources to allow for **comparison of MA supply levels** against benchmarks, including national rates and comparator state rates, while acknowledging that these benchmarks do not necessarily represent the "correct" supply level.
- We report the **latest year of data available** at the time of collection and analysis, typically reflecting 2021-2023.
- Some of these data sources may not yet reflect the **full impact of the pandemic** on provider supply and distribution. Massachusetts providers also continue to report high rates of **workforce shortages and vacancies**, which has contributed to capacity challenges in recent years, and which is not reflected in data sources like bed counts.

**Notes:** Our comparator states include Colorado, Connecticut, Delaware, Hawaii, Maryland, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Washington. States were selected by their similarity to Massachusetts on a range of measures including geography (distance to MA), median household income, population density, land area, state health care system performance as defined by The Commonwealth Fund, and health care spending as a percentage of state gross domestic product.

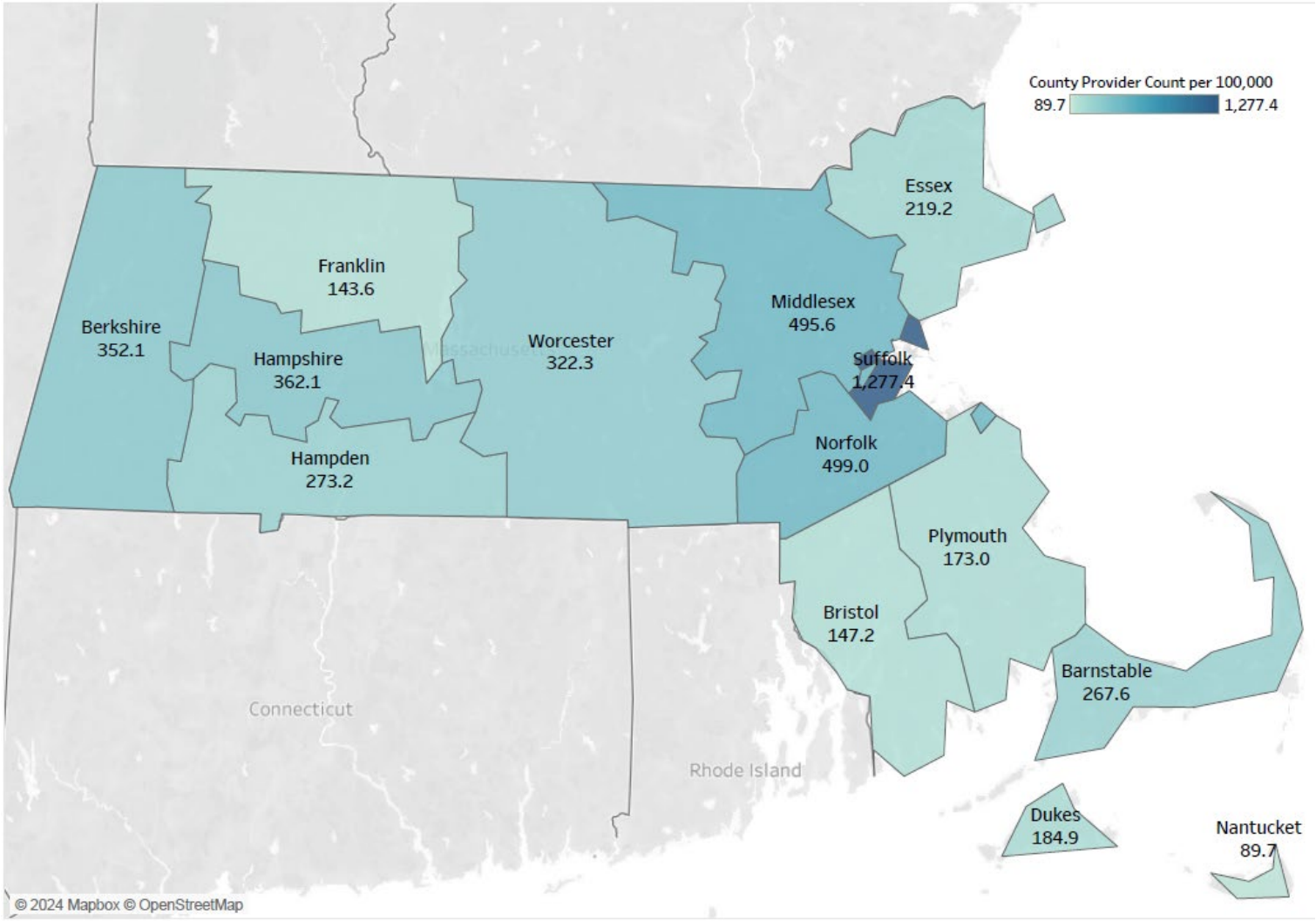
# Overview of Health Care Resources Examined

| Category | Location | Supply Type |
|---|---|---|
| Physicians | Main Body | Allergy and Immunology |
| | Main Body | Anesthesiology |
| | Main Body | Direct Patient Care (Total) |
| | Main Body | Emergency Medicine |
| | Main Body | Neurology |
| | Main Body | Ophthalmology |
| | Main Body | Primary Care |
| | Main Body | Pulmonary Disease |
| | Main Body | Radiation Oncology |
| | Main Body | Radiology |
| | Main Body | Urology |
| | Both | Cardiology |
| | Both | Dermatology |
| | Both | Gastroenterology |
| | Both | General Surgery |
| | Both | Obstetrics/Gynecology |
| | Both | Pediatric Specialists |
| | Both | Psychiatrists |

| Category | Location | Supply Type |
|---|---|---|
| Other Clinicians | Main Body | Counselors |
| | Main Body | Health Care Social Workers |
| | Main Body | Psychologists |
| | Appendix Only | Dentists |
| | Appendix Only | Nurse Practitioners |
| | Appendix Only | Physician Assistants |
| Facilities | Main Body | Hospital Outpatient Departments |
| | Appendix Only | Ambulatory Surgery Centers |
| | Appendix Only | Urgent Care Centers |
| Hospital Beds | Main Body | ICU Beds |
| | Main Body | Inpatient Psych Beds |
| | Main Body | Total Hospital Beds |

# MA Supply Inventory: Direct Patient Care Physicians

Direct Patient Care Physicians per 100,000 (MA)

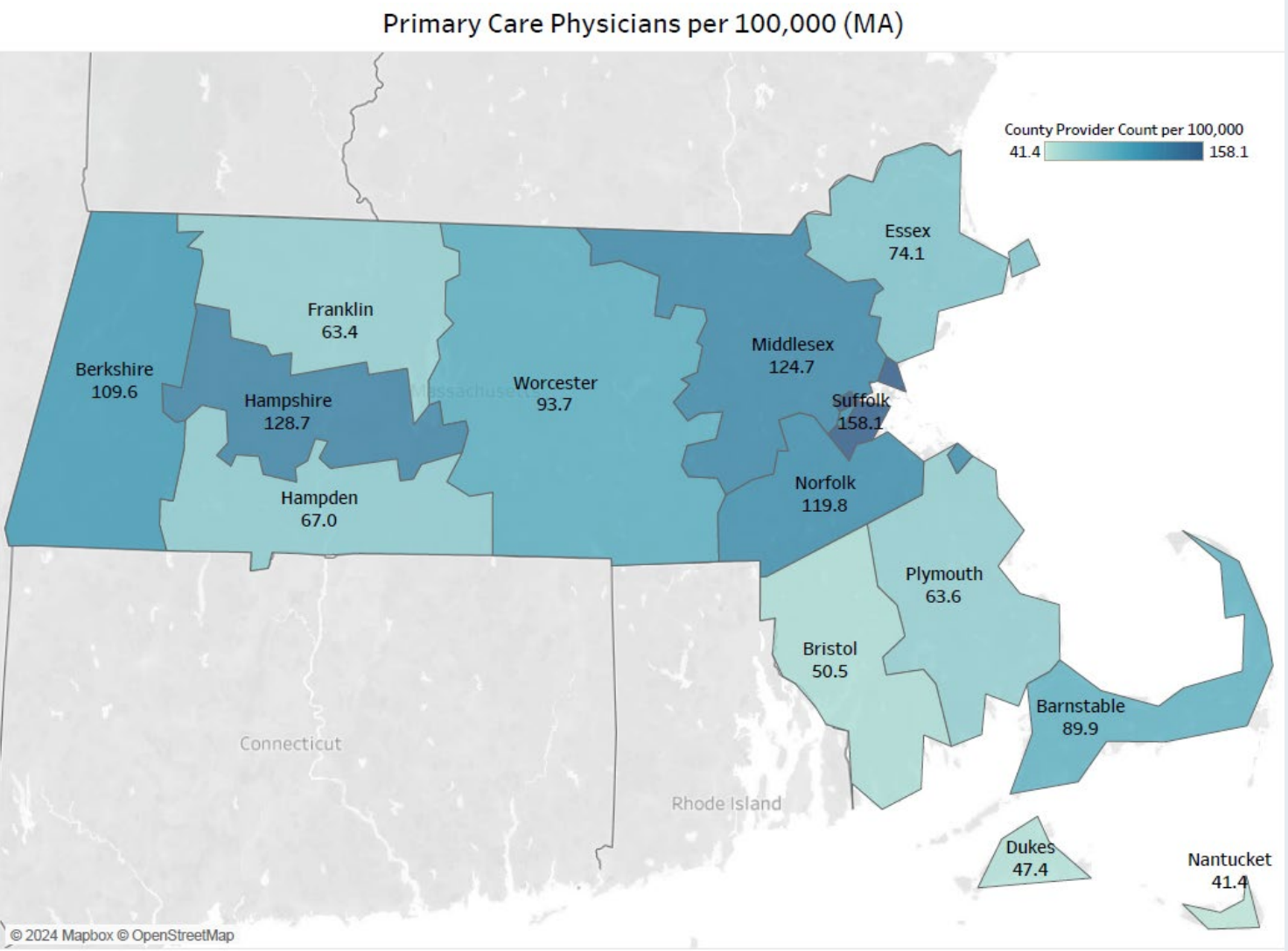



2022-2023 Area Health Resources Files
Includes active MDs and DOs providing direct patient care. Excludes medical residents.

- MA has 442.0 **direct patient care physicians** per 100,000 residents, ranking 1st nationally.
  - The US has 278.0.
  - Comparator states have an average of 330.5.
  - County-level rates ranges from a high of 1,277.4 in Suffolk County to a low of 89.7 in Nantucket County.
  - Recent estimates of other high-income countries' rates of active physicians average around 330 per 100K residents.[1]
- **Direct patient care physicians** represent 82% of MA's total active physicians provide, compared to 88% nationally.[2]

Source: 1.Papanicolas, Woskie, and Jha. Health Care Spending in the United States and Other High-Income Countries. JAMA. 2018;319(10):1024-1039. 2. HPC analysis of the Area Health Resource File, 2022-2023. US Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Workforce, Rockville, MD.

# MA Supply Inventory: Primary Care Physicians




2022-2023 Area Health Resources Files
Includes active MDs and DOs providing direct patient care. Excludes medical residents.

- MA has **101.0 primary care physicians** per 100K residents that provide direct patient care, ranking third nationally following Vermont (111.2) and Maine (107.6).
  - The US has 74.4.
  - The comparator state average is 82.2.
  - Supply levels range from 158.1 in Suffolk County to 41.4 in Nantucket County.
- PCPs make up **approximately 23% of direct patient care physicians** in MA, below the national proportion of 27%.[1]
- Recent estimates put MA's **primary care spending** at 4.7% of total health care spending, consistent with the national average.[2]
- HRSA has designated **12 primary care health professional shortage areas** in MA. About 8% of the MA population lives in a primary care shortage area, compared to 30% nationally.[3]
- Many MA residents report **long wait times** and other difficulties accessing primary care.

Sources: 1.HPC analysis of Area Health Resource File 2022-2023 Dataset. 2. Millbank Memorial Fund. The Health of US Primary Care: 2024 Scorecard Data Dashboard. Available at: https://www.milbank.org/primary-care-scorecard/. 3. Health Resources & Services Administration. Designated Health Professional Shortage Area Statistics. First Quarter of Fiscal Year 2024 Designated HPSA Quarterly Summary. As of December 31, 2023.

# MA Supply Inventory: Specialist Physicians

| Select Specialist Physicians per 100,000 Residents | | | |
|---|---|---|---|
| Specialty | MA Rate (Rank) | US Rate | Comparator State Average Rate |
| Allergy and Immunology | 2.2 (1) | 1.2 | 1.5 |
| Anesthesiology | 17.1 (1) | 13.1 | 15.7 |
| Cardiovascular Disease | 10.0 (1) | 5.5 | 7.3 |
| Dermatology | 5.8 (1) | 3.4 | 4.1 |
| Emergency Medicine | 16.3 (11) | 13.2 | 13.9 |
| Gastroenterology | 6.4 (2) | 3.9 | 5.2 |
| General Surgery | 11.2 (9) | 9.3 | 10.3 |
| Neurology | 9.1 (1) | 4.3 | 5.5 |
| Obstetrics and Gynecology (General) | 12.6 (9) | 11.0 | 12.9 |
| Ophthalmology | 7.2 (4) | 5.0 | 6.3 |
| Orthopedic Surgery | 8.6 (14) | 7.3 | 8.3 |
| Pediatrics (Specialists) | 13.9 (1) | 7.4 | 8.3 |
| Psychiatry | 22.2 (1) | 9.7 | 14.5 |
| Pulmonary Disease | 6.1 (1) | 3.4 | 4.1 |
| Radiation Oncology | 2.2 (1) | 1.4 | 1.5 |
| Radiology | 6.0 (1) | 3.1 | 3.5 |
| Urology | 3.6 (4) | 2.8 | 3.3 |

Source: Area Health Resources File dataset: 2022-2023.
Notes: The MA Rank excludes Washington D.C. The US Rate and the Comparator State Average Rate are calculated by first summing the total relevant physicians and the total relevant population, then dividing physicians by population and multiplying by 100,000. The US Rate excludes Massachusetts.

- Of the 33 **physician specialties** assessed, MA per capita supply level ranks in the top 10 states for all but five specialties and ranks first for 13 specialties.
  - MA supply levels are notably higher than US and comparator state levels for a few categories such as **psychiatry** and **neurology**, for which MA per capita supply levels are more than double US levels.
- **Suffolk County** has the highest rate of physicians per 100,000 residents for all specialties examined, except for Emergency Medicine, Family Medicine with a Subspecialty, and Occupational Medicine. Per capita supply levels are generally lowest in **Nantucket and Dukes county.**
- Despite high per capita supply levels, survey data suggests that patients experience **slightly longer average wait times** in Greater Boston than in other major metropolitan areas for cardiology, dermatology, and well-woman OB/GYN appointments. Wait times were **slightly below average** for orthopedic surgery.[1]

Source: 1. AMN Healthcare Merrit Hawkins. 2022 Survey of Physician Appointment Wait Times and Medicare and Medicaid Acceptance Rates. Available at: https://thainnovativesolutions.com/wp-content/uploads/2023/02/mha2022waittimesurveyfinal.pdf

# MA Supply Inventory: Behavioral Health Clinicians

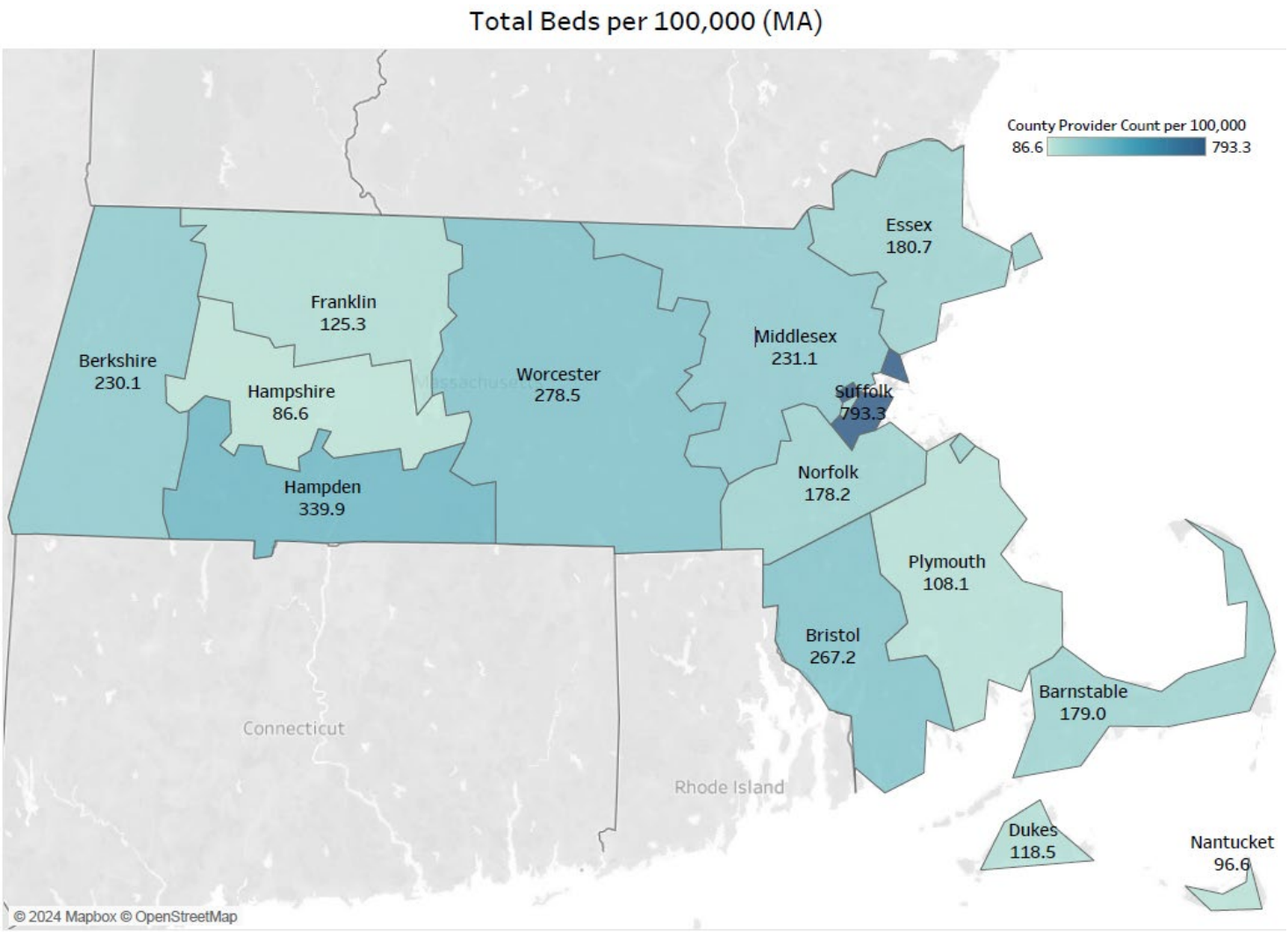
| Behavioral Health Clinicians per 100,000 Residents | | | |
|---|---|---|---|
| Provider Type | MA Rate (Rank) | US Rate | Comparator State Average Rate |
| Adult Psychiatrists | 22.2 (1) | 9.7 | 14.5 |
| Child Psychiatrists | 5.3 (4) | 2.3 | 3.6 |
| Psychologists | 135.3 (1) | 69.7 | 106.8 |
| Health Care Social Workers | 166.5 (1) | 52.4 | 78.3 |
| Counselors | 236.8 (2) | 125.7 | 148.5 |

Source: Clinician data from the Area Health Resources File: 2022-2023. The US Rate excludes Massachusetts.
Notes: The MA Rank excludes Washington D.C. The US Rate and the Comparator State Average Rate are calculated by first summing the total relevant physicians and the total relevant population, then dividing physicians by population and multiplying by 100,000.

Sources: 1. Health Resources & Services Administration. Designated Health Professional Shortage Area Statistics. First Quarter of Fiscal Year 2024 Designated HPSA Quarterly Summary. As of December 31, 2023 2. Benson et. al. Psychiatrist Participation in Private Health Insurance Markets: Paucity in the Land of Plenty. Psychiatric Services. 2020. 71(12).3. Association of Behavioral Health Providers. Kids Are Waiting: Children's Behavioral Health Services Crisis And Collapse. December 2023. 4. Center for Health Information and Analysis. 2021 Massachusetts Health Insurance Survey.

- MA's **behavioral health clinician supply** is higher than US and comparator states.
  - MA ranks 1st in the US for its rate of adult psychiatrists, psychologists, and health care social workers, 2nd for counselors, and 4th for child psychiatrists.
  - 4% of MA residents live in a mental health professional shortage area, compared with 51% nationally.[1]
- Though supply of BH providers is high, **many do not accept private insurance,** and while MA has a higher proportion of psychiatrists with some insurance participation compared to national (78.5% vs. 55.3%, respectively), half of psychiatrists in MA accept private insurance for fewer than 18 unique patients per year.[2]
- Private provider **wait times are high and increasing**; for example, average wait times for pediatric in-home therapy were between 20-26 weeks in 2023.[3]
- In 2021, 8.6% of MA residents reported having an **unmet need for behavioral health care** in their family due to cost in the past 12 months.[4]

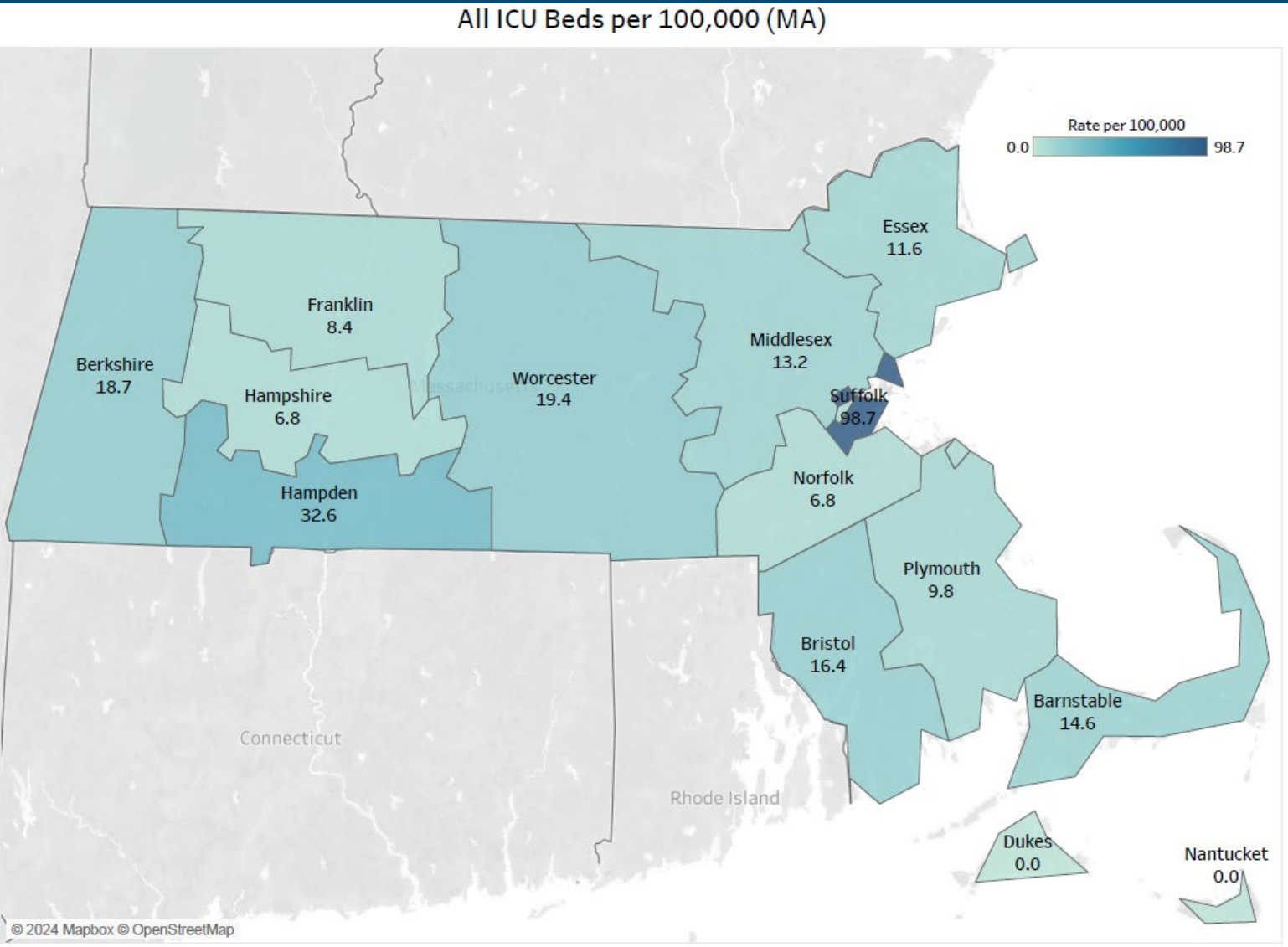
# MA Supply Inventory: Total Hospital Beds




CMS Cost Reports, 2022

- MA has **281.7 total hospital beds** per 100K residents, ranking 18th nationally.
  - The US has 252.1.
  - Comparator states have an average of 236.8.
  - The rate ranges from 793.3 in Suffolk County to 86.6 in Hampshire County.
- MA has many **specialty hospitals,** such as cancer, children's, psychiatric, and rehabilitation hospitals.
  - Only 71% of MA's beds are in general short-term hospitals, compared with 86% nationally.
- Looking only at MA's general short-term hospital beds might **understate true acute care capacity**, to the extent some specialty hospitals can alleviate pressure on general short-term hospitals (e.g., psych hospital capacity alleviating the need for psych beds at general short-term hospitals).

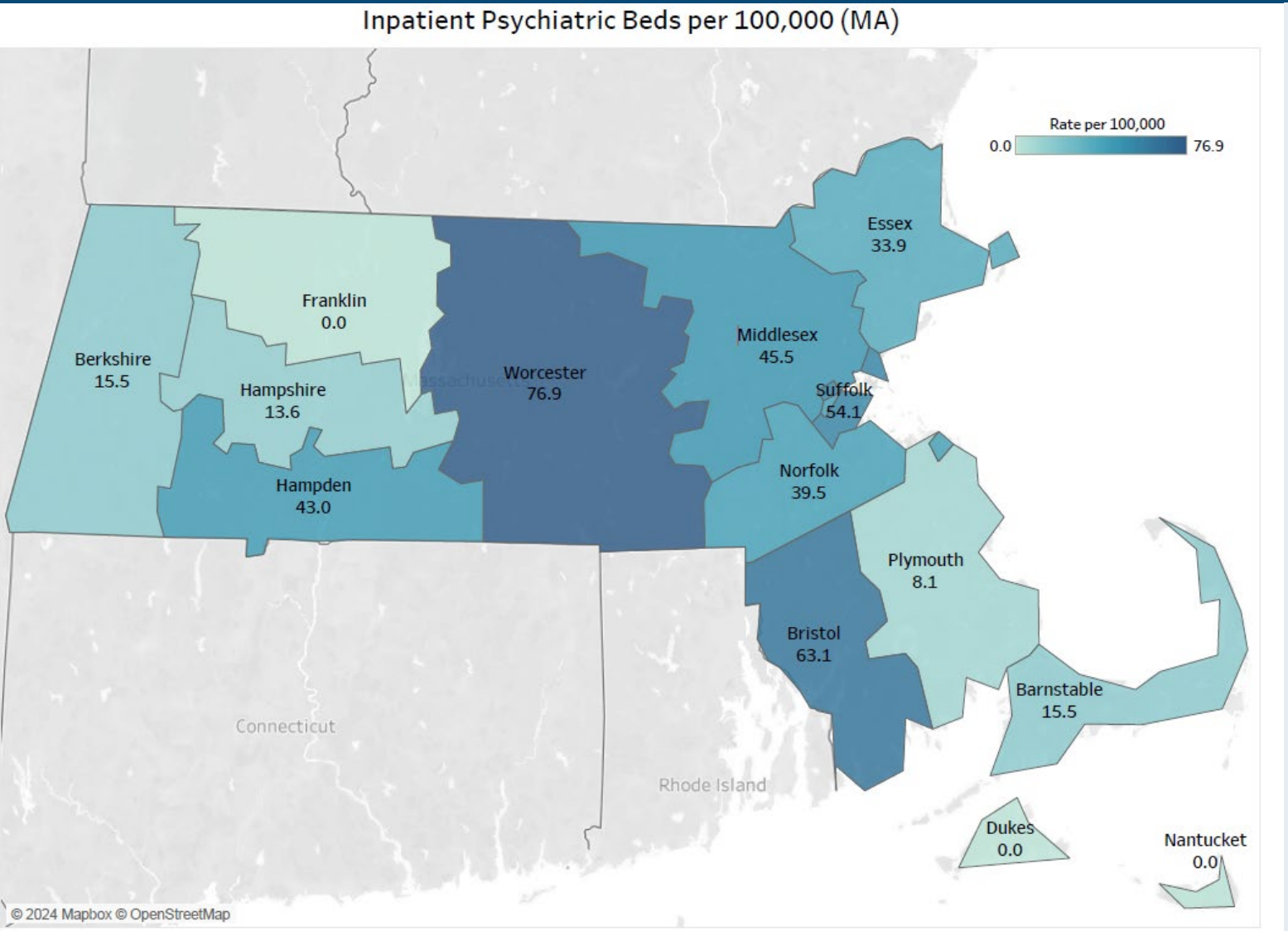
# MA Supply Inventory: ICU Beds




CMS Cost Reports, 2022

- The **ICU bed category** includes general ICU beds, as well as burn ICU beds, surgical ICU beds, and critical care unit beds.
- MA has 23.7 **ICU beds** per 100K residents, ranking 36th nationally.
  - The US has 29.5.
  - Comparator states have an average of 23.3.
  - The rate ranges from 98.7 in Suffolk County to 0.0 in Dukes and Nantucket County.
  - Though hospitals in Dukes and Nantucket counties may not report any permanent ICU beds, at least one local hospital has described an ability to provide ICU-level care in its adult and pediatric level beds when patient acuity requires it.

# MA Supply Inventory: Inpatient Psychiatric Beds

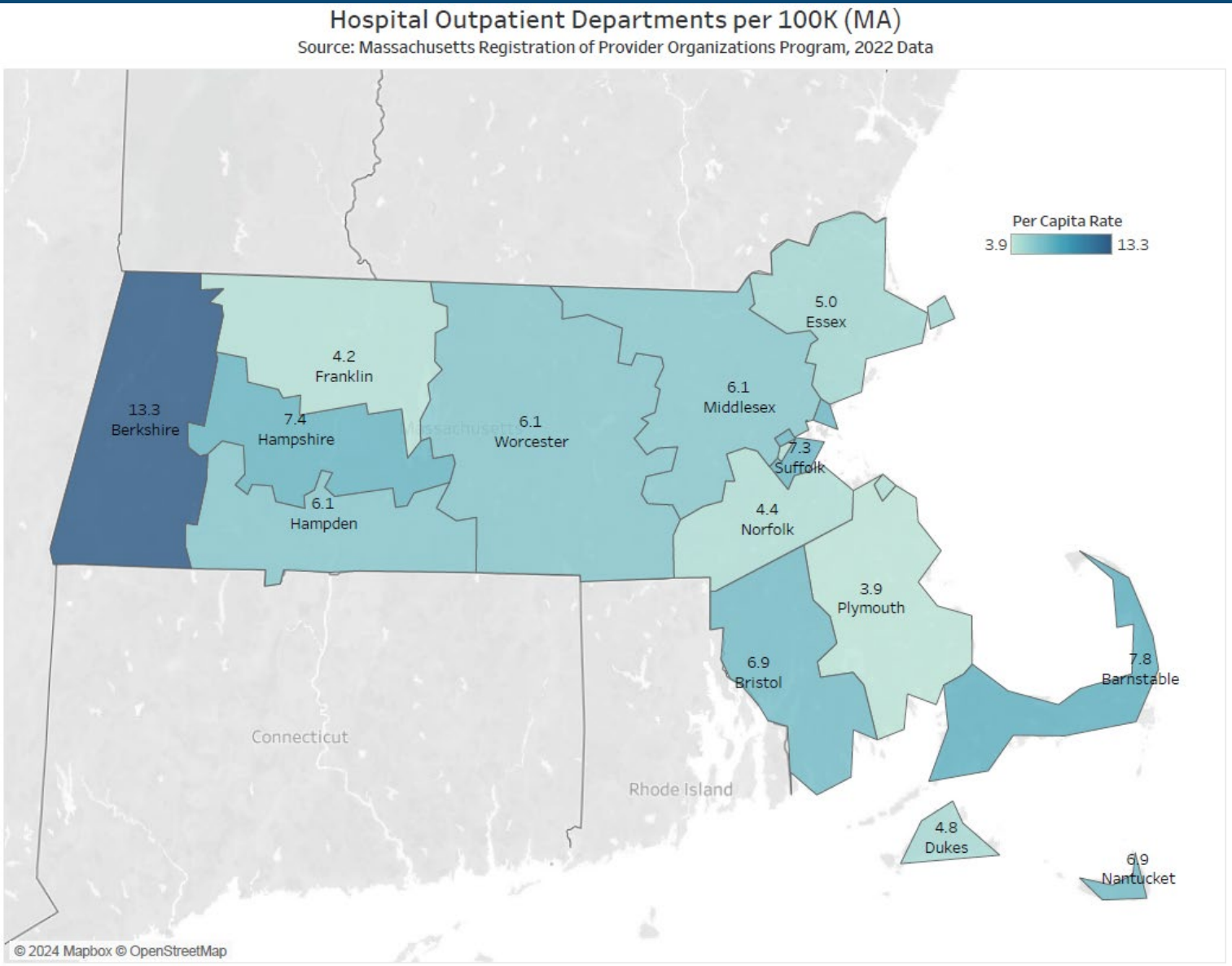



CMS Cost Reports, 2022

- MA has **43.8 psychiatric beds** per 100K residents, ranking 5th nationally.
  - The US has 27.7.
  - Comparator states have an average of 30.0.
  - The rate ranges from 76.9 in Worcester County to 0.0 to in Dukes, Franklin, and Nantucket Counties.
  - Though overall numbers are consistent with Massachusetts licensure data, we note that the Department of Mental Health reports 22 total licensed psych beds in Franklin County that are not observable in our data.
- Though MA added over 450 psychiatric beds between 2021 and 2023 to help meet critical demand for services, a recent report estimated that **approximately 20% of licensed inpatient psych beds were offline** due to staffing needs.[1,2]

Source: 1. Massachusetts Health and Hospital Association. Capturing a Crisis: Massachusetts Behavioral Health Boarding Metrics. January 8, 2024. 2. Massachusetts Health and Hospital Association. Psychiatric Patient Access to Continuing Care Services. January 2023.

# MA Supply Inventory: Hospital Outpatient Departments

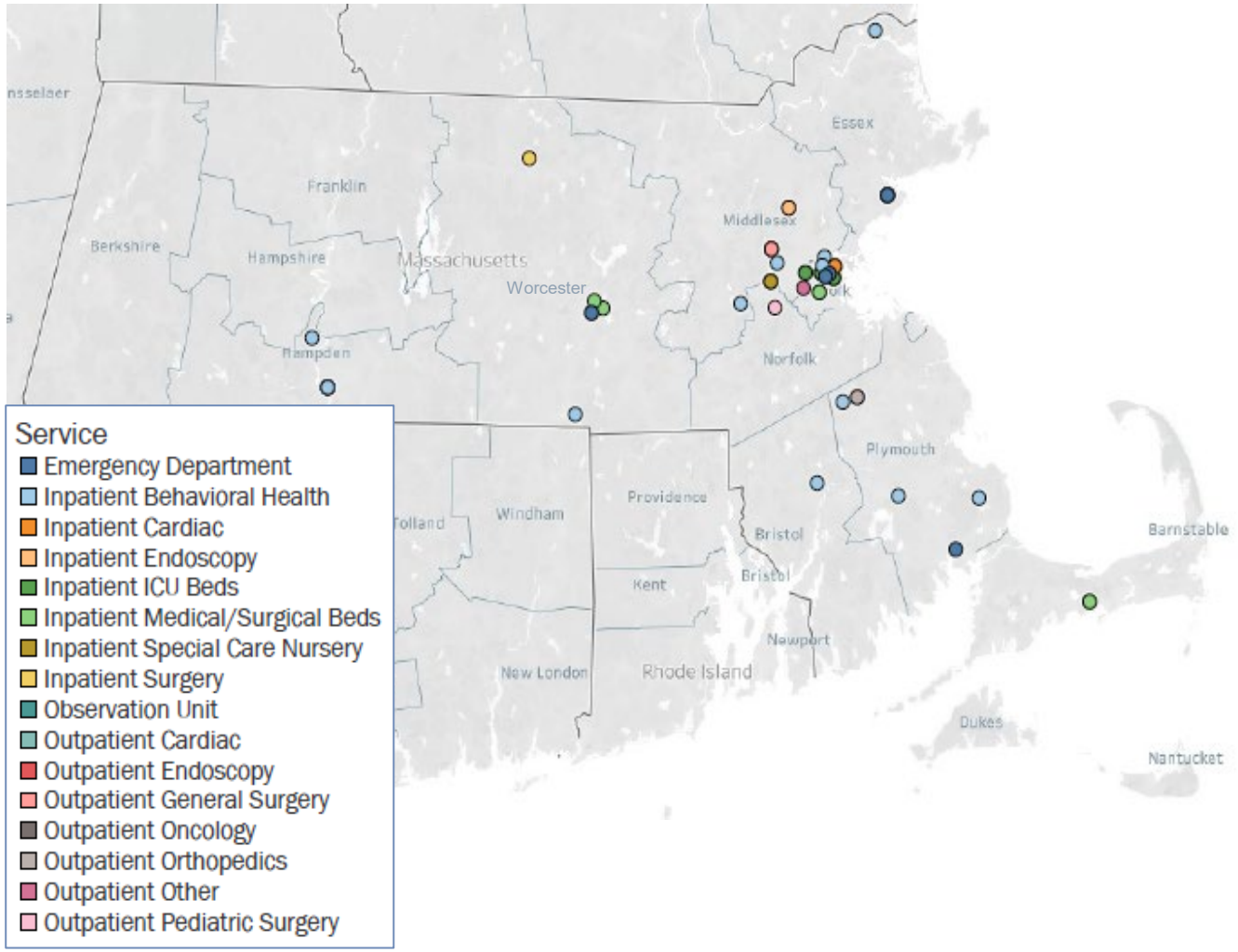



- MA has **6.0 hospital outpatient departments** (HOPDs) per 100K residents; comparable data for other states were not available.
  - Berkshire County has the highest rate of HOPDs (13.3), Plymouth County has the lowest (3.9).
- **MA has a higher rate of HOPD visits** per 1,000 residents than the US average (3,474 in MA vs. 2,367 nationally in 2021).[1]
- Inventorying and assessing supply levels for HOPDs can be challenging because the **HOPDs provide a range of services**, many of which can also be provided by other providers like ASCs, ambulatory providers, and inpatient providers.
- Efforts to right-size outpatient supply and capacity may be more effective when examined at a **service level** rather than by facility type.

Source: Massachusetts Health Policy Commission. 2023 Annual Health Care Cost Trends Report Chartpack. September 2023. Available at: https://www.mass.gov/doc/2023-health-care-cost-trends-report-chartpack/download

# Trends in Health Resource Distribution

**Select Service Expansions From Determination of Need Filings**
(2017 – 2023)




Source: HPC analysis of DPH Determination of Need filings (2017-2023) and CHIA Hospital Cost Reports (2015-2021)

- Massachusetts' health care supply levels and distribution are constantly changing.
- Regulators are charged with overseeing many of those changes, but do not have a broad state health plan against which to assess their impact.
- Service expansions and contractions may not always result in more equitable distribution of health care resources:
  - From 2017-2023, DoN filings for certain **service expansions** (shown on the left) and for the expansion or addition of **ambulatory surgery and imaging services** were more frequent in the **greater Boston area** than in other areas of the state.
  - Massachusetts acute hospitals that **closed an inpatient service line** from 2016-2021 were more likely to serve **lower income patients and communities with greater indicia of social need** compared to hospitals without closures.
- A more robust health planning process, along with changes to other regulatory tools and underlying financial incentives, could help to ensure that future expansions and closures align with indicators of health need.

# Trends in Health Resource Distribution

| Select Closures and Reductions in MA Acute Care Hospitals 2017-2023 | | |
|---|---|---|
| Service Line | Number of Closures And Reductions (Percent) | Service Line Profitability |
| Inpatient Obstetrics/Maternity | 8 (11.6%) | Low margin |
| Inpatient Behavioral Health | 7 (10.1%) | Low margin |
| Outpatient Behavioral Health | 6 (8.7%) | Low margin |
| Inpatient ICU/Critical Care | 5 (7.2%) | High margin |
| Inpatient Surgery | 2 (2.9%) | High margin |
| Outpatient Imaging | 1 (1.4%) | High margin |

Source: HPC analysis of CHIA Hospital Cost Reports (2015-2021) and acute hospital essential service closure filings from MDPH. There were 16 unique service lines that experienced at least one essential service closure or reduction. Following a review of available literature, we identified 3 as low-margin services and 3 as high-margin service, as shown in the table above.

- Certain operational and financial factors may influence provider decisions about whether and how to change service offerings.
- **Profitability:** From 2017-2023, there were more closures and substantial reductions of **low-margin service lines** in MA acute hospitals than there were high-margin service lines.
  - There were 69 total instances of acute hospital service closures or reductions. The top three services closed were pediatrics (16), behavioral health (13), and obstetrics/maternity (8).
  - Nearly a third of service closures or reductions were for a low-margin service line. Only 11.6% were for high-margin services.[1]
- **Occupancy, Prices, Revenue, Payer Mix, and Operating Margin:** Acute hospitals that closed an inpatient service line from 2016-2021 had **lower occupancy, lower inpatient prices, lower inpatient revenue, fewer commercially insured patients, and lower operating margin** than those without closures.

1. The remainder of closures and reductions could not be classified as either high- or low-margin due to a lack of available data.

# Massachusetts Health Care Resource Data: Current Strengths and Additional Needs

## Current Assets and Strengths

- Multiple, **reliable inventories** of facilities and providers, including MA-RPO data, CHIA data assets, licensing agency data, federal data, and access to private data sets.
- APCD, Casemix, and Medicare datasets to serve as foundational source of **information on utilization levels.**
- Existing processes to **review changes** to supply and distribution

## Additional Needs

- **Aggregation and linkage** of existing data
- Data on health care resource **capacity and accessibility**
- Inclusion of more **demographic variables** in utilization data to identify variation across groups
- Strategies to adjust for **missing data** such as small, unlicensed providers and self-insured commercial members in the APCD
- Enhanced **state authority to intervene** when proposed changes are misaligned with need.

# Acknowledgements

The Massachusetts Health Policy Commission (HPC) is an independent state agency charged with monitoring health care spending growth in Massachusetts and providing data-driven policy recommendations regarding health care delivery and payment system reform. The HPC's mission is to advance a more transparent, accountable, and equitable health care system through its independent policy leadership and innovative investment programs. The HPC's goal is better health and better care – at a lower cost – for all residents across the Commonwealth.

## COMMISSIONERS

**Deborah Devaux**
*Chair*

**Martin Cohen**
Vice *Chair*

**Barbara Blakeney**

**Dr. Matilde Castiel**

**Dr. David Cutler**

**Matthew Gorzkowicz**
*Secretary of Administration and Finance*

**Patricia Houpt**

**Renato Mastrogiovanni**

**Dr. Alecia McGregor**

**Kate Walsh**
*Secretary of Health and Human Services*

**James Willmuth**

## EXECUTIVE LEADERSHIP

**David Seltz**
*Executive Director*

**Coleen Elstermeyer**
*Deputy Executive Director*

Adrian Ashley, Regina Dello Russo, Thomas Hajj, Dr. Jessica Liu, Katherine Scarborough Mills, Alexa Paiva, Elizabeth Reidy, Rosca Sasu, and Kara Vidal conducted the analyses and prepared this report. Coleen Elstermeyer and Lois Johnson significantly contributed to the report. The HPC gratefully acknowledges its contractor, BerryDunn, for their assistance with analyses. Rebecca Willmer contributed to the design of this report.

# Outline

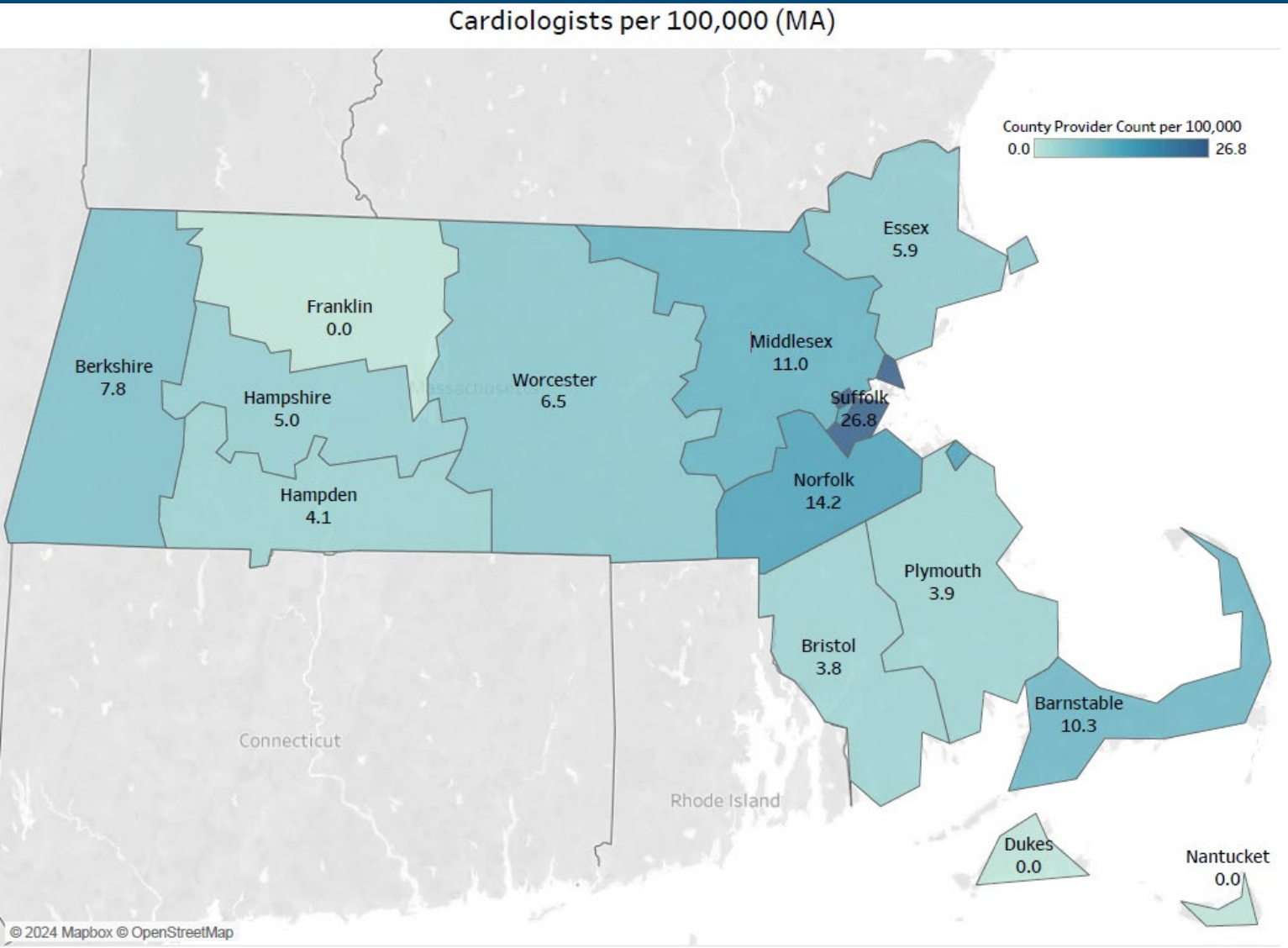
Introduction

Health Needs Assessments

Health Care Resource Inventories

**APPENDIX**

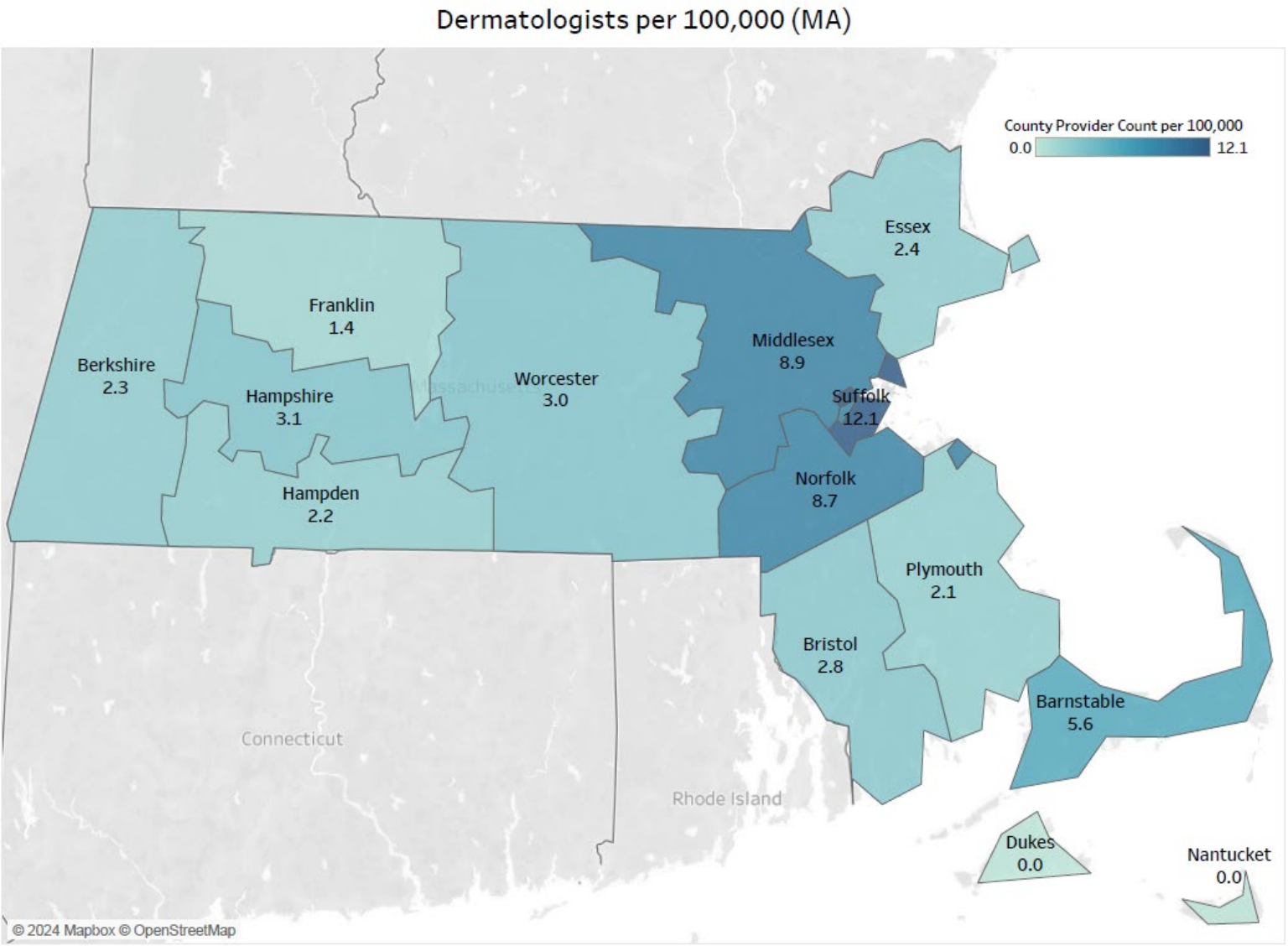
# MA Supply Inventory: Cardiologists




2022-2023 Area Health Resources Files

- Massachusetts has 10.0 cardiologists per 100,000 residents.
  - The US has 5.5 cardiologists per 100,000 residents.
  - Comparator states have 7.3 cardiologists per 100,000 residents.
- Suffolk County has the highest supply of cardiologists with 26.8 per 100,000 residents.
- Nantucket, Dukes, and Franklin counties have the lowest supply of cardiologists with 0.0 per 100,000 residents.
  - MA-RPO data, which allows for the reporting of a secondary site of practice, indicates the presence of at least one cardiologist in Nantucket, Dukes, and Franklin counties.

# MA Supply Inventory: Dermatologists

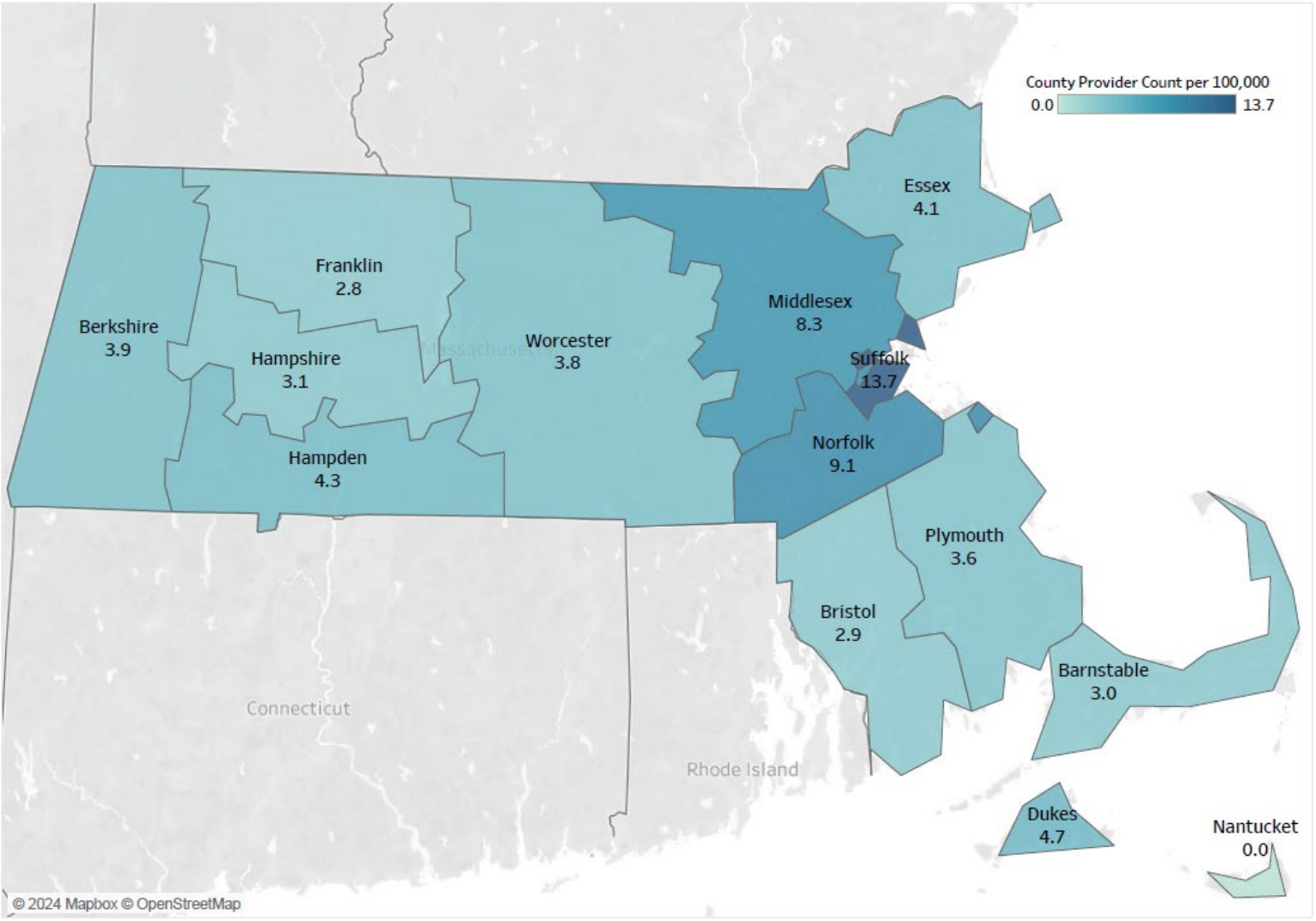



2022-2023 Area Health Resources Files

- Massachusetts has 5.8 dermatologists per 100,000 residents.
  - The US has 3.4 dermatologists per 100,00 residents.
  - Comparator states have 4.1 dermatologists per 100,000 residents.
- Suffolk County has the highest supply of dermatologists with 12.1 per 100,000 residents.
- Nantucket and Dukes counties have the lowest supply of dermatologists with 0.0 per 100,000 residents.
  - MA-RPO data, which allows for the reporting of a secondary site of practice, indicates the presence of at least one dermatologist in Dukes County.

# MA Supply Inventory: Gastroenterologists

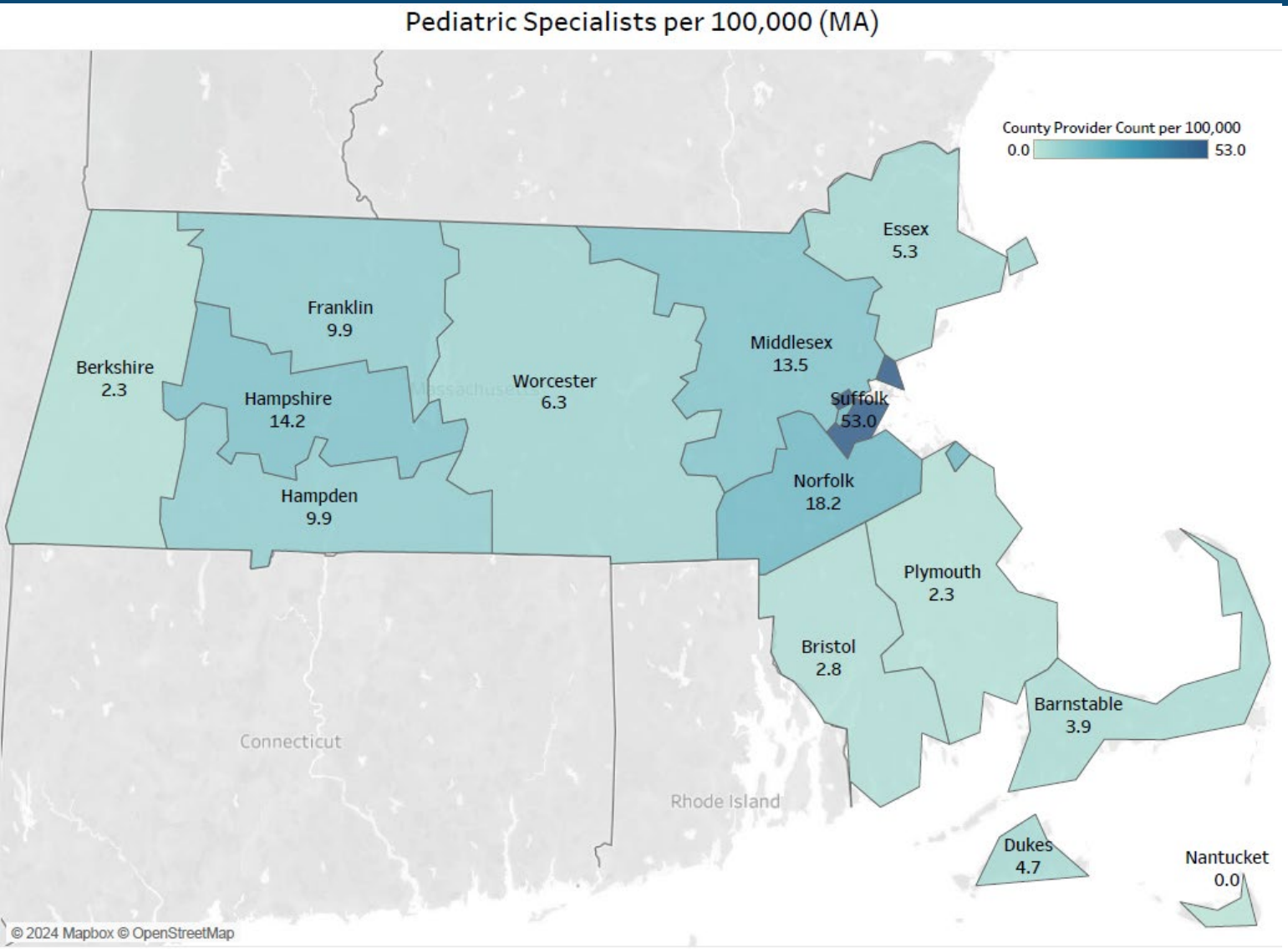
Gastroenterologists per 100,000 (MA)




2022-2023 Area Health Resources Files

- Massachusetts has 6.4 gastroenterologists per 100,000 residents.
  - The US has 3.9 gastroenterologists per 100,000 residents.
  - Comparator states have 5.2 gastroenterologists per 100,000 residents.
- Suffolk County has the highest supply of gastroenterologists with 13.7 per 100,000 residents.
- Nantucket County has the lowest supply of gastroenterologists with 0.0 per 100,000 residents.
  - MA-RPO data, which allows for the reporting of a secondary site of practice, indicates the presence of at least one gastroenterologist in Nantucket County.

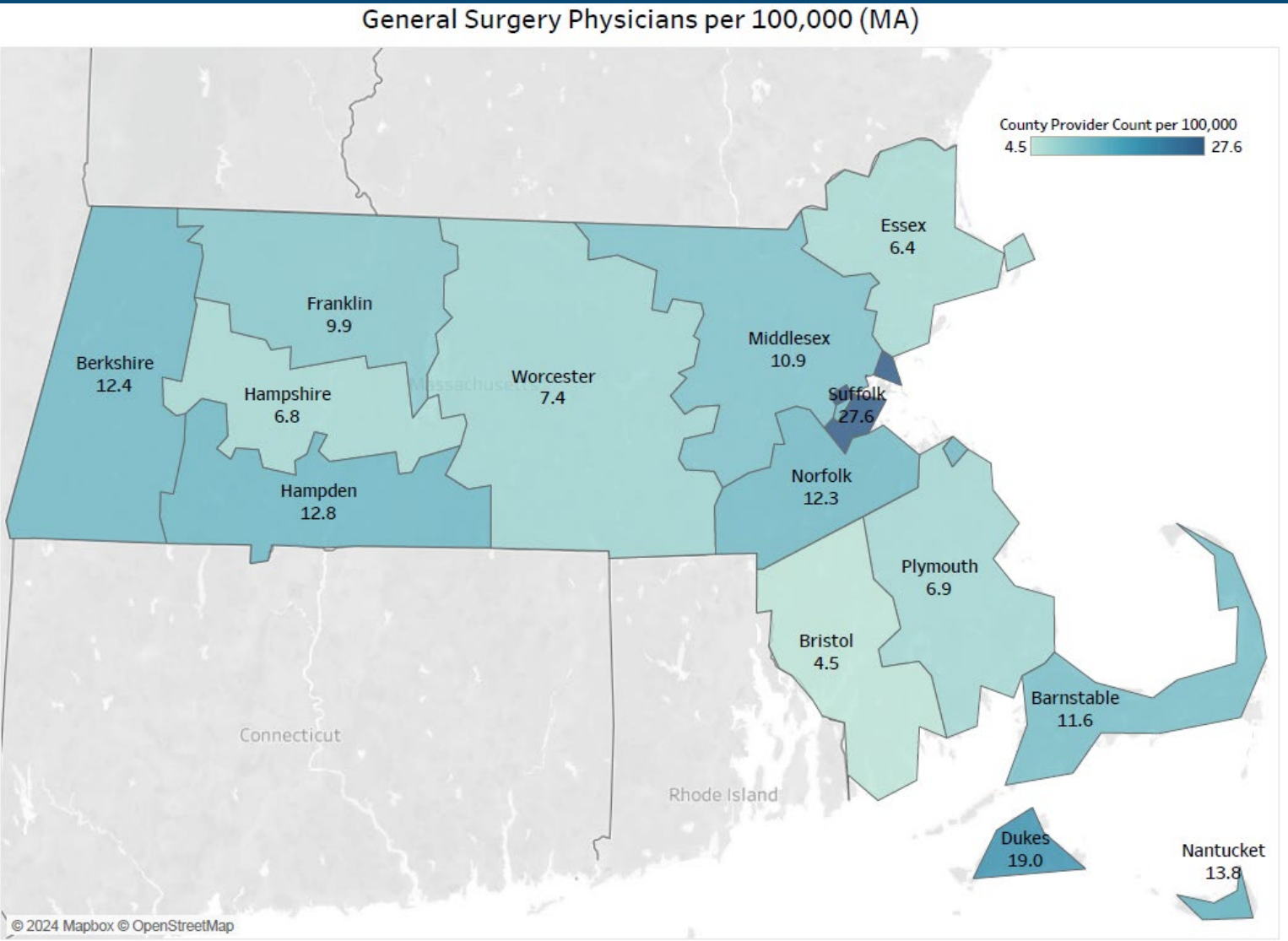
# MA Supply Inventory: Pediatric Specialists




2022-2023 Area Health Resources Files

- Massachusetts has 13.9 pediatric specialists per 100,000 residents.
  - The US has 7.4 per 100,000 residents.
  - Comparator states have 8.3 per 100,000 residents.
- Suffolk County has the highest supply of pediatric specialists with 53.0 per 100,000 residents.
- Nantucket County has the lowest supply of pediatric specialists with 0.0 per 100,000 residents.

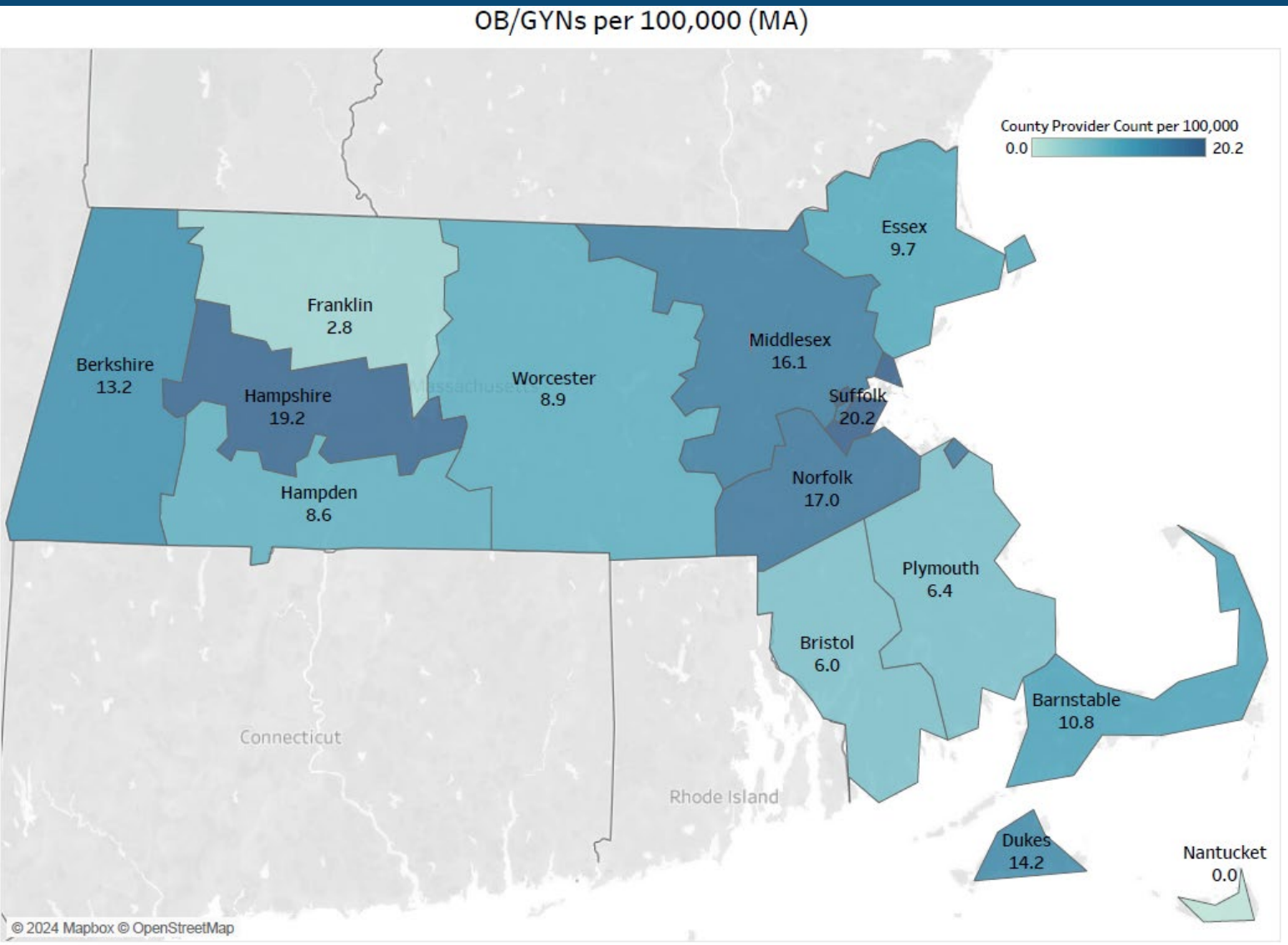
# MA Supply Inventory: General Surgery Physicians




2022-2023 Area Health Resources Files
Includes active MDs and DOs providing direct patient care. Excludes medical residents.

- Massachusetts has 11.2 general surgery physicians per 100,000 residents.
  - The US has 9.3 general surgery physicians per 100,000 residents.
  - Comparator states have 10.3 general surgery physicians per 100,000 residents.
- Suffolk Count has the highest supply of general surgery physicians with 27.6 per 100,000 residents.
- Bristol County has the lowest supply of general surgery physicians with 4.5 per 100,000 residents.

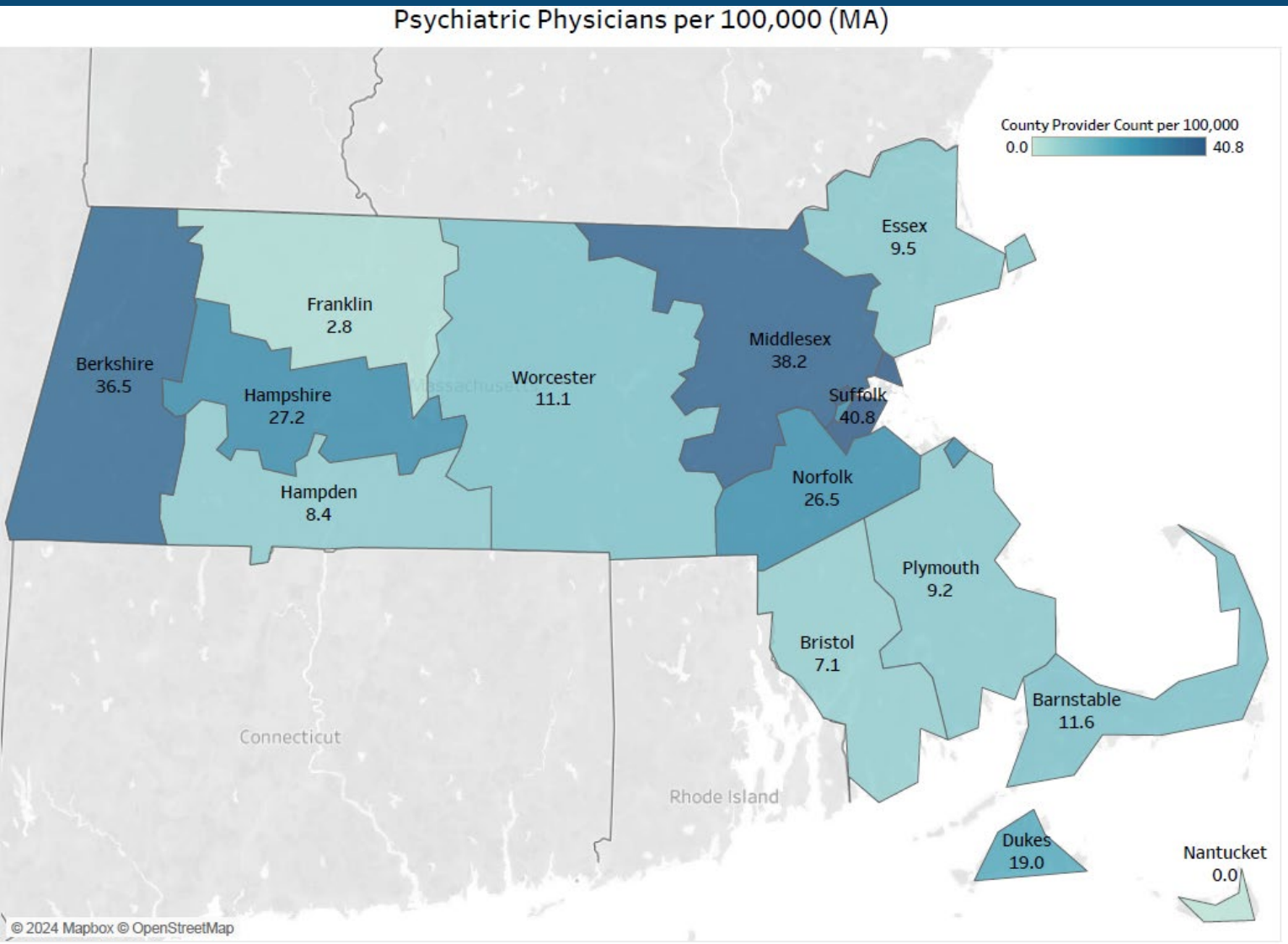
# MA Supply Inventory: OB/GYNs




2022-2023 Area Health Resources Files

- Massachusetts has 12.6 OB/GYNs per 100,000 residents.
  - The US has 11.0 OB/GYNs per 100,000 residents.
  - Comparator states have 12.9 OBGYNs per 100,000 residents.
- Suffolk County has the highest supply of OB/GYNs with 20.2 per 100,000 residents.
- Nantucket has the lowest supply of OB/GYNs with 0.0 per 100,000 residents.
  - MA-RPO data, which allows for the reporting of a secondary site of practice, indicates the presence of at least one OB/GYN in Nantucket County.

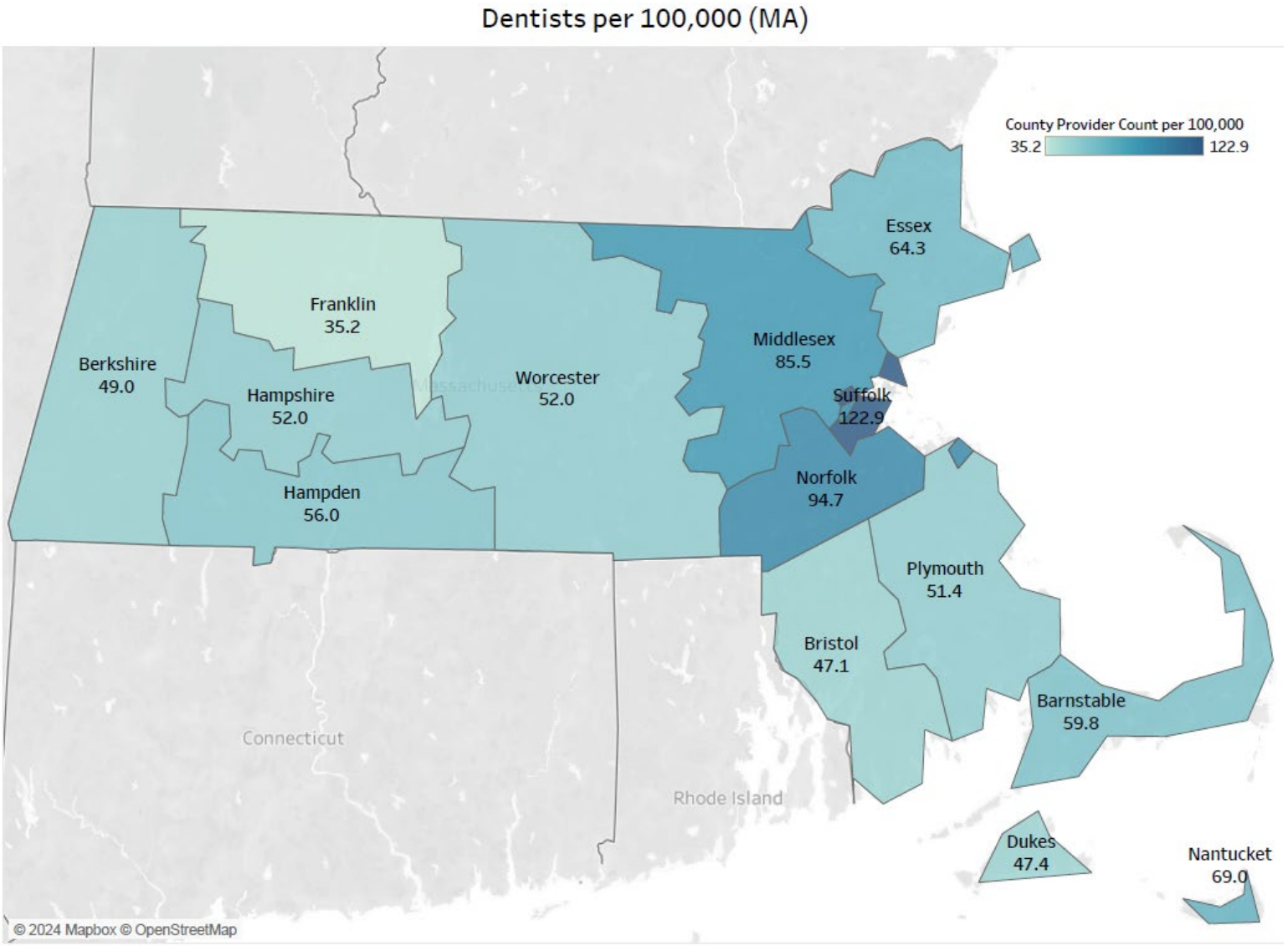
# MA Supply Inventory: Psychiatrists




2022-2023 Area Health Resources Files
Excludes child psychiatrists

- Massachusetts has 22.2 psychiatrists per 100,000 residents.
  - The US has 9.7 psychiatrists per 100,000 residents.
  - Comparator states have 14.5 psychiatrists per 100,000 residents.
- Suffolk County has the highest supply of psychiatrists with 40.8 per 100,000 residents.
- Nantucket County has the lowest supply of psychiatrists with 0.0 per 100,000 residents.

# MA Supply Inventory: Dentists

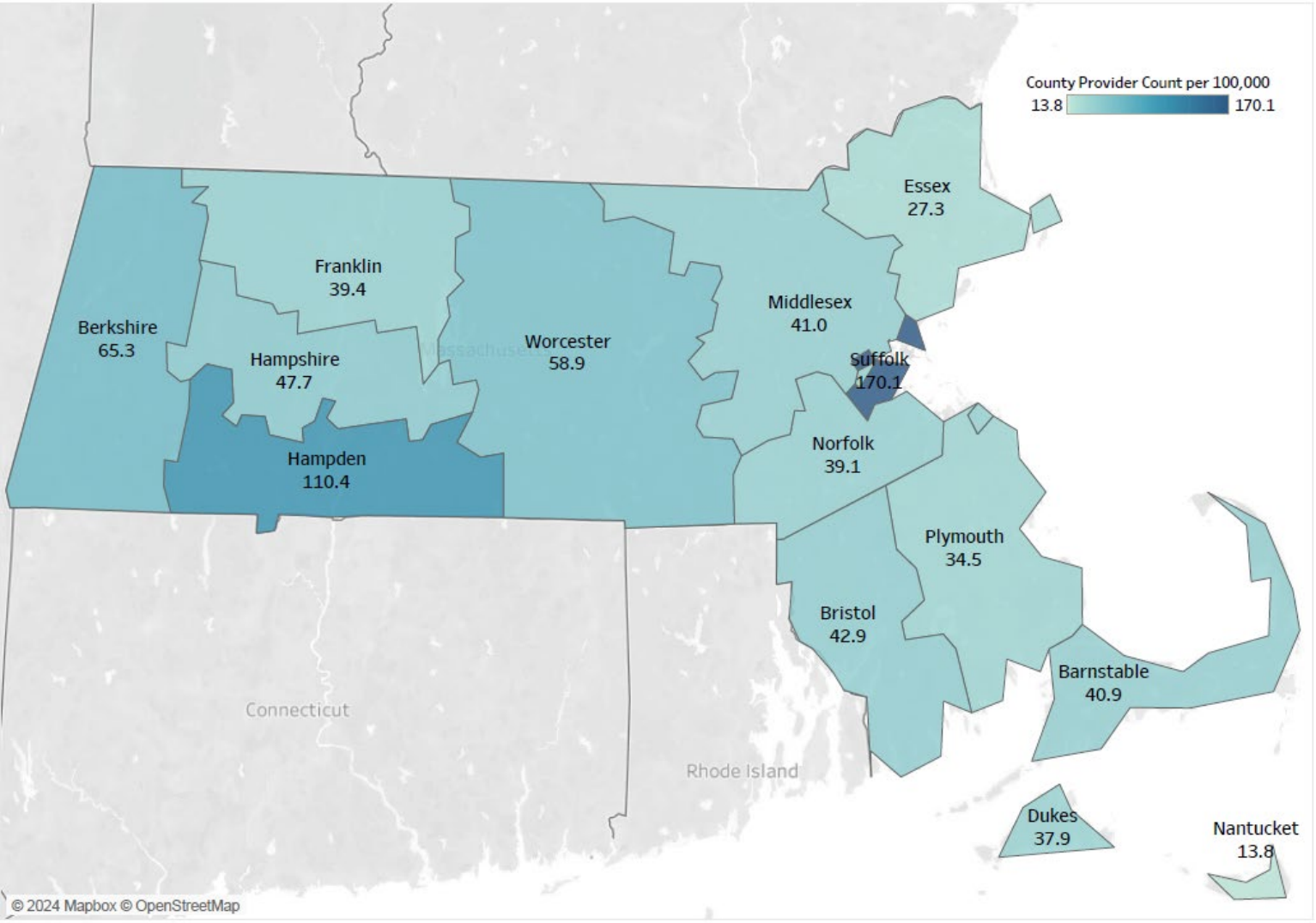



2022-2023 Area Health Resources Files

- Massachusetts has 73.3 dentists per 100,000 residents.
  - The US has 55.6 dentists per 100,000 residents.
  - Comparator states have 65.2 dentists per 100,000 residents.
- Suffolk County has the highest supply of dentists with 122.9 per 100,000 residents.
- Franklin County has the lowest supply of dentists with 35.2 per 100,000 residents.

# MA Supply Inventory: Physician Assistants (PAs)

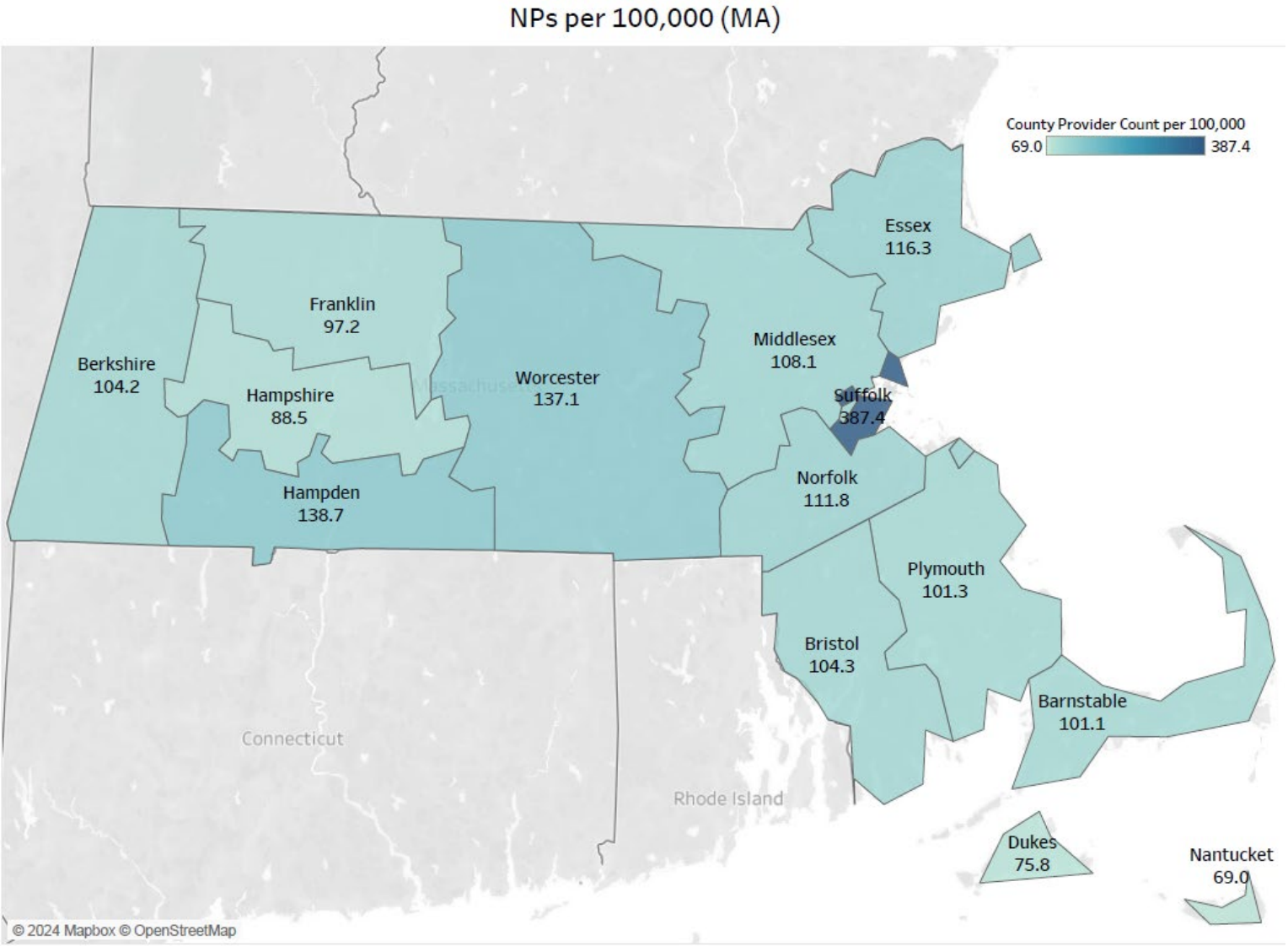
PAs per 100,000 (MA)




- Massachusetts has 60.5 physician assistants per 100,000 residents.
  - The US has 47.8 physician assistants per 100,000 residents.
  - Comparator states have 64.5 physician assistants per 100,000 residents.
- Suffolk County has the highest supply of physician assistants with 170.1 per 100,000 residents.
- Nantucket County has the lowest supply of physician assistants with 13.8 per 100,000 residents.

2022-2023 Area Health Resources Files

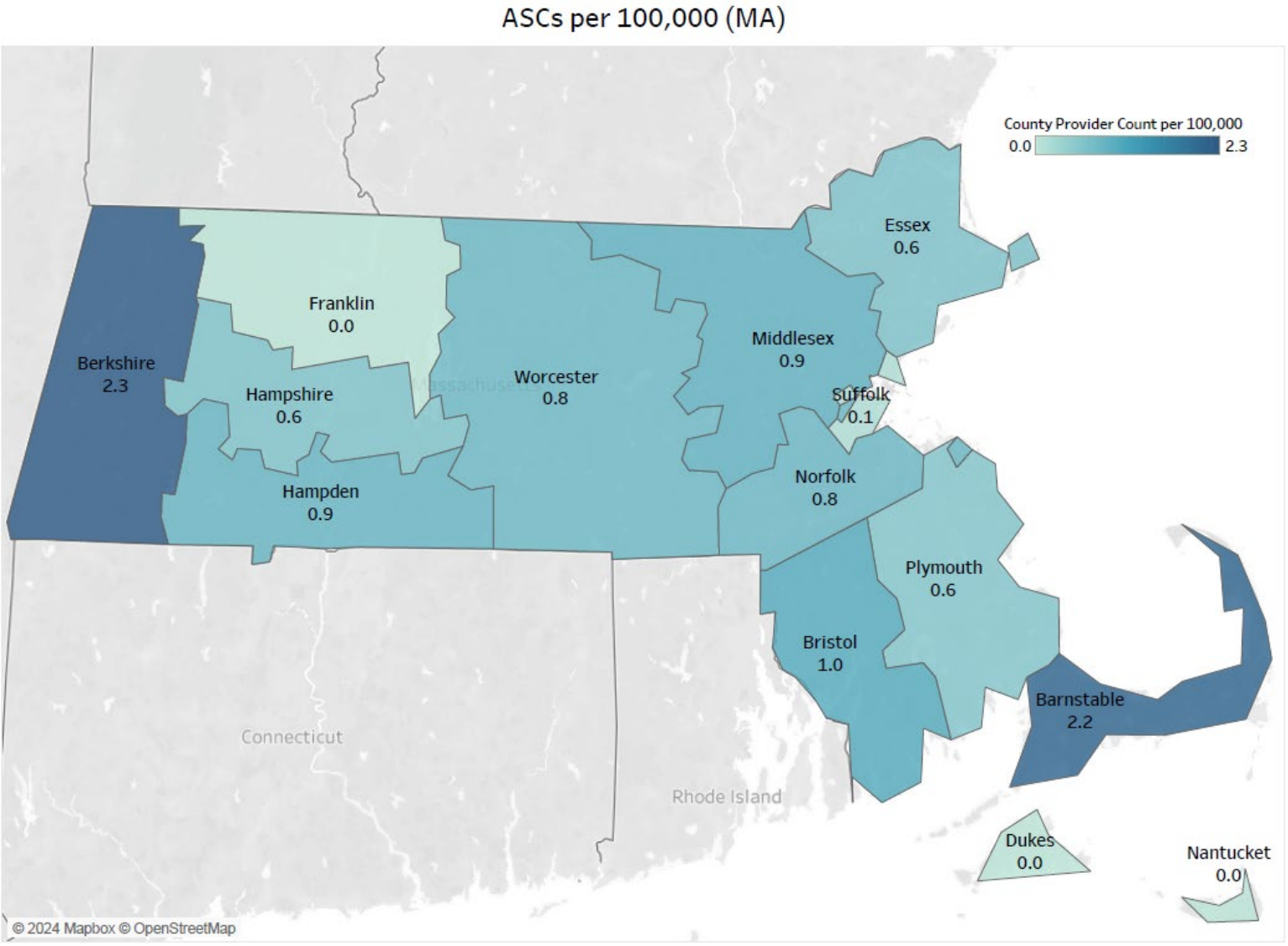
# MA Supply Inventory: Nurse Practitioners (NPs)




- Massachusetts has 144.0 nurse practitioners per 100,000 residents.
  - The US has 100.8 physician assistants per 100,000 residents.
  - Comparator states have 100.4 physician assistants per 100,000 residents.
- Suffolk County has the highest supply of nurse practitioners with 387.4 per 100,000 residents.
- Nantucket County has the lowest supply of physician assistants with 69.0 per 100,000 residents.

2022-2023 Area Health Resources Files

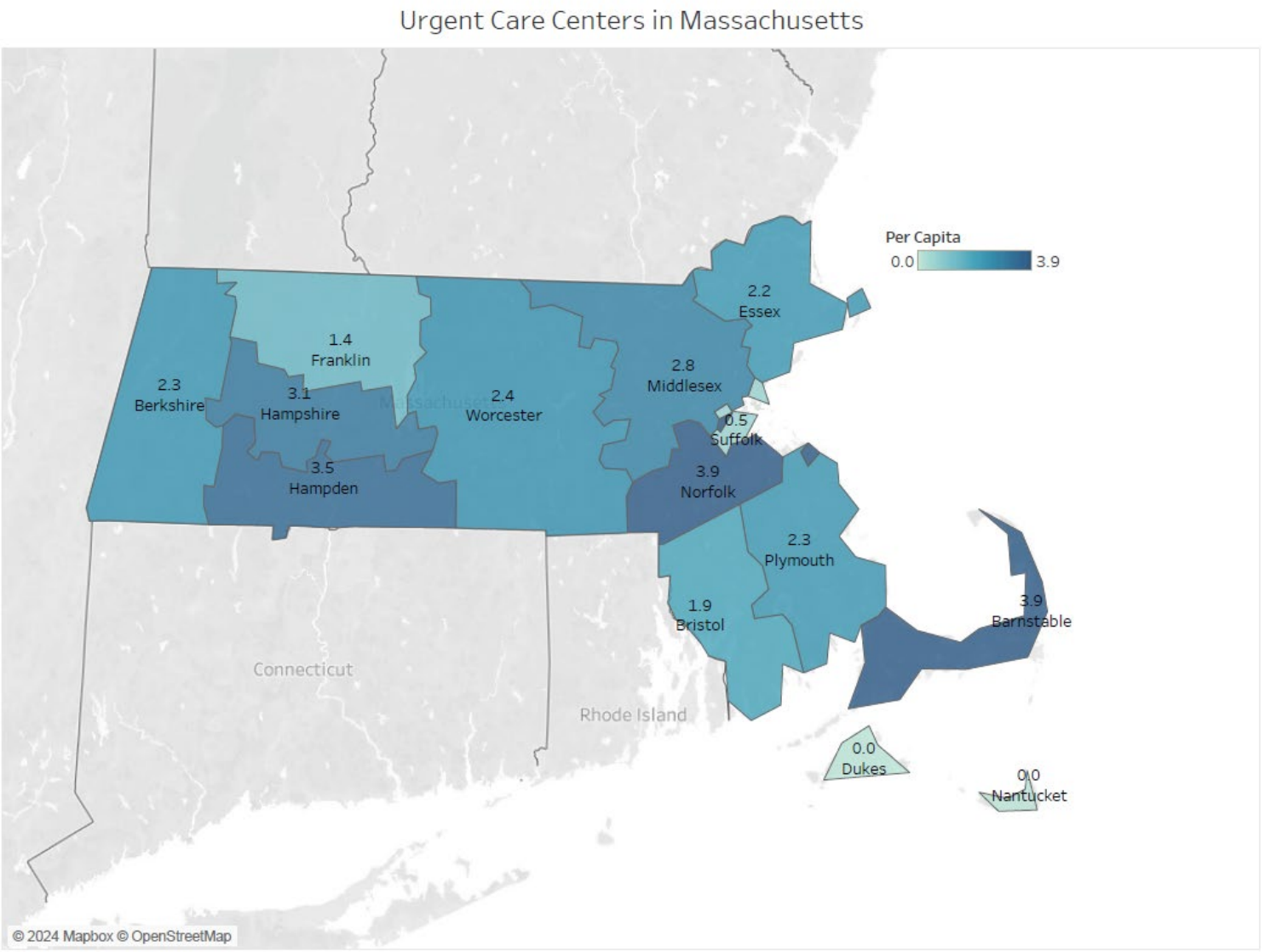
# MA Supply Inventory: Ambulatory Surgery Centers (ASCs)




CMS Facilities Data, 2023

- Massachusetts has 0.8 ASCs per 100,000 residents.
  - The US has 1.8 ASCs per 100,000 residents.
  - Comparator states have 2.1 ASCs per 100,000 residents.
- Berkshire County has the highest supply of ASCs with 2.3 per 100,000 residents.
- Nantucket, Dukes, and Franklin counties have the lowest supply of ASCs with 0.0 per 100,000 residents.

# MA Supply Inventory: Urgent Care Centers




Source: HPC 2021

- Massachusetts has 2.5 urgent care centers per 100,000 residents.
  - Comparator data was not available
- Norfolk and Barnstable counties have the highest supply of urgent care centers with 3.9 per 100,000 residents.
- Dukes and Nantucket counties have the lowest supply of urgent care centers with 0.0 per 100,000 residents.