2024 GREATER WORCESTER COMMUNITY HEALTH ASSESSMENT

The City of WORCESTER

fallonhealth

UMass Memorial Health
UMASS MEMORIAL MEDICAL CENTER

Coalition for a Healthy Greater Worcester
ELIMINATING HEALTH DISPARITIES
IMPROVING QUALITY OF LIFE
BUILDING COMMUNITY

2024 GREATER WORCESTER COMMUNITY HEALTH ASSESSMENT (2024 CHA)
CITY OF WORCESTER - DIVISION OF PUBLIC HEALTH
CENTRAL MA REGIONAL PUBLIC HEALTH ALLIANCE

FOR RELEASE: OCTOBER 2023

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

Advancing the health of the population is not only vital to increasing residents' quality of life but necessary to ensure the overall success of a community. Health outcomes are affected by multiple social factors including education, housing, employment, transportation, and environment. Understanding these factors and their influence on public health is critical to community health improvement. The City of Worcester Division of Public Health (WDPH), lead agency of the Central Massachusetts Regional Public Health Alliance (CMRPHA), UMass Memorial Medical Center (UMMMC), The Coalition for a Healthy Greater Worcester, and Fallon Health led the 2024 Community Health Assessment (CHA) with increased focus on health equity by highlighting the voices of people who identify as Black, Indigenous, People of Color (BIPOC), and those living with low incomes.

- The 2024 Greater Worcester Community Health Assessment was conducted to fulfill several overarching goals, specifically to:
- Identify the issues impacting the health of the community through a collaborative health planning process;
- Engage the community to identify shared priorities, goals, objectives, and strategies for moving forward in a cohesive and coordinated way;
- Meet best practices for community health improvement through maintaining health department standards as set by the Public Health Accreditation Board (PHAB);
- Serve as a community health needs assessment and community benefit planning tool for UMass Memorial Medical Center and Fallon Health, fulfilling Schedule H/Form 990 IRS and Massachusetts Attorney General reporting guidelines, and;
- Provide the foundation for UMass Memorial Medical Center and Fallon Health Community Benefits funding programs.

The 2024 CHA focuses on the municipalities that comprise the CMRPHA, including the towns of Grafton, Shrewsbury, West Boylston, and the City of Worcester. Focusing the CHA on this geographic area facilitates aligning the hospital, health department, local agencies, and the Community Health Network Area (CHNA) in health improvement efforts.

Methods

This CHA utilizes the Mobilizing for Action through Planning and Partnerships 2.0 (MAPP) framework to guide the assessment process. This approach includes methods that are designed to maximize community engagement. The MAPP framework includes three phases: 1) Building the Community Health Improvement Foundation, 2) Telling the Community Story, and 3) Continuously Improving the Community. Community engagement and data collection activities included:

- 19 Institutional leaders (IL) interviews and 13 health equity population conversations with 72 participants from throughout the region.

- 1,000 respondents completed the 2024 CHA Public Survey conducted to assess the community's needs and strengths with regards to healthy living.
- Up to 55 members of the Advisory Committee participated in the advisory committee meetings to provide input on data needs and priority populations.
- Secondary data was collected from various sources and used to describe the socio-demographic and health profiles for the region.

Results

The CHA Public Survey results identified the CMRPHA's top seven indicators of a healthy community. Ranked highest to lowest, as follows:

1. Access to good healthcare
2. Safe neighborhoods
3. Access to healthy food
4. Good schools and education
5. Public parks/ Green space
6. Stabilized housing
7. Livable wages/ Workforce development opportunities

The Facilitating Partners identified six priority areas in order to concentrate efforts, drive collective impact, and focus discussions on the region's health improvement and health equity efforts. These priorities are:

1. Built environment (Transportation, Food access)
2. Affordable and safe housing
3. Access to quality and reliable broadband
4. Navigating public benefits
5. Healthcare Workforce
6. Culturally representative healthcare

The Central Massachusetts Regional Public Health Alliance (CMRPHA) observed significant demographic shifts in the past 3 years, with a notable decline in the White, non-Hispanic population and a substantial increase in BIPOC individuals, especially those identifying as two or more races. Educational disparities persist among Hispanic and Black populations. Worcester and Shrewsbury have more diverse populations as compared with Grafton and West Boylston, including significant amounts of refugees and new arrivals.

Economic challenges are prevalent, particularly in Worcester, where a significant portion of the population lives below the Federal Poverty Line (FPL), with the highest poverty rates observed among Hispanic residents and those identifying as two or more races. Health concerns include cancer as the leading cause of death in several areas and disparities in healthcare outcomes among racial and ethnic groups, with higher rates of infant mortality and premature mortality among Black birthing parents. Opioid-related incidents are also more pronounced in Worcester. COVID-19 has disproportionately impacted Black and Hispanic communities in the CMRPHA, and youth mental health disparities are evident, with higher rates among female and LGBTQ+ youth.

Addressing these disparities necessitates targeted efforts to improve education, economic opportunities, and healthcare access, with a focus on equity in the Greater Worcester region.

Next Steps

Findings and priorities identified in the 2024 Greater Worcester Community Health Assessment will be published and presented to the community and will be used to inform the Community Benefits funding program as well as other health equity initiatives in the region.

ACKNOWLEDGEMENTS

The 2024 Community Health Assessment was conducted January 2023 through September 2023 by the Central MA Regional Public Health Alliance, UMass Memorial Healthcare, the Coalition for a Healthy Greater Worcester, and Fallon Health. It is intended that this document serve as a resource for community organizations and individuals working to improve health equity and improve the health of the Greater Worcester region. The data presented is as up to date as available at the time of publication. Data will be updated when available or annually.

Facilitating Partners

Michelle Muller, NP
UMass Memorial Medical Center

Jen Delaney, PhD
UMass Memorial Medical Center

Dr. Matilde Castiel, MD
City of Worcester Health and Human Services

Soloe Dennis, MS, MEP
Central Massachusetts Regional Health Alliance

Kimberly Reckert
UMass Memorial Medical Center

Cheryl Schmaltz
Fallon Health

Christine Cassidy
Fallon Health

Ian Wong, MSPH
Central Massachusetts Regional Health Alliance

Zach Dyer, MPH, PhD
Central Massachusetts Regional Health Alliance

Mario Florez, MS
UMass Memorial Medical Center

Lead Author

Nikki Nixon, MS
Central Massachusetts Regional Health Alliance

Project Managers

Karina Scott, MPH
Central Massachusetts Regional Health Alliance

Casey Burns, MPH
Coalition for a Healthy Greater Worcester

Tempe Staples, MPH
Coalition for a Healthy Greater Worcester

Co-authors

Shruti Bahukudumbi, MPH
Central Massachusetts Regional Health Alliance

Theo Jean-Baptiste, MPH
Central Massachusetts Regional Health Alliance

Contributing Authors

Central Massachusetts Regional Planning Agency
Worcester Public Schools
Shrewsbury Public Schools

Cohort Leaders

Cedric Arno
Art DuBois
Adam Thiekler
Racquel Knight

Interns

Benjamin F. Levine, MSW
Grace Kamau
Totoski Mwangi

ACKNOWLEDGEMENTS

Advisory Committee

Al Green, LGBTQ Asylum Taskforce
Ali Abubakar, WDPH
Alissa Errede, WDPH
Amelia Houghton, WDPH
Amy Borg, UMass PRC
Amy Waters, Worcester Senior Center
Bob Bureau, Resiliency Solutions
Ms. Chantel, Healthy Greater Worcester
Charla Hixson, Worcester Community Action Council Inc.
Cherry Tangri, WDPH
Christine Mowry, Shrewsbury Youth and Families
Clariese Natal, WDPH (INTERN)
Juliann Ngo, Latino Health Institute
Crista Johnson-Agbakwu, UMass Medical School
Debra McGovern, Worcester Public Schools
Emile Somda, WDPH
Emily Flavin, WDPH
Engle Torres, WDPH
Eric Kneeland, Worcester Reginal Research Bureau
Erin Craven, WDPH (Intern)
Griselda Negre, AIDS Project Worcester
Hala Alzuhairi, LEI Health Ambassador
Heather-Lyn Haley, UMass Chan
Irene Nyanuba, WDPH
Jennifer Galbraith, Open Sky
Jennifer Nakijoba, WDPH
Jonida Duque, Central Community Health Partnerships
Jose Ramirez, Edward M. Kennedy Center
Judy Kirk, Youth Connect
Ken Bates, Open Sky
Kim Reckert, UMass Memorial
Laurie Ross, Clark University
Leo Negron Cruz, Edward M. Kennedy Center
Linford Cunningham, AIDS Project Worcester
Matthew Moore, WDPH
Mike Hirsh, WDPH
Noelle Freeman, Shrewsbury Public School
Pam Masters, WDPH
Raquel Castro-Corazzini, Worcester Youth Opportunity Office
Renee D'Argento, Shrewsbury COA
Rodriguez-Parker Gladys, Office of Congressman James P. McGovern
Sandy Amoakohene, WDPH
Stephen Stolberg, Center for Living & Working
Susan Brostrup-Jensen, Boston College
Tuyet Tran, South-East Asian Coalition
Ydalia Heimann, WDPH
Yolanda Ramos, Together for Kids

List of Acronyms

ACS	American Community Survey
ASCS	Ambulatory-Care Sensitive Conditions
BRFSS	Behavioral Risk Factor Surveillance System
CDC	Centers for Disease Control and Prevention
CEO	Chief Executive Officer
CHA	Community Health Assessment
CHGW	Coalition for a Healthy Greater Worcester
CHIP	Community Health Improvement Plan
CHNA	Community Health Network Area
CHSA	Community Health Status Assessment
CMRPC	Central Massachusetts Regional Planning Commission
CMRPHA	Central Massachusetts Regional Public Health Alliance
COPD	Chronic obstructive pulmonary disorder
ED	Emergency Department
EJ	Environmental Justice
EMS	Emergency Medical System
Flu	Influenza
FPL	Federal Poverty Level
HEP	Health Equity Populations
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IL	Institutional Leaders
IMR	Infant Mortality Rate
MAPP	Mobilizing for Action through Planning and Partnerships
MDPH	Massachusetts Department of Public Health
NACCHO	National Association of County and City Health Officials
RYHS	Regional Youth Health Survey
SNAP	Supplemental Nutrition Assistance Program
STIs	Sexually Transmitted Infections
UMMH	University of Massachusetts Memorial Health
WDPH	Worcester Division of Public Health
WDPH	Worcester Division of Public Health
WRTA	Worcester Regional Transit Authority
YRBSS	Youth Risk Behavior Surveillance System

BACKGROUND & PURPOSE

The 2024 Greater Worcester Regional Community Health Needs Assessment (CHA) was developed collectively by the Worcester Division of Public Health – the lead agency of the Central Massachusetts Regional Public Health Alliance (CMRPHA), UMass Memorial Health, The Coalition for a Healthy Greater Worcester, and Fallon Health. Since 2008, these entities have worked collaboratively to plan and conduct a regional assessment effort, aimed at identifying community health issues, barriers to care, disparities in health outcomes, vulnerable populations, gaps in the health service system, and opportunities for collaboration. CHA findings will be used to help ensure that community health improvement efforts are appropriately focused and delivered in ways that allow people to access health and health-related services when, where, and how they need them.

Since 1994, the Massachusetts Attorney General's Office has published Community Benefit Guidelines that encourage nonprofit hospitals and health maintenance organizations (HMOs) to address social determinants of health in the communities they serve. In 2012, the federal Affordable Care Act (ACA) further reinforced these expectations by mandating that these entities engage in similar assessment, planning, and community health improvement activities. Accredited local and state health departments have similar requirements and obligations under the auspices and accreditation guidelines of the Public Health Accreditation Board (PHAB). The Worcester Division of Public Health has opted to build on its commitment to strong public health principles by becoming an accredited public health department under the accreditation guidelines of the Public Health Accreditation Board (PHAB). To identify leading social determinants, major health issues, and vulnerable populations, the Community Benefit Guidelines encourage institutions to conduct comprehensive community health needs assessments. In developing these materials, institutions are expected to fully engage the community-at-large and to collaborate with other community health stakeholders.

A primary goal of the CHA is to gather information on the lived experiences of Greater Worcester's diverse populations. Collecting this information is critical in efforts to center health equity and address needs and barriers in ways that are comprehensive, accessible, and culturally competent. The CHA was completed in close partnership with local stakeholders, including health and social service providers, advocates, elected and appointed officials, faith leaders, community organizations, Boards and Commissions, and community residents.

The Community Benefits and PHAB guidelines include the expectation that institutions conduct their CHAs and develop their strategic implementation plans in close collaboration with existing multisector, community coalitions to take advantage of and leverage work already completed—as well as to avoid duplication of efforts. In this regard, this CHA has partnered with the Coalition for a Healthy Greater Worcester as a facilitating partner as part of the Greater Worcester Community Health Improvement Plan (CHIP). The Worcester CHIP acts as the strategic plan for the CHA sponsors and other local stakeholders.

INTRODUCTION

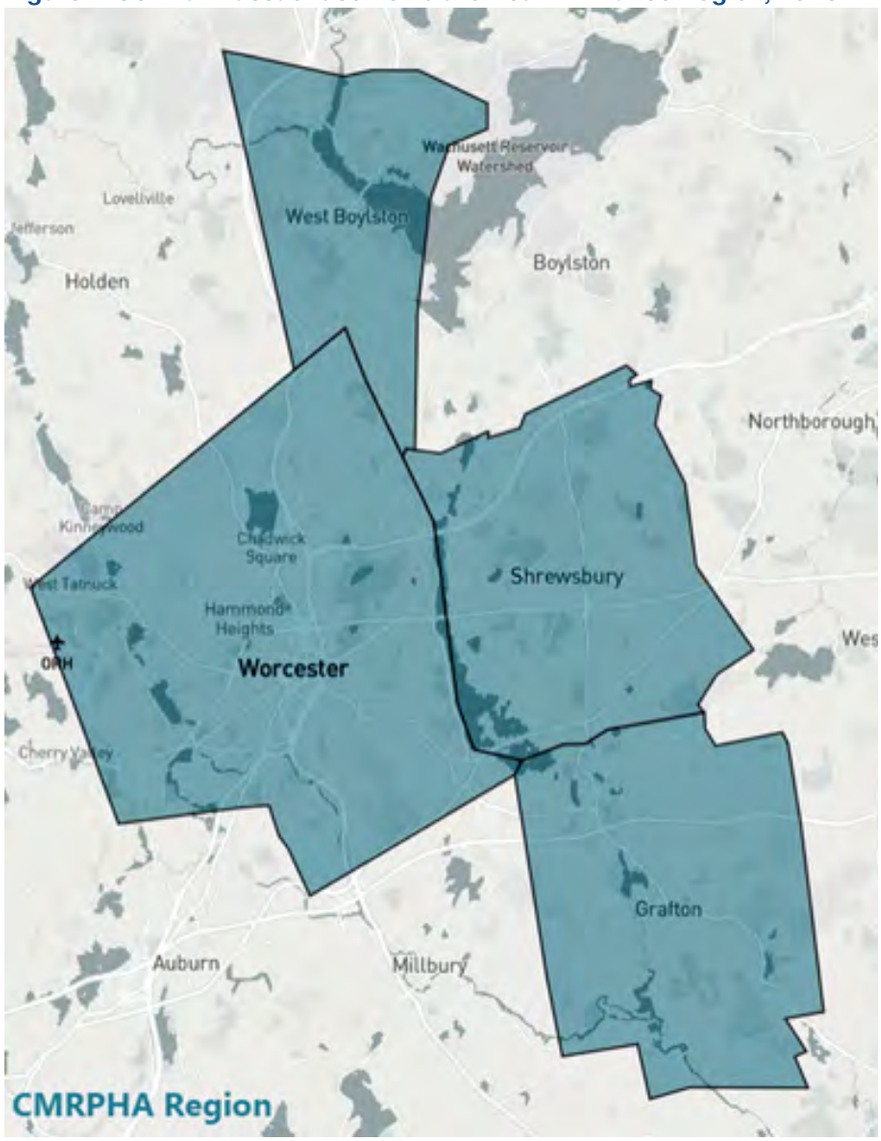
Leading with the lens of health equity has been the forefront of the many missions and visions of community programs and health initiatives in the Greater Worcester region for well over a decade. Health equity, not to be confused with equality, is defined by the Robert Wood Johnson Foundation where, "...everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care." These actionable steps toward health equity cannot be accomplished without knowing the status of health and the needs of the communities we serve. To that end, this iteration of the 2024 Community Health [Needs] Assessment, sets out to provide a comprehensive, mixed-methods assessment of the health, needs and strengths of our region, while highlighting those communities that are most impacted by the social and economic conditions that affect health, more commonly coined as the social determinants of health (SDoH). This was done, in part, by placing an increased emphasis on the community's collective story with the intent of reaching and listening to the voices of those who identify as Black, Indigenous, People of Color (BIPOC), those living with low incomes, as well as institutional leaders who can effect change. This leading-with-race approach is a critical part of community driven action by building trust and engaging new voices in place-based changemaking which entails understanding the unique experiences of many individuals on how their lived experiences tell the story of our region's health scape, from the strengths to the challenges, all in efforts to achieving the overarching goal of health equity.

Source: Robert Wood Johnson Foundation

Definition of the community served

The City of Worcester, the second largest city in New England, is very ethnically-diverse, with a high poverty rate and many social-economic challenges. The 2024 CHA focuses on the City of Worcester and the outlying towns of the Central Massachusetts Regional Public Health Alliance (CMRPHA), which include Grafton, Shrewsbury and West Boylston, sub-sections of its primary service area. This specific geographic area is the focus for the City of Worcester Division of Public Health's regionalization initiative and overlaps with UMass Memorial Medical Center's service area and of many other local organizations. Focusing on this geographic area facilitates the alignment of the hospital's efforts with community and governmental partners, specifically the city health department, the area's Federally Qualified Health Centers, and multiple community-based organizations.

Figure 1. Central Massachusetts Public Health Alliance Region, 2023



METHODS

The 2024 Community Health Assessment (CHA) was completed by utilizing the Mobilizing for Action through Planning and Partnerships (MAPP) framework set forth by the National Association of County and City Health Officials (NACCHO). The MAPP process is an evidence based, reputable, and widely used approach to guide the CHA and Community Health Improvement processes. This framework enables community-driven strategic planning, with the goal to achieve health equity and provides a roadmap for communities to assess the most pressing population health issues and emphasizes the role of community engagement and stakeholders in the initial stages that comprises the CHA. It then focuses on the need for policy, systems, and environmental change, and alignment on community resources through shared goals as part of the community health improvement plan (CHIP).

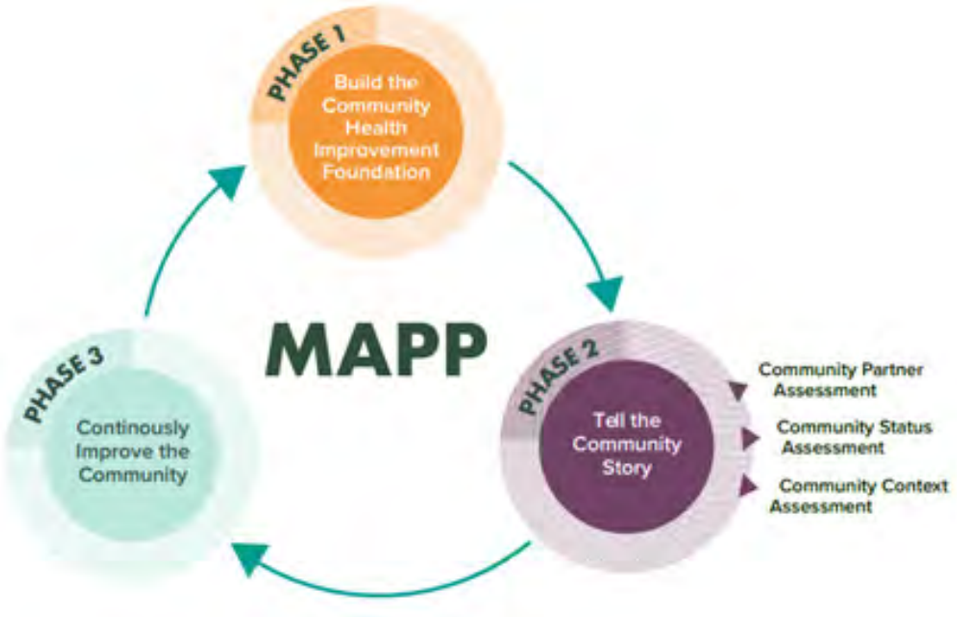
FACILITATING PARTNERS

The Planning Committee consisted of the Worcester Division of Public Health/the Central Massachusetts Public Health Alliance (CMRPHA), UMass Memorial Medical Center, Fallon Health and The Coalition for a Healthy Greater Worcester (CHGW). This group of community stakeholders ensured the fulfillment of the CHA's processes and necessary requirements, as well as its timely completion. The committee met at least once per month beginning in January 2023 through September 2023.

The City of Worcester Division of Public Health is the first nationally accredited health department in Massachusetts. The Public Health Division is the lead agency of the Central MA Regional Public Health Alliance (CMRPHA), which consists of the City of Worcester and the Towns of Grafton, Shrewsbury, and West Boylston. These towns work cohesively to sustain a viable, cost-effective, and labor-efficient regional public health district with an overarching goal to reduce health inequities and promote racial justice.

Figure 2. MAPP 2.0 Roadmap visualization

Figure 3. MAPP Process 2.0 Visualization



UMass Memorial Medical Center (UMMMC) located in Worcester is the four-campus academic medical center of UMass Memorial Health (UMMH), the largest not-for-profit health care delivery system in Central Massachusetts with 2,000 physicians, 222,000 adult primary care patients and 44,000 pediatric primary care patients. UMMMC is a teaching hospital and the clinical partner of the University of Massachusetts Chan Medical School. UMMMC's Community Benefits Mission was developed and recommended by the Community Benefits Committee and approved by the UMass Memorial Health Board of Trustees, "UMass Memorial Health is committed to improving the health status of all those it serves and to addressing the health problems of the poor and other medically underserved populations. In addition, nonmedical conditions that negatively impact the health and wellness of our community are addressed."

The Coalition for a Healthy Greater Worcester serves as the Community Health Network Area 8 (CHNA 8) for the municipalities of Worcester, Paxton, West Boylston, Boylston, Shrewsbury, Leicester, Millbury, Auburn, Grafton, and Holden. A CHNA is a local coalition of public, non-profit, and private sectors that was created by the Massachusetts Department of Public Health in 1992. Its mission is "To promote the shared learning, reflection, and broad engagement that improves community decision-making, health, and well-being for residents of Greater Worcester."

Fallon Health is a mission-driven not-for-profit health care services organization headquartered in Worcester, Massachusetts and operating across the Commonwealth. Since 1977, their work has been centered on improving health and inspiring hope among the communities they serve. Committed to caring for those who need them most, Fallon Health prides itself on providing equitable access to coordinated, integrated care for their members, with a special focus on those who qualify for Medicare and Medicaid. Fallon Health is also a provider of care through their Program of All-Inclusive Care for the Elderly (PACE).

ADVISORY COMMITTEE

The Advisory Committee consisted of a large group of community partners and community stakeholders that provided guidance on the scope of the CHA, including topics for secondary data collection, priority populations for focus groups and key stakeholders and community leaders for key informant interviews. The advisory committee met three (3) times during the CHA process with up to fifty-five (55) participants fully engaging in meetings.

QUANTITATIVE DATA COLLECTION: COMMUNITY HEALTH STATUS ASSESSMENTS

The Community Health Status Assessment (CHSA) was completed by collecting primary and secondary sources of quantitative data on the key health indicators of the community, prevalence and incidence of chronic diseases, and behavioral risk factors among adults and youth in the community.

PRIMARY DATA COLLECTION

The Greater Worcester Regional Youth Health Survey (RYHS) was conducted by the Central Massachusetts Regional Public Health Alliance in 2021 in the participating public-school districts of Grafton, Shrewsbury, Worcester, and Millbury. The 2021 RYHS was the fifth iteration of data collection with questions that mirror the Centers for Disease Control and Preventions (CDCs) Youth Risk Behavior Surveillance System (YRBSS) and included over 11,000 middle and high school participants.

UMMH Office of Quality Informatics team provided hospitalization data around select ambulatory care sensitive conditions (ACSC). Data were gathered from the electronic records for patients (18+ years) living in the service area, that is, Grafton, Shrewsbury, West Boylston, and Worcester, who had an emergency department/observation visit or inpatient hospitalization between Jan 2020 through April 2023. Encounters were grouped by those having principal diagnosis codes for visits that fell into the select ACSC. Data were narrowed down to focus on the principal diagnosis rather than secondary diagnosis. Unique patient encounters were used in the counts for demographic information. For the hospital or ED visits a unique patient could have more than one encounter during the time-period. Counts of mortality were included if the patient died during that encounter.

SECONDARY DATA COLLECTION

Community demographics data, including social, economic, and housing data were collected to describe the population of the region. Sources such as the 2020 U.S. Decennial Census, American Community Survey, and other state and national databases were used to gather demographical secondary data. Other health and health risk behavior data were obtained through the Behavioral Risk Factor Surveillance System (BRFSS), a telephone-interview based system of the CDC that provides small or community level estimations through its PLACES site.

CHA PUBLIC SURVEY

A CHA Public Survey was conducted from July 10 – September 10, 2023, to assess the community's perspectives with regards to healthy living and was made open to all community members within the Alliance. The CHA Public Survey instrument has been used in previous CHAs but was moderately modified by the facilitating partners for the

2024 CHA iteration. The survey was offered in five different languages: English, Spanish, Portuguese, Vietnamese, Arabic and Swahili. Surveys were distributed electronically by UMMH, The City of Worcester, the towns of Shrewsbury, Grafton, West Boylston via email circulation in the Survey Monkey platform, as well as through social media postings. The Division of Public Health interns, under supervision of staff, distributed paper surveys to patients of the Edward M. Kennedy Community Health Center, community events such as 'Fitness in the Park', and Worcester Out to Lunch, as well as in senior centers, and libraries throughout the region. Other efforts included targeted outreach to faith-based leaders, particularly those within the African and Hispanic populations. A total of 1,003 respondents completed the survey at the time of this report.

Health Equity Population Group Interviews

Families, parents, and caregivers with young children

Indigenous peoples

People who identify as Black

Individuals with one or more disability

Youth

People with substance use disorder accessing harm reduction services, in treatment, or in recovery

Immigrants

Refugees

People living in Affordable Housing Complexes

Older Adults

People who have experienced homelessness

College Students

People living with low-income

People who speak English as a second language

People who do not speak English at all

Members of the LGBTQIA++ community

Residents of Shrewsbury

Residents of West Boylston

QUALITATIVE DATA COLLECTION: THE COMMUNITY STORY

Qualitative research is a research approach that seeks to understand and interpret the underlying meanings, patterns, and complexities of human experiences, behaviors, and interactions. Unlike quantitative research that focuses on numerical data and statistical analysis, qualitative research involves the collection and analysis of non-numerical data, such as text, audio, images, and video, to uncover insights that go beyond surface-level observations. The methodology of qualitative research encompasses a range of techniques and processes that guide the study's design, data collection, and analysis. For the 2024 CHA, the research design involved structured group interviews and structured one-on-one interviews with two distinct groups among 73 persons:

Health Equity Populations (HEP): These interviews were conducted in a focus group of members of a specific affinity group (i.e., parents with young children, older adults of color, immigrant Latina mothers etc.,). Focus groups provided an immersive dialogue to take place between members of a shared experience. Seventeen (17) HEP conversations were conducted between June 13 and August 8, 2023.

Institutional Leader Interviews

UMass Memorial Health
Office of the City Manager
Office of the Superintendent of WPS
Worcester City Council Public Health Subcommittee
Shrewsbury Youth & Family Services
Greater Worcester Community Foundation
Center for Living & Working
Clark University
Pernet Family Health
Central Massachusetts Housing Alliance
Worcester Community Action Council
Ascentria Care Alliance
African Methodist Episcopal Zion Church
Latino Education Institute
Southeast Asian Coalition

Institutional Leaders (IL): These interviews were conducted in a more traditional one-on-one approach between the interviewer and the participant. Interviews included members from anchor institutions, social service organizations, community health centers, and major funders. This approach allowed the interviewer to learn about the leader's personal viewpoint, but also their observations about the patient/client population they interacted with (i.e., families accessing public benefits, mothers with substance use disorder, men coming out of incarceration, people experiencing homelessness etc.). Thirteen (13) IL conversations were conducted.

The group and one-on-one interviews were mostly structured in nature, with flexibility to probe deeper in a semi-structured method to elicit participants' perspectives and narratives on a specific public health, health care, or social issues topic. All HEP and IL interviews were facilitated by one person, while a scribe collected data via manual notetaking and NVivo transcription software. The qualitative data analysis of the HEP and IL conversations was stratified across the two distinct groups. The analysis involved the systematic examination of the collected data with the objective of identifying patterns, themes, and relationships across what participants shared. The analysis process was iterative, meaning that the researchers often revisited and refined the codes, categories, and themes throughout the entire analysis. This iterative nature allows for a deeper and more nuanced understanding of the data. Researchers conducted five rounds of coding. When conducting open coding of the themes, the researchers systematically broke down and categorized the raw data into meaningful units, which were then grouped into broader themes. Cross-checking and constant comparison of new data was a technique used to validate the coding scheme. Codes were derived with an anti-racist,[1] health-equity oriented framework.[2] Codes included: health insurance, navigation, racism, implicit bias, workforce, primary care providers, waitlists, transportation, housing, mistrust, shame, belonging, income, telemedecine, cultural representation, and language.

Axial coding was conducted between August 8 and August 15, 2023, where data were categorized and organized into more meaningful and higher-level categories. This process involved observing connections between codes and identifying their relationships. Categories that emerged from axial coding included: social policies and issues (housing and internet), institutional policies and systems change (healthcare system), healthcare and social service workforce (mental health and primary care), mental and behavioral health outcomes, and physical health outcomes.

Limitations

With any broad-based comprehensive assessment, individuals and whole populations can be missed or under-represented. The CHA public survey, which was the most accessible means for public participation, was over-represented by certain demographics, such as, those who identify as a woman (73%), those who identify as white (72%), and those with household income over $100,000 (41%), thus overall responses may not be generalizable to the male perspective, residents of color or those residents of low-income. Respondents from some municipalities were represented more than others—while somewhat mirroring geographic distribution of the population, resident participation is skewed. Additionally, participation in the assessment was heavily driven by employers, thus participation by unemployed residents, and retired residents were proportionately low.

In respect to qualitative data gathering, a process of reflexivity was used to acknowledge the researcher's potential biases and preconceptions that could influence the coding process and data interpretation. Researchers continually reflected on their own perspectives and how they might impact the analysis. In honor of transparency, some of the personal experiences that may influence coding included:

• As a community-driven project, many of the participants had some prior-acquaintances with the researchers.
• The primary qualitative analyst participates in MassHealth and has shared experiences with some of the HEP interviewees.

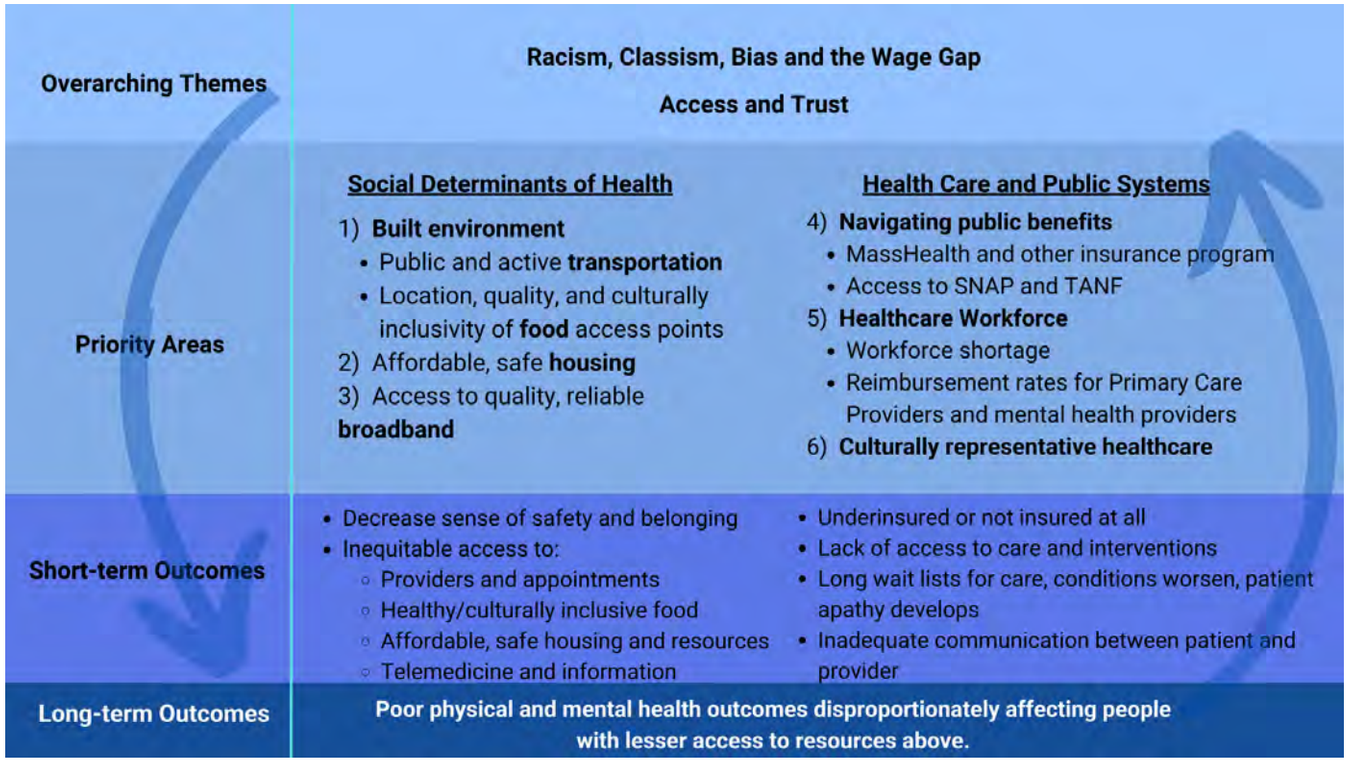
It is important to also acknowledge that there is an inherent power dynamic in any qualitative project where there is an interviewer (researcher) and an interviewee (the subject). This power dynamic can influence individual's comfortability in how they respond to an interview question. An entity that has been conducting community conversations since 2020, the Coalition for a Healthy Greater Worcester intentionally implemented interview practices that honor individual's space, personal stories, language, and culture. For example, it was made clear at the beginning of all interviews that the person being interviewed had the power to not answer a question, ask clarifying questions, pause the interview, or ask the facilitator if they would also share their experiences.

Prioritization

The facilitating partners, upon reviewing the findings of the CHA Public Survey, quantitative, and qualitative data, were able to define the final Priority Areas for this CHA. The six selected priority areas which were determined through this CHA process also align with the state's Health Priorities around the six Social Determinants of Health: Social Environment, Built Environment, Housing, Violence and Trauma, Employment, Education.

The six 2024 CHA priority areas fall under the social determinants of health (built environment, affordable and safe housing, access to reliable broadband) and health care and public systems (navigating systems, workforce shortage and reimbursement rates, culturally conscious and representative health care). These priority areas fall under two overarching themes: racism, classism, bias, and the wage gap; and, access and trust. These are visualized in Figure 4 on the following page and "spotlighted" on pages throughout the report.

Figure 4. 2024 Community Health Assessment Overarching Themes, Priority Areas, and Outcomes



QUALITATIVE FINDINGS: THE COMMUNITY STORY

Community Conversations

The Coalition for a Healthy Greater Worcester (CHGW) interviewed 72 individuals in a set of 32 conversations over 3-months, between June and August of 2023. Of the total community conversations, 19 (59%) were Institutional leaders (IL) conversations and 13 (41%) were health equity population conversations. Fifty-four (54) or 75% of the interviewees were part of the Health Equity Population (HEP) Focus Groups, and eighteen (18) or 25% were part of the Institutional Leader (IL) conversations.

The ethno-racial composition of all HEP and IL participants or interviewees consisted majority of those who identify with the Black, Indigenous, People of Color (BIPOC) community, while 25% identify as White. Forty-seven percent (47%) of participants grew up in either the City of Worcester or one of the CMRPHA communities, 38% did not grow up in any of the CMRPHA communities but was raised in the U.S. while 15% identified as an immigrant or refugee. Sixty-two percent (62%) of participants identified as female(cisgender), 28% as male (24% cisgender, 4% transgender), 7% as nonbinary/ genderfluid and 3% preferred not to answer or identified with a different category not indicated in the survey.

The information gathered through focus groups and one-on-one interviews provided a breadth of qualitative data that were stratified and analyzed across the two groups. This approach offered a comprehensive insight to the experiences of individual community members and the macro-perspective of a healthcare provider, social service leader, cultural brokers, and faith leaders. The CHGW's Community Conversations enabled profound engagement in the community which provided an improved understanding of the region's capacity, strengths and challenges, barriers to care, service gaps and the social determinants of health in the CHA process. While it was not possible for this assessment to involve all community stakeholders, it engaged an inclusive and representative sample of the population, particularly those most impacted by public health funding and policy decisions on a state and local level. Those involved in the IL conversations showed commitment to strengthening the region's health system, particularly for segments of the population who are disproportionately impacted by structural racism and income inequality.

Overarching Themes

Core themes are defined as recurring topics that arose during conversations that were relevant to key issues shared by HEP and IL interviewees.

RACISM, CLASSISM, BIAS, AND THE WAGE GAP

The 2024 CHA Community Conversations were conducted intentionally with a 'leading-with-race' approach. A leading with race approach acknowledges that people have layers of identities, some that face oppression and others that access privilege, but that racism intersects and can compound oppression across these identities.

This framework has been a critical part of community-driven action, building trust and engaging new voices

in place-based changemaking. Leading with race entails understanding the unique experiences of many individuals and how those experiences tell the story of our region's health scape, i.e., from the strengths to the challenges. Leading with race lends to the overarching goal of health equity. We define health equity as, "Attaining full health potential and wellness as experienced and honored through one's many intersecting identities (race, sex & gender, sexuality, socio-economic status, ability status, immigration status, religion, etc.,), and that of their family and communities."[2]

HEP and IL participants were open to acknowledge and dissect how structural racism and classism are built into the foundations of modern-day healthcare and social service systems. Race, in relation to income, wove into every conversation regarding disproportionately impacted populations. The wage gap across demographics was a major theme running through the course of community conversations, especially when talking about finances and access to higher quality services and options. The reality of "perceived class" also arose as an issue of implicit bias. "Perceived class" was made in reference to the experiences patients and clients had when interacting with administration and customer service representatives in hospitals and social services agencies. One participant shared:

> *"Everything changes when you're not white..."*
>
> - Community Conversation Participant

Another interviewee with a history of substance use disorder and experienced homelessness shared:

> *"When they think you're poor, they think you're stupid and don't know what you're talking about. When you have a record like me and you look like me, assumptions are made. I'm not taken seriously by anyone who is supposed to be helping me. And I don't know what to do about that. It makes me believe what they think must be true."*
>
> *-HEP Interviewee*

ACCESS, AND TRUST

Access can mean several things, like knowing about resources, being comfortable using resources, and understanding the usefulness of a resource based on your needs. The 2021 CHA reported out on the struggle non-English speakers experience and poor access to language translation individuals endure when trying to get care. A very similar theme resonated throughout the entirety of the 2024 CHA community conversation sessions. Beyond the fears around immigrant status, language is a significant barrier to receiving and comprehending health information. HEP interviewees reported how there is a severe lack of proficient interpreters who can be with them during their appointments, or help them navigate health insurance, talk about medication, or complete paperwork.

As a result of biases, trust between the system and the individuals the system is intended to serve was a core theme. It was made clear by the 54 individuals who participated in an HEP focus group that those who had generational trauma from the healthcare system continue to be wary of providers and other social service personnel. This core theme was predominant in conversations with individuals identifying as Black, Indigenous, and as non-English speaking.

A core theme throughout the 2024 CHA community conversations was the reality of mistrust that continues to persist between populations historically harmed by the medical field and social service field, and those providers. One HEP interviewee shared of what she has witnessed as a Black woman in an emergency room:

"Nurses and doctors only seem to help white people. How they take care of a Black person is very different and they might give more attention to the white person." – HEP Interviewee

An IL interview in medicine shared their account:

"There's an unfortunate reality of racism that permeates the medical field and while we are being more and more open about it and acknowledging it, it's still something we need to actually change."- IL Interviewee

"Immigrant communities, refugees, people who are coming here with little to no knowledge of the system... how to call, who to call, have the language to communicate...they face implicit bias; there's structural racism ...we know that there's a large poverty percentage in Worcester and that overlaps largely with black and Latino communities....I think if you are experiencing poverty, then you are going to have a lower quality of life in terms of where you can live and the risk that comes with that."
-IL Community Conversation

DISPROPORTIONATELY IMPACTED POPULATIONS

All interview participants were asked "what segments of the population do you witness, or feel are disproportionately impacted by barriers to care?" One hundred percent of the conversations mentioned the intersection of race and poverty, and one hundred percent of the conversations named non-English speakers. Overall, the top groups named from most to least are as follows:

1. People living in poverty
2. Non-English speakers
3. BIPOC groups
4. Refugees
5. Immigrants
6. People experiencing homelessness
7. People living with substance use disorder (SUD)
8. People in reentry from incarceration
9. Undocumented people
10. Older Adults
11. Women and girls
12. Veterans

SHORT-TERM AND LONG-TERM HEALTH OUTCOMES THEMES

Short Term Outcomes

SENSE OF SAFETY AND BELONGING

Two new questions were implemented in the 2024 CHA community conversations interview instrument. One question centered around a sense of safety in the presence of police to better understand different personal experiences. In response to this question, there was a clear difference between HEP and IL responses. Seventy percent (70%) of HEP interviewees explicitly expressed a decreased sense of safety in police presence whereas 81% of IL interviewees responded neutrally to the question or declined to answer the question, with 6% expressing a decreased sense of safety.

"I would say I feel a decrease. I live in an area where homeowners rely on calling police to address homelessness. I don't think [the police] help that issue at all, so I'd rather not have them on my street. I think it's just fueling a problem and not creating a sustainable solution."
– Participant

"There is a lack of engagement from residents and police to correct problems or interact with others."- Participant

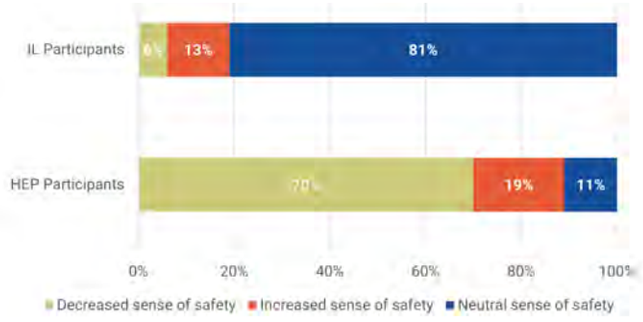
"My previous experiences with the police do not make me feel safe with them now."
- Participant

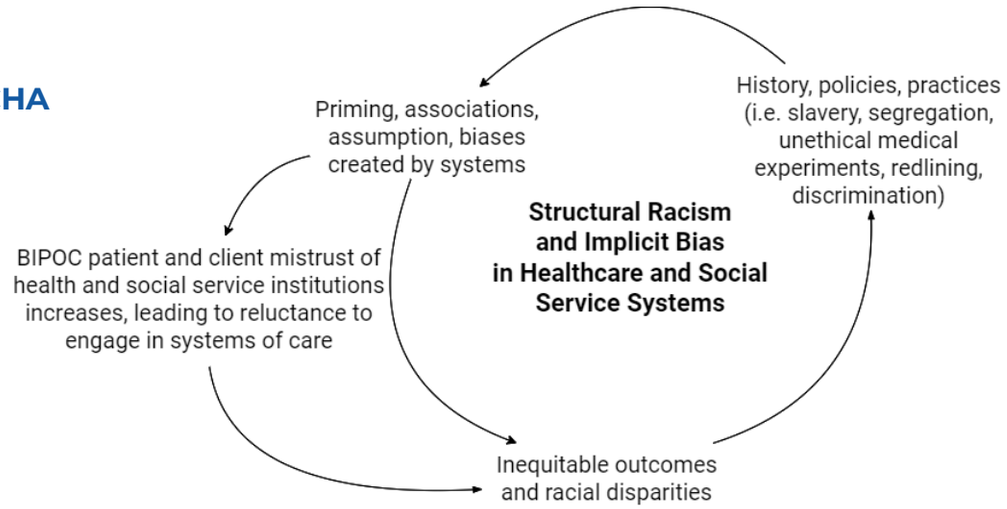
"I feel like we need police since there are so much drugs and violence now, but I am reluctant to have to call them because of how they might treat me."
–Participant

"Police presence doesn't affect safety; community resources determine that."
-Participant

The other new question asked people about their sense of belonging and ability to civically engage with the community at large. On average, most people expressed a desire to be more engaged in volunteer work or public events but felt they did not have the time or the resources to make that happen. Others shared that while they felt a sense of intercultural belonging, they did not feel the same about the community at large because of their culture not being understood or there being a language barrier. Aside from culture, some people felt they were still recovering from traumas, such as leaving their home country and immigrating to a new one, losing a job and financial stability, or dealing with the aftermath of COVID-19, that were keeping them isolated.

Perceived Sense of Safety in Presence of Police by Interviewee Type





"It's important to me to feel like I am part of something bigger than myself. I love my community."

"With my recovery, I don't feel ready to be involved yet. But I want to be.

"I think I'm as engaged as you can be as a parent with two jobs."- HEP interviewees

"It's challenging for people to feel connected or have time to give to community engagement when they are struggling financially or have to work more than one job."

"There's a divide between homeowners, property renters, and new people moving into the luxury apartment complexes."

"COVID-19 was really hard on people, and I think there's a lingering sense of hopelessness. We came together and it was amazing, but people are still having a really hard time with health and finances." - IL interviewees

While such questions might seem separate from public health, they are very much intrinsically linked. A sense of safety and belonging, much like sense of trust, have a major impact on the community's mental health and wellbeing. Safety and belonging are key indicators for individual's risk of mental health issues and other behavioral health issues further in life. A sense of safety, belonging, and moreover, a sense of hope, can be helpful indicators of a community's morale and ability to respond and be resilient in emergencies. Beyond a physical sense of safety (i.e. safety from physical violence and crime), we learned from the community that their sense of safety was weakened when access to essential needs like income, housing, and nutrition became challenging. For example, when people faced an inability to access health insurance or SNAP benefits to help subsidize the cost of health care and food as a result of the cliff effect, these pathways out of poverty became de-incentivized and people felt a loss of their ability to restabilize and have trust in systems of assistance.

Long-Term Outcomes

As demonstrated in the "Systems and Cycles of the 2024 CHA Priority Areas" image above, the up-stream effects of structural racism, the wage gap, and mistrust in systems has downstream effects on the named priority areas. As a result, the priority areas have lasting impact on the short- and long-term status of people's physical and mental health and wellbeing. This is where we observe disparities in health across demographics. These disparities historically led to the initial racial and systemic biases that are causing the system to benefit higher-earning individuals more than others.

PHYSICAL

When asked what the area's great health concerns were, participants provided a variety of thoughts and opinions based on their personal experiences and expert witness in medicine. An important theme in conversations with HEP focus groups and institutional

leaders was respiratory issues and asthma as a result of living near more industrial parts of the city and the rise of poor air quality index days, due to the Canadian wildfires. COVID-19's long-term physical impacts on individual's was named as an issue as well, along with Hepatitis C and Cardiovascular Disease.

"I think one of the things I want to make sure I mention is the reality of climate change. We're all being impacted; it's just taking some of those impacts longer to hit certain people. But we can't talk about asthma and respiratory problems without acknowledging that air pollution and fires are actually root issues. We need to take a stronger stance on prevention and addressing those issues now before it is too late." - IL Interviewee

"I mean all the chronic issues continue to be prevalent. COVID is still around. We've gotten good at getting rid of special problems but it's the long-term chronic ones that really ruin people's quality of life over time, and you're going to see that much worse for people living in relative poverty." - IL Interviewee

MENTAL AND BEHAVIORAL

Mental and behavioral issues arose as an important theme regarding health outcomes. Both HEP and IL interviewees expressed that while mental health stigma has seen a decline over the past 10 years as conversations about therapy and medication have become more normalized in pop-culture, stigma is still very real and prevalent. It was noted that stigma and shame around needing services is felt much harder by individuals experiencing homelessness, recovering from substance use disorder, or people in reentry from incarceration.

"Many people are struggling with mental health issues, and they don't know what they have or how to deal with it because they're scared or maybe ashamed of it. They don't know who to go to. They don't know how to figure it out. They don't even know about it, honestly." - HEP Interviewee

Oftentimes, it was noted, the trauma experienced when trying to get help is not worth the trouble. It was noted that segments of the population less likely to engage in mental health services included immigrants and older adults, while younger people and U.S. born English speakers were more likely to try to access mental healthcare. Chronic depression, chronic anxiety, and acute stress disorder were named as being screened for now in many health and social service settings. The majority of IL providers also shared that they have growing concerns about the rate of overdoses happening in the Worcester community, despite efforts to offer street outreach and harm reduction. Several institutional leaders expressed a sentiment such as:

"When there's inequality, we're going to have an opioid crisis. That's what we're in right now." – IL interviewee

An HEP participant with a history of homelessness, PTSD, and substance use disorder shared:

"I used to be out there. You think you're going to die every day. You need to numb yourself somehow to get through each day. And no one wants to see you, no one wants you around. You're a pariah and nothing matters. I get why people use; you know? I did. I felt hopeless." - HEP

COMMUNITY PROFILE

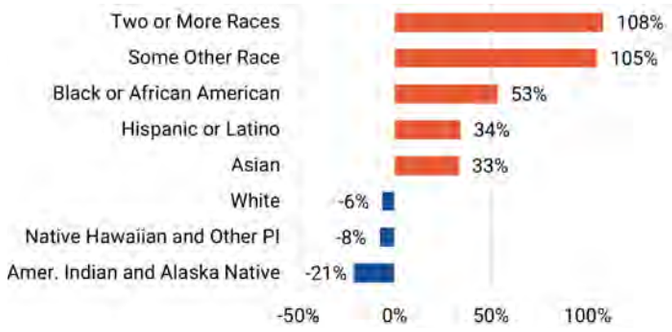
Socio-demographics

The Central Massachusetts Regional Public Health Alliance (CMRPHA; the Alliance) is comprised of the Towns of Grafton, Shrewsbury, West Boylston, and the City of Worcester. The CMRPHA municipalities have a total population of 272,384 according to the 2020 Decennial Census and vary largely in size and resident composition. The City of Worcester is the most populous of the Alliance communities with 206,518 residents, which accounts for 76% of the population in the Alliance. The second largest municipality within the Alliance is Shrewsbury with 38,325 residents, followed by Grafton with 19,664 residents. West Boylston is the least populated community with 7,877 residents. Of the Worcester County population of 862,111 residents, 32% residents live within the Alliance (Table 1).

RACE AND ETHNICITY

Within the CMRPHA, Worcester has the lowest percentage of those who identify as White (48.9%) and the highest percentage of residents who identify as Hispanic/Latino (24.6%). The Town of Shrewsbury has the largest percentage of Asian population (24.6%), followed by Grafton (9.8%), while West Boylston has the highest percentage of White residents (83.7%). The percentage of Hispanic/Latino residents in the Alliance is greater than that in Worcester County and Massachusetts (19.7 vs 13.0 vs 12.6%, respectively) (Table 1).

Figure 5. Percentage Change in Ethnoracial Composition in Worcester, 2010 to 2020



Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Est.

Following the trend in the U.S., the population self-identifying as "Two or More races" in Worcester had the greatest percent change increase (108%) since 2010. Likewise, the population identifying as "Some other race" alone grew by 105%. The "American Indian and Alaskan Native alone", "Native Hawaiian", "Other Pacific Islander alone", and "White alone" populations decreased since 2010 (Figure 5).

Table 1. Population Distribution of Central Massachusetts Regional Public Health Alliance by Ethnoracial Group, 2020

	American Indian	Asian	Black	Hawaiian/ Pac. Islander	Hispanic/ Latino	White	Other Race	Two or more races	Total
Grafton	10 (0.1%)	1,934 (9.8%)	373 (1.9%)	0 (0.0%)	862 (4.4%)	15,603 (73.9%)	138 (0.7%)	744 (3.8%)	19,664
Shrewsbury	36 (0.1%)	9,420 (24.6%)	912 (2.4%)	5 (0.0%)	1,610 (4.2%)	24,265 (63.3%)	376 (1.0%)	1,701 (4.4%)	38,325
West Boylston	5 (0.1%)	147 (1.9%)	265 (3.4%)	0 (0.0%)	583 (7.4%)	6,544 (83.1%)	56 (0.7%)	277 (3.5%)	7,877
Worcester	336 (0.2%)	14,562 (7.1%)	28,378 (13.7%)	48 (0.0%)	50,736 (24.6%)	101,039 (48.9%)	2,642 (1.3%)	8,777 (4.2%)	206,518
CMRPHA	387 (0.1%)	26,063 (9.6%)	29,928 (11.0%)	53 (0.0%)	53,791 (19.7%)	147,451 (54.1%)	3,212 (1.2%)	11,499 (4.2%)	272,384
Worcester County	1,146 (0.1%)	46,110 (5.3%)	44,222 (5.1%)	176 (0.2%)	111,902 (13.0%)	611,207 (70.9%)	9,424 (1.1%)	37,924 (4.4%)	862,111
Massachusetts	9,387 (0.1%)	504,900 (7.2%)	457,055 (6.5%)	1,607 (0.0%)	887,685 (12.6%)	4,748,897 (67.6%)	92,108 (1.3%)	328,278 (4.7%)	7,029,917

Source: U.S. Census Bureau, 2020 Census Redistricting Data

Table 2. Estimated Age Distribution of Central Massachusetts Regional Public Health Alliance, 2020

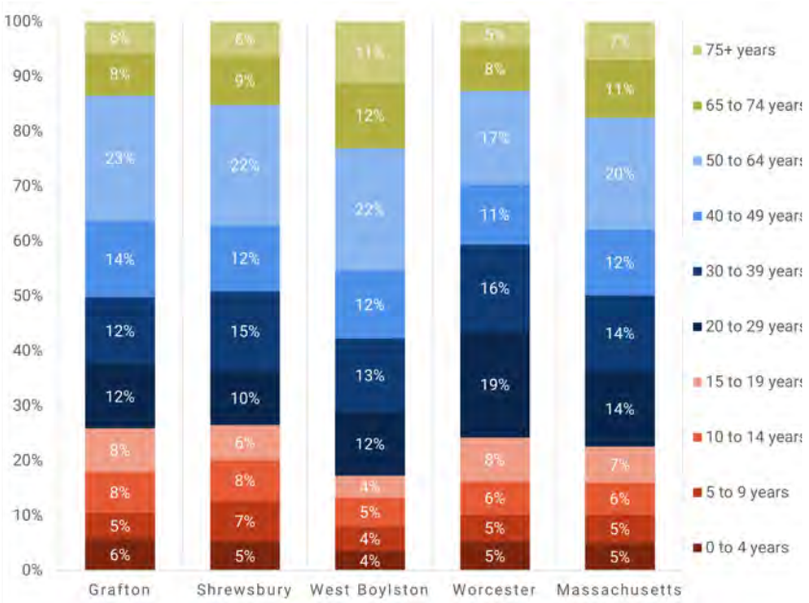
	0 to 4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 to 29 years	30 to 39 years	40 to 49 years	50 to 64 years	65 to 74 years	75+ years
Grafton	1,140 (5.8%)	910 (4.7%)	1,465 (7.5%)	1,546 (7.9%)	2,280 (11.7%)	2,384 (12.2%)	2,737 (14.0%)	4,447 (22.8%)	1,526 (7.8%)	1,105 (5.7%)
Shrewsbury	2,038 (5.3%)	2,816 (7.4%)	2,855 (7.5%)	2,399 (6.3%)	3,788 (9.9%)	5,550 (14.5%)	4,636 (12.1%)	8,369 (21.9%)	3,419 (8.9%)	2,421 (6.3%)
West Boylston	281 (3.6%)	343 (4.4%)	419 (5.3%)	312 (4.0%)	910 (11.6%)	1,056 (13.4%)	975 (12.4%)	1,756 (22.3%)	948 (12.0%)	874 (11.1%)
Worcester	10,999 (5.3%)	10,081 (4.9%)	12,434 (6.0%)	16,380 (8.0%)	39,803 (19.3%)	32,502 (15.8%)	22,669 (11.0%)	35,100 (17.0%)	16,396 (8.0%)	9,553 (4.6%)
Massachusetts	346,175 (5.0%)	365,253 (5.2%)	401,988 (5.8%)	460,404 (6.6%)	960,523 (13.8%)	966,312 (13.8%)	839,507 (12.0%)	1,428,114 (20.4%)	730,785 (10.5%)	485,662 (7.0%)

Source: U.S. Census Bureau, 2020 Census Redistricting Data

AGE

Overall, West Boylston has the largest percentage of residents over 65 years (23.1%) in the Alliance, followed by Shrewsbury (15.2%). Approximately a quarter of the population is 19 years or younger in Shrewsbury, Grafton, and Worcester (26.5%, 25.9% and 24.2%, respectively) and 17.3% in West Boylston. Almost half of Worcester's population are residents aged 20 to 49 years (46.1%) as compared with Shrewsbury (36.5%), Grafton (37.9%), West Boylston (37.4%) and Massachusetts (39.6%) (Table 2) (Figure 6).

Figure 6. Estimated Age Distribution by Municipality, 2021



Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates

CITIZENSHIP

Overall, the region's population is mostly comprised of residents born in the U.S. (Native U.S. Citizens), ranging from 70.5% in Worcester to 91.5% in West Boylston. Worcester and Shrewsbury have the highest percentage of U.S. citizens by naturalization in the Alliance (11.8% and 12.0%, respectively), exceeding that of the state at 9.4%. Worcester has the largest percentage of citizens born outside of the country (U.S. citizen, foreign-born) at 7.6%, more than twice that of other Alliance communities and the state. Shrewsbury has the largest percentage population that is not a U.S. citizen at 13.9% followed by Worcester at 10.1% (Table 3).

Table 3. Percentage of Population by Citizenship Status, 2021

	Native U.S Citizen	U.S. Citizen by Naturalization	U.S. Citizen Foreign-born	Not a U.S Citizen
Grafton	85.2%	8.5%	2.5%	3.8%
Shrewsbury	73.2%	12.0%	0.9%	13.9%
West Boylston	91.5%	4.1%	2.4%	2.0%
Worcester	70.5%	11.8%	7.6%	10.1%
Massachusetts	79.7%	9.4%	3.0%	7.9%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Table 4. Primary Languages Spoken at Home in CMRPHA, 2020

	English only	Speak English Very Well	Spanish	Other Indo-European Languages	Asian and Pacific Islander Languages	Other Languages
Grafton	81.0%	96.2%	5.8%	7.4%	4.9%	0.8%
Shrewsbury	68.4%	90.6%	3.7%	13.0%	12.2%	2.6%
West Boylston	89.4%	96.7%	5.2%	3.5%	0.7%	1.1%
Worcester	63.0%	83.3%	18.1%	8.0%	5.1%	5.8%
Massachusetts	75.5%	90.5%	9.4%	9.2%	4.4%	1.6%

Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates

LANGUAGES SPOKEN AT HOME

As the multiracial and ethnic population increase across the region, the languages spoken at home, other than English, have also increased. Understanding the main languages spoken in the homes of our community is pivotal to ensuring residents understand important public information.

English is the primary language spoken across the Alliance and the vast majority of residents speak English very well. The percentage of residents who speak only English in Shrewsbury and Worcester is smaller than that of the state (68.4% and 63% vs 75.5%, respectively). Worcester has the highest percentage of residents who speak Spanish at 18.1%, which is twice that of the state and more than three times that of the Alliance towns.

Compared with 2010, the percentage of people speaking Spanish and Asian and Pacific Islander Languages had small increases in the Alliance and Massachusetts. Those residents who speak Other Indo-European Languages slightly decreased in Grafton and Shrewsbury.[3] (Table 4) (2010 comparison data not shown).

REFUGEES AND NEW ARRIVALS

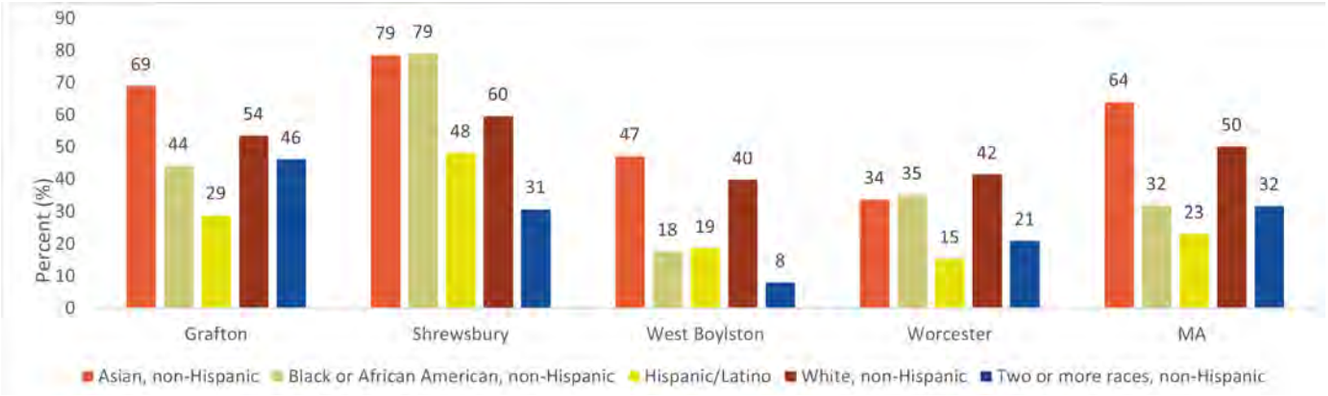
On August 16, 2023, Governor Healy declared a state of emergency in Massachusetts in response to the rising number of migrant families arriving in the state with need for shelter and other essential services. According to the Massachusetts Office for Refugees and Immigrants, data collected from the two main agencies in Central Massachusetts, Ascentria Care Alliance in Worcester (ACA-W) and Refugee and Immigrant Assistance Center in Worcester (RIAC-W), the number of new arrivals increased by 2745% from FY21 to FY22. In fiscal year 2022, arrivals entering the county with the Afghan Humanitarian Parolee status accounted for 82% of the 939 arrivals in the county. The total number of arrivals in Central Massachusetts in fiscal year 2022 accounted for 22% of total arrivals in Massachusetts, which is the highest proportion compared with FY21 (3%) and FY23 (7%) (Table 5).

Table 5. Refugee/Asylee Arrivals in Central MA, FY21-23

	FY21	FY22	FY23
Refugee (special immigrant visa, US Tie and Free)	22	76	221
Cuban/Haitian Entrant-Primary	0	45	78
Cuban/Haitian Entrant-Secondary Migrant	2	14	111
Certified Victim of Trafficking	1	0	0
Asylee	8	8	4
Afghan Humanitarian Parolee	0	768	0
Ukrainian Humanitarian Parolee	0	28	110
Total Arrivals: Central MA	33	939	524
Total Arrivals: Massachusetts	1,018	4,359	7,353

Source: MA Office for Refugees and Immigrants (OR). Data collected from the Refugee and Immigrant Support Information System (RISIS) with input from the Resettlement Agencies. FY23 Data are preliminary and subject to change.

Figure 7. Population with a Bachelor's Degree or Higher by Race and Ethnicity, 2021



Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

EDUCATIONAL ATTAINMENT

Most Alliance residents over the age of 25 years have a high school diploma or equivalent, ranging from (85.8% to 95.8%). Worcester and West Boylston have higher rates of residents without a high school diploma compared with the state (14.2% and 10.4% vs 8.8%, respectively) (Table 6).

Figure 7 illustrates the population with a bachelor's degree or higher broken down by race and ethnicity. Shrewsbury has the highest rates of those with a bachelor's degree or higher across all racial-ethnic groups compared with other Alliance communities and the state. The Asian population has the highest rates of residents with a bachelor's degree or higher in the Alliance, besides Worcester where the White, non-Hispanic population has the highest rate. Conversely, the Hispanic/Latino population has the lowest rates of residents with a bachelor's degree or higher across the Alliance, besides West Boylston where the population identifying as Two or More races has the lowest rate.

EMPLOYMENT STATUS AND HOUSEHOLD INCOME

Based on the 5-year estimate ACS data in Table 7, Grafton and Shrewsbury have a higher rate of residents of working age that are employed or looking for work (i.e., Labor Force Participation Rate), compared with West Boylston, Worcester, and the state. Worcester has the highest unemployment rate at 6.2% and Shrewsbury has the lowest (3.7%). In the same trend, Shrewsbury has the highest median annual household income at $117, 909 and the highest percentage (70.8%) of households with an annual income of over $75,000 – almost twice that of Worcester (38.3%). Worcester has the lowest

Table 6. Educational Attainment among Population 25 years and Older, 2021

	Population over 25 years old	No High School Diploma	High School Diploma or Higher	Associate Degree or Higher	Bachelor's Degree or Higher
Grafton	13,384	4.2	95.8	60.8	53.8
Shrewsbury	26,184	4.6	95.4	69.7	63.4
West Boylston	6,164	10.4	89.6	47.6	36.9
Worcester	133,070	14.2	85.8	40.5	32.2
Massachusetts	4,902,868	8.8	91.2	52.9	45.2

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Table 7. Employment and Income Indicators in CMRPHA, 2021

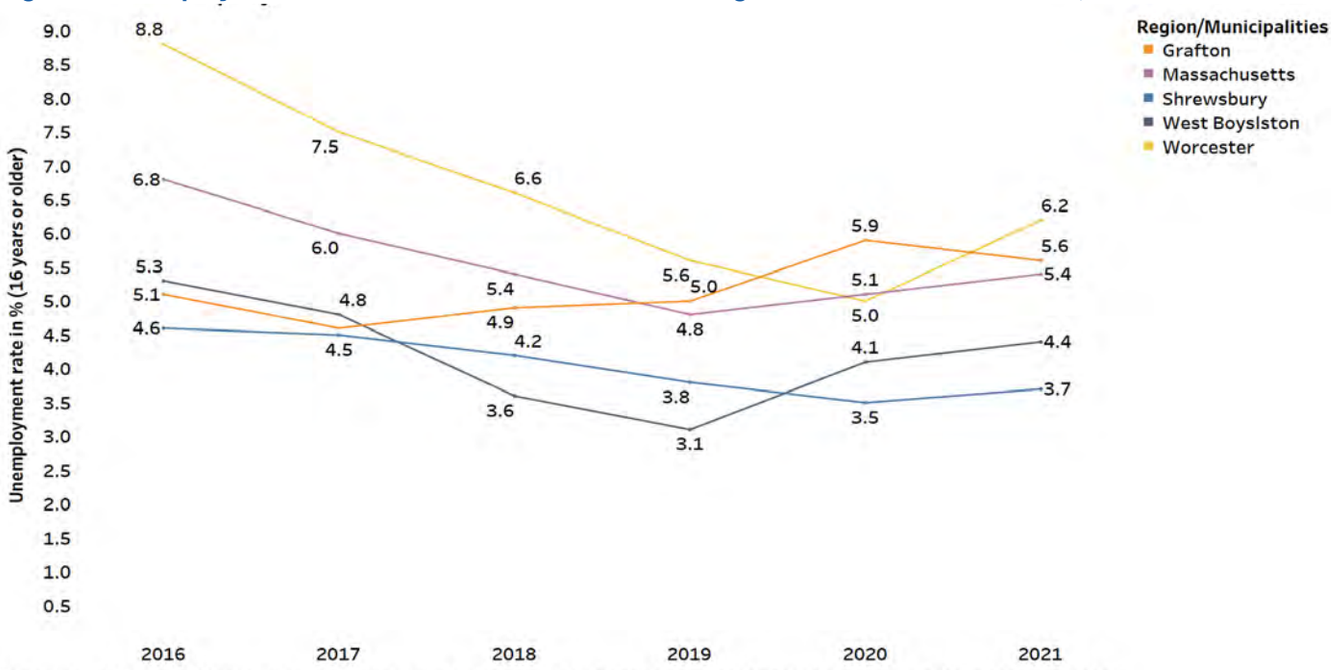
	Labor Force Participation Rate	Unemployment Rate	Median Household Income	Households with Income over $75,000	Households with Public Assistance Income
Grafton	71.0%	5.6%	$107,327	62.6%	1.6%
Shrewsbury	66.5%	3.7%	$117,909	70.8%	2.0%
West Boylston	55.3%	4.4%	$91,780	61.3%	2.4%
Worcester	62.5%	6.2%	$78,780	38.3%	6.6%
Massachusetts	62.7%	5.4%	$89,026	56.9%	3.2%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

median annual household income at $78,780 and the highest percentage of households with public assistance at 6.6%, which is more than double that of the other alliance municipalities and the state (Table 7).

Figure 8 illustrates unemployment trends in the alliance from 2016 to 2021. From 2020 to 2021, Worcester, West Boylston and Shrewsbury had moderate increases in rates of unemployment, following the state's trend whereas Grafton had a slight decrease in unemployment rate. Worcester had the highest rate (6.2%) in 2021 and Shrewsbury had the lowest (3.7%).

Figure 8. Unemployment Rates in Central Massachusetts Regional Public Health Alliance, 2016 - 2021



The trends of Grafton, Massachusetts, Shrewsbury, West Boylston and Worcester for Year. Color shows details about Grafton, Massachusetts, Shrewsbury, West Boylston and Worcester.

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Poverty

In the Alliance, the proportion of people living below the federal poverty line (FPL) varies. Worcester has the highest proportion of residents living below the FPL at 19.3 %, which is more than twice that of West Boylston (8.3%), and Grafton (7.3%) and more than 4 times that of Shrewsbury (4%) (Table 8).

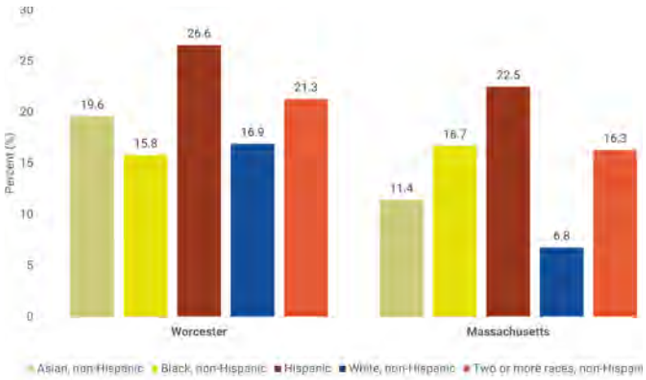
Table 8. Population Living below the Federal Poverty Line by Race and Ethnicity, 2021

	Asian	Black	Hispanic/ Latino	White	Two or more races	Total
Grafton	4.9%	23.1%	24.2%	6.2%	17.8%	7.3%
Shrewsbury	5.9%	3.0%	7.6%	3.3%	8.4%	4.0%
West Boylston	15.2%	36.7%	9.9%	7.8%	1.9%	8.3%
Worcester	19.6%	15.8%	26.6%	16.9%	21.3%	19.3%
Massachusetts	11.4%	16.7%	22.5%	6.8%	16.3%	9.9%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Variations or disparities exist when comparing poverty by ethnoracial group within the Alliance. The Hispanic/Latino population is among the top two ethnoracial groups with the highest proportions of residents living below the FPL, besides West Boylston where the Black and Asian populations are the highest. Notably, the White population living below the FPL in Worcester is two-fold the White population in the state (16.9% vs 6.8%, respectively). Similarly, the Asian population in Worcester with income below the FPL is 1.5 times that of the Asian population in the state (Figure 9). These interpretations do not include the American Indian and the Hawaiian/Pacific Islander populations due to low numbers in the overall population of the municipalities, which may result in unstable proportions.

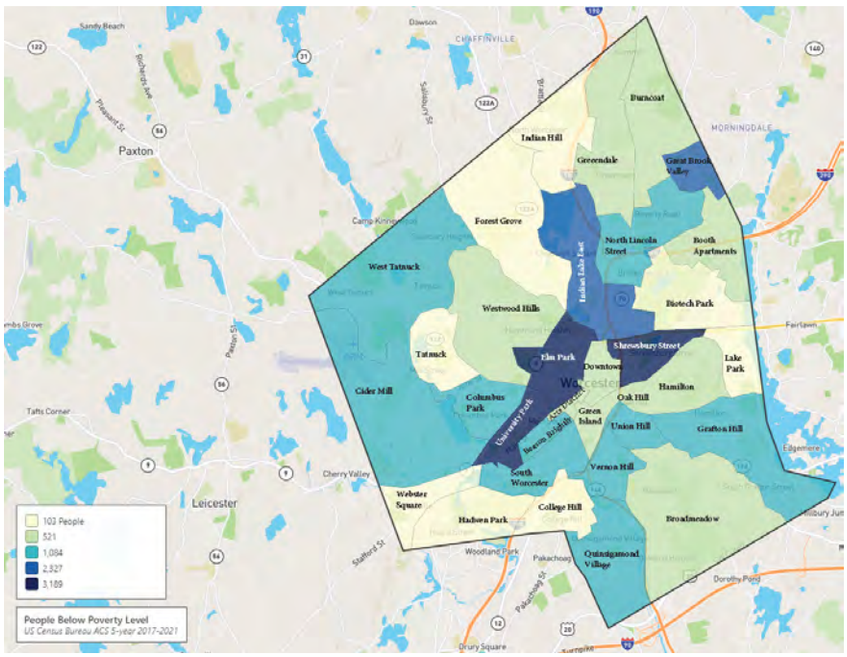
Figure 9. Population in Poverty by Race & Ethnicity, Worcester and Massachusetts, 2021



Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates

Figure 10 illustrates the geographic distribution of the residents of Worcester living below the FPL. It is important to note that there is some variation around how neighborhoods are defined in Worcester, and thus, the map below may be defined and displayed with slight differences by neighborhood based on different sources. The neighborhoods with the lightest shade of green are areas with the lowest number of people living below the FPL, whereas

Figure 10. Geographic Distribution of Worcester Residents Living Below the Federal Poverty Level, 2021



neighborhoods with the darkest shade of green are neighborhoods with the highest number of residents living below the FPL. The highest number of residents living under the FPL in Worcester are in the Elm Park, University Park and Shrewsbury Street neighborhoods as well as Great Brook Valley and Indian Lake neighborhoods.

Figure 11 illustrates the differences by ethnoracial group, which varies by Alliance municipality. The Black, non-Hispanic population has the highest percentage of residents that receive SNAP in West Boylston (58.5%) and Grafton (33.3%), while the Hispanic/Latino population has the highest in Worcester (45.7%) (albeit, alongside Two or more races at 45.3%) and Shrewsbury (13.2%).

Food Access

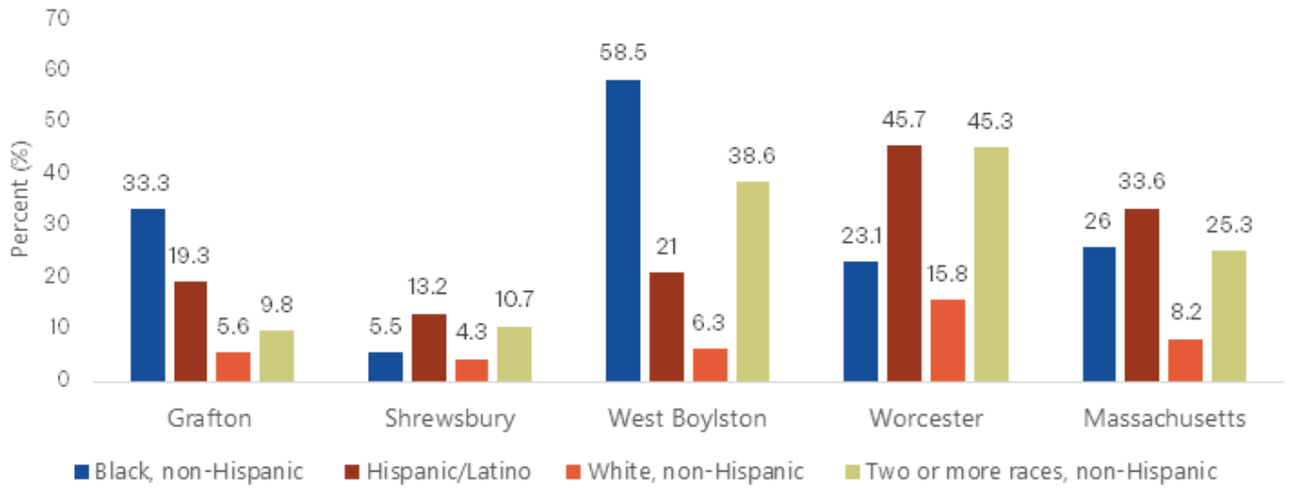
The percentage of residents receiving Supplemental Nutritional Assistance Program (SNAP) benefits is highest in Worcester when compared with the Alliance towns and the state. In fact, Worcester's rate is nearly twice that of the state (25.8% vs 13.5%, respectively), over three times that of West Boylston (7.8%), four times that of Grafton (6.3%) and nearly five times that of Shrewsbury (5.2%) (Table 9).

Table 9. Households Receiving Massachusetts Supplemental Nutrition Assistance Program Benefits (SNAP), 2021

	American Indian	Asian	Black	Hawaiian /Pacific Islander	Hispanic /Latino	White	Two or more races	Total
Grafton	0.0	0.0	33.3	N/A	19.3	5.6	9.8	6.3
Shrewsbury	0.0	5.3	5.5	N/A	13.2	4.3	10.7	5.2
West Boylston	N/A	0.0	58.5	N/A	21.0	6.3	38.6	7.8
Worcester	30.5	21.2	23.1	36.2	45.7	15.8	45.3	25.8
Massachusetts	30.8	10.7	26.0	16.0	33.6	8.2	25.3	13.5

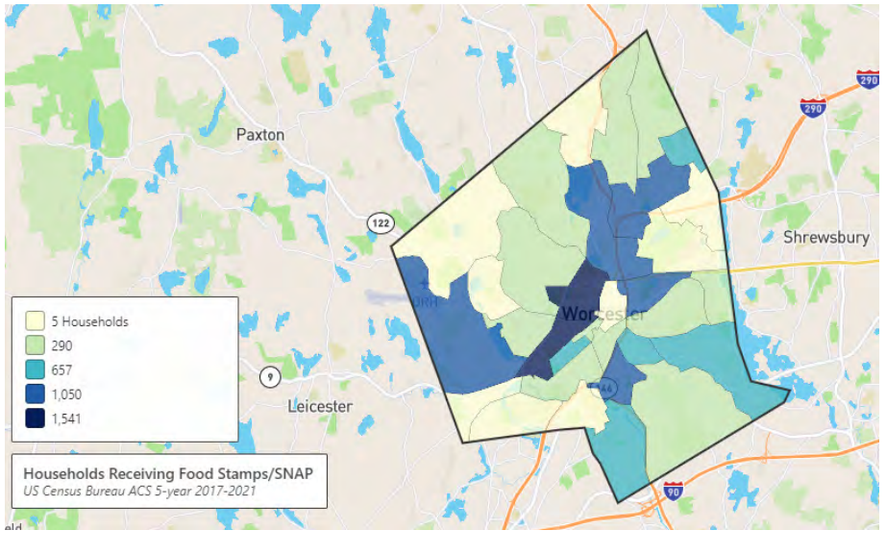
Source: U.S. Census Bureau, American Community Survey 1-Year Estimates

Figure 11. Households Receiving Massachusetts Supplemental Nutrition Assistance Program Benefits (SNAP), 2021



Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates

Figure 12. Geographic Distribution of Households Receiving Massachusetts Supplemental Nutrition Assistance Program Benefits (SNAP), 2021



Source: US Census Bureau ACS 5-year 2017-2021

Figure 12 Illustrates how the number of people in Worcester receiving SNAP benefits are distributed in the city by neighborhood.

Population Living with a Disability

The Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) defines a disability as, '...any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions).[4] There are three dimensions, namely impairment, activity limitation and participation restrictions.

Both the City of Worcester and the town of West Boylston have the highest percentage of residents who have any kind of disability (14.3% and 13.4%, respectively) in the Alliance and compared with the state. West Boylston has the highest percentage of residents with a hearing disability (5%) and ambulatory difficulty (6.9%). Worcester has the highest percentage of residents with cognitive disability (7.1) as well as an independent living difficulty (7%). Shrewsbury has the lowest percentage of residents living with a disability, overall (9%) (Table 10).

Table 10. Population with a Disability in CMRPHA, 2021

	Total Population Living with a Disability	Percent Population Living with a Disability	Hearing Difficulty	Vision Difficulty	Cognitive Difficulty	Ambulatory Difficulty	Self-care Difficulty	Independent Living Difficulty
Grafton	2,054	10.5%	3.7%	1.2%	2.9%	5.4%	3.3%	4.4%
Shrewsbury	3,440	9%	2.6%	1.7%	3.9%	4.5%	2.3%	5.3%
West Boylston	889	13.4%	5.0%	1.8%	3.4%	6.9%	2.8%	4.1%
Worcester	30,115	14.3%	2.9%	2.0%	7.1%	6.5%	2.8%	7.0%
Massachusetts	810,146	11.6%	3.1%	1.8%	5.0%	5.6%	2.4%	5.3%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Table 11. Household Characteristics in the CMRPHA, 2021

	Total Households	Family Households	Married Couple Family households	Average Household Size
Grafton	7,468	66.0%	55.2%	2.6
Shrewsbury	13,808	73.9%	61.7%	3.4
West Boylston	2,825	66.2%	53.8%	2.3
Worcester	78,780	54.8%	33.0%	2.4
Massachusetts	2,714,448	63.1%	46.7%	2.5

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Figure 13. Percent of Population with No Computer or Internent Access Subscription

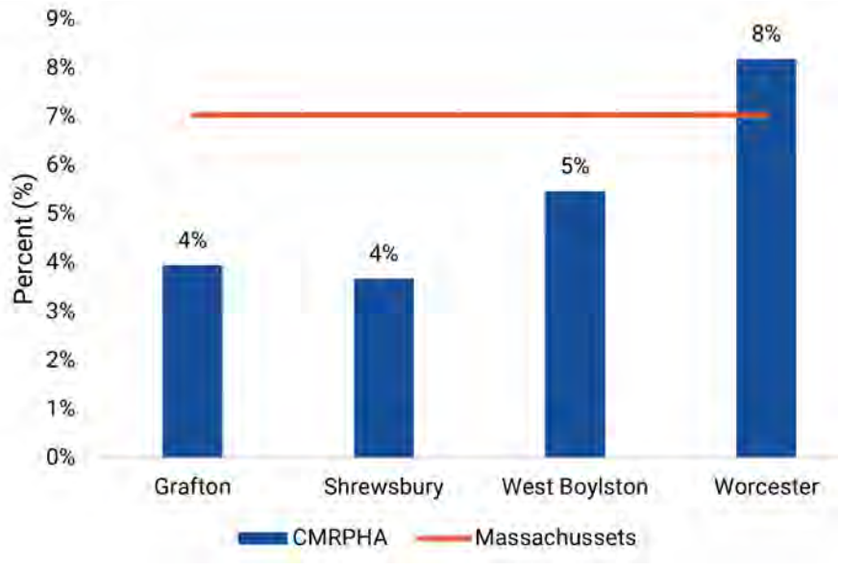


Table 12. Housing Characteristics in the Central Massachusetts Regional Public Health Alliance, 2021

	Vacant Housing Units	Owner Occupied Housing Units	Excessive Owner Housing Cost: >30% Income	Excessive Renter Housing Cost: >30% Income
Grafton	3.3%	71.5%	23.6%	42.8%
Shrewsbury	6.2%	75.0%	22.6%	33.6%
West Boylston	3.0%	81.3%	21.3%	27.3%
Worcester	7.6%	42.4%	32.0%	52.8%
Massachusetts	8.9%	62.4%	29.6%	49.4%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

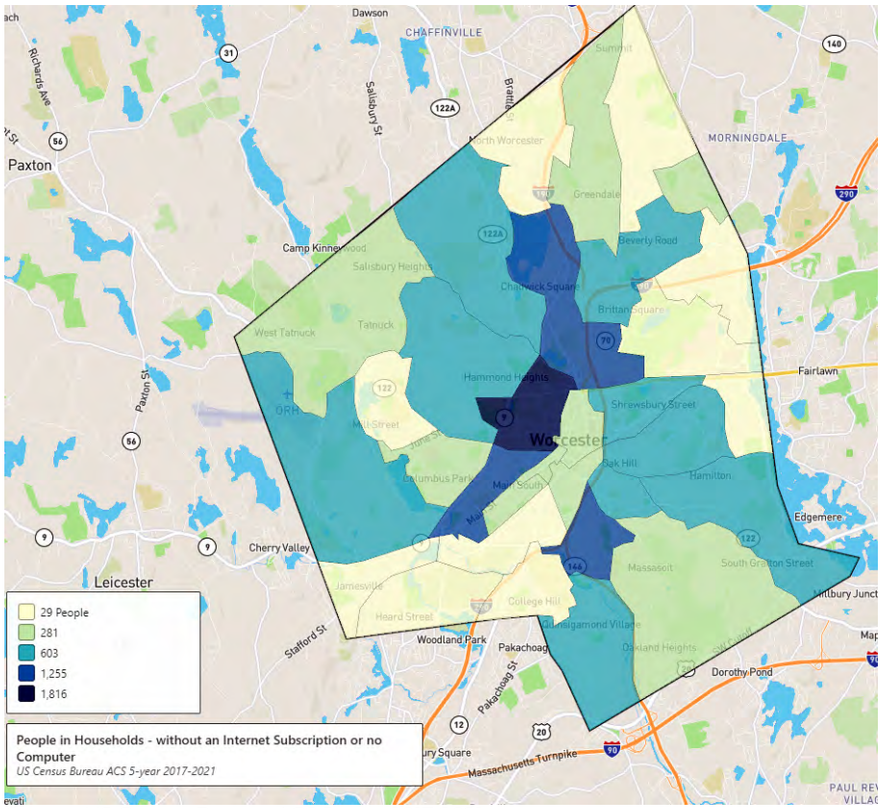
Household and Housing Characteristics

Shrewsbury has the highest percentage of households that are characterized as family households (73.9%), married couple households (61.7%) and has the largest average household size (3.4) compared with the Alliance towns and the state. Conversely, Worcester has the lowest percentage of family households (54.8%) and married couple households with only a third of households (33.0%) consist of a married couple. West Boylston has the lowest average household size with 2.3 persons per household (Table 11).

All CMRPHA municipalities have fewer percentage vacant housing units when compared with the state (8.9%). West Boylston and Grafton have the lowest percentages of vacant housing in the Alliance (3.0% and 3.3%, respectively). In Worcester, less than half of housing units are owner-occupied (42.4%), which is the lowest in the Alliance and lower than that of the state (62.4%). Furthermore, 52.8% of renter occupied households in Worcester spend more than 30% of their household income on rent, the highest percentage in the Alliance and slightly higher than that of the state (49.4%) (Table 12).

The towns of Grafton (3.9%), Shrewsbury (3.7%) and West Boylston (5.5%) have lower percentages of people in households without access to a computer or people who do not have a subscription for internet access compared with the state (7.0%). Worcester has the highest percentage (8.2%) among the Alliance communities with a rate even higher than that of the state (Figure 13). There are further notable disparities within Worcester neighborhoods as illustrated in Figure 14, where residents in the Elm Park and Vernon Hill communities, to name a few, have a greater number of people in households without these important amenities compared with their neighbors.

Figure 14. Geographic Distribution of Households without Internet Subscription or no Computer, 2021



Source: US Census Bureau ACS 5-year 2017-2021

2024 CHA Priority area spotlight: ACCESS TO QUALITY, RELIABLE BROADBAND INTERNET

The recognition of internet access as an influence on population health is on par with national post-COVID trends, as internet availability is increasingly being understood as a crucial component of public health due to its ability to improve communication, access to information, and healthcare services.

"It's 2023, and if you can't access the internet, you're losing."

-IL Interviewee

Unhoused Population

There is an increased number of people that are un-housed or experiencing homelessness at national, state, and local levels. The rise in numbers is multifactorial with reasons ranging from rising housing costs, cancellation of COVID-19 relief funds[5] or an increase in new refugee or asylee individuals.

Homelessness among youth can rob them of stability and opportunities for education and employment. It may lead to a cycle of vulnerability, compromising their physical and mental well-being. Youth are experiencing homelessness in varying forms, according to those who participated in the Greater Worcester Regional Youth Health Survey (RYHS). Among the youth participants who responded that they experienced homelessness of some form, 42% of middle-school youth and 64% of high-school youth resided in the homes of friends or family members due to their parent or guardian's inability to afford housing. Another concerning statistic is that 33% of these middle-school respondents and 16% of high-school respondents lived in unspecified locations. Figures 16-17 provide a visual representation of these and other youth homelessness experiences.

Figure 15. Homelessness in Worcester County, 2015-2021

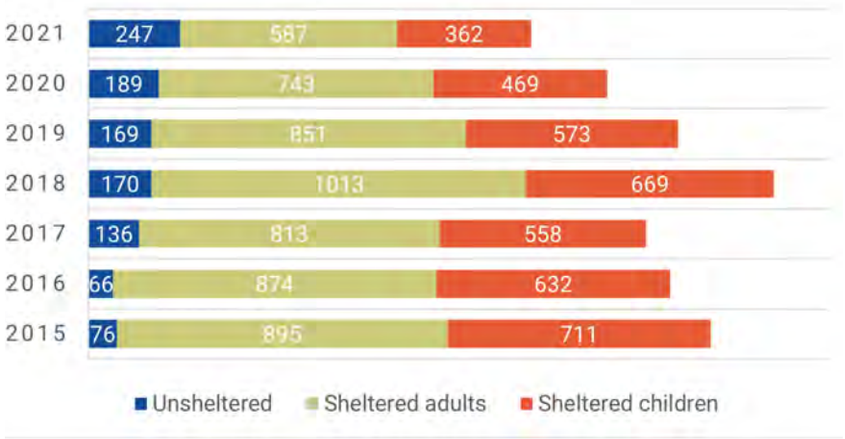


Figure 16. Forms of Homelessness experienced by Middle School Youth, 2021

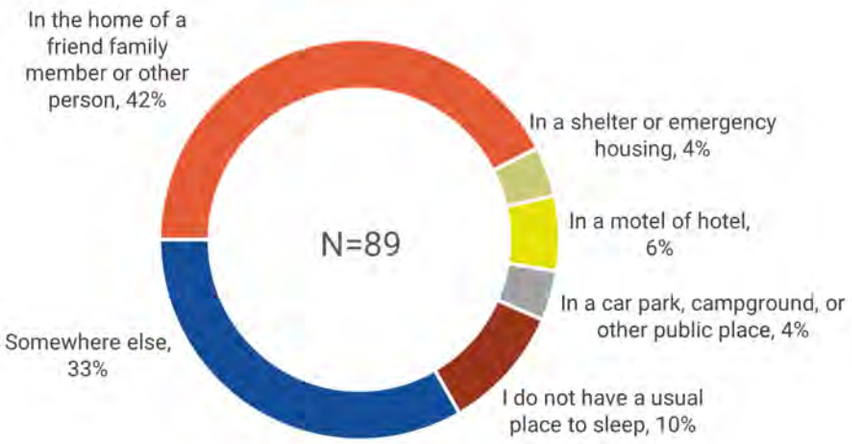
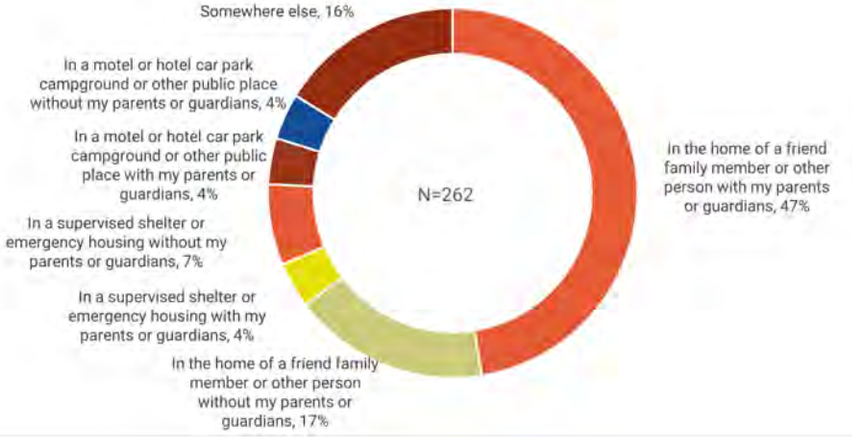


Figure 17. Forms of Homelessness experienced by High School Youth, 2021

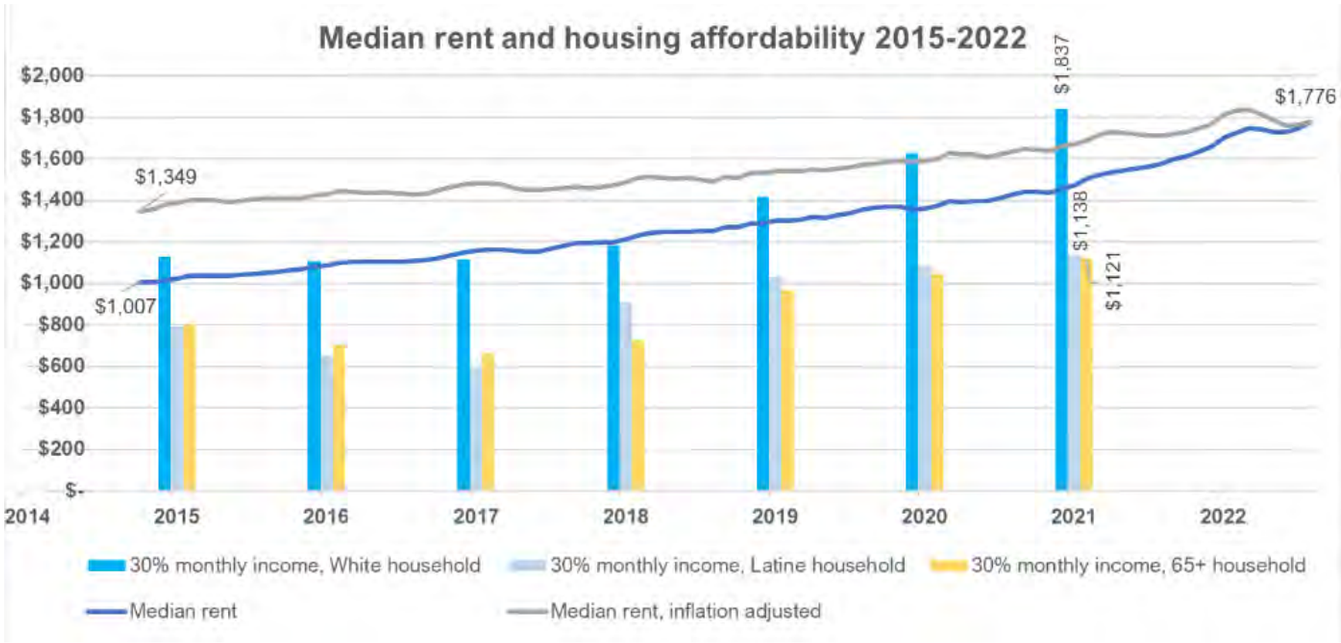


Housing affordability

With the economic and population growth the City has experienced over the last 5 years, housing in the city has become less affordable and less available. While the 2010 census recorded a housing unit vacancy rate in Worcester of 8%, that figure dropped to just 6% in 2020, despite 10,000 units being added to the housing stock over that time. Importantly rent has continued to increase rapidly in the city, outpacing both inflation and wage growth. With nearly 60% of units renter-occupied, this has left even middle-income households struggling to keep up with rent.

A threshold of 30% of household income is often used to identify housing-cost burden, that is, the level above which the increase in housing costs burdens a family's ability to pay for other essentials such as food, childcare, healthcare, etc. While wage growth (or a combination of wage growth and an influx of higher wage residents) has kept 30% of median household income close to the median rent in Worcester, there are huge disparities. Latine households for example, continue to earn far below the income they would need to not be housing cost burdened. Very similarly in numbers, older residents aged 65+ are very frequently housing cost burdened. (Figure 18)

Figure 18. Median rent and housing affordability for selected populations in Worcester 2015-2022



2024 CHA Priority area spotlight:

AFFORDABLE, SAFE HOUSING

"Housing. It takes two people today to pay for your rent, mortgage, everything. It isn't how it used to be, where you could pay your rent with one job. You need that extra income coming in to take care of your family and your home. You used to not have to do that, but you have to do that today. That's one of my biggest issues."

-HEP Interviewee

In response to questions concerning barriers to care and social determinants of health, housing arose as a key issue preventing people from accessing high-quality health and well-being across their lifespan. Housing was a top named issue across all HEP conversations and IL conversations. Inequitable internet access was explicitly named as an issue by 50% of healthcare providers, while 20% of HEP conversations stated that low-quality broadband made telemedicine difficult to access. In the thematic coding analysis, findings of specific themes in HEP and IL conversations were:

- Affordable, safe housing is not being invested in for populations disproportionately impacted by low incomes.
- Affordable, safe housing is not being invested in for people experiencing social factors such as reentry, having a criminal record, and substance use disorder (SUD)

These findings were reflected on and validated by the CHA Advisory Committee during the prioritization process, with an emphasis on poor investment in housing as an issue. Housing plays a pivotal role in individual and public health due to its far-reaching impact on various aspects of well-being. The quality, stability, and suitability of housing directly influence physical, mental, and social health outcomes.

"I think we see as seniors, you know, get older and become people on fixed incomes that are going to need more accessible, affordable housing or subsidized housing that we just don't have it. ... I think it makes sense to have like a kind of a priority list for folks in highest need. But I guess we do have that; the waitlists are just so long. You'll never get housed."

-HEP Interviewee

Transportation

Transportation is often associated with the movement of people and goods but in the context of public health, transportation is oftentimes a measure of access. This includes access to health care, healthy foods, education, job opportunities and other community services. To access these destinations and services individuals of all ages and abilities use multiple options of transportation when available. When these options are limited, unreliable or nonexistent they can lead to disparate health outcomes. More than 50% of all trips in the state is less than 3 miles.[5] A high-comfort bikeway network can address the unmet potential of everyday short trips for those who prefer to bike. The limitations of the sidewalk network, or lack thereof, combined with poor conditions, hinders opportunities for the local community to safely access essential services. Ensuring the interconnectivity of all established and planned active transportation networks increases access to resources and opportunities as well as recreational destinations where people may socialize, participate in civic affairs, and contribute to the local economy.

A good indicator of how residents utilize the transportation system is how they commute to work, as illustrated in Table 13. The proportion of residents who work from home has increased across all municipalities and the state when compared with data from 2019: Grafton increased from 7.9% to 15.9%; Shrewsbury increased from 5.2% to 15.4%; West Boylston increased from 4.8% to 11.5%; and Worcester increased from 5.3% to 8.3%. The vast majority of Alliance residents drive to work, ranging from 68.3% in Worcester to 83.5% in West Boylston.

SAFETY

Another major transportation topic related to public health is safety. Safety is an important aspect of any trip, whether it is walking, biking, using transit or driving. According to the 2023 Massachusetts Strategic Highway Safety Plan, 418 people died and 2,884 people were seriously injured due to roadway crashes in Massachusetts during 2021. To reduce this number and aim for zero roadway fatalities and serious injuries, Massachusetts is adopting a Safe System Approach, which is a U.S. Department of Transportation-endorsed framework for addressing roadway safety, holistically as a system. As such, MassDOT developed the Vulnerable Road User Safety Assessment MassDOT Vulnerable Road User Safety Assessment (arcgis.com), a tool that identifies crash hot spots to prioritize vulnerable road user safety. The tool includes safety around bus stop locations and school proximity, among other factors. Additionally, the tool includes data from the Department of Public Health based on hospital data after a crash and the type of injuries associated with the crash, by

Table 13. Modes of Transportation to Work among CMRPHA Residents, 2021

	Drive alone	Carpool	Public Transit	Bike or Walk	Other Modes	Work from Home
Grafton	72.6%	5.5%	3.4%	1.0%	1.6%	15.9%
Shrewsbury	75.9%	5.2%	2.0%	0.4%	1.1%	15.4%
West Boylston	83.5%	3.5%	0.0%	0.2%	1.3%	11.5%
Worcester	68.3%	11.4%	2.8%	6.2%	3.0%	8.3%
Massachusetts	66.0%	7.0%	8.4%	4.6%	2.1%	11.9%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates.

Figure 19. Crash-related injuries in West Boylston, 2013-22

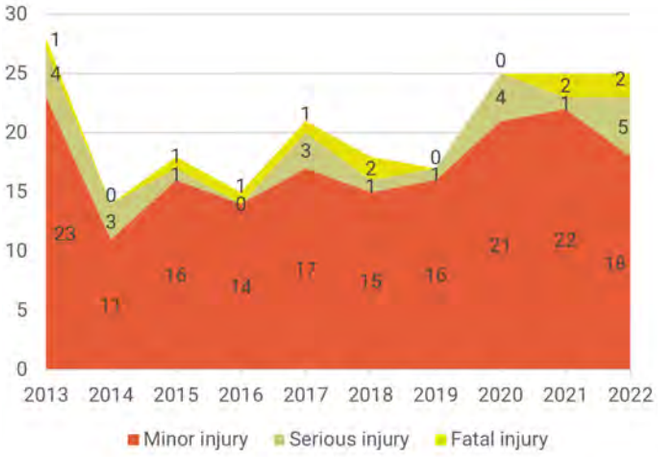
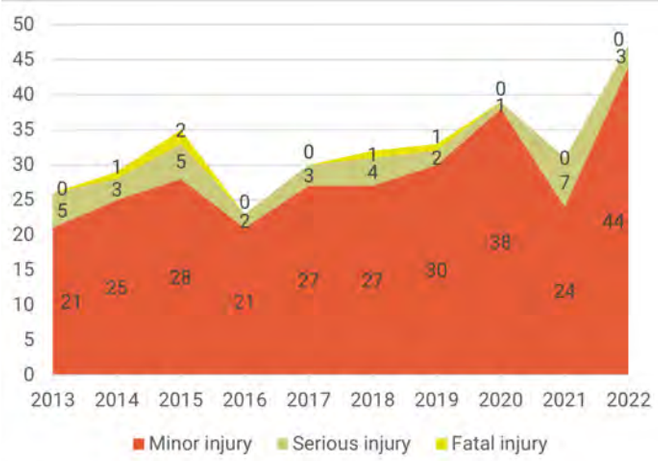


Figure 20. Crash-related injuries in Grafton, 2013-22



municipality, as illustrated in Figures 19-22.

Statewide data demonstrate that 34% of bicyclist crashes and 41% of pedestrian crashes that result in a fatality or serious injuries occur within 300 feet of a bus stop. A similar trend is observed around schools. Statewide data shows that 41% of bicyclist crashes and 44% of pedestrian crashes that result in a fatality or serious injuries occur within 2,000 feet of a school.

The U.S. Department of Transportation (US DOT) and the Centers for Disease Control and Prevention (CDC) developed the Transportation and Health Tool (THT)[6] to provide data about health impacts of transportation systems. The tool provides a score for several indicators, including the score for Road Traffic Fatalities per 100,000 residents for both bicyclists and pedestrians. The Worcester Metropolitan Statistical Area (MSA) has a score of 79, whereas the state's is 69. A similar pattern is observed in the Road Traffic Fatalities Exposure Rate. For pedestrians, the score in the Worcester-MSA is 75, whereas the state's is 85. In summary, even though the exposure rate is lower in Worcester-MSA, the number of fatalities of bicyclists and pedestrians per 100,000 residents is high.

Figure 21. Crash-related injuries in Shrewsbury, 2013-22

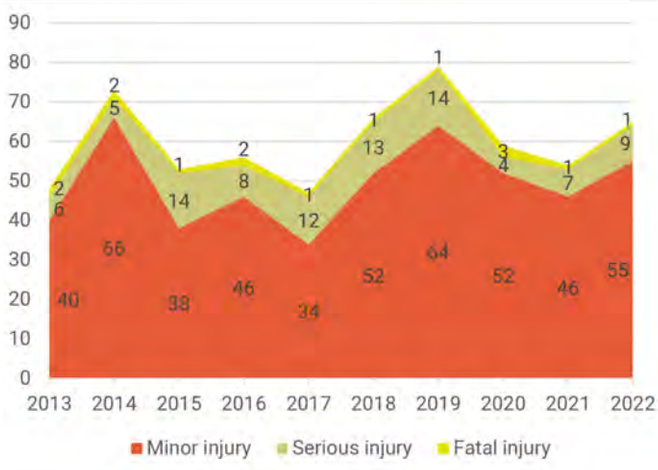
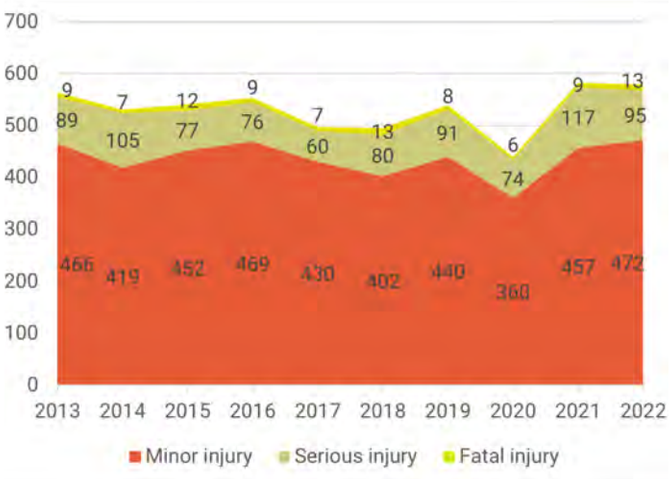


Figure 22. Crash-related injuries in Worcester, 2013-22



2024 CHA Priority area spotlight:
BUILT ENVIRONMENT

PUBLIC AND ACTIVE TRANSPORTATION

When asked to name important social determinants of health outcomes in the Worcester Health Alliance Region, 100% of HEP focus groups talked about transportation as a key issue affecting their everyday lives. Institutional leaders had similar trends in their responses, noting poor access to public transportation and poor investment in public transportation create issues for patients and clients trying to get to appointments.

> *"Affordable transportation is huge. Like I've been on the paratransit bus and it's a rideshare, it's reliable, but you have to schedule the day ahead. And it's ridesharing. And I was on the bus with someone, and we were running late to get to one of their infusions...it takes a lot of coordination to get to your doctor's appointments if you're relying on public transportation and MassHealth".*
>
> *- HEP Interviewee*

In the thematic coding analysis, findings of specific themes in HEP and IL conversations were:

- Public transportation in the region has stops at locations that are inefficient for people trying to get to health and social service appointments.
- Public transportation in the region is punctually unreliable.
- Providers lack home-location-home transportation for patients and clients.

These findings were reflected on and validated by the CHA Advisory Committee during the prioritization process, with the greatest emphasis weighing on public transportation's inefficiency and unreliability as issues. The topic of public transportation has

> *"Yeah, I think one of the top three things is transportation because it's kind of hard to get to certain hospitals or medical areas."*
>
> *- HEP Interviewee*

been front and center in Worcester since the height of COVID-19, with grassroots coalitions like the Zero Fare Taskforce leading on the issue of free access to the Worcester Regional Transit Authority (WRTA) for all. The findings from the CHA conversations reinforce much of what has been stated about the need for transportation. Not only is it the most affordable way to get around the Worcester area, but for many it is their only option when trying to get to an important appointment.

LOCATION, QUALITY, AND CULTURAL INCLUSIVITY OF FOOD ACCESS POINTS

Access to healthy, cultural foods was a recurring theme in the community conversations and among the top 10 priorities that make a community healthy in the CHA public survey. Specifically, availability to "healthy" and "culturally inclusive food" depends on the zip-code someone lives.

> *"Families experiencing low incomes in Worcester are more subjected to food deserts...I don't know if we have legit food deserts or not here but you can tell there's like a mishmash of accessible food options around, some more than other areas... It's definitely an issue that comes up, I think, especially in talk about preventative health measures, making sure that people are eating right and have access to that".*
>
> *- HEP Interviewee*

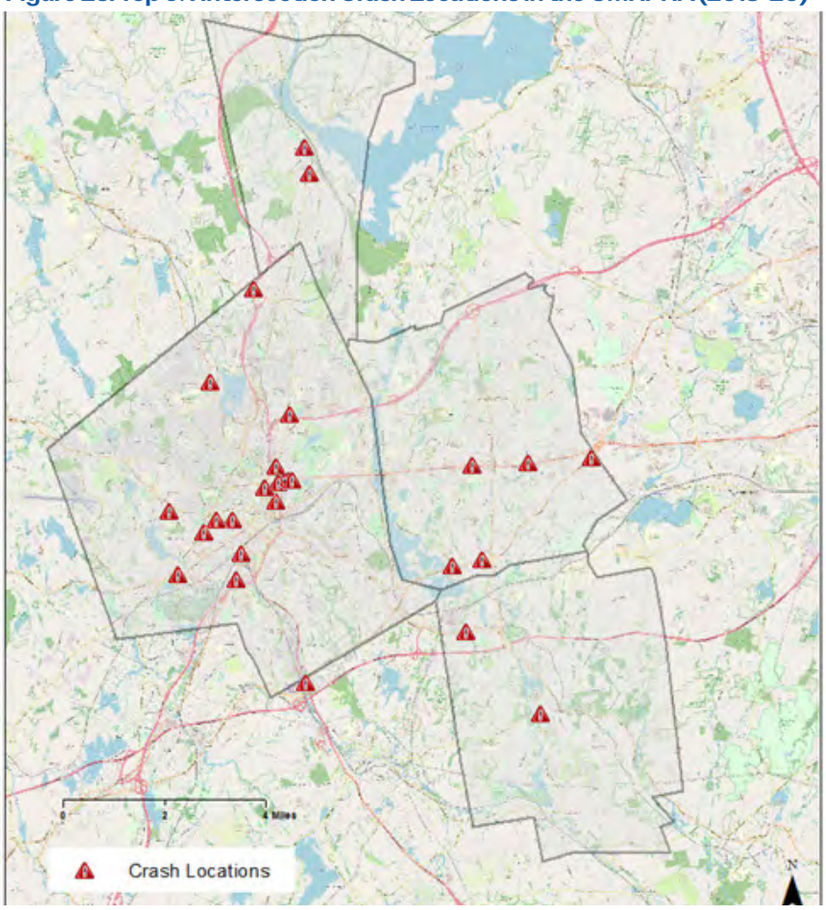
A high frequency of non-motorist (pedestrians and bicyclists) crashes has been identified along the transit corridors in Main Street, Belmont Street and Chandler Street in Worcester, around transit stops and school proximity. The City of Worcester has two of the top 10 statewide high crash locations for non-motorists.[7] Main Street in Worcester is a high crash location for both pedestrians and bicyclists. Improving the safety and accessibility of pedestrians, bicyclists and transit riders should be considered a public health issue. Figure 23 provides a visual of the top crash intersections in the Alliance communities.

COMPLETE STREETS

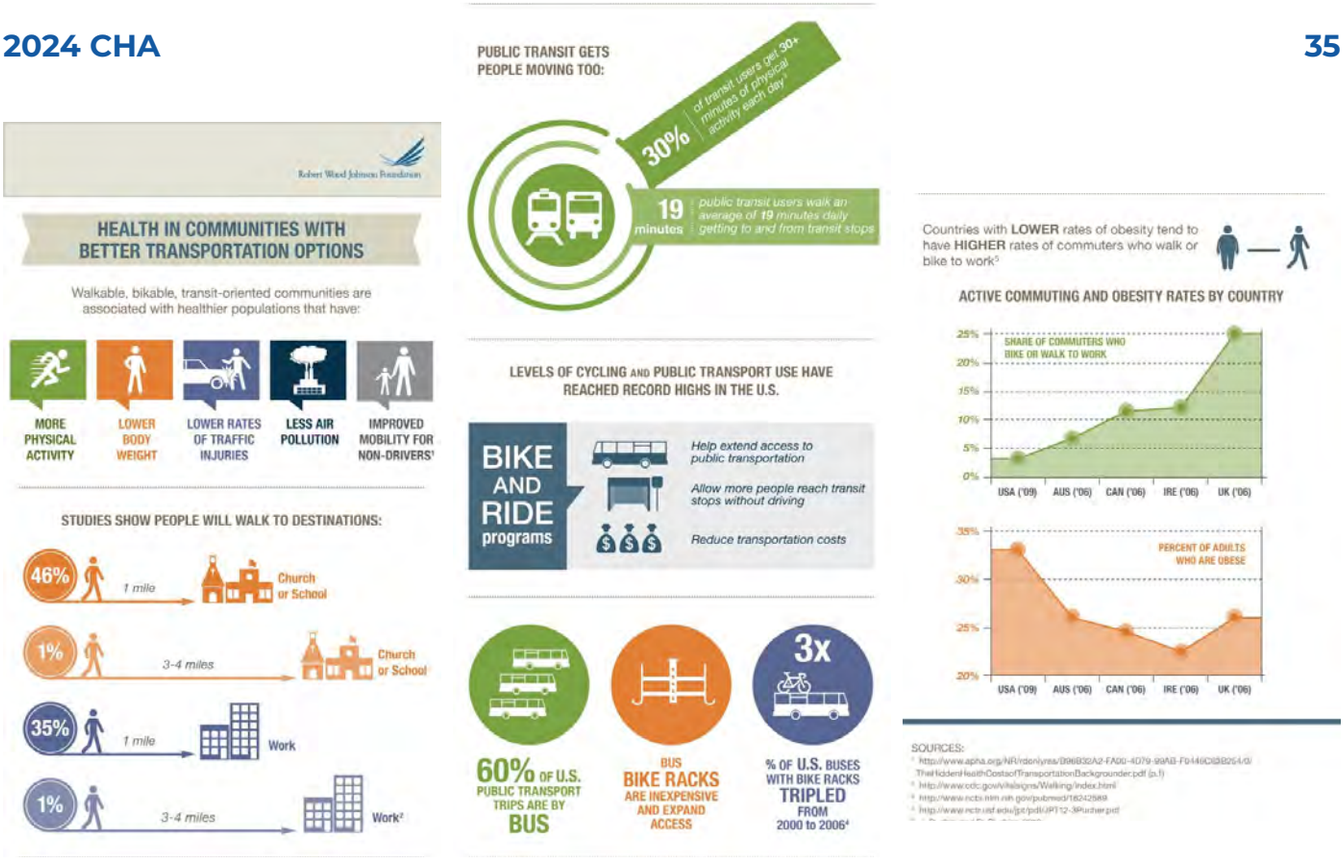
A complete street provides safe and accessible options for all travel modes for people of all ages and abilities. In Massachusetts, cities and towns can utilize the funds for creation of a policy and a prioritization plan, as well as for construction costs. Worcester, Shrewsbury, and Grafton have Prioritization Plans that identify the corridors where Complete Streets are being planned or areas that are addressing gaps in accessibility. For example, in 2019, the Town of West Boylston utilized the statewide funds to improve the walkability to access the schools and recreation areas located along Crescent Street. Destigmatizing and prioritizing complete streets will not only present an opportunity for traffic calming and congestion mitigation, but will physically connect people to more destinations, increase personal independence and have positive impacts on individual's overall wellbeing. Safe walking and biking environments are indispensable for people of all ages and abilities. Walk Audits, White Cane Walks and Wheeling & Rolling Audits are great community education and advocacy tools to elevate the accessibility needs of a given community.

Students walking or biking to school should be able to access education without endangering themselves on the way there. Schools can enroll as partners and actively participate in the Safe Routes to School Program (SRTS). Through this program students participate in safety education activities, including bike rodeos, among other fun activities. More than 20 schools in Worcester are enrolled in the SRTS Program. Recently, students from the Belmont Street Community School participated in a bike rodeo facilitated by MassBike. Bike

Figure 23. Top 5% Intersection Crash Locations in the CMRPHA (2018-20)



Source: Massachusetts DOT Impact Crash Data Portal



rodeos are an opportunity to educate children about bike safety, how to wear helmets and the rules of the road. Also, SRTS participating schools are eligible to apply for infrastructure investments to improve walking and biking around the schools. The Millbury Street Elementary School in Grafton was awarded $2.2 million for infrastructure improvements, the installation of 4,200 feet of sidewalk along Millbury Street and 850 feet of sidewalk along Crosby Road, crosswalks, bicycle lanes and other countermeasures to reduce speed along the road. Construction is expected to begin in 2024.

POLLUTION

Pollution is linked to many health problems. According to the EPA, transportation is the top contributor to anthropogenic U.S. greenhouse gas (GHG) emissions, emitting 29% of all emissions. In regards to direct sources of GHG emissions, light-duty vehicles emit 58% emissions and medium-to-heavy duty trucks emit 23%.[8]

Considering Massachusetts' goal of net-zero GHG emissions by 2050, expansion of the bicycle and pedestrian network has never been more relevant or important.[9]

It is critically relevant when one of the outputs from the travel demand model used for the scenario planning exercise included in the long-range transportation plan 2050 Connections,[10] results in a higher share of both vehicle miles traveled and congested miles traveled in environmental justice (EJ) neighborhoods. As such, an emphasis should be placed on providing more multimodal opportunities including transit, bicycle facilities and pedestrian accommodation. MassBike E-Bike Pilot Program in Worcester is an example of how emissions can be reduced and still complete everyday trips. Collectively, between August 2022 and May 2023, the E-bike Program participants took over 8,000 trips and biked more than 32,000 miles.[11]

The majority of the trips were for work (30%), shopping (17%) and recreation (14%). Other types of trips included doctor's appointments. The Estimated Emission Savings (EES)[12] during the first year of the program is about 13,000 pounds of CO2. Increased access to e-bikes for transportation can contribute to avoiding pollution. Many

states and cities are providing vouchers at point of sales[13] with specific policies targeted to transportation disadvantaged populations. Moreover, other strategies, like bike-sharing programs offer an opportunity to have access to a bicycle for a short time. Bike-sharing can be adapted to any context and is typically a low-cost option.[14]

Access to bicycles in combination with high-comfort bicycle pathways can result in great savings of CO2, a better air quality and a healthier community.

Public transportation is intrinsically related to walking and biking. A clean, reliable, and efficient public transportation system can reduce congestion and harmful emissions, while providing the needed access to essential services, and employment opportunities. Policies and guidelines from the Federal Transit Administration (FTA)[15] recognize the built environment, and pedestrian and bicycle infrastructures as a transit feature, particularly when they are half a mile from a bus stop facility for pedestrian infrastructure and 3 miles for bicycle accommodations. From the health perspective, the physical activity that results from walking, biking, or using transit can have beneficial health effects such as reducing the risk for chronic disease and morbidity and increase life expectancy.[16]

Transit affordability and reliability are important considerations on any transportation system. The WRTA began operating a free-fare service during the COVID-19 pandemic. Free-fare services include the fixed-route and the paratransit services that is offered to older adults and persons with disabilities.

One of the objectives of the CDC is “increasing the trips to work by transit”, considered a health-transportation indicator. The scenarios included in 2050 Connections[10] present an analysis of the number of jobs accessible by transit within 45 minutes. These data show that there is a lower number of Census Block Groups with a higher proportion of EJ populations with access to jobs than the number of non-EJ Census Block Groups. The number of Census Block Groups with a proportion of zero vehicle households is higher than the regional average (dominant factor) with access to jobs accessible by transit within 45 minutes significantly lower. Lack of transportation options can hinder an individual’s ability to access education, training programs, and well-paying jobs.

HEALTH PROFILE

Health Insurance

Overall, Massachusetts and the Alliance have low percentages of residents that are uninsured. Over 80% of residents in Grafton, Shrewsbury and West Boylston have private health insurance, which is higher than that of the state (74.3%). Worcester has the highest percentage (46.4%) of residents with public health insurance also known as MassHealth which comprises of Medicaid and the Children's Health Insurance Program (CHIP) (Table 14).

Table 14. Health Insurance Coverage by Type of Insurance in the CMRPHA, 2021

	Uninsured Population	Population with Private Insurance	Population with Public Insurance
Grafton	3.1%	83.4%	26.9%
Shrewsbury	2.4%	85.5%	23.4%
West Boylston	2.1%	80.6%	39.8%
Worcester	3.0%	61.1%	46.4%
Massachusetts	2.8%	74.3%	36.2%

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates

Overall Health

Higher percentages of Worcester and West Boylston adult residents report being in "poor physical health" and of "fair or poor general health" when compared with the remaining alliance communities and the state. The majority of adult resident respondents had a doctor's visit in the past year across the alliance and the state. The percentages of adult residents with a depression diagnosis are similar between the Alliance communities and the state (Table 15).

Table 15. Select Health Indicators among CMRPHA Adults, 2020

	Poor Physical Health	Fair or Poor General Health	Doctor Checkup in Past Year	Diagnosed Depression
Grafton	7.2%	8.4%	79.4%	18.4%
Shrewsbury	6.9%	8.4%	80.3%	16.8%
West Boylston	9.0%	11.5%	80.3%	18.1%
Worcester	10.0%	14.8%	79.3%	19.9%
Massachusetts	8.5%	11.3%	77.7%	19.2%

Source: CDC BRFSS PLACES 2020

Health Risks

The percentages of females aged 50 – 74 years who report they received a recent mammography screening (within the past two years) in 2018 are similar to the percentages in 2020, across the Alliance. The percentages of females aged 21-65 years who report they received a recent pap smear (within the past three years) were slightly lower in 2020 in the Alliance communities, but remained higher than that of the state, with the exception of Worcester where the rates are lower than the State's in both 2018 and 2020. Adults with adequate colorectal cancer screening is defined by the CDC as having had 1) a fecal occult blood test (FOBT) within the past year, or 2) a sigmoidoscopy within the past 5 years and a FOBT within the past 3 years, or 3) a colonoscopy within the past 10 years. The overall rates for adults who report receiving adequate colorectal cancer screening increased across all the Alliance communities and the state in 2020 (Table 16).

Table 16. Cancer Screenings in CMRPHA and Massachusetts

	Females, Age 50-74 years with Recent Mammogram		Females, Age 21-65 years with Recent Pap Smear		Adults with Adequate Colorectal Cancer Screen	
	2018	2020	2018	2020	2018	2020
Grafton	83.1%	**83.0%**	90.2%	**87.2%**	71.2%	**83.4%**
Shrewsbury	83.5%	**83.3%**	89.0%	**86.3%**	71.6%	**83.5%**
West Boylston	81.8%	**81.9%**	88.7%	**86.1%**	68.3%	**81.7%**
Worcester	82.3%	**82.2%**	84.5%	**81.2%**	64.0%	**78.3%**
Massachusetts	79.8%	**82.1%**	86.2%	**84.6%**	70.6%	**78.3%**

Source: Centers for Disease Control and Prevention Behavior Risk Factors Surveillance Systems PLACES, 2020

Childhood Lead

Figure 24. Prevalence of Confirmed Blood Lead Levels >5 ug/dL in CMRPHA Children

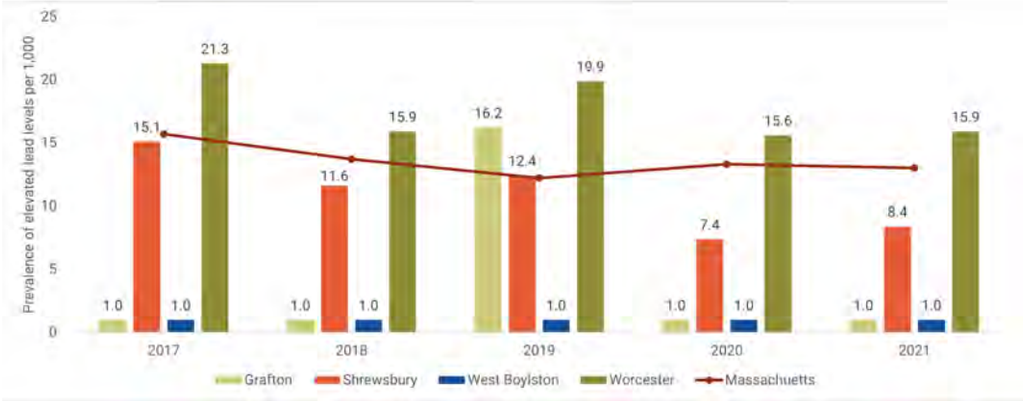
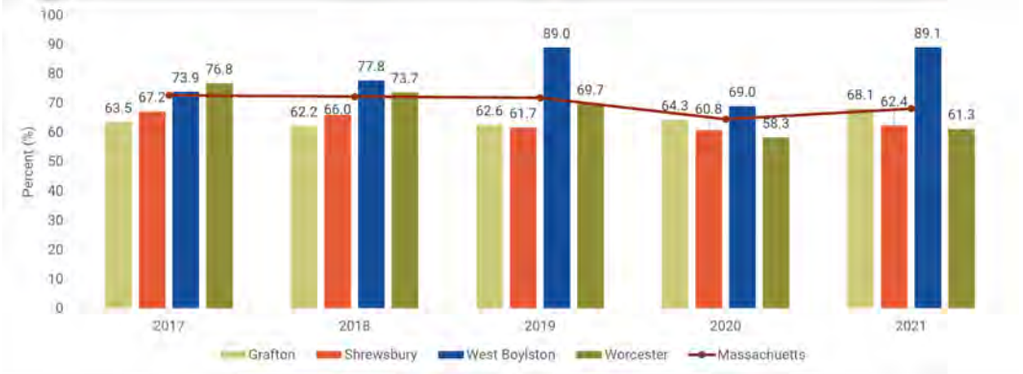


Figure 25. Lead Screening Rates of Children 9-47 Months in the CMRPHA.



Source: Massachusetts Environmental Public Health Tracking Tool

The Massachusetts Department of Public Health (MDPH) reports that children in the state continue to be exposed to lead, and even at low exposure levels may cause long-term harm to children as there is no safe level to lead exposure. As such, it is mandated by the state that health care providers screen every child patient between 9 - 12 months and at 2 and 3 years (also at 4 years in high-risk communities) and report results to the state. Elevated blood lead level is defined as blood lead greater than or equal to 5 milligrams per deciliter and a child is considered to have lead poisoningwhen blood lead level is greater than or equal to 10 milligrams per deciliter.

West Boylston has had the highest overall child lead screening rates in the Alliance with rates that are generally higher than that of the state. In 2021 Shrewsbury and Worcester had lower blood lead screening rates than the state (62.4% and 61.3% vs 68.1%, respectively) whereas Grafton shared the same rate (68.1%), and West Boylston had the highest at 89.1% (Figure 25).

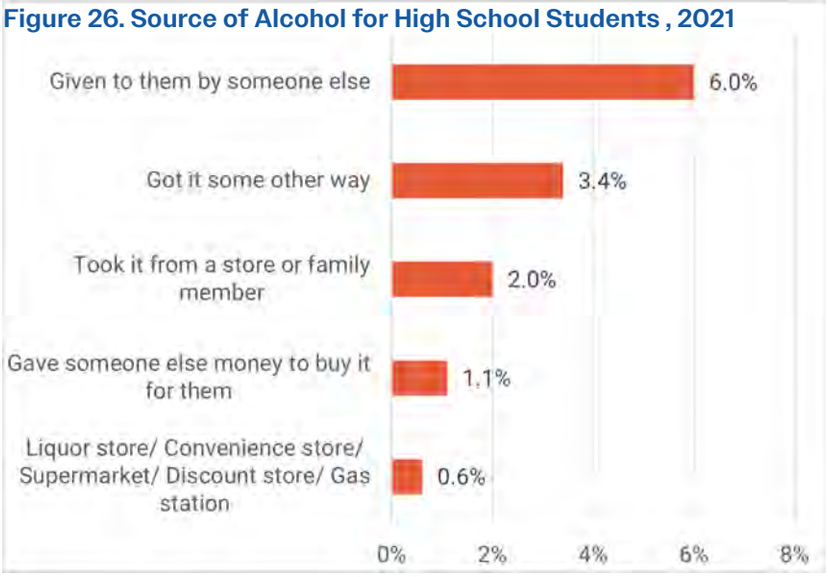
Figure 24 illustrates that Worcester has the highest overall percentages of children 9-47 months with confirmed blood lead levels greater than or equal to 5 milligrams per deciliter (elevated blood lead) in the Alliance with rates consistently above the State's from 2017 to 2021. Worcester is the only municipality in the Alliance designated by the state as a high-risk community for lead exposure. Shrewsbury has slightly lower rates of children with confirmed elevated blood lead levels when compared with the state. Grafton and West Boylston have relatively lower rates of children with elevated blood lead levels.

Substance Use

YOUTH SUBSTANCE USE

Adolescence is a period marked by significant physical, emotional, and cognitive development, making it a crucial time for understanding the factors influencing substance use behaviors. Studying substance use patterns in this age group is vital because it sheds light on early risk factors, trends, and potential interventions that can shape healthier futures. Curbing substance use from a younger age is imperative for several reasons. First, the adolescent brain is more susceptible to the addictive effects of substances, making early exposure more likely to result in addiction. Second, substance use during these formative years can negatively impact academic performance, relationships, and overall life trajectory. Third, the habits formed during adolescence often carry into adulthood, making prevention efforts during this period especially influential. By comprehending these dynamics, targeted interventions can equip young individuals with the knowledge and skills needed to make informed decisions, ultimately contributing to both personal well-being and a healthier society.

Figure 26. Source of Alcohol for High School Students , 2021



Source: Greater Worcester Regional Youth Health Survey, 2021

In examining substance use patterns among High School students who participated in the Greater Worcester Regional Youth Health Survey (RYHS), some noteworthy trends emerge:

Alcohol Consumption

Alcohol use is common and is the substance most often used by adolescents. The data from the RYHS reveals that current alcohol consumption (defined as consumption in the past 30 days) is relatively low among high school students. The majority reported either occasional use between 1 to 9 days (10.7%) or abstaining entirely (88.7%). Few respondents indicated alcohol use on 10 to 19 days (0.2%) or 20 to 29 days (0.1%), and an even smaller percentage reported daily consumption (0.4%).

Among the respondents, 5.7% acknowledged engaging in binge drinking, defined as consuming four

or more alcoholic drinks consecutively10, at least once within the past 30 days. Notably, there were no substantial variations in binge drinking prevalence based on gender or across different race and ethnic groups.

This data on how high school students obtained alcohol in the past 30 days is crucial to understand potential sources of underage drinking. It sheds light on various avenues, including store purchases and unconventional methods like receiving it from others or taking it without permission. Recognizing these patterns is vital to develop targeted prevention strategies and policy measures to curb underage alcohol consumption effectively.

Marijuana Use:

The findings regarding marijuana use show a wider range of consumption than alcohol. Most respondents reported infrequent use, with 5.5% using it 1 to 9 times and 1.4% using it 10 to 19 times in the past 30 days. A smaller but notable proportion engaged in more frequent use, with 0.9% using it 20 to 39 times and 1.7% using it 40 or more times.

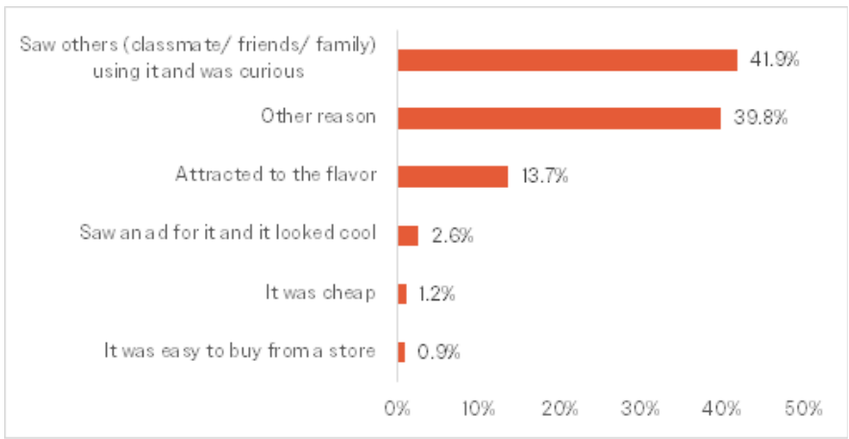
e-Cigarette Use:

Electronic cigarettes initially entered the market as alternatives to smoking for adult smokers, and initial models were not often used by adolescents. They have since morphed into "vapes," which are highly attractive to and have become increasingly popular among adolescents over the past several years. A similar pattern as that of alcohol use is observed for e-cigarette use, with occasional use (5.7%) being the most common response. While moderate (1%) and frequent (0.9%) use is present, daily e-cigarette use is reported by a relatively higher percentage (2.3%) of respondents compared to alcohol or marijuana. Additionally, 82.2% of respondents stated that they would not use nicotine products if they were not available in flavors.

It is important to understand the reasons for trying nicotine products as it provides information on the drivers behind youth initiation into tobacco use. It highlights the role of marketing, peer influence, and flavors in shaping their decisions. This information informs focused interventions and regulations to counteract these factors and mitigate youth tobacco initiation, contributing to better health outcomes.

Overall, the data on substance use among high school students highlights that among these students, alcohol consumption is relatively infrequent, with the majority either abstaining or consuming alcohol occasionally. e-Cigarette use appears to be more prevalent than alcohol, particularly in daily use. Marijuana use exhibits a broader range, with most respondents reporting occasional or moderate use, and a minority

Figure 27. Reasons for Trying Nicotine Products among High School RYHS Participants, 2021



Source: Greater Worcester Regional Youth Health Survey, 2021

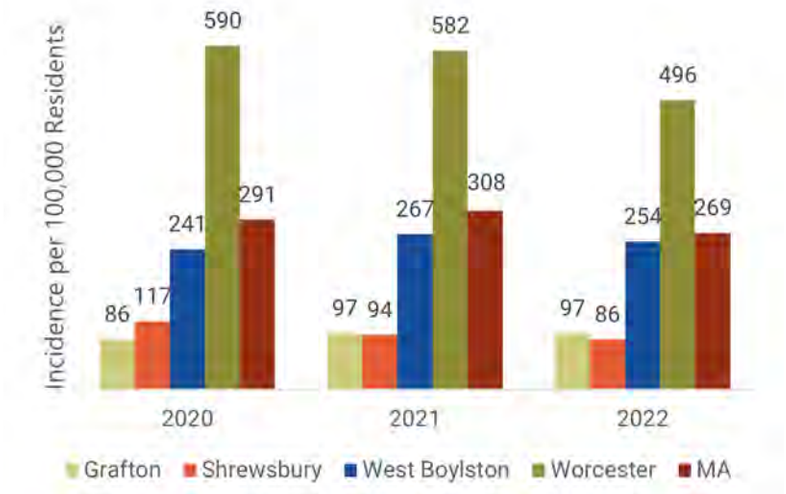
engaging in more frequent use. These findings emphasize the importance of understanding and addressing varying substance use patterns to inform targeted interventions and support strategies for healthier behaviors among the youth population.

ADULT SUBSTANCE USE

The rate of opioid-related incidents in Worcester for adults is approximately twice that of the state despite the observed -14.7% decrease from 2021 to 2022. Grafton and Shrewsbury have the lowest opioid overdose-related incidence rate of the Alliance towns while West Boylston's rate is similar to that of the state (Figure 28) (See Adult Substance Use, Opioid Mortality for opioid-related mortality).

The percentages of adult residents that report they binge drink are similar across the Alliance and the state. Worcester and West Boylston have the highest percentages of adult residents that are current smokers within the Alliance (17.3% and 15.0%, respectively) (Table 17).

Figure 28. Opioid Overdoses by City/Town, 2020-2022



Source: Mass.GOV EMS Regional Opioid Related Incident Dashboard

Table 17. Alcohol Use and Smoking Prevalence in CMRPHA Adults, 2020

	Binge Drinking in the Past 30 Days	Smoking in the Past 30 Days
Grafton	17.8%	12.7%
Shrewsbury	16.0%	11.3%
West Boylston	17.2%	15.0%
Worcester	16.4%	17.3%
Massachusetts	17.1%	13.4%

Source: CDC BRFSS PLACES 2020

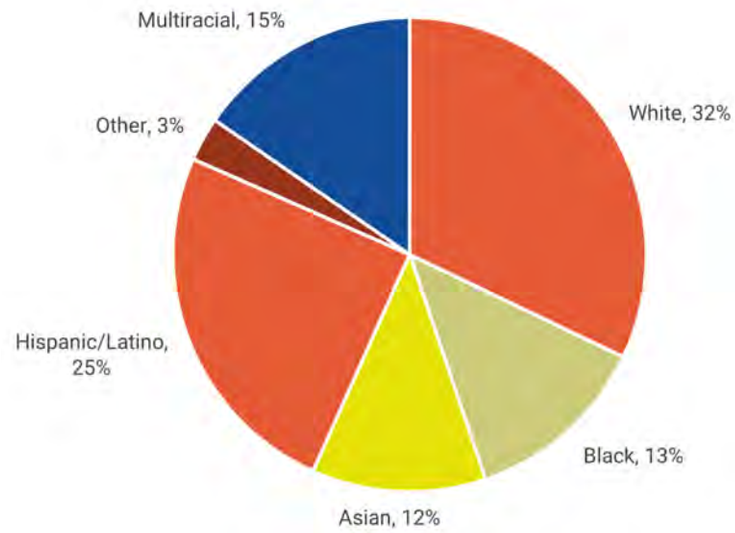
Mental Health

YOUTH MENTAL HEALTH

High School

The mental well-being of high school students is a crucial concern, and certain questions serve as vital indicators of the mental health burden they face. These questions include inquiries about feelings of sadness or hopelessness that disrupt normal activities, intentional self-injury, serious contemplation of suicide, planning suicide attempts, and actual suicide attempts. These indicators provide crucial insights into the emotional challenges students may be encountering, shedding light on the urgency of addressing mental health concerns within educational environments.

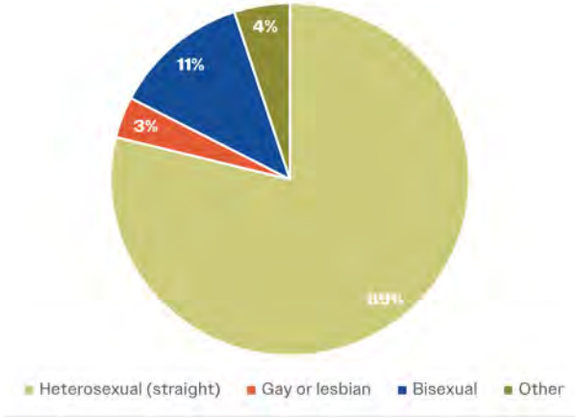
Figure 29. Ethnoracial Identity of High-School Students in Worcester, Grafton, and Shrewsbury



Source: Greater Worcester Regional Youth Health Survey, 2021

Among the high school students who participated in the RYHS, there was a balanced distribution across all grade levels and ages. Among them, 52% identified as female and 48% as male, with an additional 198 students identifying as transgender. The racial and ethnic composition of the high school student body across these three towns is illustrated in Figure 29, and the sexual orientation distribution is depicted in Figure 30.

Figure 30. Sexual Orientation of RYHS High School Participants, 2021

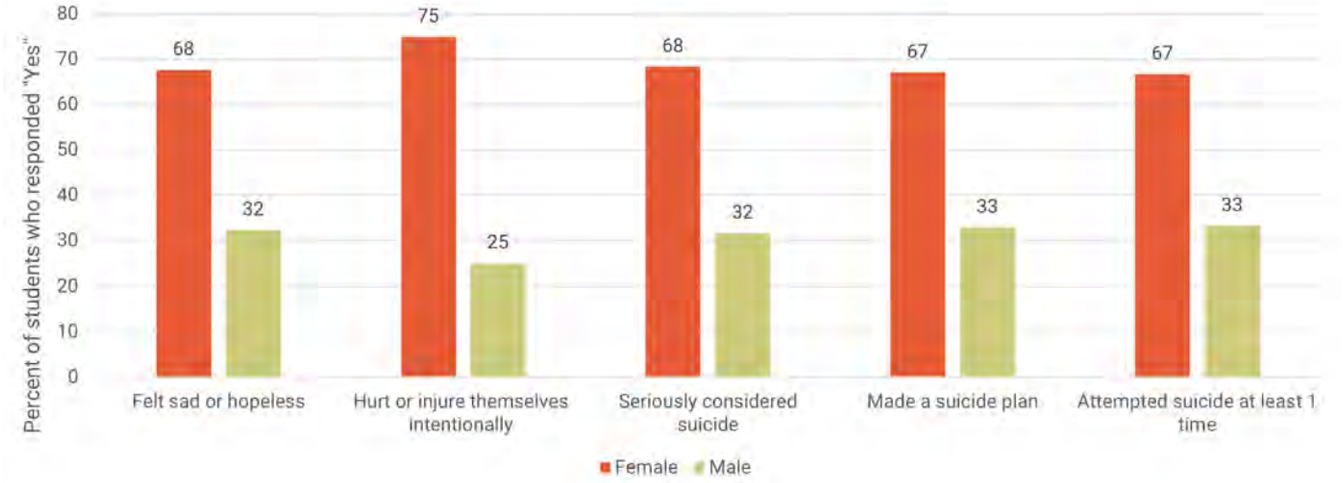


Source: Greater Worcester Regional Youth Health Survey, 2021

A concerning 2,848 students (37.5%) reported feeling so sad or hopeless that they stopped their usual activities. Alarmingly, 1,077 (14.2%) students engaged in self-harm, and 1,078 students (14.2%) indicated that they had seriously considered attempting suicide. The data also revealed that 786 students (10.4%) planned to attempt suicide, and 464 students (6.9%) attempted suicide at least once.

The data depicts substantial disparities in the mental health burden among students based on their gender, sexual orientation, and across various racial/ethnic groups.

Figure 31. Mental Health Outcomes in High School Students by Gender



Source: Greater Worcester Regional Youth Health Survey, 2021

GENDER

Across every mental health-related question, female students consistently demonstrated rates of mental health burden that were more than double those of their male counterparts. This range encompassed experiences like daily feelings of sadness or hopelessness, instances of self-injury, and suicide attempts (Figure 31). This difference is striking and calls for a close examination to understand the mental health challenges among female high school students and the reasons behind their significantly higher numbers. While their rates are certainly noteworthy, it's crucial to establish targeted actions that fully understand the challenges faced by all genders. This should include recognizing the unique difficulties encountered by each gender group and developing specific strategies that cater to the needs of students with different gender identities.

SEXUAL ORIENTATION

The data presents a striking picture of the disparities in mental health outcomes among high school students with varying sexual orientations. Notably, those identifying as gay or lesbian, bisexual, and those who describe their identity in some other way, experience significantly poorer mental health outcomes compared to heterosexual students. A considerable 62% of gay or lesbian students reported feeling sad or hopeless, which is more than double the rate among heterosexual students (29%). Similarly, rates of intentional self-injury are also markedly higher among gay or lesbian (32%), bisexual (32%), and students who reported their identity as "Other" (36%), compared to heterosexual students (8%). Additionally, there are alarmingly high rates of seriously considering suicide, making suicide plans, and attempting suicide among students who are not heterosexual. Notably, students who describe their identity in some other way might encompass individuals with less-known sexual identities, which tend to entail more internal struggle due to societal lack of awareness. These findings underscore the urgent need for tailored mental health support and resources to address the unique challenges students may face due to their sexual identity and promote overall well-being.

2024 CHA Priority area spotlight:

HEALTHCARE WORKFORCE

In response to questions concerning barriers to care and challenges in systems of care, primary care and mental health were prevalent topics across HEP and IL conversations. Primary care provision came up in 90% of conversations with HEP groups as a serious challenge. HEP groups detailed their experiences with being waitlisted so long that their health issues worsened before they could be addressed, lack of cultural representation and humility in health care setting, lack of proficient translational services for non-English speaking individuals, and lack of trust between Black patients and non-Black providers.

Both HEP and IL participants stated that there is a workforce shortage in both primary care and mental health care and the inability to meet the demands of the patient population is being felt disproportionately by those enrolled in MassHealth. It is important to emphasize that the workforce shortage and efforts to recruits and retain workers is challenged by the reality of uncompetitive wages because of low reimbursement rates in the insurance system. This is a key issue preventing folks from entering and remaining in entry level, essential jobs in health and human services, jobs that are primarily are serving the MassHealth population.

This issue in our region is on par with national trends as outlined in the September 2023 PHI Report on Direct Service Workers which indicates that the median annual earnings for direct care workers were making less than $25,000 a year.

In the thematic coding analysis, findings of specific themes in HEP and IL conversations were:

- The ratio of primary care providers and mental health providers is insufficient for the demand of the patient population's needs.
- Wages for health and human service workers are uncompetitive and are leading to an exodus of quality providers in the region.
- Waitlists and scheduling issues for patients and clients lead to not receiving care at all.

These findings were reflected on and validated by the CHA Advisory Committee during the prioritization process, with greatest emphasis on the ratio of primary care providers and mental health providers and lack of cultural representation and language access as key issues.

RACE/ETHNICITY

There are significant disparities in mental health outcomes among different racial and ethnic groups of high school students. Multiracial students showed the highest percentages of "Yes" responses across all questions within their racial group, highlighting the urgency of addressing mental health issues among diverse student populations. The distribution of "Yes" responses concerning feelings of sadness or hopelessness displayed a relatively uniform trend across all racial and ethnic groups, with Multiracial and Hispanic students encountering the highest rates at 46% and 40.6%, respectively. A substantial 21.6% of Multiracial students engaged in deliberate self-injury in the past 12 months. When it comes to seriously planning a suicide attempt, multiracial students exhibited a prevalence rate of 21.2%, with Asian students also experiencing relatively high rates at 15.3%. Notably, Asian students stand out due to their smaller population, making their high rates even more striking.

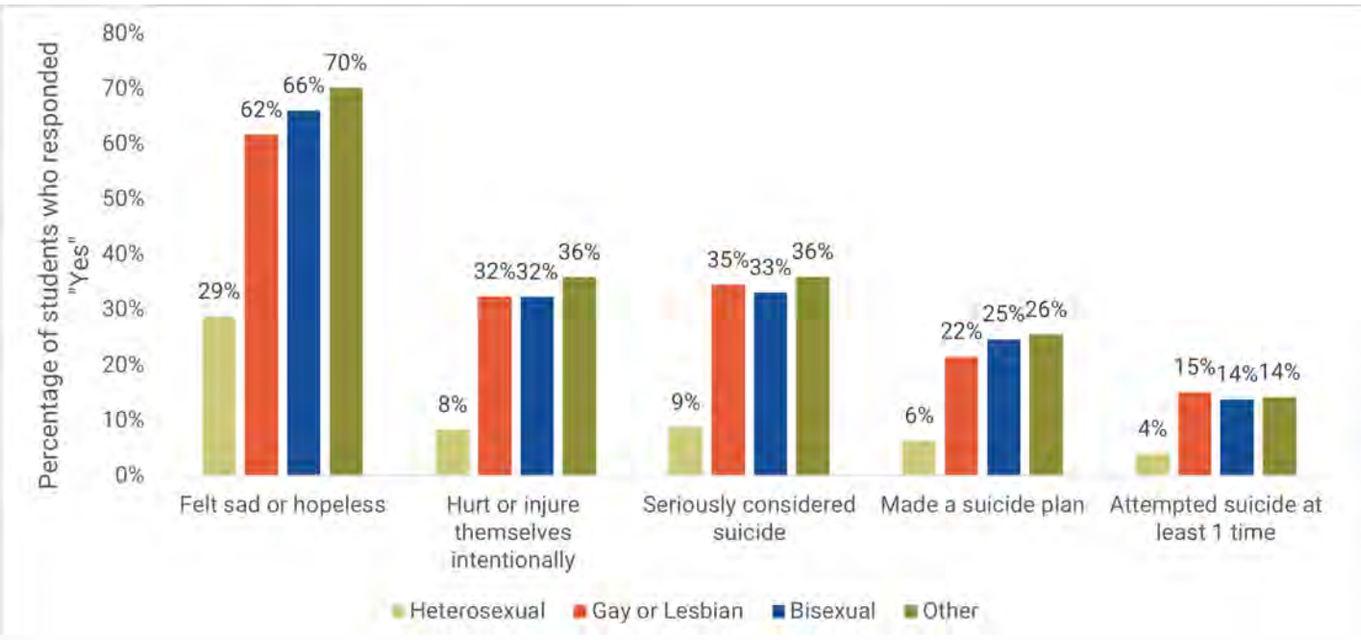
It is crucial to acknowledge the startlingly high number of high school students with these adverse mental health outcomes, particularly when we consider that these rates are high across all racial and ethnic groups. This underscores the need for gaining an in-depth understanding of students' individual concerns and tailoring interventions to suit the unique challenges faced by each race/ethnic group.

Middle School

At the Middle School level, 1,439 students (34.9%) of respondents reported feeling so sad or hopeless that they stopped their usual activities. 662 students (16.2% of respondents) reported that they intentionally hurt or injured themselves in the past 12 months. 854 students (20.9%) seriously considered attempting suicide, 570 students (13.9%) made a plan to attempt suicide, and 303 students (7.4%) attempted suicide at least one time.

This is deeply concerning because experiencing

Figure 32. Mental Health Outcomes in Highschool Students by Sexual Identity, 2021



Source: Greater Worcester Regional Youth Health Survey, 2021

Table 18. Mental Health Outcomes in High School students by Race/ethnicity

Ethnoracial Group	Ever felt so sad or hopeless that you stopped doing some of your normal activities (past 12 months)	Hurt or injure themselves intentionally (past 12 months)	Ever seriously considered attempting suicide (past 12 months)	Made a plan to attempt suicide (past 12 months)	Attempted suicide at least 1 time (past 12 months)
White	34.8%	14.7%	13.4%	8.9%	4.2%
Black	33.6%	9.9%	11.7%	8.3%	6.0%
Asian	32.4%	12.0%	15.3%	10.8%	4.3%
Hispanic	40.6%	12.9%	11.9%	10.0%	6.5%
Multiracial	46.0%	21.6%	21.2%	16.2%	10.9%
Other	35.4%	8.8%	11.0%	7.5%	5.7%

Source: Greater Worcester Regional Youth Health Survey, 2021

such serious mental health issues between the ages of 12-14 can have a negative impact, as these years are crucial for development. It is important to direct interventions towards this age group to prevent these mental health issues from worsening as they grow older, and to work on improving their well-being starting from an earlier stage.

Like high school students, the trend of mental health challenges is consistent among middle school students, with female students carrying more than double the mental health burden compared to male students. Given that this pattern persists into high school, it is important to address this at a younger age in order to alleviate the burden on older students.

The data indicates significant disparities in mental health outcomes among different racial and ethnic groups of middle school students. Like high school students, Multiracial students in middle school showed the highest percentages of "Yes" responses across all questions within their racial group. The distribution of "Yes" responses concerning feelings of sadness or hopelessness displayed Multiracial and Hispanic students encountering the highest rates at 46% and 43% respectively. A substantial number of students engaged in deliberate self-injury in the past 12 months with the figures standing at 145 Multiracial students (22.2%), 147 Hispanic students (17.5%), 196 White students (14.9%), 81 Black students (15.3%), and 65 Asian students (14.7%).

Furthermore, among the various racial and ethnic groups, Multiracial, Hispanic, and Black students report the highest rates in terms of experiencing serious thoughts of suicide (28%, 24%, 23% respectively), as well as making plans to attempt suicide (16.5%, 17.4%, 17.2% respectively). Most concerning is the fact that a total of 303 middle school students attempted to take their own lives within the past year of taking the survey, with the breakdown showing 77 as Hispanic, 73 as White, 72 as Multiracial, 54 as Black, and 17 as Asian.

YOUTH MENTAL HEALTH RESOURCES

Although the surveys are administered in the schools, it should not be interpreted that schools should be held accountable for the behaviors of youth. However, promoting health and wellbeing in schools is recognized as a vehicle to promote positive behaviors and healthy development.

Under the Worcester Public Schools' (WPS) new administration, Dr. Monarrez, Superintendent of WPS created a new division in the fall of '22 named, 'Academic Supports' that distributes departments between the teaching and learning division and this new division in the district. The Academic Supports office includes the following departments: Culture and Climate, Special Education, Alternative Education, and Nursing. The work that sits in this wheelhouse is focused on promoting health and wellness. The new office's leader, Annie Azarloza, Chief Academic Support Officer, leads the Culture and Climate department, which entails strengthening scholars' social emotional competencies, supporting their mental health needs, and removing barriers that interfere with their ability to access their learning. Ms. Azarloza truly believes that academic achievement is a byproduct of a warm, welcoming, positive, and supportive climate – one that cultivates personal growth, lifelong well-being, and creates a culture of belonging where all are celebrated and challenged to reach their full potential.

The office is launching further new health and wellness initiatives in schools that will pilot social and emotional frameworks, such as Restorative Practices, Anti-Bullying, and Positive Behavior Interventions. The office will also continue partnering with four contracted mental health agencies to have clinicians in all of its secondary schools, alternative schools, and high needs elementary schools. For more information on the anti-bullying framework and restorative practice within the WPS, please visit Bicondova & Associates' Bicondova & Associates | Restorative Solution to Eliminate Bullying. WPS is also in the midst of partnering with Franklin Covey's Leader in Me positive behavior intervention framework. WPS has prioritized and elevated the health and well-being of scholars, educators, caregivers, and the community at large on behalf of personal and academic growth.

The Shrewsbury Public School district is also committed to supporting the health and well-being of the students and staff in the school community by engaging in initiatives that are in place as part of a multi-pronged approach to mental health support. The below are examples of support offered to youth in the district:

- Clinical Supports: A collaborative approach is taken to working with students presenting with mental health, emotional, social, and/or behavioral challenges. School teams consisting of school psychologist(s), school counselor(s), school adjustment counselor(s), administrators, school nurses, educators; in consultation with Director of Counseling and Mental Health Services, Clinical Coordinators, and District Social Worker; and in collaboration with families; work together to identify students with mental health needs, provide recommendations, interventions, and support, and closely monitor cases.
- BRYT (Bridge for Resilient Youth in Transition) Program: Partnering with the Brookline Center for Community Mental Health, BRYT programs at the middle and high school levels provide Tier 3 clinical support, academic coordination, family support, and care coordination services to students who are transitioning back to a full schedule after missing extensive amounts of learning due to serious mental health, medical, and/or life transition challenges.

UMass Memorial Ronald McDonald Care Mobile delivers neighborhood-based medical and preventive dental mobile services at 10 sites and 24 schools as a means of decreasing barriers to care and connecting underserved populations to ongoing care.

UMass Memorial Medical Center's Road to Care Mobile Addiction Team aim to reduce opioid- and substance-use related morbidity and mortality through the Kraft Community Care in Reach designed to reach out to those experiencing homelessness and substance use disorder. The van offers medical and behavioral health services and is designed to mitigate barriers such as lack of transportation or mistrust in healthcare systems.

- Universal Mental Health Screeners: The universal screening tool, General Anxiety Disorder 7 (GAD-7), is an evidenced-based assessment that was piloted with students in Grade 7 in Spring of 2023 and will be expanded to other grades in coming years. This tool is used to assess symptoms related to anxiety and depression. Completing the screening is voluntary. Results are confidential but are not anonymous as email addresses will be collected with receipt of response. If students are deemed at moderate to high risk of symptoms related to anxiety and/or depression, a support staff member will follow-up with the students to provide resources and help identify trusted adults (both in and out of school).
- Social Emotional Learning (SEL) Curriculum and Screeners: Social emotional learning refers to teaching of skills necessary for students to participate and interact effectively: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. Panorama Education surveys are utilized in grades 3 through 12 to gain information about students' competencies in these areas as well as providing insight into students' cultural awareness and sense of belonging.
- Signs of Suicide (SOS) Curriculum: This curriculum is delivered through Health classes in Grades 8 through Grade 11. As part of the curriculum, students complete the BSAD (Brief Screen for Adolescent Depression). Counseling staff provide follow up for students who score in a clinically significant range for symptoms of depression.
- Community Partnerships: Shrewsbury Public Schools value partnerships in our community and with national organizations in order to provide a variety of support and resources to our students, staff and families. Our partners include:
    - Shrewsbury Youth and Families Services (SYFS) provides school-based counseling services and wraparound case management.
    - William James College INTERFACE referral system provides community members support in navigating referrals and connecting with outpatient behavioral health providers.
    - School Pulse is a text-based platform that offers students the opportunity to speak up about their feelings in a way that is easy and familiar to them and to receive real time responses to their worries or concerns.
    - SPS maintains a contract with Dr. Kim Kusiak, consulting Child and Adolescent Psychiatrist, and a Fellow through the UMass Psychiatry Department. Twice per month, Dr. Kusiak and a UMass Fellow meet with clinical staff, administration, teachers, and other support staff to provide clinical consultation for referred student cases.

2024 CHA Priority area spotlight:

NAVIGATING PUBLIC BENEFITS

Nearly 13% of HEP participants reported they were earning less than $25,000 per year and relied on MassHealth for health insurance coverage. Their experiences with poor access to a primary care provider are on par with statewide trends: "According to a 2021 report by the Association of American Medical Colleges, there will be a shortage of between 17,800 and 48,000 primary care physicians nationally by 2034, and a shortage of between 21,000 and 77,100 physicians in nonprimary care specialties. In Massachusetts alone, a fourth of doctors say they will leave the field in the next two years, according to a recent survey of its members by the Massachusetts Medical Society."[17]

"I am personally in the tightest spot because my PCP retired, and anywhere that I applied for a new PCP can't take me. I just tried to get a new PCP, but she couldn't serve me at all...she wouldn't listen to me and wouldn't understand me. I filed a complaint about her, and I had to interview with an HR person to make sure it wasn't a racism thing. To get good care, you need a PCP, but the support isn't there.

- HEP Interviewee

Reimbursement rates for primary care services can be lower than that of specialized care, discouraging medical graduates from choosing primary care careers. According to the community conversations, those most impacted by this shortage are those qualifying for MassHealth and/or are living with low-incomes relative to the cost of living.

In the thematic coding analysis, findings of specific themes in HEP and IL conversations were:

- User experience is challenging, and assistance resources are insufficient for individuals and families when trying to navigate MassHealth qualifications and options and public benefits qualifications and options.
- Co-pays and premiums continue to be costly for individuals and families living paycheck to paycheck.

Issues with public systems include issues with benefits like SNAP, the Supplemental Nutritional Assistance Program. Conversations acknowledged the strain of rising food costs, especially among the middle class, who are not qualified for SNAP due to the cliff effect. If a household's income changes, they might experience the "cliff effect," where families who are receiving SNAP benefits can quickly lose benefits if they earn income above a certain threshold, even temporarily.

These findings align with the findings of the Coalition's partnered project with Tufts University, "Improving Food Security through Systems Thinking and Community Collaboration" (March 2023), where access to affordable housing, the cliff effect, and distribution of funding were named as levers of impact for food security. This finding from the community also aligns with the Worcester Regional Research Bureau's 2022 Report "Is Worcester County Food Insecure? It Depends on Where"[18] that covered correlative geographic factors demonstrating the correlation between food insecure household and factors of where they live. One map of the report demonstrates a correlation between food insecurity, poverty, and race/ethnicity, and the alignment of the free food resources with these vulnerability variables.

Physical Activity and Sleep Behaviors

Worcester has the highest percentage (26.7%) of adult residents who report that they have not engaged in physical activity or exercise in the past month followed by West Boylston (21.8%). Similarly, 23.5% of youth in Worcester report not engaging in physical activity in the past 7 days, which is higher than that in the state (21.1%) and the Alliance towns. Approximately one third of adults in the Alliance communities and the state report sleeping less than 7 hours, on average, per night whereas almost half of high school youth report getting less than 7 hours of sleep per night, on average (Table 19).

Table 19. Physical Inactivity and Sleep Deprivation in CMRPHA Adults and Youth

	No Recent Physical Activity Among Adults	No Recent Physical Activity Among Youth	Less Than 7 Hours Sleep Among Adults	Less Than 7 Hours Sleep Among Youth
Grafton	17.8%	9.2%	31.5%	47.1%
Shrewsbury	18.0%	9.0%	30.9%	48.8%
West Boylston	21.8%	*Data not available*	32.2%	*Data not available*
Worcester	26.7%	23.5%	34.9%	53.2%
Massachusetts	20.1%	21.1%	31.3%	*Data not available*

Source: CDC BRFSS PLACES 2020 | Greater Worcester Youth Health Survey 2021 | Massachusetts Youth Risk Behavior Survey 2021

Dental Visits and Teeth Loss

Worcester has the lowest percentages (65.0%) of residents aged 18 and over who report having been to the dentist in the past year when compared with the Alliance towns and the state, whereas Shrewsbury and Grafton have the highest percentages (77.8% and 77.5%, respectively). A notable trend follows where Shrewsbury and Grafton have the lowest percentages of residents over the age of 65 years who have lost all their natural teeth due tooth decay or gum disease (8.6% and 9.0%, respectively) and Worcester has the highest percentage (16.4%) within the Alliance and compared with the state (12.1%) (Table 20).

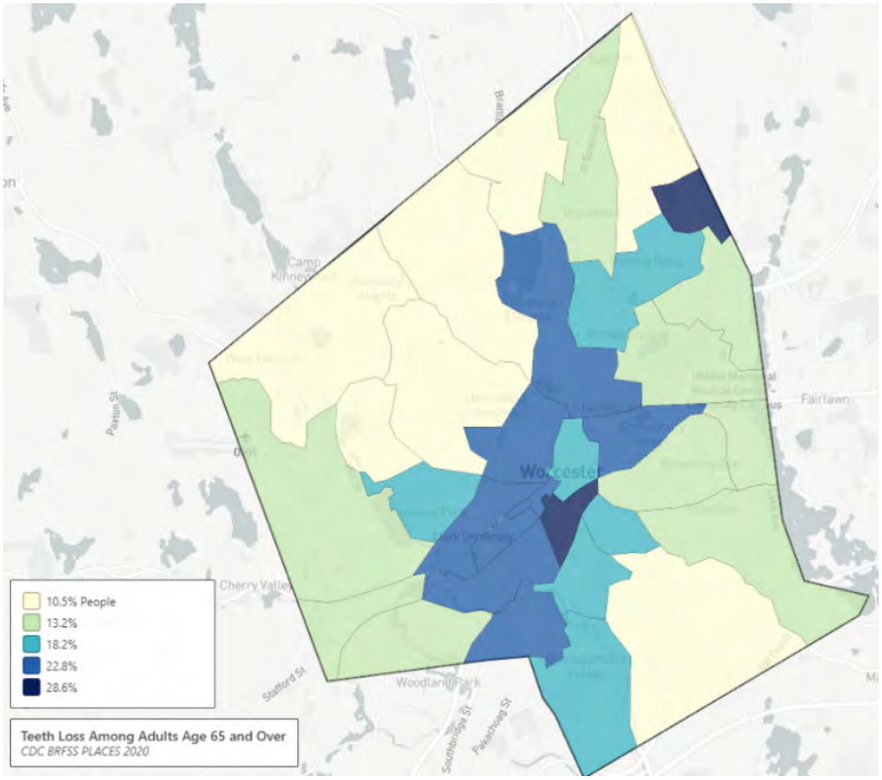
Further differences exist at the neighborhood level in Worcester, as illustrated in Figure 33, where older residents (65+ years) in neighborhoods such as Great Brook Valley (32.0%), Green Island (28.6%), South Worcester (26.0%) and University Park (25.0%) experience teeth loss at higher rates than older residents residing in neighborhoods such as Westwood Hills (10.5%), Indian Hill (10.5%) and West Tatnuck (11.1%) neighborhoods.

Table 20. Dental Visits and Tooth Loss among CMRPHA Adults, 2020

	Annual Dental Visit Rate	Tooth Loss, Age 65+
Grafton	77.5%	9.0%
Shrewsbury	77.8%	8.6%
West Boylston	73.2%	12.7%
Worcester	65.0%	16.4%
Massachusetts	71.7%	12.1%

Source: CDC BRFSS PLACES 2020

Figure 33. Teeth Loss among Worcester Residents age 65+ years, 2020



Source: CDC BRFSS PLACES 2020

Morbidity

INFECTIOUS DISEASES

Sexually Transmitted Infections (STIs)

A sexually transmitted infection (STI) is an infection that is spread primarily through sexual contact, including vaginal, anal, and oral sex. STIs can be caused by bacteria, viruses, or parasites, and they can affect anyone who is sexually active. A sexually transmitted disease (STD) develops because of an STI and the term implies that the infection has led to some symptom of disease. Some common examples of STIs include chlamydia, gonorrhea, syphilis, HIV, and Hepatitis-C. Early detection, proper treatment, and practicing safe sex are important to prevent the spread of STIs and maintain sexual health.

CHLAMYDIA AND GONORRHEA

Chlamydia and gonorrhea are both sexually transmitted infections (STIs) caused by bacteria. Chlamydia often does not show symptoms but can lead to serious health issues if untreated, particularly in women. Gonorrhea can cause infections in the genitals, rectum, and throat, and can also lead to complications if not treated. These infections spread through sexual contact and can affect anyone. Early detection and treatment are crucial to prevent complications and protect overall health.

Among the CMRPHA communities, the occurrence of both chlamydia and gonorrhea cases per 100,000 people increased between 2020 and 2021 in all towns except for West Boylston. Worcester

recorded the highest numbers for both chlamydia and gonorrhea cases in both years. Specifically, Worcester's chlamydia rate increased by 37 per 100,000 people from 2020 to 2021, and its gonorrhea rate increased by 73 per 100,000. In contrast, West Boylston experienced a notable decline in chlamydia rate by 152 per 100,000 people and a decrease in gonorrhea rate by 51 per 100,000 people (Figures 34 and 35).

Notably, the diagnosis rates of both Chlamydia and Gonorrhea diagnoses in Worcester surpassed the state average, indicating the potential contribution of environmental influences, demographic composition, or access to healthcare resources to the higher occurrence of these diagnoses in Worcester (Table 21).

Table 21. Chlamydia and Gonorrhea Incidence per 100,000 People in Worcester and Massachusetts

	Chlamydia		Gonorrhea	
	2020	2021	2020	2021
Worcester	492	**529**	109	**182**
Massachusetts	351	**383**	104	**115**

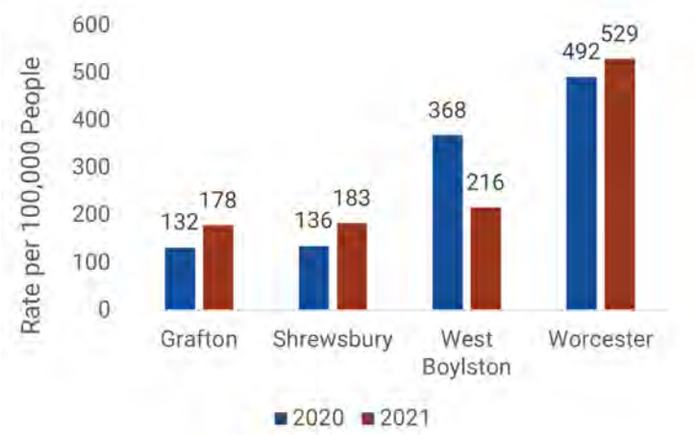
Source: MDPH HIV/AIDS and STD Surveillance Program (2020-2021)

HIV (Human Immunodeficiency Virus)

HIV (Human Immunodeficiency Virus) is a virus that attacks the body's immune system and lowers the body's ability to fight off infections. If left untreated, HIV can lead to the disease known as AIDS (acquired immunodeficiency syndrome). It is primarily spread through unprotected sexual contact, sharing needles or syringes, and from mother to child during childbirth or breastfeeding.

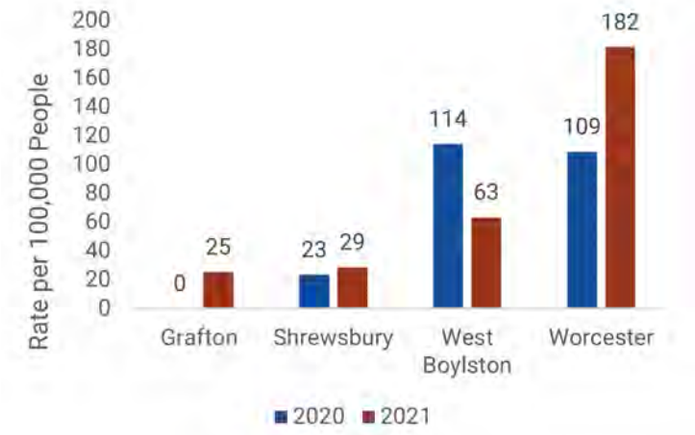
Across the CMRPHA, the rates of HIV diagnosis between 2020 and 2021 remained relatively low. Worcester has the highest HIV incidence, with a rate twice that of the state (12.1 vs 6.2 per 100,000, respectively) in 2020 with a slight decrease in incidence rate (10.2 per 100,000) in 2021 (Table 22).

Figure 34. Chlamydia Incidence, CMRPHA



Source: MDPH HIV/AIDS and STD Surveillance Program (2020-2021)

Figure 35. Gonorrhea Incidence, CMRPHA



Source: MDPH HIV/AIDS and STD Surveillance Program (2020-2021)

Table 22. HIV Incidence in CMRPHA (2020-2021)

	2020		2021	
	N	Rate per 100,000	N	Rate per 100,000
Grafton	0	0.00	0	0.00
Shrewsbury	<5	0.00	<5	0.00
West Boylston	0	0.00	<5	0.00
Worcester	25	12.1	21	10.2
Massachusetts	436	6.2	446	6.3

Source: MDPH HIV/AIDS and STD Surveillance Program (2020-2021)

Syphilis

Syphilis can be transmitted through sexual contact, as well as from mother to child during pregnancy. It has several stages which are characterized by symptoms including a sore or ulcer at the site of infection, skin rashes, and flu-like symptoms. If syphilis remains untreated, it can cause severe damage to organs including the heart, brain, and nerves. It is important to diagnose and treat syphilis early to prevent complications.

Across the Alliance communities, the rates of syphilis infection diagnosis between 2020 and 2021 remained relatively stable. Worcester has an alarmingly high incidence rate of syphilis compared with the remaining Alliance communities and the state (Table 23).

Table 23. Syphilis Incidence in the CMRPHA (2020-2021)

	2020		2021	
	N	Rate per 100,000	N	Rate per 100,000
Grafton	0	0	<5	0
Shrewsbury	<5	0	<5	0
West Boylston	0	0	0	0
Worcester	63	30.5	62	30.0
Massachusetts	1,159	16.5	62	0.9

Source: MDPH HIV/AIDS and STD Surveillance Program (2020-2021)

Hepatitis-C

Hepatitis C is a viral infection that primarily affects the liver. It is caused by the Hepatitis C virus (HCV) and can lead to both acute and chronic forms of liver disease. Hepatitis C is commonly spread through contact with the blood of an infected person, often through sharing needles or other equipment for injecting drugs. It can also be transmitted through other means such as from mother to child during childbirth, through sexual contact, or through exposure to contaminated blood in healthcare settings. Chronic Hepatitis C infections can result in serious health issues, including cirrhosis, liver cancer, and the need for a liver transplant.

Table 24. Hepatitis-C Incidence per 100,000 in the CMRPHA (2020-2021)

	2020	2021
Grafton	25.4	30.5
Shrewsbury	23.5	18.3
West Boylston	203.1	165.0
Worcester	56.7	59.1
Massachusetts	45.6	45.9

Source: MDPH HIV/AIDS and STD Surveillance Program (2020-2021)

The Hepatitis C infection diagnosis rates per 100,000 population between 2020 and 2021 varied among the Alliance communities. Grafton and Worcester experienced slight increases in newly diagnosed cases, Shrewsbury observed a decrease (23.5 vs 18.3 per 100,000), and while West Boylston exhibited a notable reduction in rates from 2020 to 2021 (203.1 vs 165 per 100,000, respectively) it remains the community with the highest rate of Hep. C in the Alliance with a rate 3.5 times that of the state emphasizing the need for location-specific strategies to address Hepatitis C transmission (Table 24).

CHRONIC DISEASES

As illustrated in Table 25, the percentages of adult residents who report being obese in the CMRPHA communities are slightly higher than the percentage in the state (25.2%), with the highest prevalence in Worcester (32.2%). Worcester and West Boylston have higher rates of adults with high blood pressure, coronary heart disease who have had a stroke, when compared with the state.

Table 25. Obesity and Cardiovascular Disease Prevalence among CMRPHA Adults, 2020

	Obesity	High Blood Pressure	Coronary Heart Disease	Stroke
Grafton	27.8%	25.8%	4.6%	2.0%
Shrewsbury	26.0%	26.8%	4.9%	2.1%
West Boylston	30.1%	31.5%	6.6%	2.9%
Worcester	32.2%	28.6%	5.6%	2.8%
Massachusetts	25.2%	27.6%	5.3%	2.6%

Source: Centers for Disease Control and Prevention Behavior Risk Factors Surveillance Systems PLACES, 2020

Table 26. Select Chronic Disease Prevalence among CMRPHA Adults, 2020

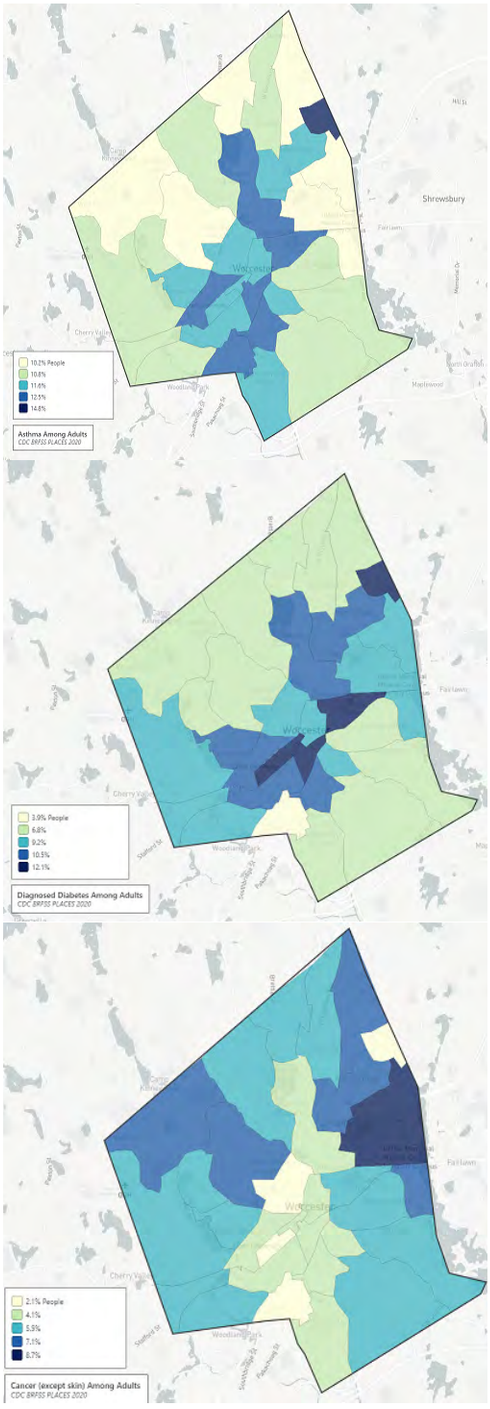
	Asthma	Diabetes	Cancer (except skin)
Grafton	10.0%	7.0%	6.4%
Shrewsbury	9.6%	7.4%	6.9%
West Boylston	10.5%	9.0%	7.7%
Worcester	11.6%	9.5%	5.6%
Massachusetts	10.7%	8.1%	6.5%

Source: Centers for Disease Control and Prevention Behavior Risk Factors Surveillance Systems PLACES, 2020

According to the Massachusetts Department of Public Health Bureau of Climate and Environmental Health's Report, "asthma is a common chronic disease that continues to increase in prevalence", they also add that the state of Massachusetts has a higher prevalence of asthma than the national prevalence rate. While the reported prevalence of adults who report they were told by a doctor that they have asthma is similar across the alliance towns of Grafton (10.0%), Shrewsbury (9.6%), and West Boylston (10.5%), Worcester has the highest percentage (11.6%) of adult asthma in the Alliance, which is also slightly higher than the percentage in the state (10.7%) (Table 26). There are also clear disparities within those who have asthma based on where residents of Worcester live as illustrated in Figure 36 where residents of neighborhoods of Great Brook Valley, University Park, Vernon Hill, to name a few, experience higher prevalence of asthma compared with their counterparts in Indian Hill, and Lake Park.

Diabetes is defined as a "complex metabolic disorder" that is categorized into 2 types: type 1 diabetes, which comprises approximately 5% of all diabetes, and type 2 diabetes, comprising roughly 90%-95% of all diagnoses. The prevalence of this chronic disease is increasing in the U.S. and is correlated with some modifiable health risks such as poor diet. This results in obesity and other factors among marginalized communities including Black, Indigenous and people of color (BIPOC) communities as well as the aging community. Grafton has the lowest percentage of residents (7.0%) who report having diabetes in the Alliance followed by Shrewsbury (7.4%), which are both lower than the state prevalence (8.1%). Higher percentages of residents in Worcester (9.5%) and West Boylston (9.0%) report having adult diabetes, compared with the other Alliance

Figure 36. Asthma, Diabetes and Cancer Prevalence Distribution in Worcester Neighborhoods, 2020



municipalities (Table 26). The highest prevalence of diabetes in Worcester are observed in the neighborhoods of Great Brook Valley, Shrewsbury Street, Green Island and Beacon Brightly (Figure 36).

The percentage of Worcester residents who report that they have ever been told they have any type of cancer is similar to the state's (5.6% vs 6.5%, respectively). Figure 28 illustrates the estimated distribution of cancer prevalence in Worcester, where the highest prevalence is observed in the Biotech Park, Booth Apartments, West Tatnuck and Westwood Hills neighborhoods, to name a few. West Boylston has a higher percentage (7.7%) of adults who report any type of cancer, which is higher than the state prevalence, whereas Shrewsbury (6.9%) and Grafton (6.4%) have similar prevalence rates (Table 26).

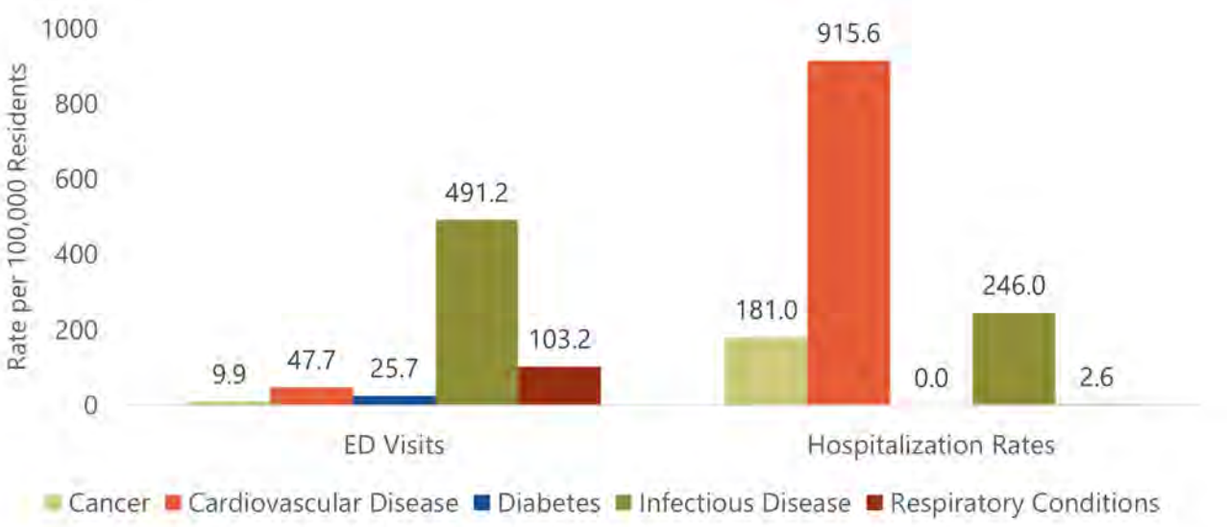
It is important to note that prevalence and incidence rates may vary by municipality by cancer type. The standardized incidence ratio (SIR) is a good statistical estimate when looking at cancer incidence in small areas, such as communities, and provides an estimated number of cancer incidence that is relative to that of a larger population, such as the respective state. An SIR of 100 means that the observed occurrence in the community is equal to the expected occurrence in the state, greater than 100 means that the observed occurrence is more than the expected, while less than 100 means that the observed occurrence is fewer than the expected. For example, the MDPH reported that for the 5-year period of 2011-2015, Worcester had a statistically significantly greater SIR (at the 95% confidence level) for lung and bronchus cancers than expected (120), whereas Grafton (103), Shrewsbury (89), and West Boylston (81) were not statistically significantly different than the state. However, for the same timeframe, when looking at colorectal cancer incidence, West Boylston had a statistically significantly lower SIR than expected (50) while Worcester (96), Shrewsbury (90) and Grafton (69) were not statistically significantly different than the state.

Table 27. Select UMMH Emergency Department Visits and Hospitalizations among CMRPHA Residents (Grafton, Shrewsbury, West Boylston, and Worcester) 18+ Years Old, Jan 2020 - April 2023

Clinical Metrics by Principal Diagnosis (Total Encounters Used) i.e. A Patient can be counted more than once for a 'Principal Diagnosis'			
Principal Diagnosis	Hospitalizations (Inpatient due to Principal Dx)	Hospitalization Mortalities	ED Visits/ Observations (Due to Principal Dx)
Cancer			
Oncology-Breast	37	0	9
Oncology-Male-Prostate	79	0	4
Oncology-Thoracic-Lung	205	12	6
Oncology-Dermatology-Skin (excl. Melanoma)	5	0	1
Oncology-GI-Colorectal & Anal	167	0	7
Total	**493**	**12**	**27**
Cardiovascular Disease			
Hypertension	1856	59	540
Heart Disease	346	3	68
Major Cardiovascular Disease	103	4	46
Heart Failure	0	0	4
Cerebrovascular Disease	189	1	12
Total	**2494**	**67**	**670**
Diabetes			
Diabetes - Type 1	0	0	22
Diabetes - Type 2	0	0	48
Total	**0**	**0**	**70**
Respiratory Conditions			
COPD	2	0	45
Asthma	5	0	236
Total	**7**	**0**	**281**
Infectious Disease			
Hepatitis C	1	0	2
Lyme Disease	12	0	29
Pneumonia/Influenza	635	16	1295
HIV/AIDS	22	1	7
Infectious and Parasitic Disease	0	0	5
Total	**670**	**17**	**1338**
Grand Total	**3,664**	**96**	**1,846**

Source: UMass Memorial Health Office of Quality Informatics

Figure 37. Emergency Department Visits and Hospitalization Rates for Select Ambulatory Care Sensitive Conditions (18+ Years Old), Jan 2020 – April 2023



Source: UMass Memorial Health Office of Quality Informatics

EMERGENCY DEPARTMENT VISITS & HOSPITALIZATIONS

The data on Emergency Department Visits and Hospitalizations were obtained from the UMMH Office of Quality Informatics' electronic medical records, in aggregate, for patients eighteen years or older that received care at UMMMC between January 2020 and April 2023 that were residents of Grafton, Shrewsbury, West Boylston or Worcester. As such, data presented in this section is not representative of all residents in these communities that had an emergency department visit or were hospitalized, during the specified time period.

Figure 37 provides data on what are considered ambulatory care sensitive conditions (ACSCs) emergency department visits and hospitalizations rates among residents of Grafton, Shrewsbury, Grafton, and Worcester, during January 2020 through April 2023 from the UMass Memorial Health, the largest healthcare system in Central Massachusetts. ACSCs are defined as acute or chronic health conditions that can often lead to hospitalization when they are not prevented or treated by a primary or preventive care setting . Of the select ACSCs, cardiovascular disease conditions, including hypertension, heart disease, major cardiovascular diseases, heart failure and cerebrovascular diseases, have the highest rate of hospitalizations (915.6 per 100,000 residents) among Alliance residents who are UMMMC patients, during this period. Of the emergency department visits, infectious disease-related conditions, primarily pneumonia/influenza, have the highest rate of emergency department visits (491.2 per 100,000 residents) during this timeframe followed by respiratory conditions (103.2 per 100,000 residents), primarily asthma at a rate of 86.6 per 100,000 residents. Important to note, is that these data were collected during the COVID-9 pandemic which may reflect decreased hospitalization rates, by nature of the pandemic, compared with pre-pandemic rates.

In respect to race and ethnicity, three health conditions, Pneumonia/Influenza, Hypertension, and GI/Anal/Colorectal Cancer – displayed disparate outcomes among CMRPHA residents,

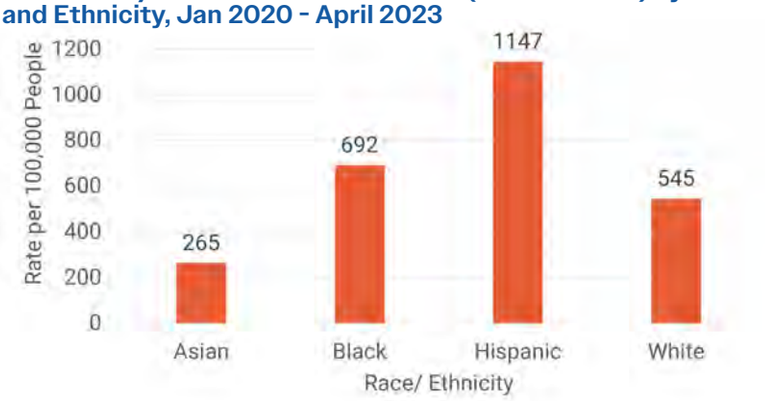
each expressed per 100,000 individuals within their respective racial/ethnic populations.

For Pneumonia, stark disparities are evident, with Hispanic individuals exhibiting the highest rate of 1147 per 100,000 people, followed by Black individuals at 691. Asian and White populations show relatively lower rates of 265and 545, respectively (Figure 38).

For Hypertension, Asian individuals have the lowest rate at 150, while Hispanic individuals display a higher rate of 390. Interestingly, Black individuals show a slightly lower rate of 511 compared to White individuals at 576 (Figure 39).

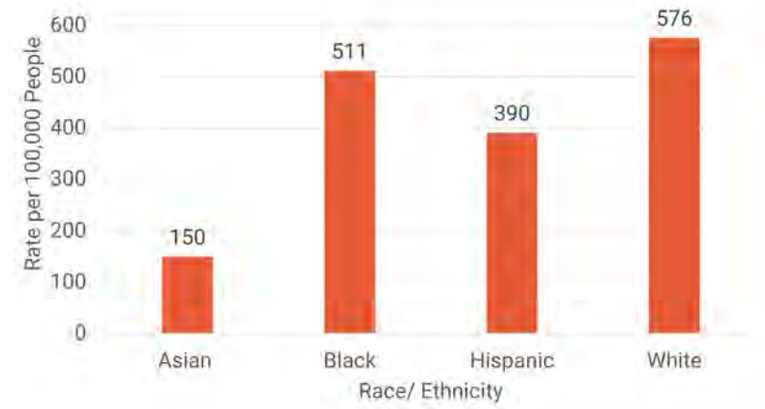
For GI/Colorectal/Anal Cancer, Asian individuals have the lowest rate of 12. Black and Hispanic populations have similar rates of 40 and 41, respectively. White individuals have the highest rate among these groups at 69 per 100,000 persons. These findings underscore the complex interplay of various factors influencing health disparities among different racial and ethnic communities, necessitating targeted interventions to promote equitable health outcomes (Figure 40).

Figure 38. Rate of UMMH ED Visits and Hospitalizations for Pneumonia/Influenza in the CMRPHA (18+ Years Old) by Race and Ethnicity, Jan 2020 - April 2023



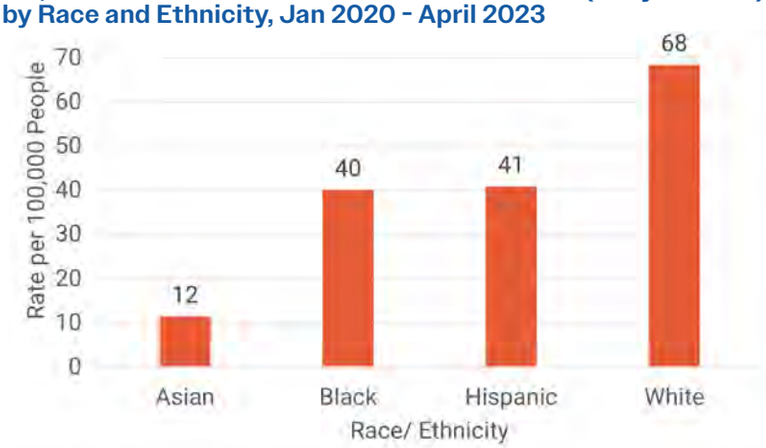
Source: UMass Memorial Health Office of Quality Informatics

Figure 39. Rate of UMMMC ED Visits and Hospitalizations for Hypertension in the CMRPHA (18+ Years Old) by Race and Ethnicity, Jan 2020 - April 2023



Source: UMass Memorial Health Office of Quality Informatics

Figure 40. Rate of UMMMC ED Visits and Hospitalizations for G.I., Colorectal and Anal Cancer in the CMRPHA (18+ years Old) by Race and Ethnicity, Jan 2020 - April 2023



Source: UMass Memorial Health Office of Quality Informatics

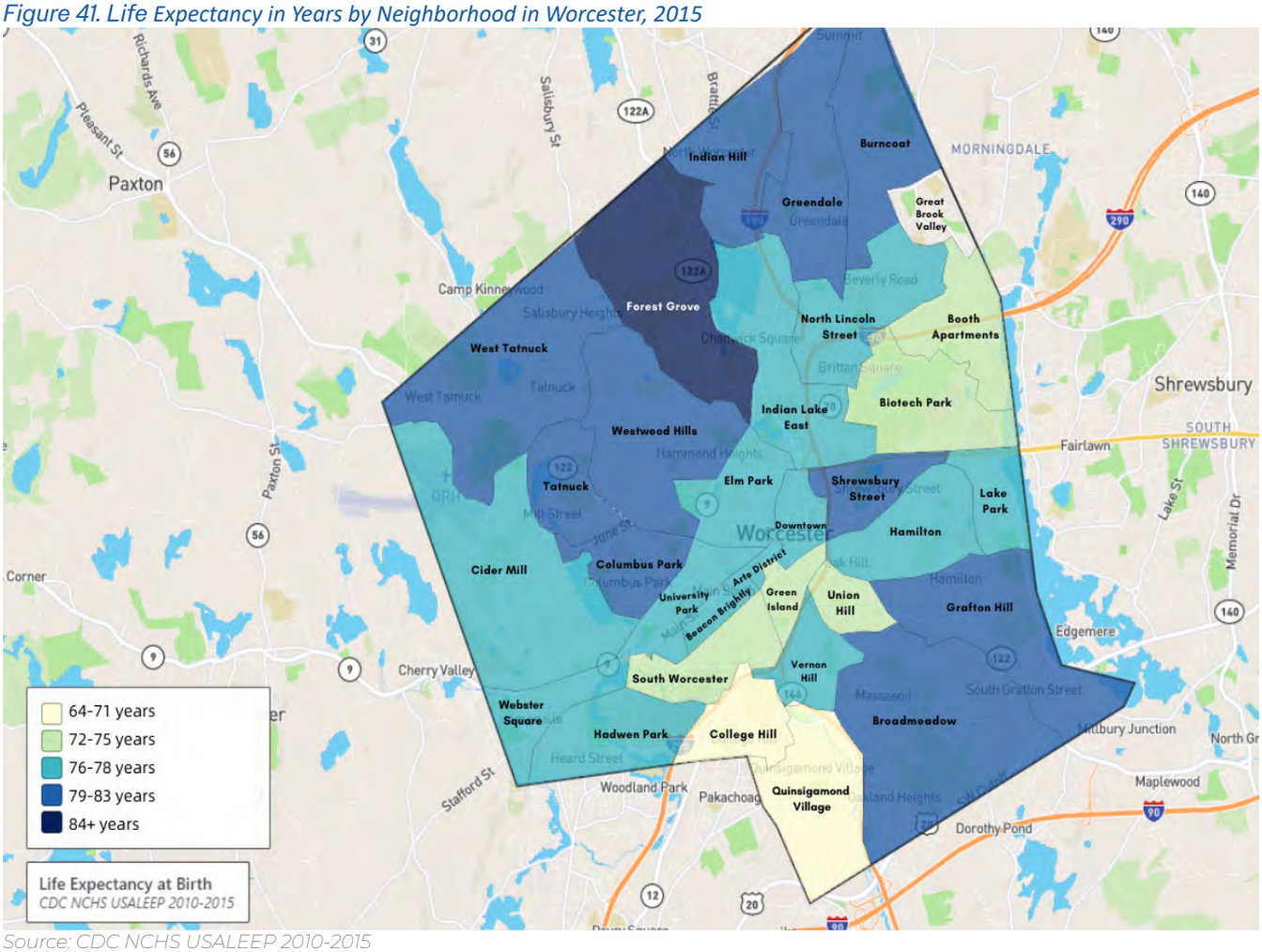
Mortality

LIFE EXPECTANCY AT BIRTH

Figure 41 illustrates the variation in life expectancy across Worcester. The data utilized for this map are sourced from 2015, as it represents the most recent data accessible by zip codes. More recent 2018 data have been published; however, these data are not yet accessible in formats that can be mapped. The patterns observed in this data exhibit resemblances to the most current 2018 dataset, rendering it still a valid and relevant representation of the life expectancy distribution in the area

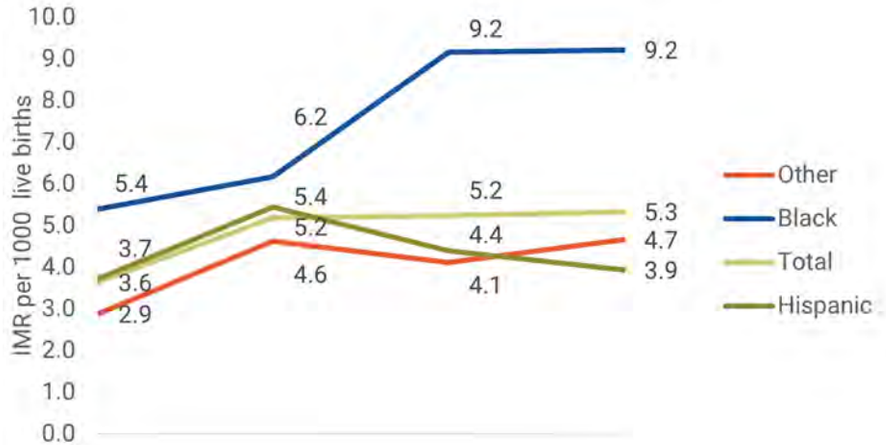
The color gradients on the map serve as a visual representation of the life expectancy values within different neighborhoods. Darker shades indicate higher life expectancy, while lighter shades represent lower life expectancy (as depicted in the map key). Areas with darker colors (e.g., Forest Grove, Broadmeadow, Grafton Hill, Greendale, Westwood Hills) reflect regions where residents tend to live longer, possibly indicating better access to healthcare, education, and socioeconomic resources. Conversely, lighter-colored areas (e.g., College Hill, Quinsigamond Village, Union Hill, South Worcester, Biotech Park) suggest potential health challenges, which could be influenced by factors such as poverty, limited healthcare access, or environmental issues.

Figure 41. Life Expectancy in Years by Neighborhood in Worcester, 2015



Source: CDC NCHS USALEEP 2010-2015

Figure 42. Infant Mortality 3-year Rolling Averages by Race & Ethnicity, 2017-2022



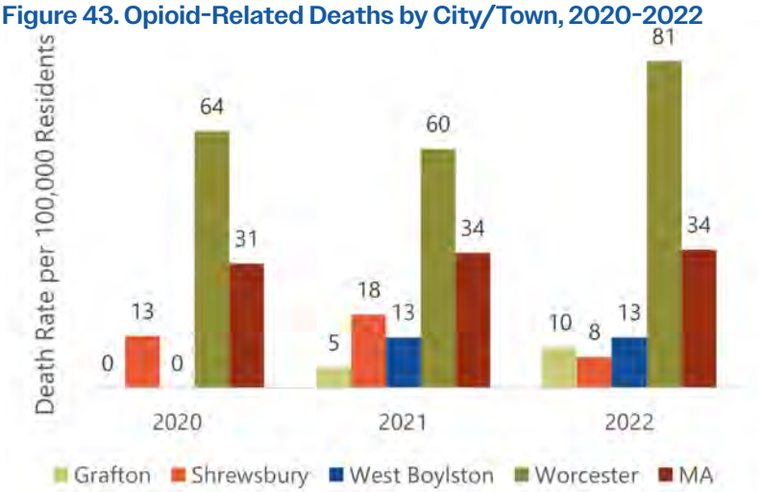
*Source: Massachusetts Department of Public Health, Worcester Healthy Baby Collaborative. *Preliminary data, subject to change*

INFANT MORTALITY

The average number of infant deaths among live births in Worcester is 5.3 infants per 1,000 according to the most recent available data in 2022. The infant mortality rate (IMR) in Worcester is higher than that of the state where in 2020, the IMR in Worcester was 7.1 infant deaths per 1,000 live births as compared with 3.8 infant deaths per 1,000 live births in the state.

Figure 42 illustrates that there are notable increasing differences across racial-ethnic groups, where infants born to black birthing parents are twice as likely to die when compared with birthing parents of other racial-ethnic groups in Worcester.

Figure 43. Opioid-Related Deaths by City/Town, 2020-2022

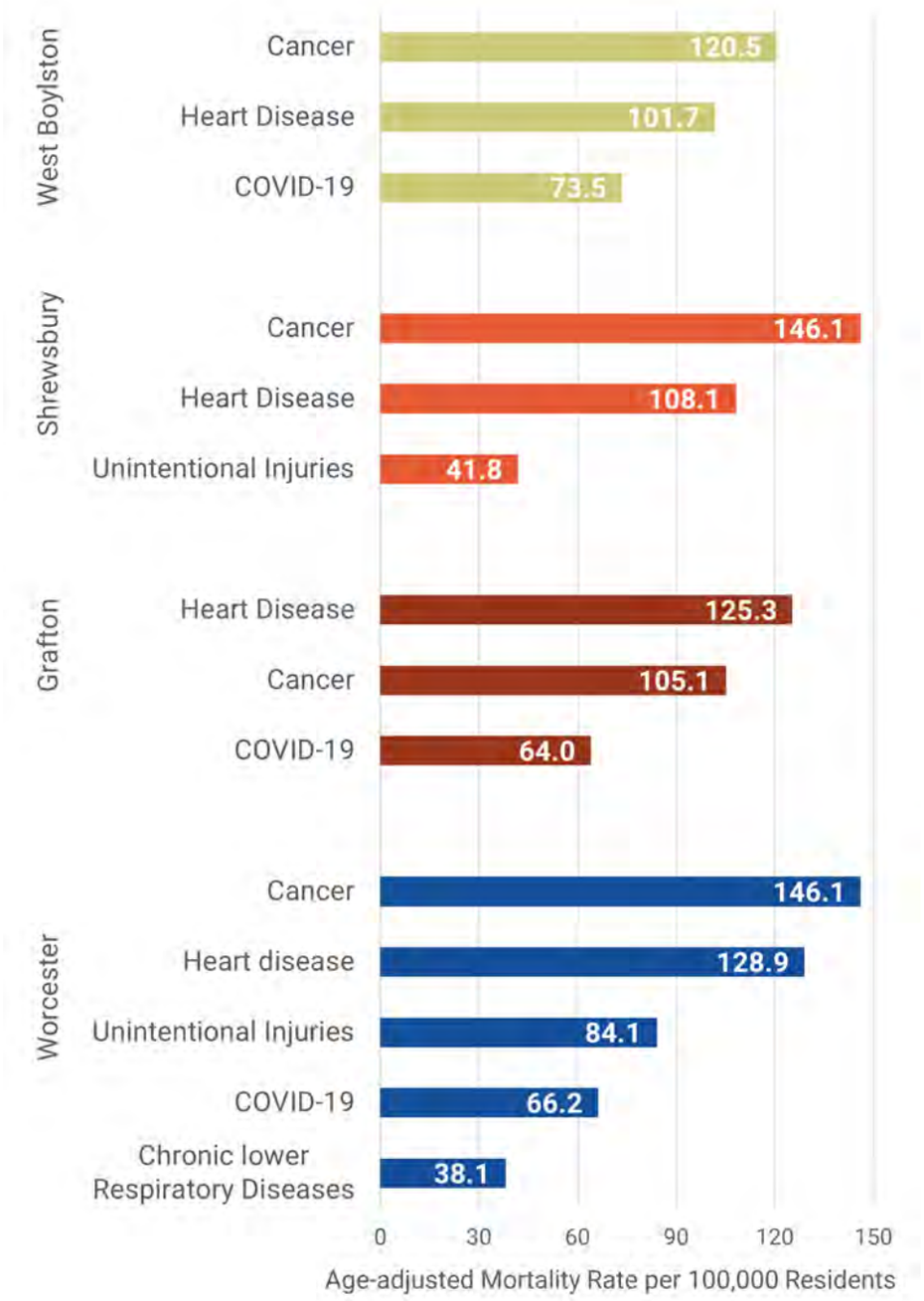


Source: Data Briefs: Opioid-Related Deaths among Massachusetts Residents, June 2023 (2020-2022 Data are preliminary and subject to change.)

OPIOID-RELATED MORTALITY

The city of Worcester's opioid-related death rate increased from 59.6 per 100,000 in 2021 to 81. 3 per 100,000 residents in 2022 which was more than twice that of the state's rate of 34.4 deaths per 100,000 residents. Grafton's death rate doubled from 5.1 deaths in 2021 to 10.2 deaths per 100,000 in 2022. The town of Shrewsbury's opioid-related death rate decreased from 18.3 deaths in 2021 to 7.8 deaths per 100,000 in 2022 while West Boylston's death rate increased from 0 deaths in 2020 to 12.7 deaths per 100,000 residents in 2021 and remained the same in 2022 (Figure 43) (See Health Risks, Adult Substance Use for opioid-related incidence).

Figure 44. Leading Causes of Death in CMRPHA municipalities, 2021



Source: Massachusetts Department of Public Health Deaths of Massachusetts Residents Data Dashboard

LEADING CAUSES OF DEATH

As indicated in Figure 44, Cancer is the leading cause of death in Worcester, Shrewsbury, and West Boylston whereas heart disease is the leading cause in Grafton. Heart disease mortality is the second leading cause of death in Worcester, Shrewsbury, and West Boylston whereas Cancer is the second leading cause for Grafton.

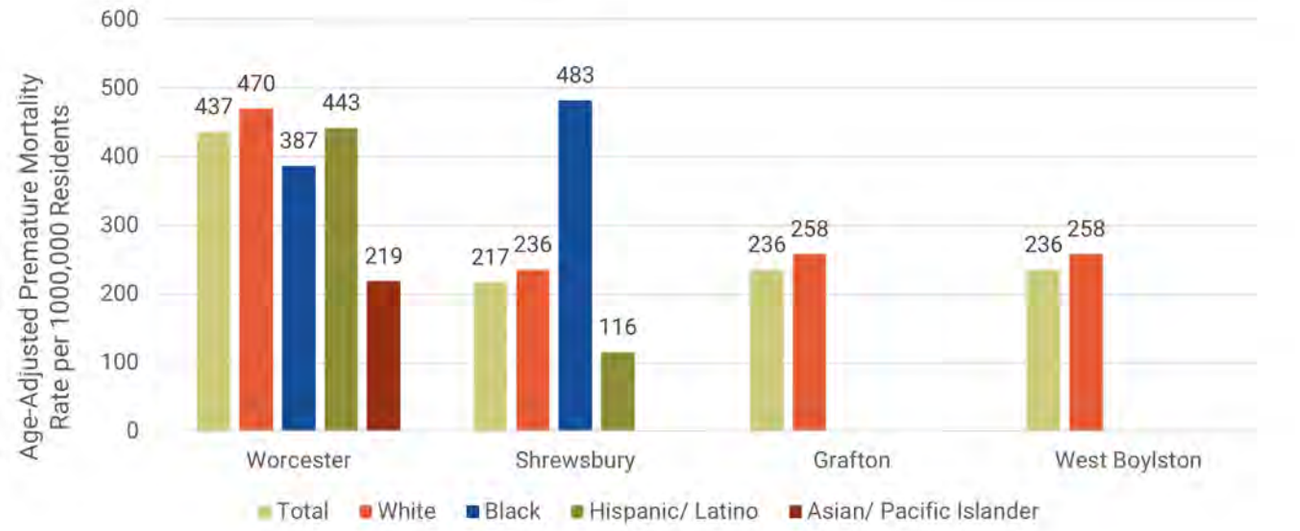
PREMATURE MORTALITY RATE

In Worcester, the Asian/Pacific Islander population has the lowest premature mortality rate (PMR) of 219 indicating that they are less affected by premature mortality as compared with its White, Black and Hispanic counterparts with PMRs of 470, 387, and 443, respectively (Figure 45).

In Shrewsbury, the Black population has the highest PMR at 482.7 deaths per 100,000 individuals, which is more than double the town's overall PMR of 217 deaths per 100,000 individuals. This indicates that the Black population is disproportionately impacted by premature mortality compared to the town average. Conversely, the Asian/Pacific Islander population has the lowest PMR of 116, suggesting that they experience fewer premature deaths relative to the town's average. The Hispanic/Latino population's data is suppressed. To address the significant health disparities highlighted by the high PMR among the Black population, targeted interventions aimed at improving healthcare access, socio-economic conditions, and addressing potential systemic biases would be crucial.

In both Grafton and West Boylston, the premature mortality rate information is either unavailable, or withheld for all ethnic groups except for the White population. In Grafton, the White population exhibits a PMR of 258, slightly above the town's average of 236. Similarly, in West Boylston, the premature mortality rate for the White population is 258, while the town's mean stands at 236.

Figure 45. Premature Mortality Rate by Ethnoracial Group in CMRPHA towns



Source: Massachusetts Department of Public Health Deaths of Massachusetts Residents Data Dashboard

2024 CHA Priority area spotlight:
CULTURALLY REPRESENTATIVE HEALTHCARE

"I think some of the healthcare providers are attempting to lean-in or do a better job on, you know, sort of the general gateway to access help, and are trying to make it easier for people to get in and get what they need as efficiently as they can. All the billable, insurance stuff is a nightmare for everyone, awful for the institutions and clients alike...the quality of your insurance shouldn't be a social determinant of health, but it is. I'm well insured and it's a stress inducer."

-IL Interviewee

The strengths and challenges of the health care system were the heart of community conversations. When asked about issues they were or had faced, community members frequently shared stories of experiencing implicit bias on the basis of race and perceived class. In conjunction, the complexity of navigating the health care system surfaced in 100% of HEP conversations and all but one IL conversation. In the thematic coding analysis, findings of specific themes in HEP and IL conversations were:

- Patient and client services are affected by implicit biases about race and class.
- Existing translational services are either not provided or unavailable in person, which can make the experience of an appointment challenging, unhelpful, and unpleasant.
- Doctors' offices and social service agencies lack culturally representative and linguistically inclusive primary care providers and mental health providers.

These findings were reflected on and validated by the CHA Advisory Committee, with emphasized concerns for all issues weighted equally across the board. Accessing health insurance as a key issue is in line with national and statewide trends, disproportionately impacting people with lower incomes, immigrants, refugees, and undocumented individuals. While the vast majority of interviewees acknowledged how "fortunate" they were to live in Massachusetts and live proximate to some of the highest health care in the U.S., they expressed the stress of not being someone who could afford high quality care.

The availability of providers depends on your insurance. I had private insurance from the organization I was working with. Then I left there, and I have MassHealth. The treatment and the services are totally different and not in a good way. - HEP Interviewee

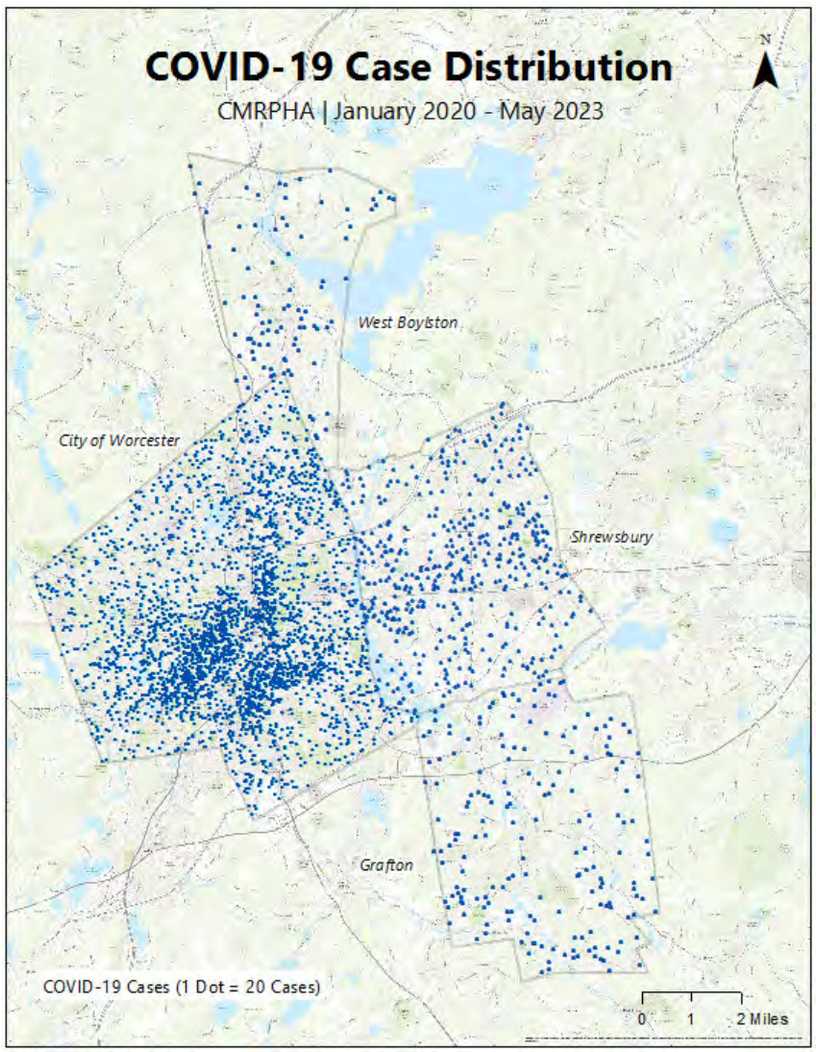
COVID-19

COVID-19 is a highly contagious respiratory illness caused by the SARS-CoV-2 virus, first identified in December 2019, leading to a global pandemic. COVID-19 primarily spreads through respiratory droplets when an infected person coughs, sneezes, talks, or breathes. Common symptoms of COVID-19 include fever, cough, shortness of breath, fatigue, loss of taste or smell, muscle aches, and sore throat, though some infected individuals may remain asymptomatic. The pandemic led to significant public health measures worldwide, such as lockdowns, social distancing, mask-wearing, and vaccination campaigns to mitigate its spread and impact.

COVID-19 disproportionately impacted older adults and individuals with underlying health conditions, such as diabetes, heart disease, and respiratory issues. These groups were more susceptible to severe illness and higher mortality rates.

Figure 46 illustrates the COVID-19 case distribution across the CMRPHA, where one blue dot represents 20 COVID-19 cases. The data spans from January 2020 to May 11th, 2023, corresponding to the duration of the COVID-19 public health emergency, as defined by the CDC.

Figure 46. COVID-19 Case Distribution in the CMRPHA



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Table 28. COVID-19 Cases and Vaccinations in Worcester by Ethnoracial Group

Worcester (Population = 206,518)						
		COVID Cases		COVID Vaccinations		
Ethnoracial Group	Proportion of town population	# Cases	Proportion of cases	At least one dose	Primary series complete	Booster dose
White or Caucasian	50%	19,753	30%	73%	66%	23%
Hispanic	25%	17,434	26%	72%	61%	12%
Black or African American	14%	6,460	10%	71%	62%	14%
Asian	7%	2,184	3%	88%	74%	19%
Multiple Races/ Ethnicities	4%	*unavailable*	*unavailable*	66%	63%	23%
American Indian or Alaskan Native	0.12%	118	0.18%	64%	45%	8%
Native Hawaiian or Pacific Islander	0.02%	48	0.07%	>95%	>95%	28%

Source: Massachusetts Virtual Epidemiological Network (2020-2023)

CITY OF WORCESTER

There were 67,499 confirmed COVID-19 cases reported in the City of Worcester, Massachusetts between January 1, 2020, and May 11, 2023. Worcester residents aged 30-49 emerged as the most impacted by COVID-19 with a staggering 20,080 cases, accounting for 30% of the cases relative to its population. Residents aged 20-29 exhibited a notable 22% of cases relative to its population, indicating a substantial burden in this population.

On the vaccination front, 79% of the total population received at least one dose of a COVID-19 vaccine, while 69% of the population completed their primary vaccine series. Age groups older than 50 demonstrated commendable vaccination rates with over 95% of their members completing their primary series.

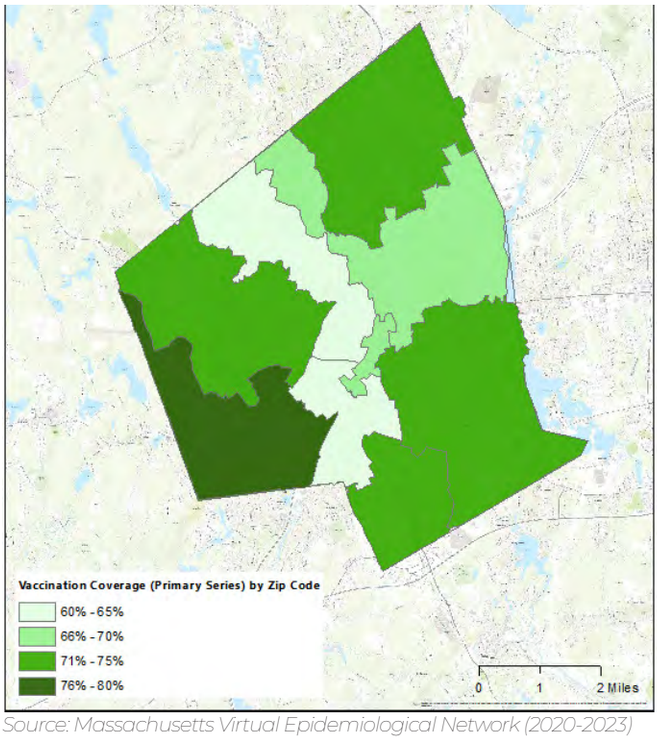
Table 29. COVID-19 Cases and Vaccinations in Worcester by Age Group

Worcester (Population = 206,518)						
		COVID Cases		COVID Vaccinations		
Age group	Proportion of town population	# Cases	Proportion of cases	At least one dose	Primary series complete	Booster dose
0-4 Years	6%	3,356	5.0%	13%	7%	6%
5-11 Years	8%	3,905	5.8%	44%	34%	9%
12-15 Years	4%	2,357	3.5%	66%	55%	12%
16-19 Years	6%	4,456	6.6%	59%	50%	10%
20-29 Years	19%	14,526	21.5%	70%	57%	10%
30-49 Years	27%	20,080	29.8%	89%	77%	15%
50-64 Years	17%	11,254	16.7%	95%	85%	27%
65-74 Years	7%	4,061	6.0%	95%	95%	49%
75+ Years	6%	3,503	5.2%	95%	95%	52%
Total	**100%**	**67,499**	**100.0%**	**79%**	**69%**	**19%**

Source: Massachusetts Virtual Epidemiological Network (2020-2023)

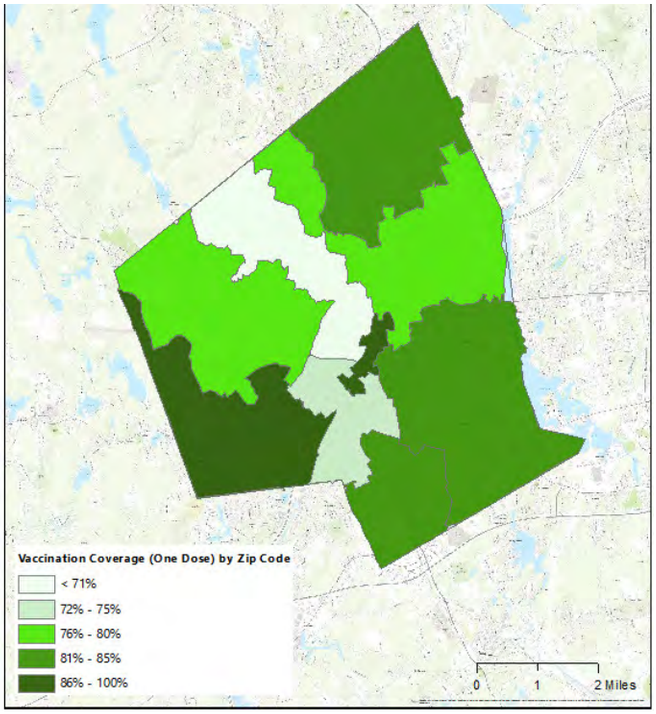
Residents aged 20-29 have a 70% vaccination rate with at least one dose and 57% are fully vaccinated. Residents aged 30-49 show higher rates, with 89% having at least one dose and 77% being fully vaccinated. Among the three groups with the highest percentage population, residents aged 50-64 demonstrate the highest rates, with over 95% having at least one dose, 85% fully vaccinated, and a 27% booster dose rate (Table 29). Higher vaccination rates may contribute to better protection against COVID-19 within their populations, while efforts should continue to increase vaccination rates in all groups to combat the pandemic effectively.

Figure 47. Percentage of Population with a completed Primary Series of COVID-19 Vaccine in Worcester



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Figure 48. Percentage of Population with One Dose of a COVID-19 Vaccine in Worcester

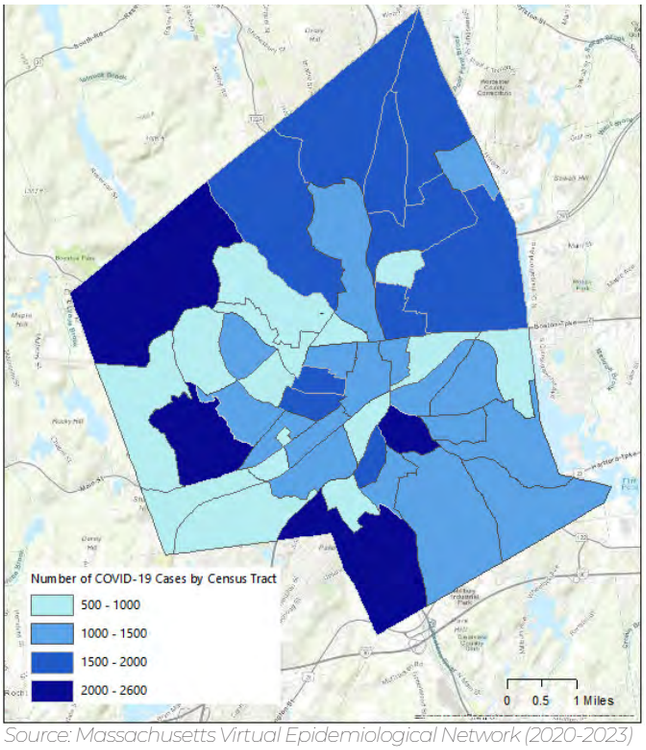


Source: Massachusetts Virtual Epidemiological Network (2020-2023)

At a race/ethnic level, 9.2% of the case data was unavailable and 25% of the remainder race/ethnic COVID data was unknown. Among the different racial and ethnic groups, the data reveal notable variations in COVID-19 vaccination rates. The Native Hawaiian or Pacific Islander population shows exceptional vaccine acceptance, with over 95% having received at least one dose and 28% receiving booster doses. The Asian group also demonstrates strong vaccination rates, with 88% having received at least one dose. The White, Hispanic, and Black populations in Worcester all achieved vaccination rates of 70% or higher for at least one dose of a vaccine (Table 28).

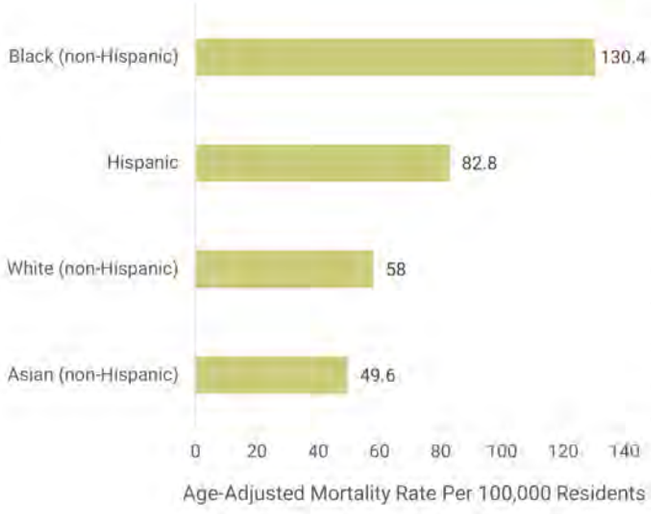
Figure 49 illustrates the COVID-19 case burden in Worcester, categorized by census tract. The data is visualized with the darkest color highlighting the highest range of case counts (2000 to 2600), and the lightest color indicating the lowest range of case counts (500 to 1000). These figures represent absolute numbers and portray the COVID-19 burden within each tract.

Figure 49. COVID-19 Case Distribution (Worcester, 2020-2023)



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Figure 50. COVID-19 Mortality Rate in Worcester by Ethnoracial Group, 2021



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Additionally, Figure 47 displays the vaccination coverage in Worcester for the population that received one dose, and Figure 48 displays the coverage for the population that completed the primary series. Zip code 01603 stands out as the area with the highest coverage at 86-100% for one dose of the vaccine, and 76-80% for completing the primary series of vaccination. Zip code 01609 has the least percentage of people (<71%) with one dose of the vaccine, and both 01609 and 01610 exhibit the least coverage (60-65%) for completing a primary series of vaccination. It is important to note that the count for a single vaccine dose also includes individuals who received the Johnson & Johnson vaccine, which requires only one dose and thus does not necessitate completing a second dose of vaccine.

The rates depicted in Figure 50 represent the number of COVID-19 related deaths per 100,000 people in Worcester, adjusted to account for differences in age distribution among these groups. Age adjustment helps to make fair comparisons between groups by considering the varying age structures, allowing for a more accurate understanding of the impact of COVID-19 on different populations.

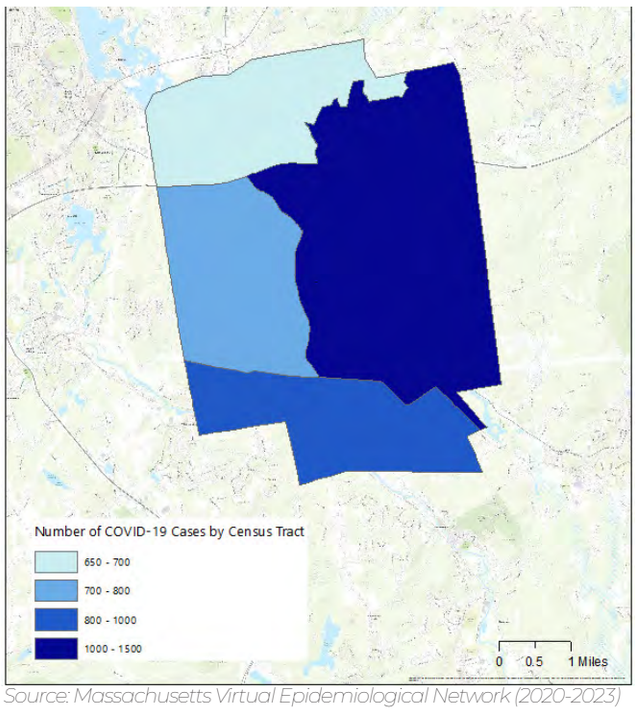
Among the listed groups, Black individuals have the highest age-adjusted mortality rate due to COVID-19 at 130.4 per 100,000 people in Worcester, followed by Hispanic individuals at 82.8, White individuals at 58, and Asian individuals at 49.6. It's important to note that this data for other towns is unavailable due to the small number of COVID-19 related mortalities, which makes it difficult to draw reliable conclusions for those areas.

Table 30. COVID-19 Cases and Vaccinations in Grafton by Age Group

	Grafton (Population = 19,664)					
		COVID Cases		COVID Vaccinations		
Age group	Proportion of town population	# Cases	Proportion of cases	At least one dose	Primary series complete	Booster dose
0-4 Years	6%	262	6.3%	27%	20%	17%
5-11 Years	9%	372	8.9%	60%	54%	20%
12-15 Years	6%	215	5.1%	82%	76%	26%
16-19 Years	5%	263	6.3%	95%	95%	28%
20-29 Years	10%	630	15.0%	95%	95%	21%
30-49 Years	28%	1,241	29.6%	90%	82%	25%
50-64 Years	23%	785	18.7%	94%	87%	35%
65-74 Years	9%	239	5.7%	95%	95%	60%
75+ Years	5%	186	4.4%	95%	95%	78%
Total	**100%**	**4,194**	**100.0%**	**92%**	**84%**	**32%**

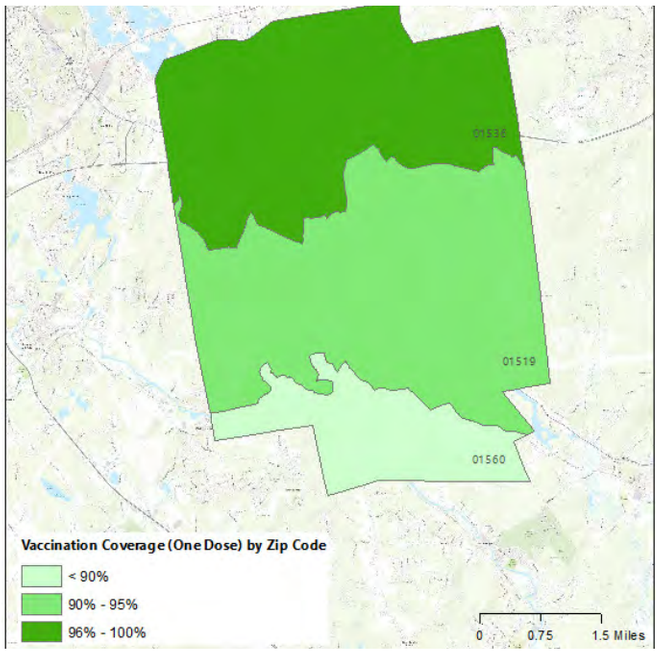
Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Figure 51. COVID-19 Case Distribution in Grafton, 2020-2023



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Figure 52. Percentage of Population with One Dose of COVID-19 Vaccine in Grafton



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

GRAFTON

There were 4,194 confirmed COVID-19 cases reported in Grafton, Massachusetts between January 2020 and May 2023. Grafton residents aged 30-49 years and 50-64 years emerged with the highest number of COVID-19 cases, totaling 1,241 and 785, respectively. Notably, the 30-49 age group, constituting 28% of the town's population, showed the highest percentage of cases per capita at 30%, indicating significant impact within the community. The age groups between 16-29, and groups over the age of 50 exhibited the best vaccination rates, with more than 95% of their populations receiving at least one dose of the COVID-19 vaccine (Table 30).

Figure 51 illustrates the COVID-19 case burden in Grafton, categorized by Census Tract. The data is visualized with the darkest color highlighting the highest range of case counts (1000-1500), and the lightest color indicating the lowest range of case counts (650-700). These figures represent absolute numbers and portray the COVID-19 burden within each tract.

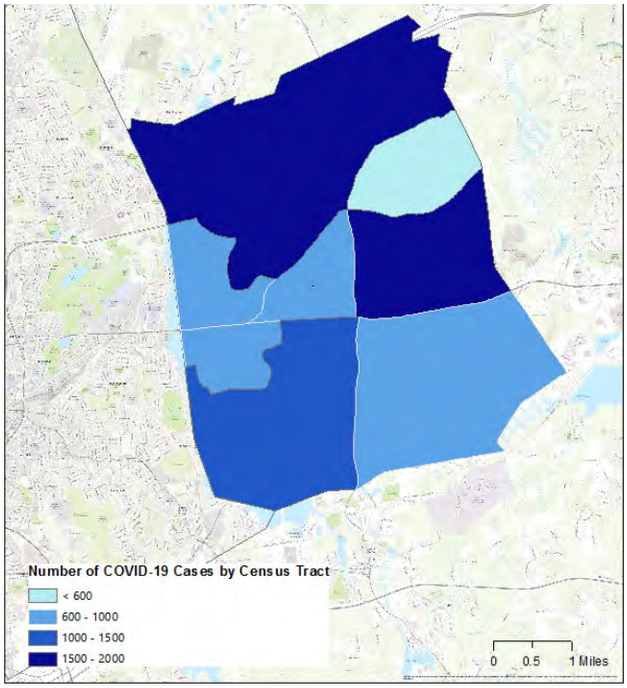
In Grafton, there were a total of 18,139 individuals who obtained at least one vaccine dose during the reporting timeframe. Figure 52 illustrates the vaccination coverage percentage within Grafton for those with one dose of a COVID-19 vaccine. These percentages are based on the population within each respective zip code.

SHREWSBURY

There were 9,997 confirmed COVID-19 cases reported in Shrewsbury, Massachusetts between January 2020 and May 2023. Shrewsbury residents in the age group of 30-49 and 50-64 experienced the highest number of COVID-19 cases, with the former having the highest percentage of cases per capita at 28%. There were 38,269 individuals who received at least dose of a COVID-19 vaccine in Shrewsbury. Almost every age group demonstrated high vaccination rates with over 95% of their populations having received at least one dose, and completion rates for the primary vaccine series exceeding 86%. These findings underscore the crucial role of vaccination in mitigating the spread of COVID-19 and highlight the need for continued efforts to ensure equitable vaccine access and uptake to protect all population groups effectively (Table 31).

Figure 53 illustrates the COVID-19 case burden in Shrewsbury, categorized by Census Tract. The data is visualized with the darkest color highlighting the highest range of case counts (1500-2000), and the lightest color indicating the lowest case counts (<600 cases). These figures represent absolute numbers and portray the COVID-19 burden within each tract.

Figure 53. COVID-19 Case Burden by Census Tract in Shrewsbury



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Table 31. COVID-19 Cases and Vaccinations in Shrewsbury by Age Group

Shrewsbury (Population = 38,325)						
		COVID Cases		COVID Vaccinations		
Age group	Proportion of town population	# Cases	Proportion of cases	At least one dose	Primary series complete	Booster dose
0-4 Years	5%	518	5.2%	22%	15%	13%
5-11 Years	9%	1,097	11.0%	66%	59%	19%
12-15 Years	5%	598	6.0%	94%	86%	23%
16-19 Years	5%	617	6.2%	95%	95%	25%
20-29 Years	12%	1,336	13.4%	95%	88%	20%
30-49 Years	26%	2,801	28.0%	95%	89%	25%
50-64 Years	21%	1,911	19.1%	95%	95%	42%
65-74 Years	8%	572	5.7%	95%	95%	69%
75+ Years	7%	547	5.5%	95%	95%	70%
Total	**100%**	**9,997**	**87.0%**	**87%**	**90%**	**33%**

Source: Massachusetts Virtual Epidemiological Network (2020-2023)

Table 32. COVID-19 Cases and Vaccinations in West Boylston by Age Group

West Boylston (Population = 7,877)						
		COVID Cases		COVID Vaccinations		
Age group	Proportion of town population	# Cases	Proportion of cases	At least one dose	Primary series complete	Booster dose
0-4 Years	4%	85	4.3%	21%	16%	12%
5-11 Years	6%	107	5.5%	41%	39%	13%
12-15 Years	4%	64	3.3%	63%	57%	11%
16-19 Years	3%	98	5.0%	92%	86%	15%
20-29 Years	10%	289	14.7%	95%	85%	14%
30-49 Years	22%	581	29.6%	95%	89%	20%
50-64 Years	26%	374	19.0%	76%	70%	25%
65-74 Years	12%	157	8.0%	95%	95%	58%
75+ Years	12%	209	10.6%	95%	95%	60%
Total	**100%**	**1,964**	**100.0%**	**85%**	**78%**	**29%**

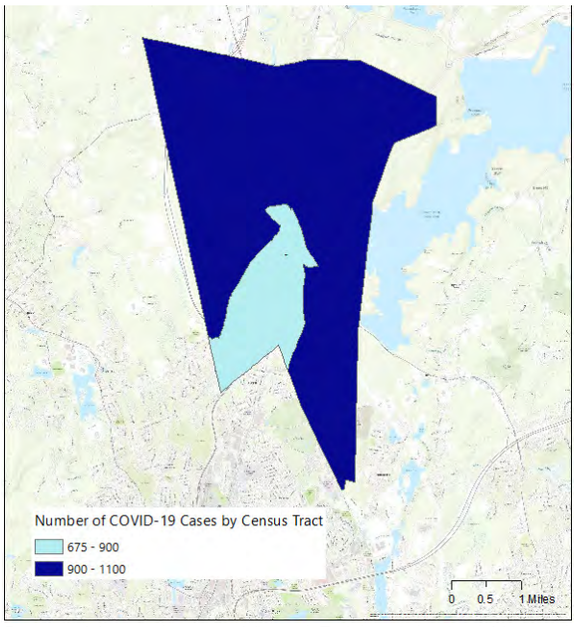
Source: Massachusetts Virtual Epidemiological Network (2020-2023)

WEST BOYLSTON

There were 1,964 confirmed COVID-19 cases reported in West Boylston, Massachusetts between January 2020 and May 2023. In West Boylston, individuals aged 30-49 and 50-64 exhibited the highest case burdens, standing at 30% and 19%, respectively. There were 6,727 individuals who received at least dose of a COVID-19 vaccine in West Boylston. Nearly all age groups above 15 years showed robust vaccination rates, with at least 90% of their populations having received at least one dose. However, the 50-64 age group had a comparatively lower vaccination rate of 76% despite representing 26% of the total population. Additionally, it is noteworthy, the 20-29 and 30-49 age groups displayed higher disease burdens despite having a high vaccination coverage (Table 32).

In West Boylston, 90% of the COVID-19 case data was successfully matched and geocoded through the utilization of ArcGIS software. Figure 54 illustrates the COVID-19 case burden in West Boylston, categorized by Census Tract. The data is visualized with the darkest wcolor highlighting the range of highest case counts (900-1100), and the lightest color indicating the range of lowest case counts (675-900). These figures represent absolute numbers and portray the COVID-19 burden within each tract.

Figure 54. COVID-19 Case Burden by Census Tract in West Boylston



Source: Massachusetts Virtual Epidemiological Network (2020-2023)

COVID-19 COMMUNITY VACCINE INITIATIVES

Throughout the COVID-19 pandemic, incredible efforts were made to increase vaccination in communities that experienced disparate impact and burden of the virus. The 2021 CHA mentioned the Worcester Together community partnership that raised and distributed over $11 million dollars in relief funding. The City of Worcester Covid-19 Health Equity Task Force, a partnership between the City of Worcester and UMass Memorial Health, convened community stakeholders and utilized data to make informed decisions on who and where to target efforts. Another notable community effort was the Trusted Messengers in Worcester initiative, led by the city's Worcester REACH (Racial and Ethnic Approaches to Community Health) Vaccine program. This initiative, a best practice approach in community engagement, utilized individuals who are trusted in their communities, such as teachers, nurses, and faith-based leaders, who used their platforms within their communities to provide vaccine information and linkage to resources to improve equitable delivery of health education and vaccination. Overall, these initiatives formed through the COVID-19 pandemic have helped to improve community engagement and partnerships, an important aspect of public and community health.

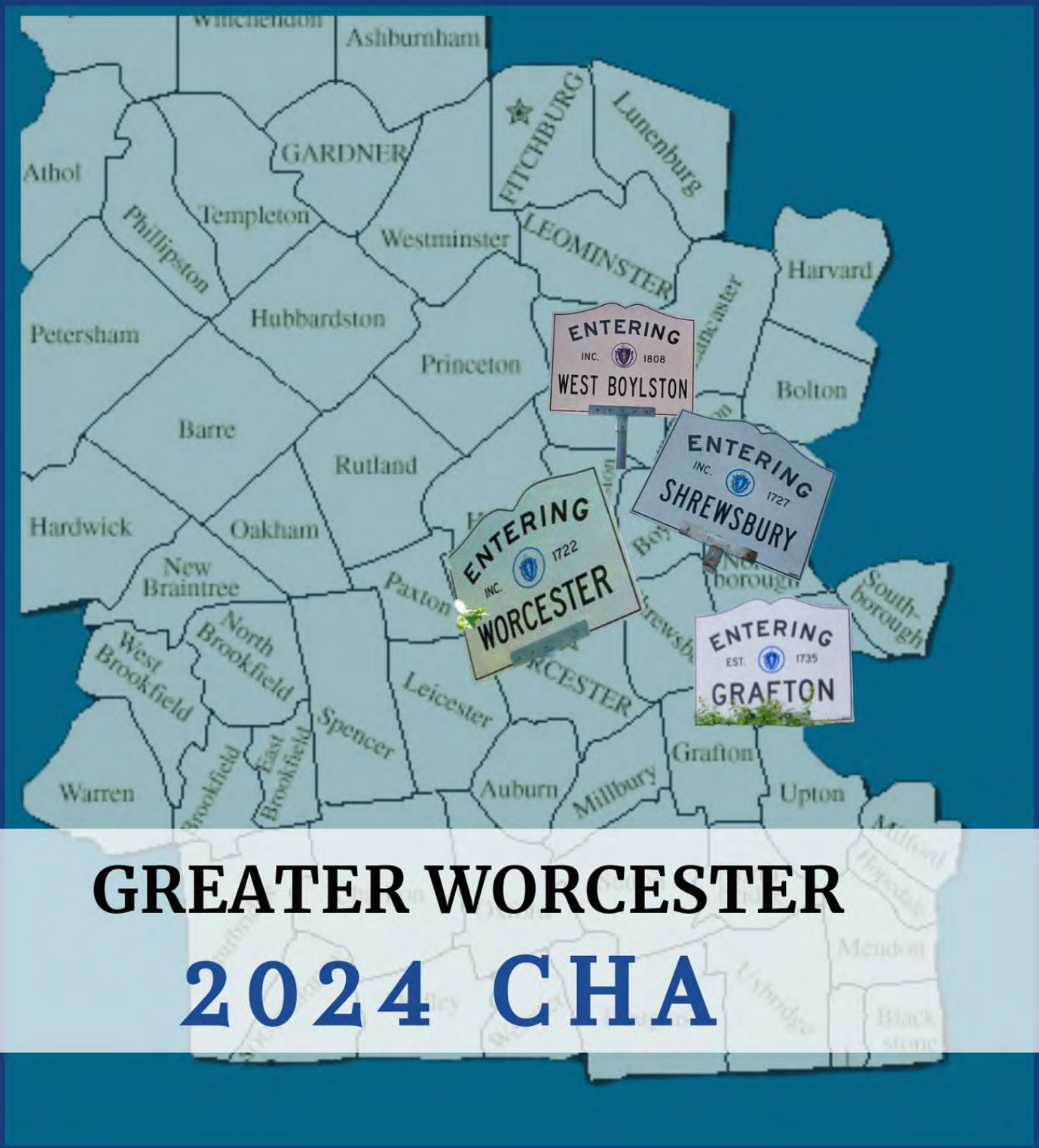
TRUSTED MESSENGER EVENT, MARCH 2023 HELD TO RECOGNIZE AND CELEBRATE THE WORK OF TRUSTED MESSENGERS IN THE WORCESTER COMMUNITY

FOOTNOTES

1. "Talking About Race", National Museum of African American History & Culture - Smithsonian, 2023
2. Samantha Calero, Adapted from the Boston Public Health Commission, 2019
3. 2015 Greater Worcester Community Health Assessment
4. World Health Organization, International Classification of Functioning, Disability and Health (ICF)external icon. Geneva: 2001, WHO
5. 2019 Statewide Bicycle Plan. Retrieved at: Massachusetts Bicycle Transportation Plan (arcgis.com)
6. Transportation and Health Indicators | US Department of Transportation
7. Top Crash Locations (state.ma.us)
8. Fast Facts on Transportation Greenhouse Gas Emissions | US EPA
9. Massachusetts Clean Energy and Climate Plan for 2050 | Mass.gov
10. 2050 Connections | Central Massachusetts Regional Planning Commission (CMRPC)
11. Worcester E-Bike Program Update - July 2023 - Massachusetts Bicycle Coalition (massbike.org)
12. Greenhouse Gas Emissions from a Typical Passenger Vehicle (EPA-420-F-18-008, April 2018)
13. Incentives | Ride Review
14. BikeShare Exploration in the CMRPC Region
15. Federal Register. Retrieved at: 2011-21273.pdf (govinfo.gov)
16. NCHRP Research Report 932 (2019). A Research Roadmap for Transportation and Public Health.
17. https://www.bostonglobe.com/2023/03/16/metro/months-long-waits-accessing-care-leave-patients-sicker-anguish/
18. https://www.wrrb.org/reports/2022/11/is-worcester-county-food-insecure/

LIST OF APPENDICES

Central MA Regional Public Health Alliance | September 2023



GREATER WORCESTER

2024 CHA

The City of WORCESTER | fallonhealth | UMass Memorial Health UMASS MEMORIAL MEDICAL CENTER | Coalition for a Healthy Greater Worcester

Appendix A: UMMMC ED Visit and Hospitalization Data

Counts of Patients in the Service Area (Grafton, Shrewsbury, W. Boylston, Worcester) years 18 and over having either an ED/Observation visit or Inpatient hospitalization at UMass Memorial Health between January 2020 through April 2023.

Demographics Metrics by Principal Diagnosis (Distinct Patient Count Used per Diagnosis) **i.e.** A Patient could be counted in multiple 'Principal Diagnosis' sections			
Principal Diagnosis	**Sex**	**Race & Ethnicity**	**Distinct Patient Counter**
Cancer			
Oncology-Breast	Female	Asian, non-Hispanic	1
		Black, non-Hispanic	4
		Other, non-Hispanic	2
		Hispanic	7
		White, non-Hispanic	25
		Total	**39**
	Male	White, non-Hispanic	2
		Total	**2**
	Total		**41**
Oncology-Male-Prostate	Male	Asian, non-Hispanic, non-Hispanic	1
		Black, non-Hispanic	16
		Other, non-Hispanic	1
		Hispanic	10
		White, non-Hispanic	54
		Total	**82**
	Total		**82**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Cancer			
Oncology-Thoracic-Lung	Female	Asian, non-Hispanic	3
		Black, non-Hispanic,	5
		Hispanic	9
		White, non-Hispanic	88
		Total	**105**
	Male	Asian, non-Hispanic	11
		Black, non-Hispanic	5
		Other, non-Hispanic	3
		Hispanic	7
		White	65
		Total	**91**
	Total		**196**
Oncology-Dermatology-Skin (excl. Melanoma)	Female	White, non-Hispanic	4
		Total	**4**
	Male	Hispanic	1
		White, non-Hispanic	1
		Total	**2**
	Total		**6**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Cancer			
Oncology-GI-Colorectal & Anal	Female	Black, non-Hispanic	6
		Other, non-Hispanic	6
		Hispanic	14
		White, non-Hispanic	53
		Total	**79**
	Male	Asian, non-Hispanic	3
		Black, non-Hispanic	6
		Other, non-Hispanic	2
		Hispanic	8
		White, non-Hispanic	48
		Total	**67**
	Total		**146**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Cardiovascular Disease			
Hypertension	Female	Asian, non-Hispanic	19
		Black, non-Hispanic	66
		Other, non-Hispanic	20
		Hispanic	98
		White, non-Hispanic	442
		Total	**645**
	Male	Asian, non-Hispanic	20
		Black, non-Hispanic	87
		Other, non-Hispanic	24
		Hispanic	112
		Unavailable	1
		White, non-Hispanic	407
		Total	**651**
	Total		**1296**
Heart Disease	Female	Asian, non-Hispanic	2
		Black, non-Hispanic	3
		Other, non-Hispanic	3
		Hispanic	27
		White, non-Hispanic	55
		Total	**90**
	Male	Asian, non-Hispanic	17
		Black, non-Hispanic	16
		Other, non-Hispanic	16
		Hispanic	44
		White, non-Hispanic	182
		Total	**275**
	Total		**365**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Cardiovascular Disease			
Hypertension	Female	Asian, non-Hispanic	19
		Black, non-Hispanic	66
		Other, non-Hispanic	1
			19
		Hispanic	98
		White, non-Hispanic	1
			441
		Total	**645**
	Male	Asian, non-Hispanic	20
		Black, non-Hispanic	1
			86
		Other, non-Hispanic	24
		Hispanic	112
		Unavailable	1
		White, non-Hispanic	407
		Total	**651**
	Total		**1296**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Diabetes			
Diabetes - Type 1	Female	Asian, non-Hispanic	1
		Black, non-Hispanic	1
		Other, non-Hispanic	1
		Hispanic	2
		White, non-Hispanic	1
		Total	**6**
	Male	Black, non-Hispanic	1
		Other, non-Hispanic	1
		Hispanic	1
		White, non-Hispanic	4
		Total	**7**
	Total		**13**
Diabetes - Type 2	Female	Asian, non-Hispanic	2
		Black, non-Hispanic	2
		Other, non-Hispanic	1
		Hispanic	8
		White, non-Hispanic	2
		Total	**15**
	Male	Black, non-Hispanic	7
		Other, non-Hispanic	1
		Hispanic	7
		White, non-Hispanic	13
		Total	**28**
	Total		**43**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Respiratory Conditions			
COPD	Female	Black, non-Hispanic	2
		Hispanic	4
		White, non-Hispanic	15
		Total	**21**
	Male	Other, non-Hispanic	1
			1
		White, non-Hispanic	22
		Total	**24**
	Total		**45**
Asthma	Female	Asian, non-Hispanic	4
		Black, non-Hispanic	17
		Other, non-Hispanic	5
		Hispanic	51
		Unavailable	1
		White, non-Hispanic	41
		Total	**119**
	Male	Asian, non-Hispanic	5
		Black, non-Hispanic	20
		Other, non-Hispanic	9
		Hispanic	48
		White, non-Hispanic	29
		Total	**111**
	Total		**230**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Infectious Disease			
Hepatitis C	Male	Other, non-Hispanic	1
		White, non-Hispanic	2
		Total	**3**
	Total		**3**
Lyme Disease	Female	Black, non-Hispanic	1
		Other, non-Hispanic	2
		Hispanic	3
		White, non-Hispanic	7
		Total	**13**
	Male	Asian, non-Hispanic	2
		Black, non-Hispanic	2
		Other, non-Hispanic	1
		Hispanic	7
		White, non-Hispanic	14
		Total	**26**
	Total		**39**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Infectious Disease			
Pneumonia/ Influenza	Female	Asian, non-Hispanic	32
		Black, non-Hispanic	92
		Other, non-Hispanic	60
		Hispanic	337
		White, non-Hispanic	407
		Total	**928**
	Male	Asian, non-Hispanic	37
		Black, non-Hispanic	115
		Other, non-Hispanic	66
		Hispanic	282
		White, non-Hispanic	397
		Total	**896**
	Total		**1825**

Demographics Metrics by Principal Diagnosis
(Distinct Patient Count Used per Diagnosis)
i.e. A Patient could be counted in multiple 'Principal Diagnosis' sections

Principal Diagnosis	Sex	Race & Ethnicity	Distinct Patient Counter
Infectious Disease			
HIV/AIDS	Female	Black, non-Hispanic	6
		Other, non-Hispanic	1
		Hispanic	1
		White, non-Hispanic	2
		Total	**10**
	Male	Black, non-Hispanic	5
		Other, non-Hispanic	1
		Hispanic	5
		White, non-Hispanic	5
		Total	**16**
	Total		**26**
Infectious and Parasitic Disease	Female	Other, non-Hispanic	1
		Hispanic	1
		Total	**2**
	Male	Other, non-Hispanic	1
		Hispanic	1
		White, non-Hispanic	1
		Total	**3**
	Total		**5**

Appendix B: Listing of Supplemental Reports

An overview of existing reports was completed in preparation of the CHA. Below is a list of those most widely used and pertinent to this report. Additional sources are listed as footnotes throughout the report.

Title	Organization(s)	Publish Date
2015 Greater Worcester Community Health Assessment	City of Worcester, Division of Public Health/CMRPHA/UMass Memorial Center/Fallon Health	October 2015
2018 Greater Worcester Community Health Assessment	City of Worcester, Division of Public Health/CMRPHA/UMass Memorial Center/Fallon Health	September 2018
2021 Greater Worcester Community Health Assessment	City of Worcester, Division of Public Health/CMRPHA/UMass Memorial Center/Fallon Health	September 2021
2021 Greater Worcester Regional Youth Health Survey Reports	City of Worcester/CMRPHA	December 2022
2021 Childhood Lead Screening Community Progress Reports	Massachusetts Department of Public Health	2021
Opioid-related Overdose Deaths among MA Residents	Massachusetts Department of Public Health	June 2023
NACCHO Mobilizing for Action through Planning and Partnerships (MAPP) 2.0 Handbook	National Association of County & City Health Officials	July 2023
Trusted Messenger Report	Worcester Division of Public Health	March 2023
“Is Worcester County Food Insecure? It Depends on Where	Worcester Regional Research Bureau	November 2022

Appendix C: 2024 CHA Public Survey Questions (English)

This survey is voluntary and completely anonymous. No answers will be linked to individuals, and we will not contact you to discuss your responses. The survey should take less than 10 minutes to complete.

2024 English CHA Survey

Healthy Communities

1. In your view, what makes a community healthy? Choose all that apply.

- [ ] Access to good healthcare
- [ ] Recreation
- [ ] Safety
- [ ] Walk/Bike-ability
- [ ] Access to jobs
- [ ] Livable wages / Workforce development opportunities
- [ ] Access to healthy food
- [ ] Education (good schools/equity in schools)
- [ ] Healthy housing/ Stabilized Housing
- [ ] Transportation
- [ ] Affordable Childcare / Afterschool Programs/Summer Programs
- [ ] Access to WiFi and Devices for All
- [ ] Services and Support for Elders/Seniors
- [ ] House of Faith/Churches
- [ ] Social Support for Seniors and those living alone
- [ ] Social support for caregivers
- [ ] Arts
- [ ] Culture
- [ ] Public Parks /Green Spaces

Other (please specify)

2. **In the past 3 years**, have you had issues accessing any of the following? Choose all that apply.

- [ ] Access to good healthcare
- [ ] Recreational activities
- [ ] Safety
- [ ] Walk/Bike-ability
- [ ] Access to jobs
- [ ] Livable wages / Workforce development opportunities
- [ ] Access to healthy food
- [ ] Education (good schools/equity in schools)
- [ ] Healthy housing/ Stabilized Housing
- [ ] Transportation
- [ ] Affordable Childcare / Afterschool Programs/Summer Programs
- [ ] Access to WiFi and Devices for All
- [ ] Services and Support for Elders/Seniors
- [ ] House of Faith/Churches
- [ ] Social Support for Seniors and those living alone
- [ ] Social support for caregivers
- [ ] Arts
- [ ] Cultural activities
- [ ] Public Parks /Green Spaces

3. What does a healthy community look like to you?

Consider- Good place to raise children; low crime rate/safe neighborhoods; good schools; access to healthy foods; access to healthcare; low death and disease rates; low infant deaths; clean parks; clean streets and sidewalks; affordable housing; communities prepared for emergencies; community support groups; availability of good jobs; activities for youth, etc.

4. How would you rate the overall health of the community that you live in?

- ◯ Very Healthy
- ◯ Healthy
- ◯ Somewhat healthy
- ◯ **Un**healthy
- ◯ Very **un**healthy

Other (please specify)

Healthy Communities

5. Thinking over the **past 3 years**, please respond to the following statements using the scale provided.

	Agree	Neither agree nor disagree	Disagree
You are satisfied with the quality of life in your community. (Consider your sense of safety, well-being, participation in community life and associations, etc.)	○	○	○
You are satisfied with the health care in the community. (Consider access, cost of care, cost of insurance, availability, quality, and options in healthcare)	○	○	○
This community is a good place to raise children. (Consider school quality, day care, after school programs, recreation, etc.)	○	○	○
This community is a good place to grow old. (Consider older adult-housing, transportation to medical services, churches/places of worship, shopping, elder day-care, social support for the elderly living alone, meals on wheels, etc.)	○	○	○
This community is a safe place to live. (Consider residents' perceptions of safety in the home, the workplace, schools, playgrounds, parks, and shopping areas. Do neighbors know and trust one another? Do they	○	○	○

look out for each other?)			
There is support for individuals and families during times of stress. (Consider neighbors, support groups, faith community, outreach agencies, etc.)	○	○	○
There is an active sense of civic responsibility and community involvement. (Consider voting in local, state and national elections, volunteering in the community, participating in government decision making, etc.)	○	○	○

Comments?

6. Are the following economic opportunities available in the community? (Choose all that apply)

- ☐ Locally owned and operated businesses
- ☐ Jobs with career growth
- ☐ Jobs with competitive pay (wages/salary)
- ☐ Job training/higher education opportunities
- ☐ Affordable housing
- ☐ Reasonable commute to work

2024 English CHA Survey

Healthy Communities

7. Thinking of the **past 3 years**, please select yes or no for each of the following.

	No	Yes
Do you feel safe in your community?	○	○
Do you feel safe at home?	○	○
Have you ever witnessed violence in your community? (Domestic violence, gun violence, sexual orientation and gender identity violence, etc.)	○	○
Have you ever been a victim of violence or domestic violence? (Domestic violence, gun violence, sexual orientation and gender identity violence, etc.)	○	○
Have you ever been forced to work against your will?	○	○
Have you ever sold sex to get the things you need?	○	
Do you own a gun?	○	○
Are you a confident swimmer? (Consider treading water, floating, finding your way out of a body of water, etc.)	○	○

8. Over the p**ast 3 years**, have you felt discriminated against because of your:

- ☐ Skin color, race, ethnicity
- ☐ Age
- ☐ Sexual orientation
- ☐ Cultural background
- ☐ Gender identity
- ☐ Where you live

2024 English CHA Survey

Healthy Behaviors

9. Over the **past 3 years**, how often did you do the following?

	Never	Sometimes	Regularly	Always	Not applicable
Get routine dental screenings (dental visits)	○	○	○	○	○
Get an annual flu shot	○	○	○	○	○
Get other routine vaccinations (tetanus, measles, diphtheria, etc.)	○	○	○	○	○
Get routine cancer screenings if your doctor recommends them (mammogram, prostate exam, colonoscopy, etc.)	○	○	○	○	○
Get routine blood pressure screenings	○	○	○	○	○
Get routine eye exams	○	○	○	○	○
Exercise at least 30 minutes per day	○	○	○	○	○

10. Thinking of the **past 3 years**, have any of these issues ever made it more difficult for you to get the healthcare that you needed?
(Check all that apply.)

- ☐ Lack of transportation
- ☐ Having no regular source of healthcare
- ☐ Cost of care
- ☐ Cost of medication/prescription
- ☐ Lack of evening and weekend services
- ☐ Language problems/could not communicate with provider or office staff
- ☐ Unfriendliness of provider or office staff
- ☐ Afraid to have health check-up
- ☐ Don't know what type of services are available
- ☐ No available provider near me
- ☐ Long waits for appointments
- ☐ Healthcare information not kept confidential
- ☐ I have never experienced any difficulty getting care
- ☐ Discrimination of provider or staff

11. Thinking of the **past 3 years,** consider the availability of health and social services in your community. How satisfied are you with the availability of the following services?

	Not satisfied at all	Somewhat satisfied	Very satisfied	Don't know
Alcohol or drug treatment services for adults	○	○	○	○
Alcohol or drug treatment services for youth	○	○	○	
Counseling or mental health services for adults	○	○	○	○
Counseling or mental health services for youth	○	○	○	
Reproductive health services for youth (birth control, etc.)	○	○	○	○
Dental services in your area	○	○	○	○
Programs or services to help people quit smoking	○	○	○	○
Health or medical providers who accept your insurance	○	○	○	○
Medical specialists in the area	○	○	○	○

12. **Within the past 12 months**, the groceries/food that you bought just did not last and you did not have money to buy more. This statement is:

- ○ Often true
- ○ Sometimes true
- ○ Never true
- ○ Don't know

2024 English CHA Survey

Demographics

13. In what ZIP code do you live? (Enter 5-digit ZIP code; for example, 00544 or 94305)

2024 English CHA Survey

Demographics

14. What is your age?

- ◯ 18-29 years old
- ◯ 30-49 years old
- ◯ 50-64 years old
- ◯ 65-74 years old
- ◯ 75 years old or older

15. What is your gender?

- ☐ Woman
- ☐ Man
- ☐ Non-Binary
- ☐ Genderqueer
- ☐ Two-spirit
- ☐ Transgender
- ☐ Unsure
- ☐ Prefer not to answer
- ☐ Other (please specify)

16. What racial ethnic group do you most identify with?

- ☐ African-American or Black
- ☐ American Indian, Alaska Native, Indigenous or First Nations
- ☐ Arab or Middle Eastern
- ☐ Asian or Asian American
- ☐ Arab or Middle Eastern
- ☐ Hispanic, Latina or Latino
- ☐ Native Hawaiian or Pacific Islander
- ☐ White, Caucasian or European American

17. What is the highest level of education you have completed?

- ◯ Still In high school
- ◯ Less than high school graduate
- ◯ High school diploma or GED
- ◯ Some college
- ◯ Associate's degree
- ◯ Bachelor's degree
- ◯ Graduate or professional degree
- ◯ Still in college

18. What is your household income? (Consider the income of everyone who lived with you in the past year, taxable and nontaxable.)

- ◯ Under $15,000
- ◯ Between $15,000 and $29,999
- ◯ Between $30,000 and $49,999
- ◯ Between $50,000 and $74,999
- ◯ Between $75,000 and $99,999
- ◯ Between $100,000 and $150,000
- ◯ Over $150,000

19. What is your employment status?

- ◯ Employed, full-time
- ◯ Employed, part-time
- ◯ Unemployed
- ◯ Retired
- ◯ Disabled, unable to work
- ◯ I do not work

20. In what city/town do you work?

- ◯ Grafton
- ◯ Shrewsbury
- ◯ West Boylston
- ◯ Worcester
- ◯ Other

2024 English CHA Survey

Thank You!

Thank you for participating in the 2024 Greater Worcester Community Health Assessment Survey!

Appendix C: 2024 CHA Public Survey

Introduction and Methods

The 2024 CHA Public Survey was conducted among all Alliance municipalities (Worcester, Shrewsbury, West Boylston, and Grafton) to examine potential barriers and facilitators, and perceptions of health within the community. The survey was administered through SurveyMonkey and on paper from July 10th, 2023, to September 10th, 2023. A combination of open and close-ended questions was used to gauge perceptions of healthy living and potential barriers and facilitators to these perceptions. Responses were collected in English, Spanish, Portuguese, Vietnamese, Arabic, and Swahili. Quantitative and qualitative analyses were done using Microsoft Excel and SurveyMonkey.

Demographics

A total of 1,000 people responded to and completed the public survey. Those residing in Worcester make up 37% of respondents, Shrewsbury residents make up 26% of respondents, and 12% reported living in a municipality outside of the CMRPHA. Figure 1 shows the percentage breakdown of survey respondents' residence.

Figure 1: Town of Residence of 2024 CHA Public Survey Participants

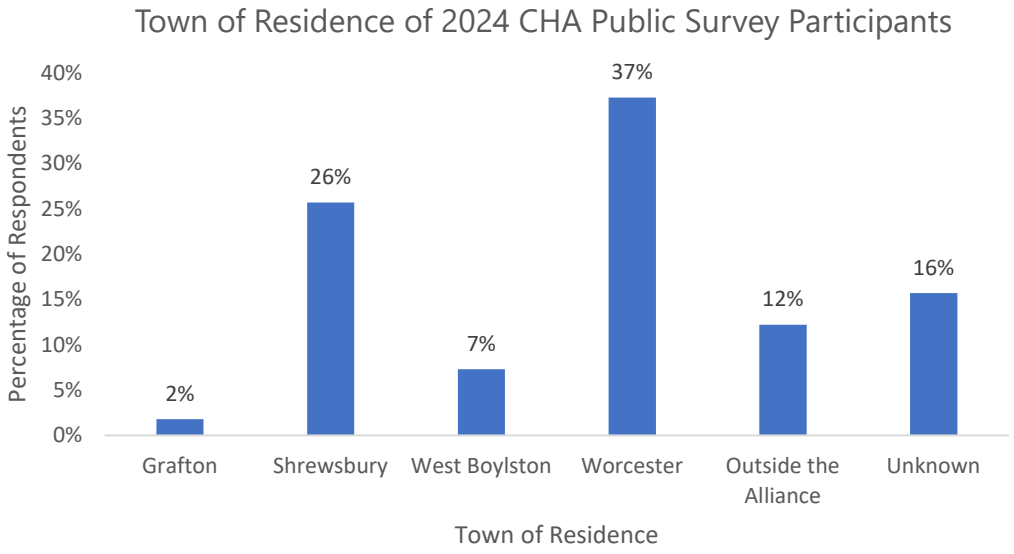
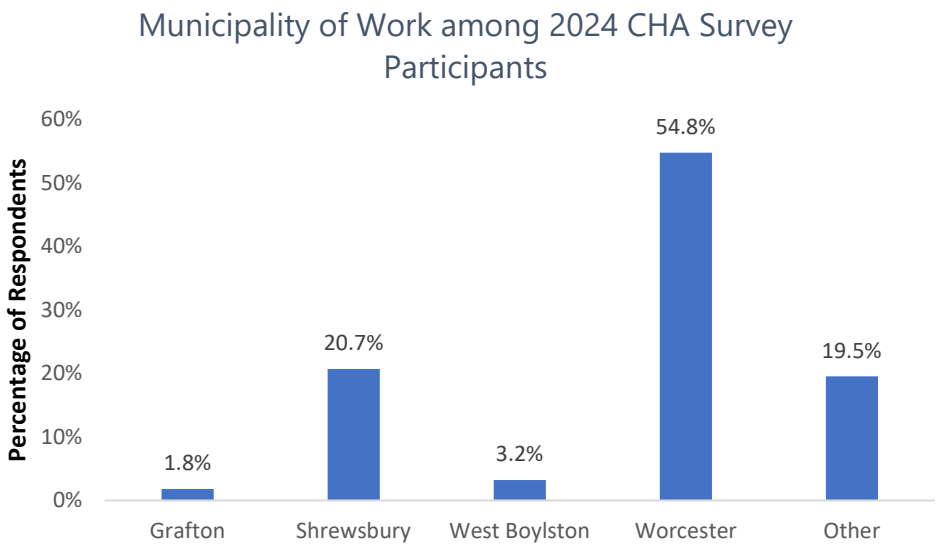


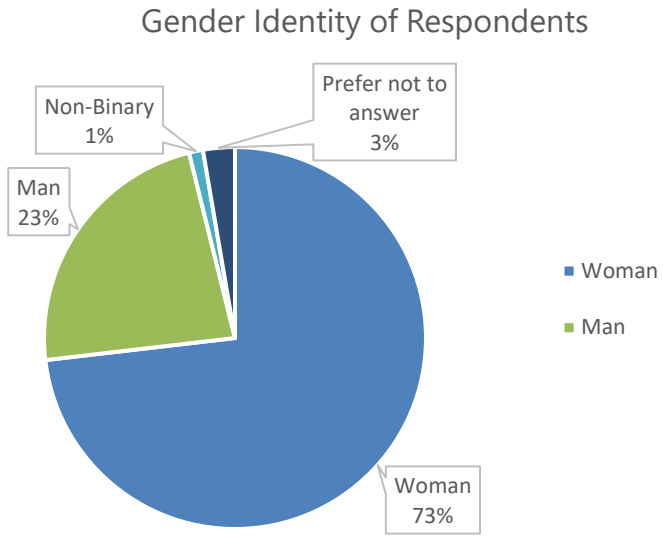
Figure 2 shows the distribution of where respondents of the 2024 CHA Public Survey work. Approximately 55% of respondents work in Worcester while 19.5% reported working outside of one of the CMRPHA municipalities.

Figure 2: Municipality of Work among 2024 CHA Survey Participants



People identifying as female make up 73% of survey respondents, and those identifying as male make up 23% as shown in Figure 3. 1% identified as non-binary and 3% preferred not to respond to this question.

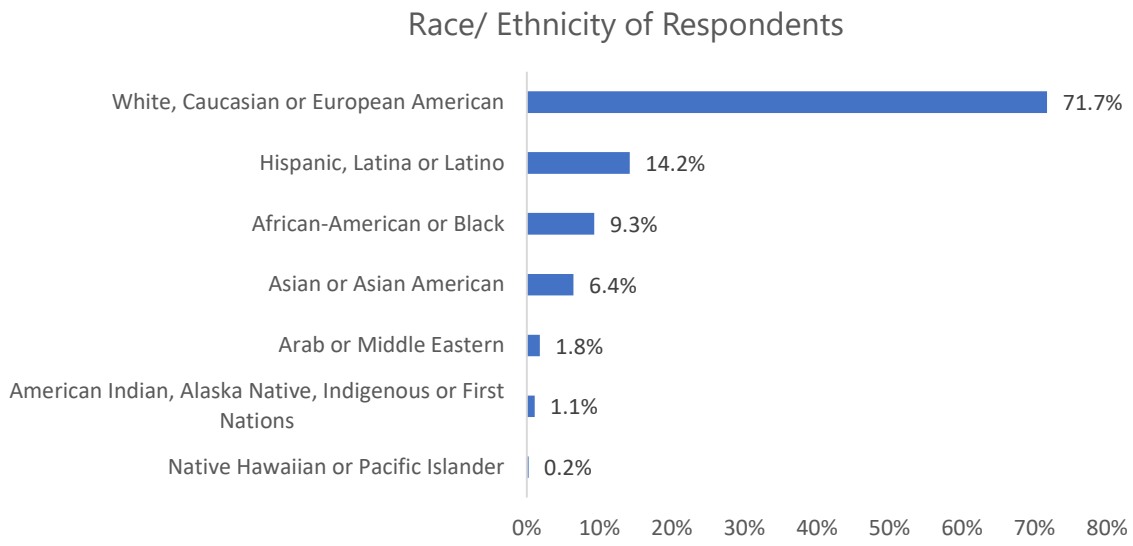
Figure 3: Gender Identity of Respondents



The racial/ethnic identity breakdown of survey respondents is represented in Figure 4. The majority (71.7%%) of people who took the survey were White/Caucasian/European American. The other race/ethnic groups are comparatively minorly represented among survey takers, with

14.2% being Hispanic/Latino, 9.3% being Black/African American, 6.4% being Asian, and less than 2% for other race/ethnic groups.

Figure 4: Race/Ethnicity of Respondents



Respondents ranged widely in age, as shown in Figure 5, with the largest representation (34.9%) between 30 to 49 years old, followed by individuals aged 50 to 64 years (30.5%). Those in the 65 to 74 years of age category represented 16.6% of the survey population. Only 9.5% of the respondents were between the ages 18 and 29, while only 8.6% of the respondents were over the age of 75.

Figure 5: Age Range of Respondents

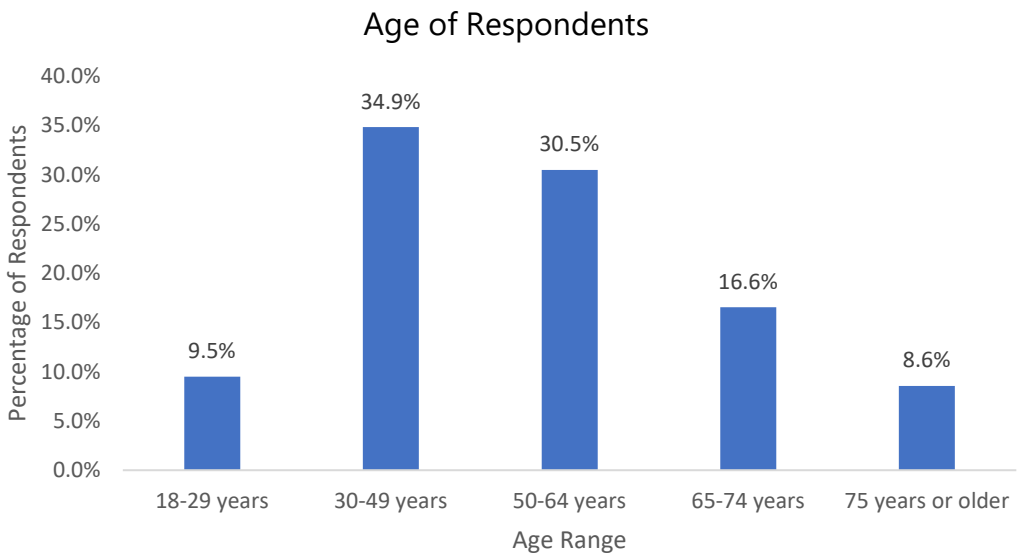
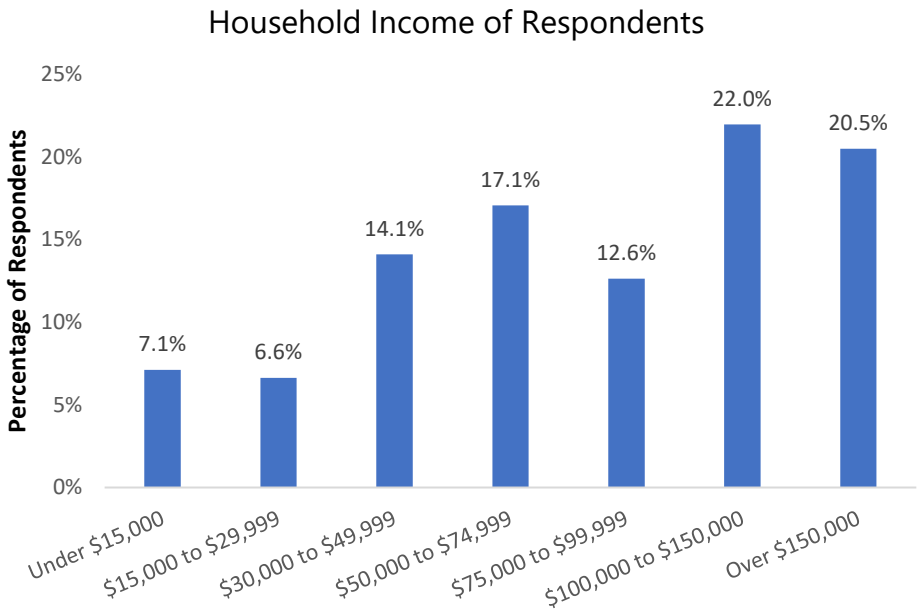


Figure 6 provides the household income distribution of the survey respondents. A high percentage of survey takers (44.5%) have a household income above $100,000. However, households earning less than $30,000 annually represented less than 15% of participants.

Figure 6: Household Income of Respondents



The educational attainment of the survey respondents is shown in Figure 7. The majority of respondents reported either having a Graduate/Professional degree (41%) or a Bachelor's degree (28%). By comparison, less than 10% of the respondents had a high school level education or less.

Figure 7: Highest Level of Education Completed by Survey Respondents

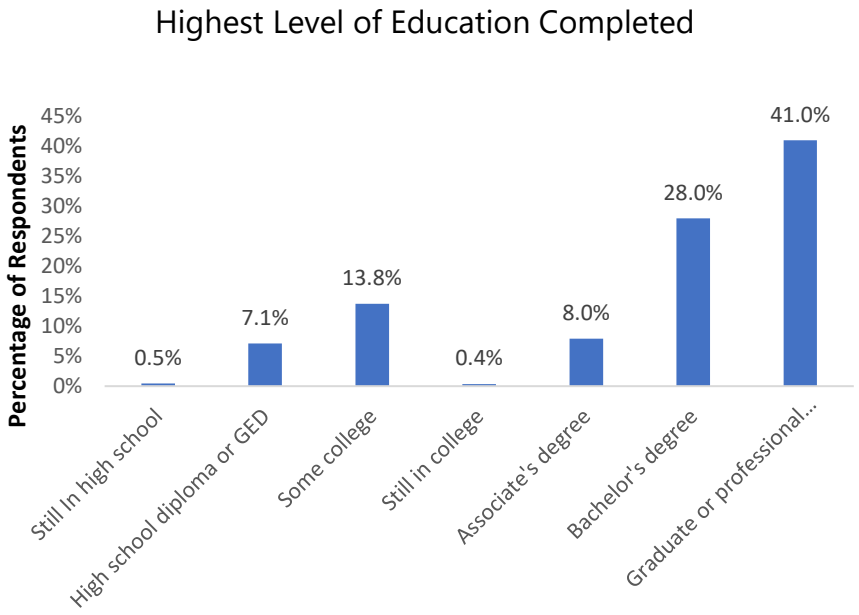
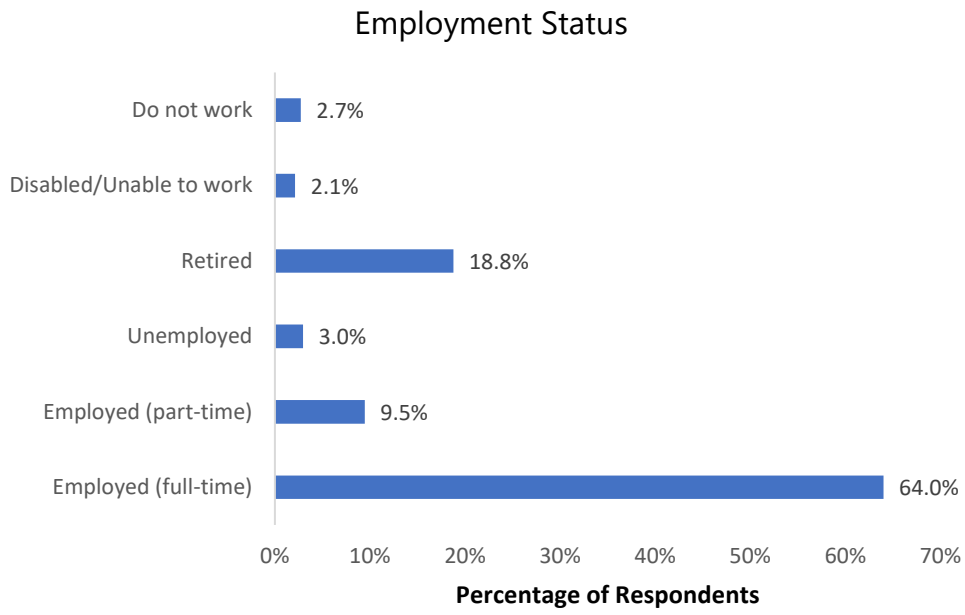


Figure 8 represents the employment status of survey respondents, in which the majority (64%) is employed full-time. Approximately 19% are retired and 9.5% are employed part-time.

Figure 8: Employment Status of Survey Respondents

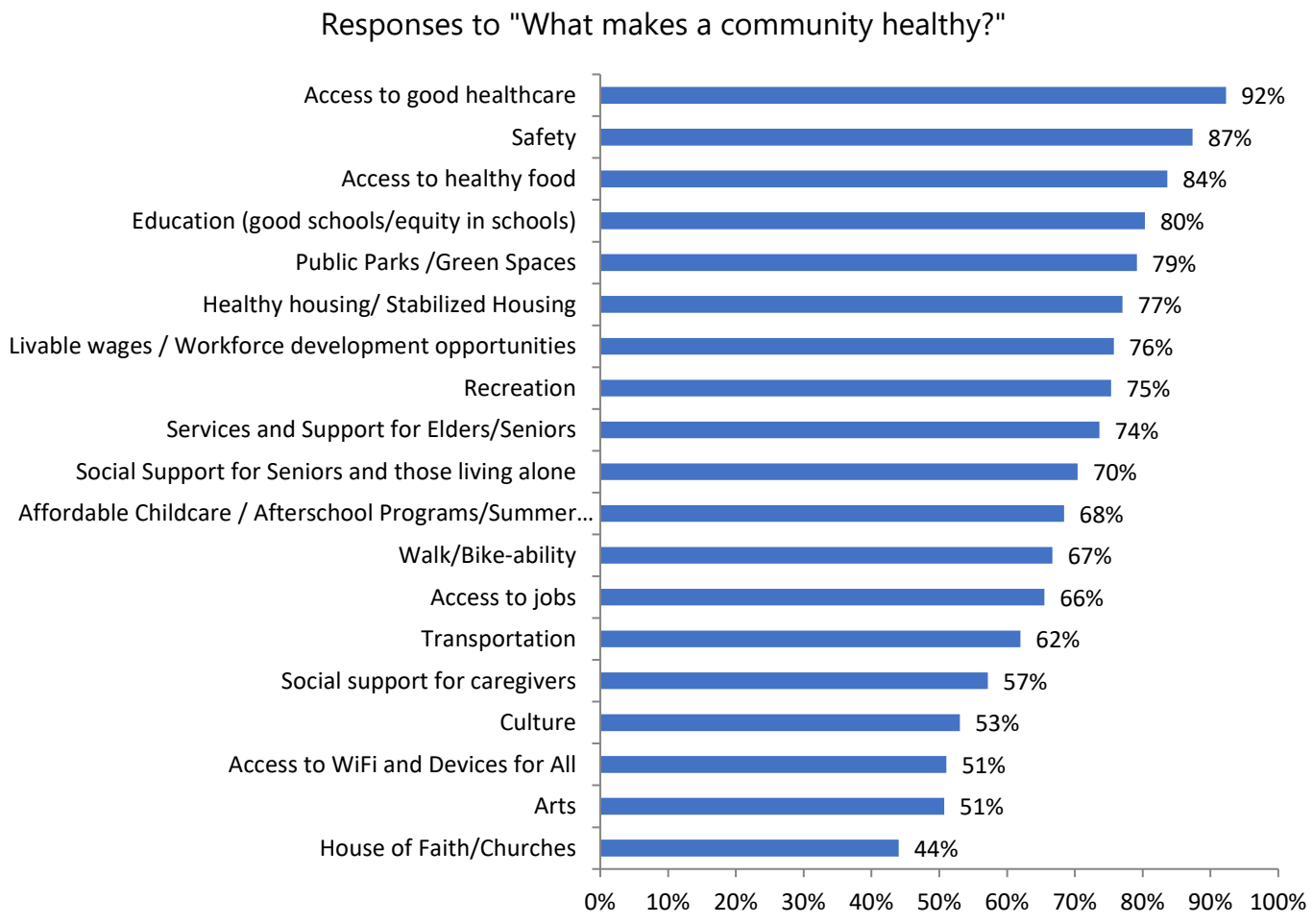


Survey Questions

Question 1: What makes a community healthy?

The multi-select question generated 993 responses, all related to different aspects of a healthy community. Figure 9 illustrates the distribution of responses from survey participants across various response categories. The five most common responses were as follows: "Access to quality healthcare," with 92% of respondents selecting it, "Safety" at 87%, "Access to healthy food" at 84%, "Education" at 80%, and "Public parks/Green spaces" at 79%.

Figure 9: Proportion of responses to "What makes a community healthy?"



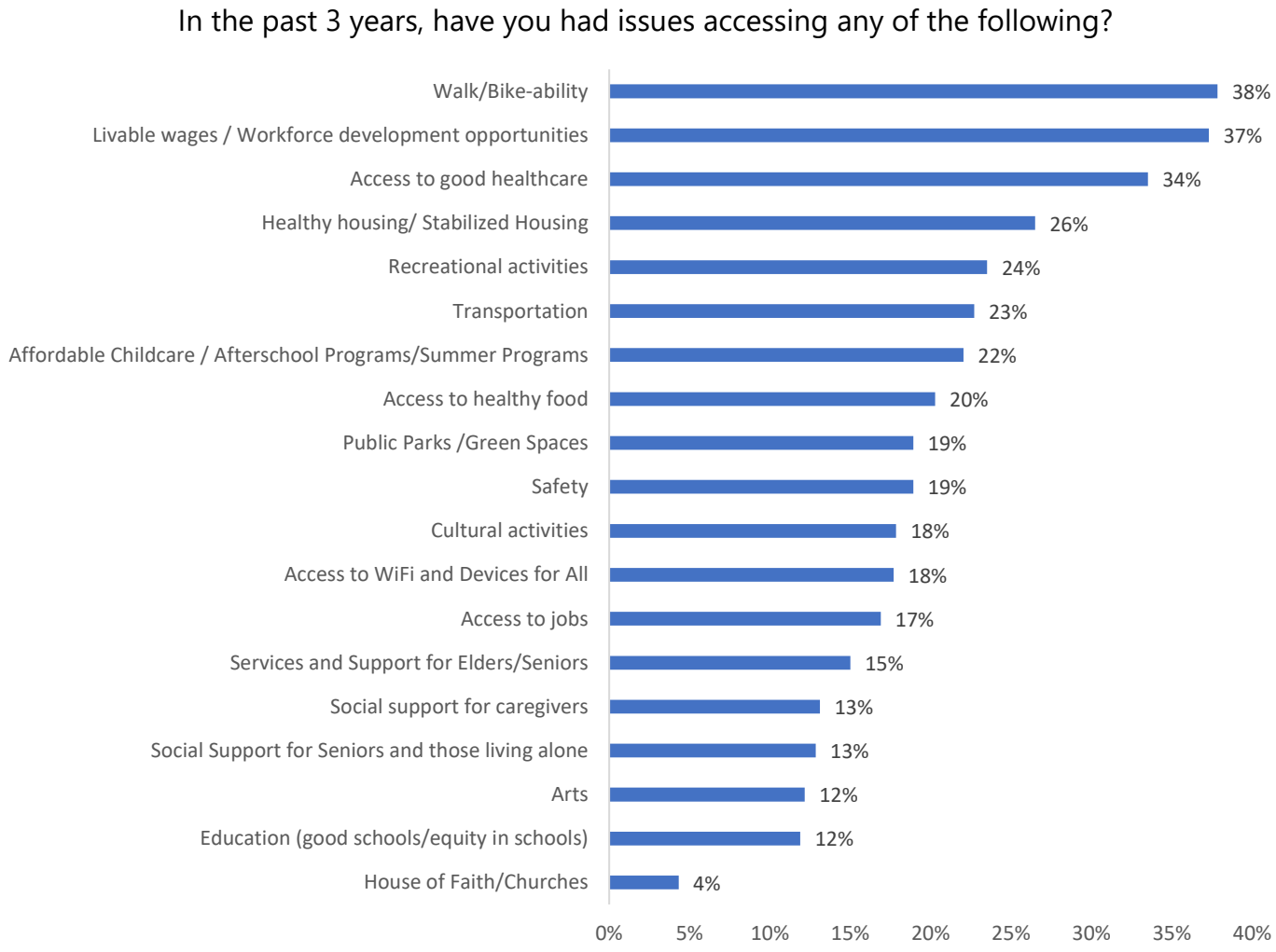
Question 2: In the past 3 years, have you had issues accessing any of the following?

This question generated 993 responses addressing the challenges faced by survey participants when trying to access various community services and amenities. Figure 10 visualizes how these responses are distributed among survey participants, with the five most prevalent issues being: "Walkability/Bike-ability" at 38%, "Sustainable income" at 37%, "Availability of quality

healthcare" at 34%, "Stable and Healthy housing" at 26%, and "Access to recreational activities" at 24%.

Among the survey participants, Black and Asian respondents reported struggles with livable wages/workforce development opportunities that were significantly higher than those experienced by Hispanic respondents (chart not displayed). It's worth noting that some of the top 5 issues respondents encounter align with the top responses to the Question 1 “What makes a community healthy?”

Figure 10: Responses to "Have you had issues accessing any of the following?"



Question 3: What does a healthy community look like to you?

The open-ended question yielded 748 responses of varying versions of a healthy community. A text analysis revealed the most common views among respondents. 24.9% of responses contained “low crime” or “safe neighborhoods” in their description. Other popular descriptors

were “affordable housing” (24.7%), “good place to raise children” (20.7%), and “access to health care” (18.5%). One respondent wrote **“Low crime rates, safe, clean outdoor spaces, access to healthcare and dental for everyone, access to affordable healthy food for the middle class as it’s too expensive to eat healthy with growing children.”**

Responses surrounding economic opportunities (jobs, affordable housing, affordable foods) were recorded frequently with one person expressing that **“A healthy community is one that ensures that all people are reasonably housed and can remain so, aims to counteract crazy rent inflation and unsustainable housing practices, seeks to support the people who *already live there* and not cater to people who they think *should come live there*. There should be prioritized green space and action taken to work on climate survivability and sustainability. People should be able to easily and safely transport themselves where they need to go, earn livable wages, and have program support to access these things rather than be expected to figure it all out themselves.”**

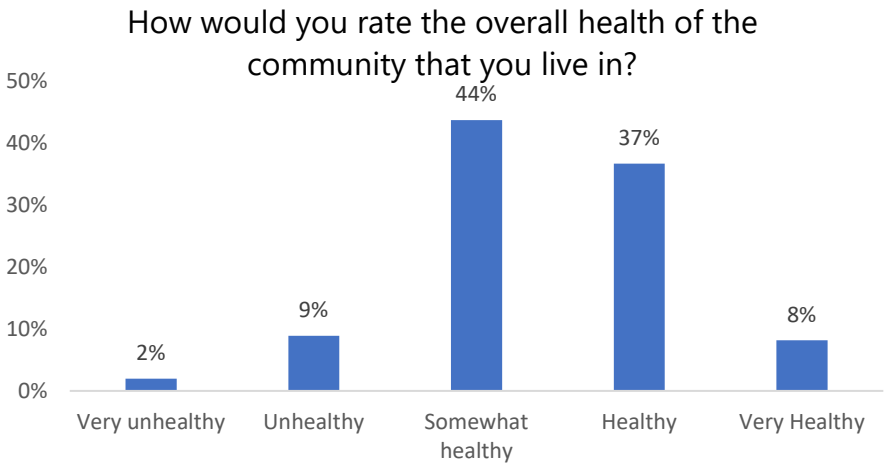
Other response categories include access to healthy foods, access to good schools, low rates of death and disease, and clean streets and sidewalks. Figure 11 is a word cloud generated from these frequencies.

Figure 11: Word Cloud depicting responses to what a healthy community looks like

Question 4: How would you rate the overall health of the community that you live in?

The survey asked, “How would you rate the overall health of your community?” and responses were recorded on a five-point Likert-scale ranging from “Very unhealthy” to “Very healthy”. Figure 12 represents the community health ratings of the total survey population, in which the largest percentage of respondents, 44%, rated the health of their community as “Somewhat healthy”. A combined 45% of respondents felt that their community was either “healthy” or “very healthy”, while only 11% felt that their community was either “unhealthy” or “very unhealthy”. feel that their community is either “unhealthy” (14.8%) or “very unhealthy” (3.5%).

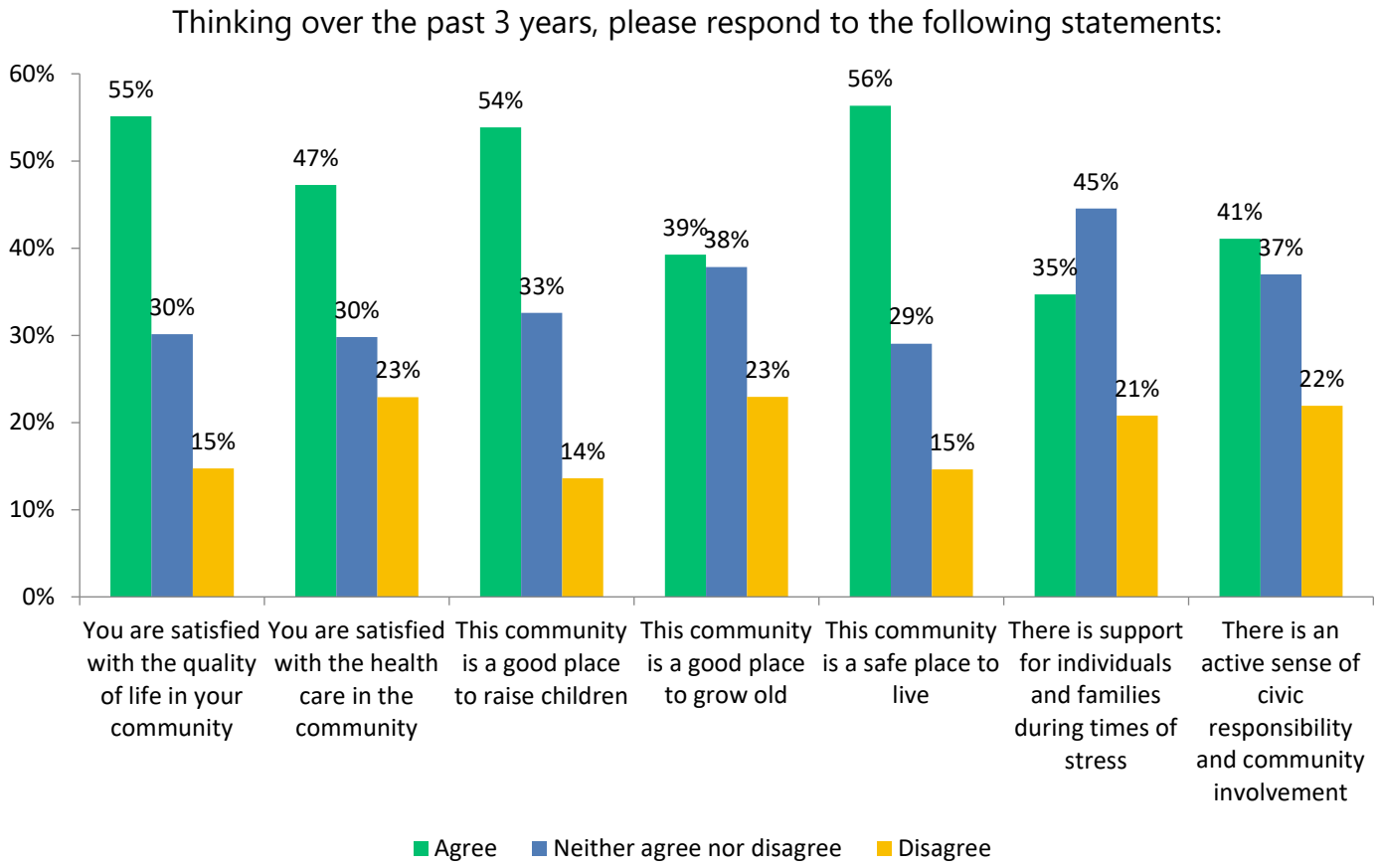
Figure 12: Satisfaction with overall health of community



Question 5: Thinking over the past 3 years, please respond to the following statements using the scale provided.

Question 5 consisted of a series of questions related to satisfaction with quality of life and community health in which respondents were able to respond with either “Disagree”, “Neither agree or disagree”, or “Agree” (Figure 13). Over 55% of participants agreed that the community is a good place to raise children, a safe place to live, and that they were satisfied with the quality of life in their community. Only 35% agreed that there is support for individuals and families during times of stress.

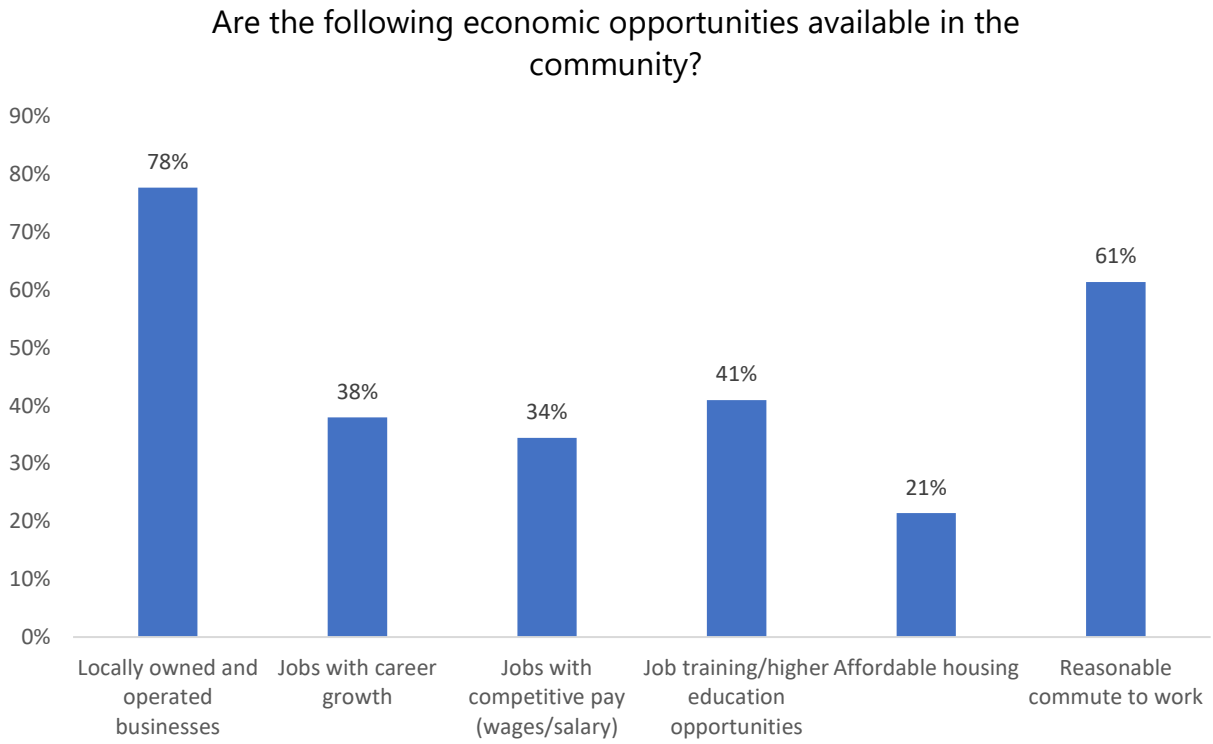
Figure 13: Satisfaction with quality of life in community



Question 6: Are the following economic opportunities available in the community?

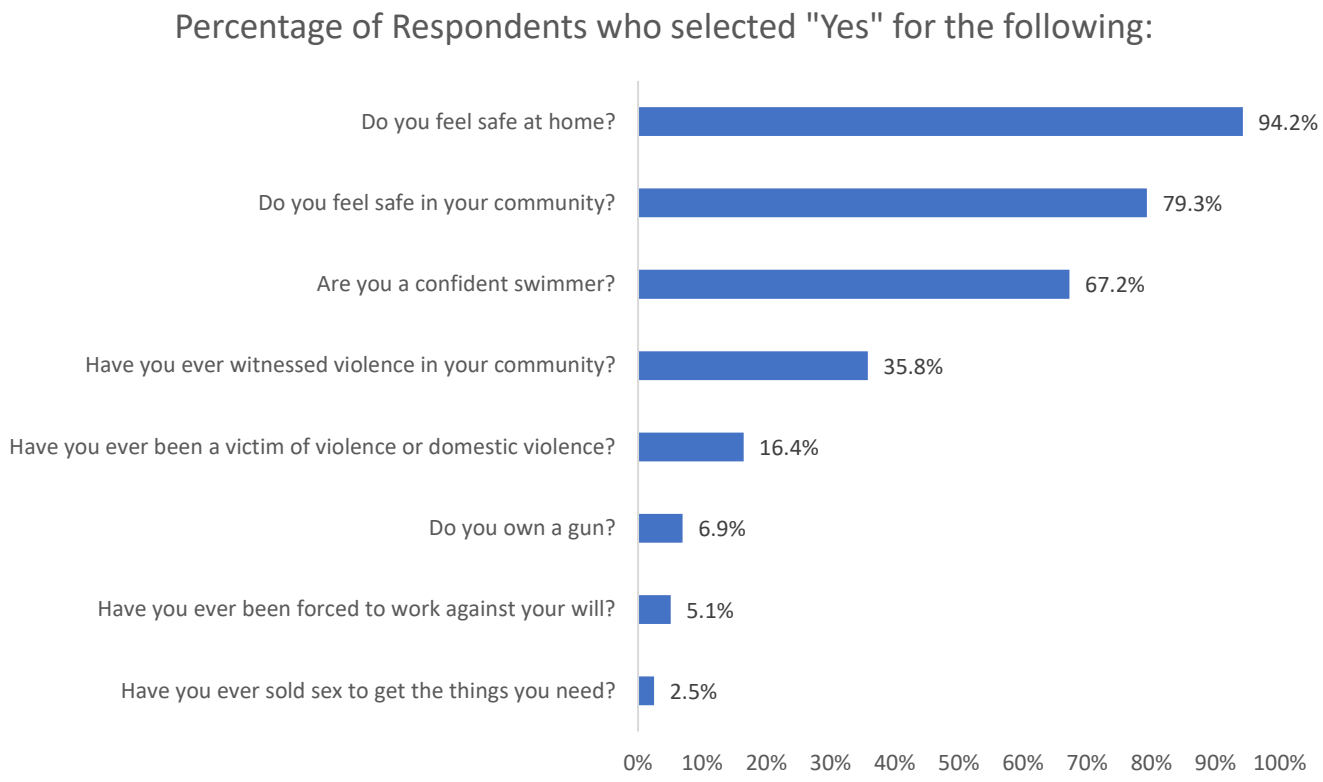
Figure 14 shows the percent of respondents who recorded a "yes" response when asked if these economic opportunities are available in the community. "Locally owned and operated businesses" was the most common response at 78% of respondents saying "yes". Among these, Black and Asian respondents reported having significantly lower economic opportunities in this field, compared to White respondents. The survey population reported "Affordable housing" as the least common option, at 21%. Additionally, Asian respondents reported having significantly lower job training/higher education opportunities compared to Hispanic respondents (not displayed in chart).

Figure 14: Availability of Economic Opportunities



Question 7: Thinking of the past 3 years, please select yes or no for each of the following.
Represented in Figure 15 are eight sub-questions relating to the perception of safety among respondents. Approximately 94% of participants feel safe at home and slightly less (79%) also feel safe in the community. 93% of respondents indicated that they do not own a gun. 35.8% of respondents reported witnessing some form of violence in the community (Domestic violence, gun violence, sexual orientation and gender identity violence, etc.), and 16.4% reported being a victim of such violence. 5.08% reported being forced to work against their will, and 2.5% reported having sold sex to get what they need. Additionally, 32.8% reported not being able to confidently swim (treading water, floating, finding your way out of a body of water, etc.).

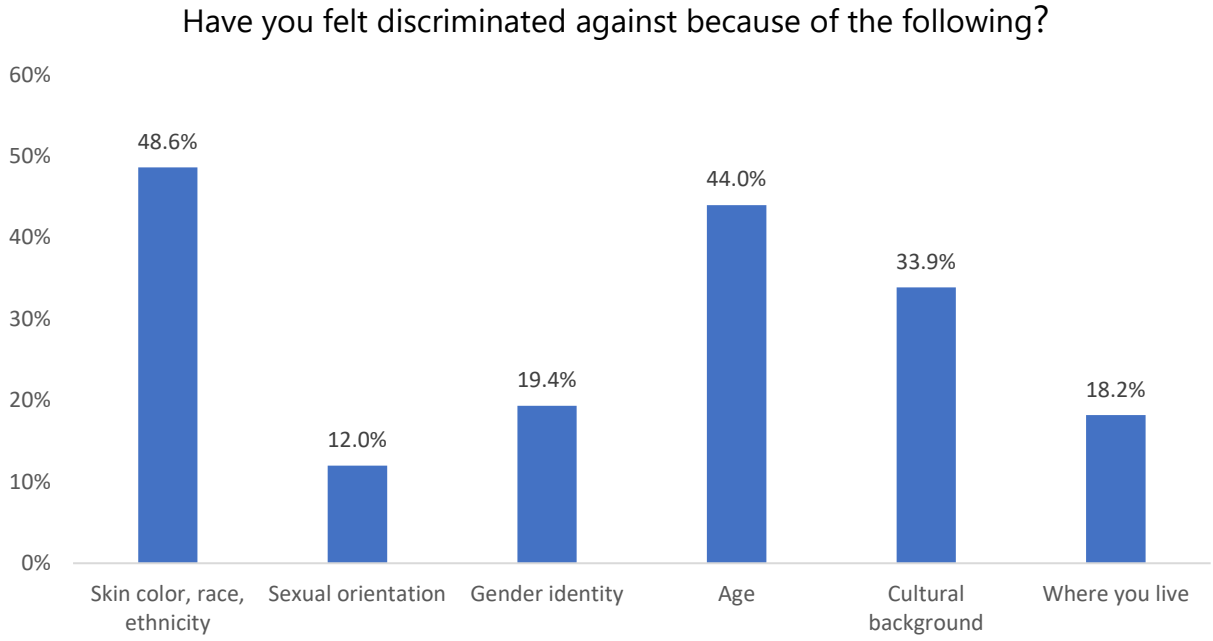
Figure 15: Perception of Safety in the Community



Question 8. Over the past 3 years, have you felt discriminated against because of any of the following?

Respondents were asked about feelings of discrimination in relation to various demographic characteristics over the past 3 years. Figure 16 shows the percentage at which respondents reported having felt discriminated against; the most common were race and ethnic discrimination (48.6%), age discrimination (44%), and discrimination based on cultural background (33.9%).

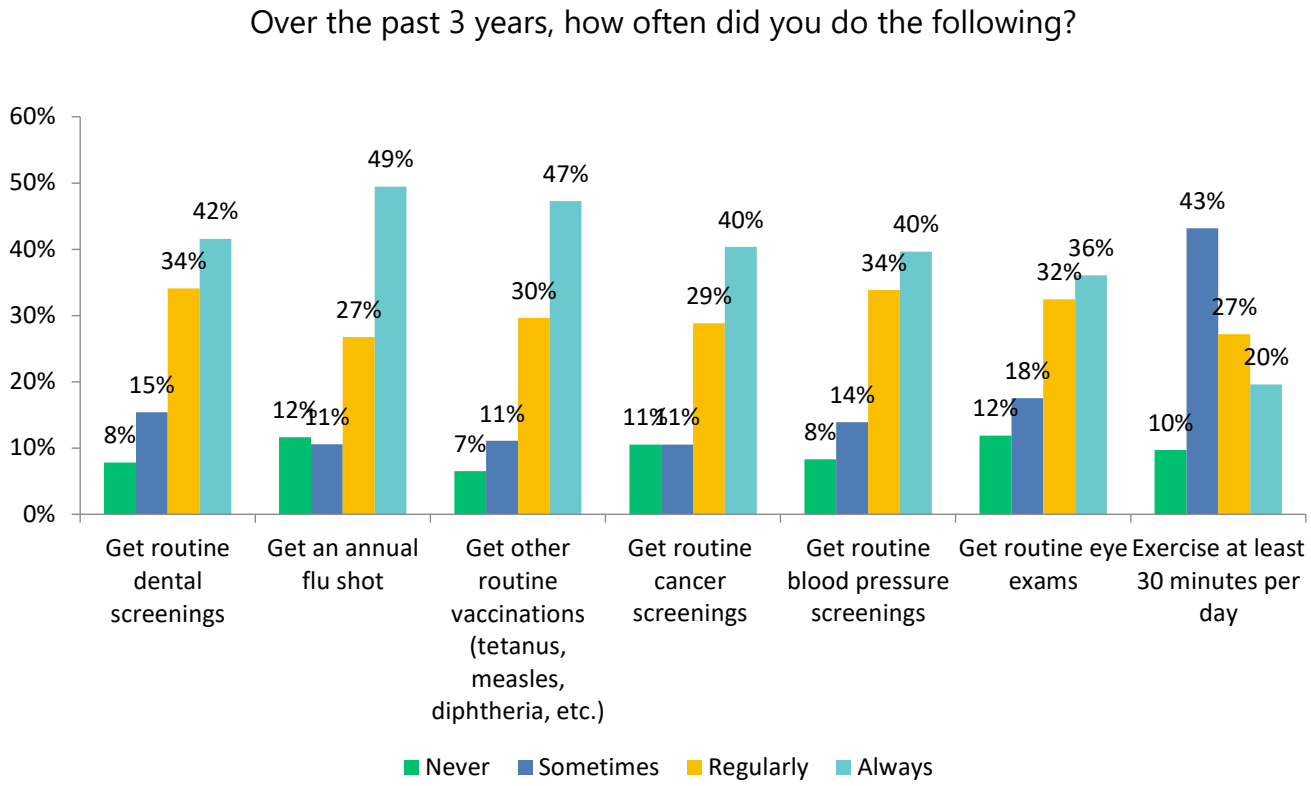
Figure 16: Feelings of Discrimination



Question 9: How often do you do the following?

Question 9 asked about healthy habits, such as dental and physical care and exercise, and how often respondents practice them. Responses were recorded on a five-point Likert-scale from "Never" to "Always". Respondents indicated that getting "Routine vaccinations" (47% Always; 30% Regularly) and getting an "Annual flu shot" (49% Always; 27% Regularly) are done most frequently. Less than 50% of respondents reported engaging in regular physical exercise for at least 30 minutes a day.

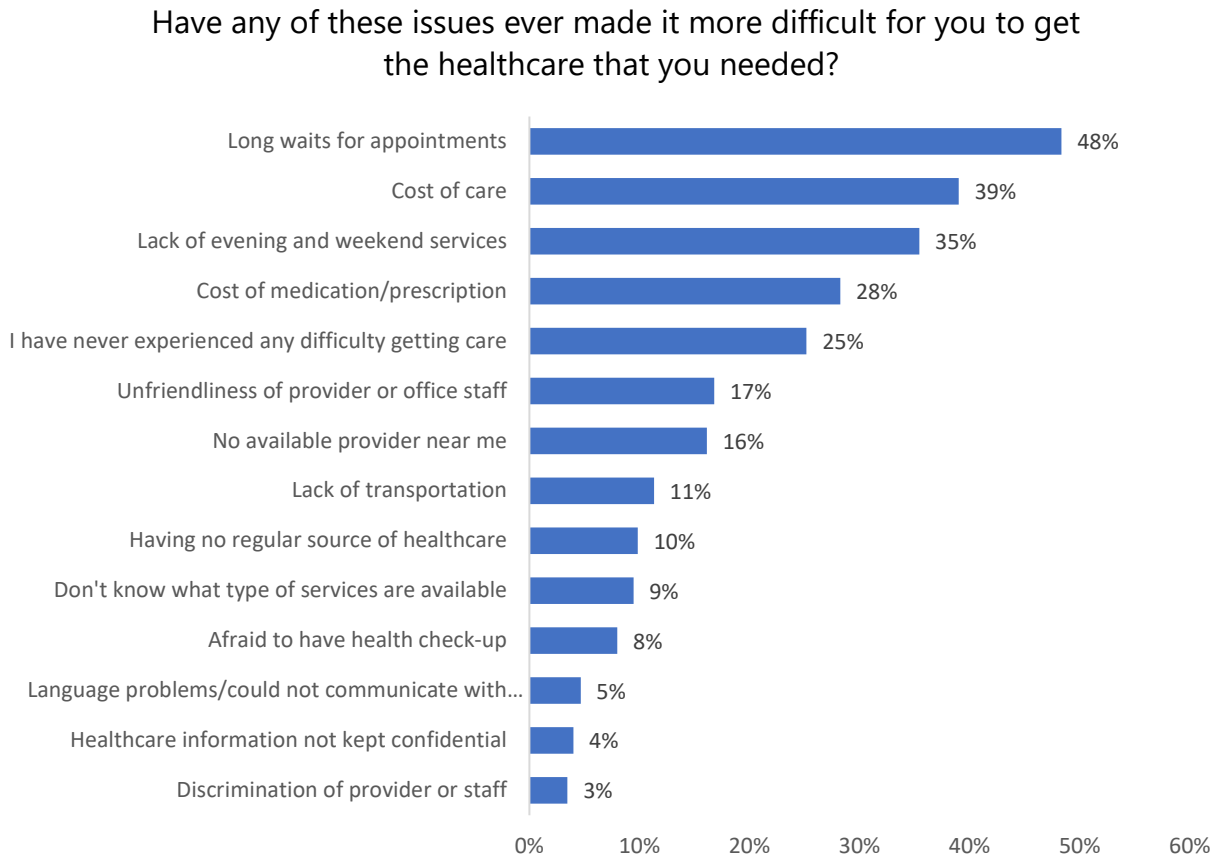
Figure 17: Frequency of Routine Checkups



Question 10: Have any of these issues ever made it more difficult for you to get the health care that you needed? (Choose all that apply)

Question 10, represented in Figure 18 was in the form of a "check all that apply" with statements relating to issues and difficulties obtaining the health care needed. The most common identified issues were "long waits for appointments" (48%), "cost of care" (39%), "lack of evening and weekend services" (35%), and "cost of medication/prescription (28%). Black and Hispanic respondents reported experiencing significantly higher costs of care compared to Asian and White respondents. Additionally, Hispanic participants indicated higher levels of challenges in accessing consistent healthcare providers, encountering language barriers, and being informed about available service options compared to White respondents. Approximately 25% of responses indicated that they have never experienced difficulties obtaining care.

Figure 18: Issues that made it difficult to obtain healthcare

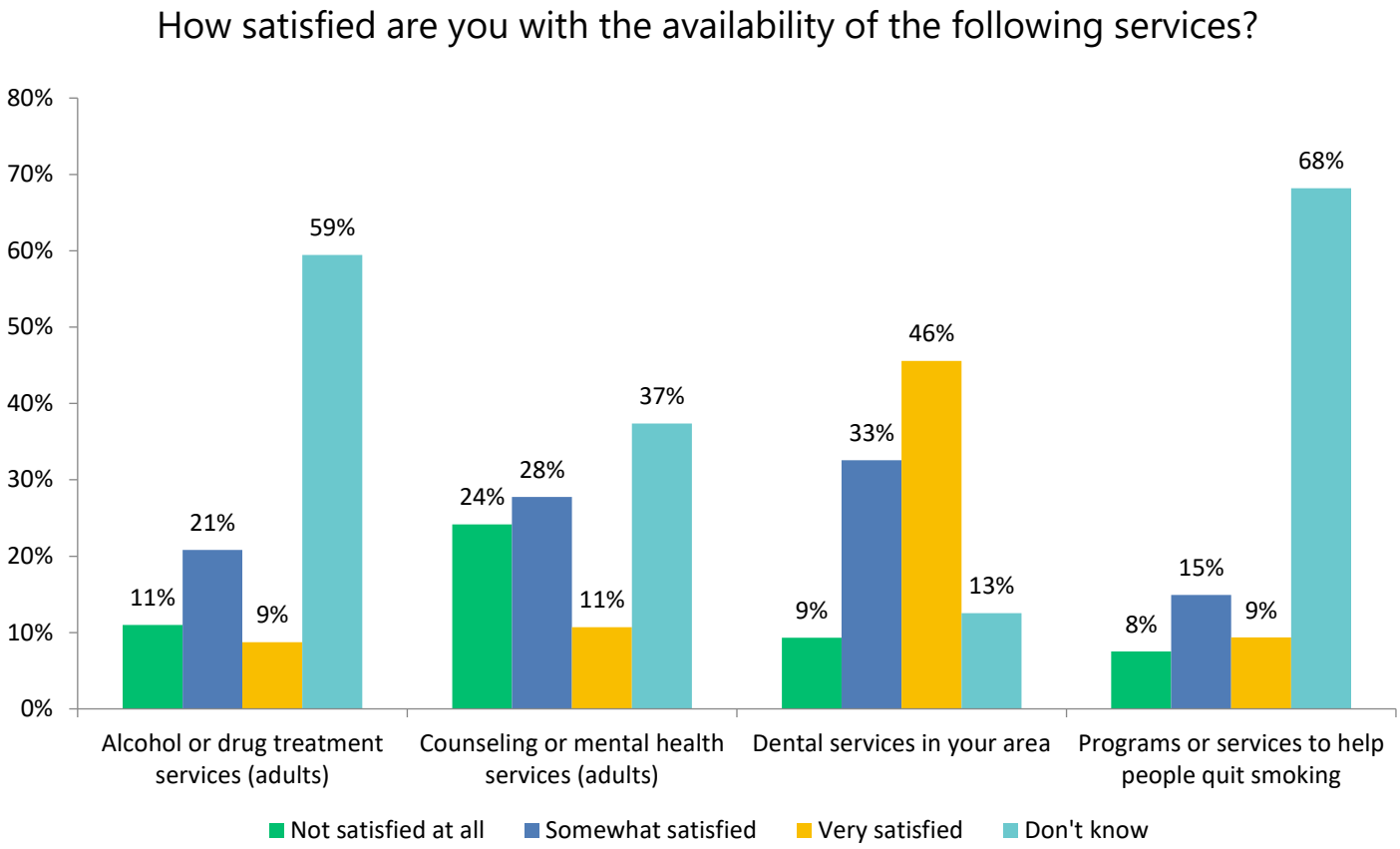


Question 11: Please think about the availability of the health and social services in your community. How happy or unhappy are you with the availability of the following health, medical, and social services?

Nine examples of health and social services were listed for survey respondents to indicate how happy or unhappy they are with each service. The responses were recorded on a three-point Likert-scale including “Not satisfied at all”, “Somewhat satisfied”, and “Very satisfied”, as well as the option “Don’t know”.

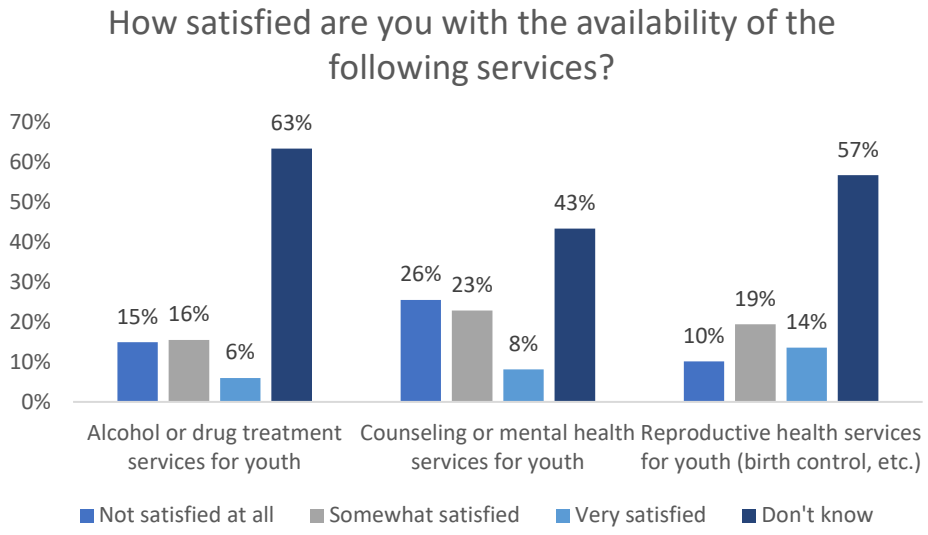
Figure 19 depicts percentage responses for satisfaction with services for adults. 46% of respondents were “Very satisfied” with dental services. A high percentage of respondents (>60%) were not aware about services for smoking, alcohol, and drug treatments, highlighting the need for more awareness regarding these resources in the community.

Figure 19: Satisfaction with Adult Services



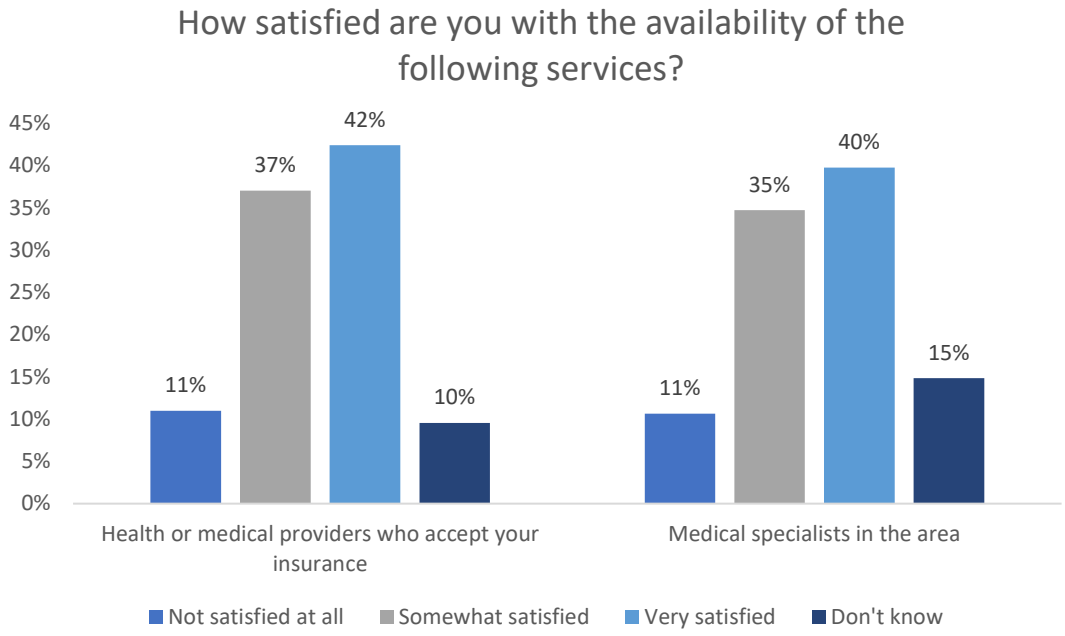
Similarly, a high percentage of respondents were not aware about the availability of services for alcohol and drug treatment, mental health services, and reproductive health services for youth (Figure 20). Only 22% were “Very” or “Somewhat satisfied” with services for alcohol and drug treatment, 31% with mental health services for youth, and 33% with reproductive health services.

Figure 20: Satisfaction with Youth Services



Among the survey participants, 42% expressed a high level of satisfaction with medical providers who accept insurance, while 40% reported being similarly satisfied with the medical specialists available in the area (Figure 21). It is important to exercise caution when analyzing these responses, and it is advisable to factor in the demographic attributes of the survey respondents during interpretation.

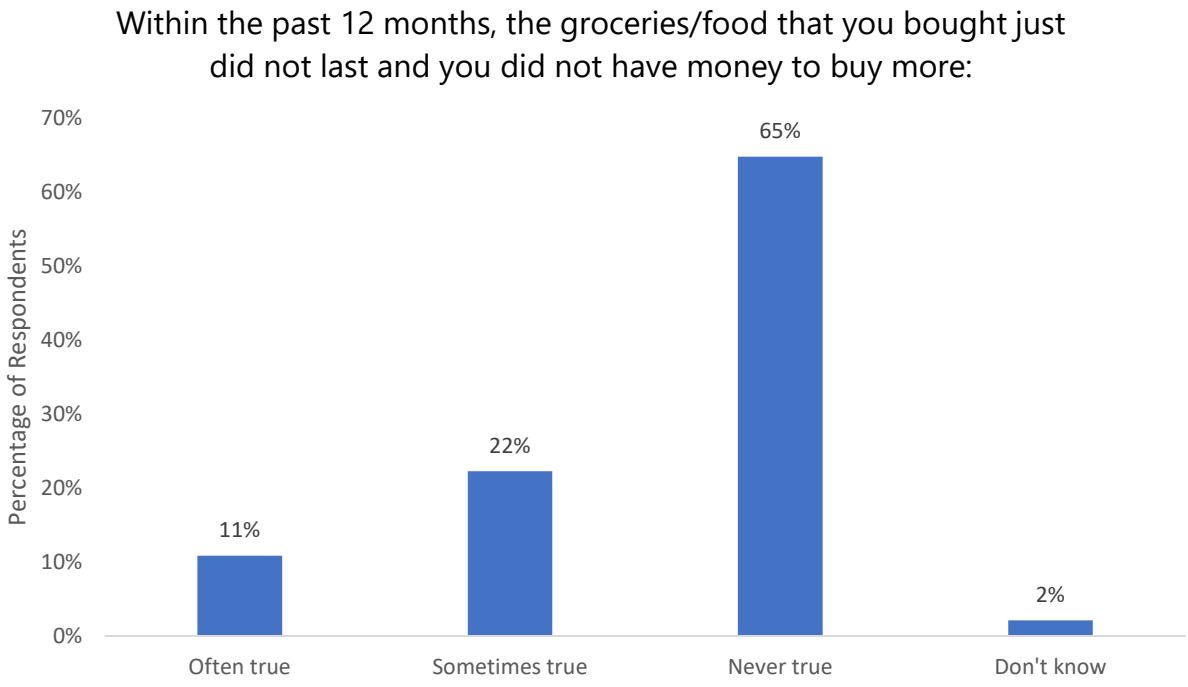
Figure 21: Satisfaction with Service Availability



Question 12: Within the past 12 months, the food/groceries that you bought just did not last and you did not have money to buy more?

Figure 22 shows the frequency of responses ranging from "Never true" to "Often true" regarding a respondent's food/groceries not lasting and not having enough money to purchase more. Almost 33% percent reported that this was "sometimes true" (22%) or "often true" (11%).

Figure 22: Groceries/ Food in the Community



Appendix D: Invitation to Participate in Community Conversations

Invitation to Participate in a Community Health Assessment (CHA) Conversation
2023 Summer Session

CHGW Mission

To promote the shared learning, reflection, and broad engagement that improves community decision-making, health, and well-being for residents of Greater Worcester.

Role in CHA Implementation

We hold shared responsibility with the Worcester Division of Public Health/Central Massachusetts Regional Department of Public Health for implementation of the 2021 Community Health Improvement Plan, working together to build a healthy community, with the goal of healthy equity. Our role is to ensure continuous community engagement that is universally inclusive and representative of the diverse organizations, agencies, and residents of the region. We provide a mechanism for funding toward CHIP initiatives, and we build accountability by tracking and evaluating progress toward outcomes. The Coalition provides structure and tools for communication, collaboration, and reporting.

Inviting you to participate in a CHA Conversation

As part of the community health assessment process, it is imperative we listen, learn, and incorporate the perspectives and testimonies of the Central Massachusetts community. We are seeking individuals, especially those who were disproportionately impacted by COVID-19 and who use local public health and health care services. We value amplifying the people's voices so as to intentionally change systems that so many feel barred from or oppressed by.

What we will ask of you as a participant

1. We will send you a brief survey asking you to disclose basic demographic information and provide permission to record audio from the conversation
2. You will join a 30-60 minutes conversation led by a CHA Cohort Leader

Our accountability to you as a Cohort and Coalition

1. If you indicate you would like certain information to remain anonymous, we will ensure your privacy and confidentiality is protect
2. We will create a safe, brave space for you to share your perspective and testimony
3. We will follow with you on minutes taken from the conversation and inform you transparently of all next-steps in the CHA development process

Stipend

- If you are a non-institutional leader, the Coalition will compensate you for participating with a gift card.

If you accept this invitation, please inform the invitee to schedule a conversation time. Prior to your conversation, please complete THIS SURVEY:
https://forms.gle/YU8krn8QtvzxqEDG7

Appendix E: Community Conversation Participation Survey

Community Conversation Participation Survey

Thank you for your involvement in the work of the Coalition for a Healthy Greater Worcester. We want to know more about you! We ask for your assistance in developing a robust and accurate understanding of the people involved in the community conversations.

We encourage you to complete this survey as honestly and openly as you feel comfortable. We ask your email to track participation; please note though that none of your responses will be affiliated with your email. We will only report aggregated data. If you are interested in learning more about the Coalition, please visit: https://www.healthygreaterworcester.org/

Thank you!

* Indicates required question

1. Email *

2. Have you participated in a Community Conversation before?

Mark only one oval.

- ◯ Yes
- ◯ No

3. What is your age range? *

Mark only one oval.

- ◯ Under 18
- ◯ 18-24
- ◯ 25-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55-64
- ◯ 65-74
- ◯ 75+

4. In what zipcode do you live? *

5. Did you grow up in the Worcester area? *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other:

6. What languages do you use most often at home? *

Check all that apply.

- [ ] English
- [ ] Spanish
- [ ] Albanian
- [ ] Chinese (Mandarin/Cantonese)
- [ ] Polish
- [ ] Portuguese
- [ ] Vietnameme
- [ ] Hindi/Tamil
- [ ] Other: _____

7. How long have you lived in the US? *

Mark only one oval.

- ◯ Less than one year
- ◯ 1-3 years
- ◯ 4-6 years
- ◯ More than 6 years but not my whole life
- ◯ I have always lived in the US
- ◯ Other: _____

8. Which of the following represent your racial or ethnic heritage? Choose all that apply. *

Check all that apply.

- [ ] White, Caucasian, or European American
- [ ] Latina/o/x/, or Hispanic
- [ ] Black/African American
- [ ] Asian or Asian American
- [ ] American Indian, Alaska Native, Indigenous or First Nations
- [ ] Arab or Middle Eastern
- [ ] Multi-Racial or Bi-Racial
- [ ] Native Hawaiian or Pacific Islander
- [ ] Other: _____

9. What is your gender?

Mark only one oval.

- ◯ I identify as female - cisgender
- ◯ I identify as female - transgender
- ◯ I identify as male - cisgender
- ◯ I identify as male - transgender
- ◯ I identify as non-binary/genderfluid
- ◯ Would prefer not to say at this time
- ◯ I identify with a different category not indicated on this survey.

10. What are you personal pronouns? *

Mark only one oval.

- She/her
- He/him
- They/them
- She/her/they/them
- He/him/they/them
- I prefer different pronouns
- I would prefer to not identify right now

11. What is your employment status?

Mark only one oval.

- Employed
- Self-employed
- Out of work and looking for work
- Underemployed and looking for more work
- Out of work but not currently looking for work
- A homemaker
- A student
- Military
- Retired
- I am unable to obtain and maintain a job at this time

12. Which describes your personal income this past year? *

Mark only one oval.

- 0 - 9,999
- 10,000 - 24,999
- 25,000 - 49,999
- 50,000 - 74,999
- 75,000 - 99,999
- 100,000 - 149,999
- 150,000 or more
- I would prefer not to say at this time

13. Does your work relate to the activity of the CHIP?

Mark only one oval.

- Yes
- No
- Other

14. What is the highest level of education you have completed? Please choose one.

Mark only one oval.

- ◯ No schooling completed
- ◯ Nursery school to 8th grade
- ◯ Some high school, no diploma
- ◯ High school graduate, diploma or the equivalent (for example: GED)
- ◯ Some college credit, no degree
- ◯ Trade/technical/vocational training
- ◯ Associate degree
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Professional degree
- ◯ Doctorate degree
- ◯ Other (please specify)

15. Do you bring valuable lived experience with challenges in any of these areas? Choose all that apply.

Check all that apply.

- ☐ Mobility and physical access
- ☐ Mental health
- ☐ Parenting
- ☐ Sexual orientation or gender identity
- ☐ Education
- ☐ Bias and discrimination
- ☐ Criminal justice
- ☐ Addiction
- ☐ Self-injury
- ☐ Human trafficking
- ☐ Migration and resettlement
- ☐ Adverse childhood experiences
- ☐ Sexual assault or exploitation
- ☐ Chronic pain or illness
- ☐ Other: _____

16. Is there anything else you would like us to know about you?

_____

_____

_____

_____

_____

Permission to record audio and use quotes

17. Please provide your first and last name. To maintain your anonymity, your name will not be associated with Section 1 of this survey. *

_____

18. The CHIP Leadership Cohort would like to record the zoom session used from the Community Conversations so as to be able to refer back to what was said. Do we have your permission to record audio for these purposes? *

Mark only one oval.

- ◯ Yes, you have my permission
- ◯ No, you do not have my permission
- ◯ I am not sure at this time

19. The CHIP staff is interested in incorporating qualitative data, or quoted input from the community conversations, into the CHIP. Do we have your permission to use your quoted input with or without your name associated? *

Mark only one oval.

- ◯ Yes, you have my permission to quote my input and use my name
- ◯ You have my permission to quote my input but NOT use my name
- ◯ No, you do not have my permission to quote my input or use my name
- ◯ I am not sure at this time

Appendix F: 2024 CHA Interview Guide

Coalition Healthy Greater Worcester| Worcester Division of Public Health

This interview instrument has been adapted from the 2021 CHA interview instrument created by JSI, Inc.

FACILITATOR, PLEASE READ THE GROUND RULES AT THE TOP OF EACH INTERVIEW. PLEASE OFFER TIME FOR THE PARTICIPANTS TO ASK QUESTIONS. PLEASE ALLOW THE SCRIBES (AKA DATA COLLECTORS) TO ADD THEIR INPUT AS NEEDED, AS THEY ARE RESPONSIBLE FOR ENSURING ALL THE SURVEYS ARE COMPLETE AND THAT ALL NAMES OF PARTICIPANTS ARE CAPTURED FOR STIPEND PURPOSES.

Ground Rules

- We will be discussing one topic area at a time. We will be taking notes during the discussion to make sure we record important pieces of information. Your comments will be documented without identifying who you are. If there is something you want kept "off the record," just say so, and we won't record it.
- Please ask questions if something is unclear.
- There are no right or wrong answers. Your honest opinion and perspective are what we want to hear. Every opinion is valid and will be treated with equal respect.
- We want to hear from everyone in the group. We may need to redirect to keep us focused and on-topic. Please be respectful of one another, allow one person to speak at a time, and do not cut each other off. We will make every effort to hear what each one of you wants to share.
- Please feel free to step out of the room to use the restroom, grab a snack, etc.
- Are there any questions before we get started?

Social Determinants of Health and Access to Care (15 min)

When it comes to health status, we know that the underlying social issues, barriers to care, and other determinants of health can be the most challenging issues when trying to keep yourself and your family healthy.

1. What do you think are the leading barriers to accessing health care?

- *Probe:* Typically, the biggest concerns are cost, transportation, language/cultural barriers, shortage of providers, long wait times, lack of insurance/under-insurance, poor care coordination, etc.
- *Probe: The greatest challenges to accessing Mental Health services and resources. Does Stigma* still play a role in accessing support?

2. What do you see as the top 2-3 social determinants of health?

- *Probe: Housing, transportation, inclusion/community cohesion, food insecurity, built environment, etc.*
- *Probe: Education, childcare, devices – connectivity to Wi-Fi*

3. What segments of the population do you think are most affected by these issues? (e.g., by age, income level, geography, race/ethnicity, etc.)

- *What about racism and health equity? Some of the biggest challenges the Greater Worcester community today face are the major disparities in the rates of disease and health status between racial/ethnic groups, income levels, immigration status, etc. Do you think there is a health equity issue in your community?*

Major Health Related Issues and Priorities (15 min)

4. What do you see as the major health concerns, defined broadly, for the Greater Worcester Community?

- *Probe: Most prevalent clinical conditions? (e.g., Diabetes, asthma, cancer, cardiovascular disease, mental health etc.)*

5. How have these issues changed over time? Do you think that certain determinants/conditions have become increasingly worse over time? Do you think this increase resulted from the pandemic and/or due to the natural trajectory of these issues?

Target Populations (5 min)

6. Are there specific population groups who are particularly underserved, at-risk, or who face barriers to access health and social services at greater rates than others?

- *For those who struggle to get their needs met, what do you see as the most pressing barrier to care? (e.g., cost, transportation, lack of services, long waits, language/cultural competency, etc.)*

Strength of Health Service System (10 min)

7. How well do you think the health system functions in the region? (Health system includes primary care, specialty care, hospital services, long term care, behavioral health, oral health, etc.)

- *Probe for assets/strengths and challenges*

8. How well do you think the social service/community health system functions in the region? (Includes community organizations, advocacy groups, food pantries, services for vulnerable families, etc.)

- *Probe* for assets/strengths and challenges

9. How well do you think the social service/community health system functions in the region? (Includes community organizations, advocacy groups, food pantries, services for vulnerable families, etc.)

- *Probe for assets/strengths and challenges*

10. What barriers do you face as a provider?

11. What are some of the strategies being implemented to address the challenges you mentioned?

Community Safety and Police (5 Minutes)

12. Where do you live in Worcester?

13. Do you feel safe in your neighborhood?

- *Probe: Do you feel comfortable sharing why or why not?*

14. Does police presence in your neighborhood increase or decrease your sense of safety?

- *Probe: Do you feel comfortable sharing why or why not?*

15. Do you have a sense of civic engagement and feeling of belonging in community and neighborhood? (5 minutes)

Appendix G: Summary of Community Engagement Activities

21 Institutional Leaders ("ILs") Key Informant Interviews

NAME	TITLE	AFFILIATION
ERIC BATISTA	City Manager, Worcester	City Leadership
ANDRE BENNET	Incoming Executive Director	Shrewsbury Youth and Family Services
LEAH BRADLEY	CEO	Central Massachusetts Housing Alliance
MARYBETH CAMPBELL	Executive Director	Worcester Community Action Council
REVEREND CLYDE TALLEY	Reverend	AME Zion Church
MEG COFFIN	CEO	Center for Living and Working
JONATHAN COHEN	VP of Community Impact	Greater Worcester Community Foundation
ERIC DICKINSON	President & CEO	UMass Medical Memorial Center
AIMEE MITCHELL	Chief Community Services Officer	Ascentria Care Alliance
KEVIN MIZIKAR	Town Manager, Shrewsbury	Town of Shrewsbury
RACHAEL MONARREZ, PHD	Superintendent	Worcester Public Schools
CHRISTINE MOWRY	Executive Director	Shrewsbury Youth and Family Services
TRACY NGUYEN	Direct & Referral Manager, Associate Director	Southeast Asian Coalition
CLAUDIA OLIVEIRA DE PAIVA	Health Initiatives & Wellbeing Program Manager	Worcester State University | Latino Education Institute
DOMINICA PERRONE	Dir. Community Engagement and Volunteering	Clark University
AMIE RICHARDS	RN, BSN	Pernet Family Health Services, Worcester Healthy Baby Collaborative
JENNIFER RIFKIN	Clinical Director	Shrewsbury Youth and Family Services
JOHN SULLIVAN, MD	MD	UMass Medical Memorial School
CHRISTINE TAPPAN	Chief of Strategy and External Relations	Ascentria Care Alliance
KHANH-VAN THI TRAN, MD, PHD	MD, Ph.D.	Board of Health Chair
RON WADDELL	Executive Director	Legendary Legacies

Health Equity Population (HEP) Focus Groups: 12 Groups of 54 Interviewees

HEP GROUP	DATE
BLACK INDIGENOUS AND PEOPLE OF COLOR (BIPOC) GROUPS	June 22 - July 24, 2023
IMMIGRANTS	June 22 - July 24, 2023
NON-ENGLISH SPEAKERS	June 22 - July 24, 2023
OLDER ADULTS	June 22 - July 24, 2023
PEOPLE EXPERIENCING HOMELESSNESS	June 22 - July 24, 2023
PEOPLE IN REENTRY FROM INCARCERATION	June 22 - July 24, 2023
PEOPLE LIVING IN POVERTY	June 22 - July 24, 2023
PEOPLE LIVING WITH SUBSTANCE USE DISORDER (SUD)	June 22 - July 24, 2023
REFUGEES	June 22 - July 24, 2023
UNDOCUMENTED PEOPLE	June 22 - July 24, 2023
VETERANS	June 22 - July 24, 2023
WOMEN AND GIRLS	June 22 - July 24, 2023

Public Survey Community Engagement Efforts

LOCATION/EVENT	DATES					
CHRISTIAN COMMUNITY CHURCH	13-Aug-2023					
CHRISTIAN WORSHIP CENTER	13-Aug-2023					
EDWARD M KENNEDY HEALTH CENTER	1-Aug-2023	3-Aug-2023	8-Aug-2023	9-Aug-2023	10-Aug-2023	15-Aug-2023
FITNESS IN THE PARK	July - August, 2023					
GOOD SHEPHERD GHANA METHODIST CHURCH	13-Aug-2023					
IGLESIA DE DIOS PENTECOSTAL M.I. LA ROCA	13-Aug-2023					
IGLESIA MINISTERIOS LA TRINIDAD	13-Aug-2023					
NEW LIFE FAITH CHAPEL INTERNATIONAL MINISTRY	13-Aug-2023					
OUR LADY OF THE ANGELS CATHOLIC CHURCH	13-Aug-2023					
PENTECOST INTERNATIONAL WORSHIP CENTER	13-Aug-2023					
PRESBYTERIAN CHURCH OF GHANA	9-Aug-2023					
QODESH FAMILY CHURCH - WORCESTER	13-Aug-2023					
REACH BREASTFEEDING TEA PARTY	16-Aug-2023					
SENIOR CENTER CAR FAIR	9-Aug-2023					
ST. PETER'S CHURCH	13-Aug-2023					
THE CHURCH OF PENTECOST INC. WORCESTER DISTRICT	13-Aug-2023					
WORCESTER OUT TO LUNCH	3-Aug-2023	17-Aug-2023				

Appendix H: Community Resource List

Organizations in Worcester, Shrewsbury, Grafton, and West Boylston

Organization	SDoH Domains	Coverage Area
Massachusetts College of Pharmacy and Health Sciences (MCPHS)	Dental Care	Worcester
Quinsigamond Community College Worcester	Dental Care	Worcester
His Grace Learning Solutions, Inc.	Education	Worcester
Literacy Volunteers of Greater Worcester	Education	Worcester
Auburn Youth and Family Services (AYFS)	Food	Worcester
Freedom Worship Center	Food	Worcester
Global Village	Food	Worcester
Greendale Peoples Church	Food	Worcester
Growing Places	Food	Worcester
Jeremiah's Inn	Food	Worcester
LifePath, Inc.	Food	Worcester
Montachusett Veterans Outreach Center, Inc.	Food	Worcester
Mustard Seed Catholic Worker	Food	Worcester
Project New Hope - Massachusetts	Food	Worcester
Quinsigamond Village Community Center	Food	Worcester
Regional Environmental Council (REC)	Food	Worcester
St. Anne's Parish	Food	Worcester
St. Bernard's Catholic Church of Our Lady of Providence Parish	Food	Worcester
St. Paul's Episcopal Church	Food	Worcester
Unitarian Universalist Church of Worcester	Food	Worcester
Wesley United Methodist Church	Food	Worcester
Worcester County Food Bank	Food	Worcester
Worcester Food Policy Council	Food	Worcester
Community Servings	Food	Worcester
St. John's Food for the Poor Program at St. Francis Xavier Center	Food	Worcester
Crescent Manor Rest Home	Housing	Worcester
Main South Community Development Corporation	Housing	Worcester
Shrewsbury Housing Authority	Housing	Worcester

Organization	SDoH Domains	Coverage Area
St. Francis & St. Therese Catholic Worker House	Housing	Worcester
Webster Housing Authority (WHA)	Housing	Worcester
Winn Management Company LLC - North Village at Webster	Housing	Worcester
Worcester Common Ground	Housing	Worcester
Worcester Housing Authority (WHA)	Housing	Worcester
Retirement Housing Foundation (RHF) - MA	Housing	Worcester
Boston Bar Association	Legal Assistance	Worcester
City of Worcester Office of Human Rights	Legal Assistance	Worcester
Community Legal Aid, Inc. (CLA)	Legal Assistance	Worcester
Andy's Attic	Material Needs	Worcester
Compassion New England	Material Needs	Worcester
St. Michael's on The Heights Church	Material Needs	Worcester
Gentles Counseling Services LLC	Material Needs	Worcester
Green Valley Counseling	Material Needs	Worcester
Homeless Outreach and Advocacy Project	Material Needs	Worcester
Perkins	Social Support	Worcester
Samaritans of Worcester	Social Support	Worcester
South Bay Community Services	Social Support	Worcester
Spectrum Health Systems, Inc.	Social Support	Worcester
The Arc of Opportunity	Social Support	Worcester
VNA Care - Stanley R. Tippett Hospice Home	Social Support	Worcester
YMCA of Central Massachusetts - Central Community Branch YMCA	Social Support	Worcester
Behavioral Healthcare Services	Social Support	Worcester
Bottom Line	Social Support	Worcester
Community Health Connections	Social Support	Worcester
Hospital for Behavioral Medicine	Social Support	Worcester
MassEdCO, Inc.	Social Support	Worcester
Newton Square Counseling Center (NSCC)	Social Support	Worcester
Prestige Adult Foster Care	Social Support	Worcester
Saint Francis Rehabilitation and Nursing Center	Social Support	Worcester
Shrewsbury Youth & Family Services, Inc.	Social Support	Worcester

Organization	SDoH Domains	Coverage Area
UMass Memorial Health Care	Social Support	Worcester
YOU, Inc. - Worcester Counseling Center	Social Support	Worcester
Montachusett Regional Transit Authority (MART)	Social Support	Worcester
Trinity Transport LLC	Social Support	Worcester
Worcester Regional Transit Authority (WRTA)	Social Support	Worcester
Abby's House	Transportation	Worcester
About Fresh	Transportation	Worcester
AdCare	Transportation	Worcester, Grafton, Shrewsbury, West Boylston
Advanced Psych Services	Housing, Material Needs	Worcester
AIDS Project Worcester, Inc. (APW)	Food, Budget Strain	Worcester
Alexia Johnstone, LMHC	Social Support, Stress	Worcester
Angels-Net Foundation, Inc.	Social Support, Stress	Worcester
Arbour Counseling Services (ACS) - Worcester	Housing, Transportation, Social Support	Worcester
Ascentria Care Alliance	Social Support, Stress	Worcester
ASPIRE! an Affiliate of Seven Hills Foundation	Material Needs	Worcester
Athena Health Care Systems - Parson Hill Rehabilitation and Health Care Center	Education, Legal Assistance, Social Support	Worcester
Autism Learning Partners - Worcester	Social Support, Housing, Stress	Worcester
Catholic Charities of Worcester County	Social Support, Stress, Education	Worcester
Central Massachusetts Housing Alliance, Inc.	Education, Social Support	Worcester
CENTRO	Housing, Social Support	Worcester
Children's Aid & Family Service an Affiliate of Seven Hills Foundation	Education, Childcare, Social Support	Worcester
Children's Haven	Social Support	Worcester
City of Worcester Department of Health & Human Services	Social Support	Worcester
Clinton Housing Authority	Food, Housing, Budget Strain, Social Support, Legal Assistance	Worcester
Community Action Pioneer Valley	Budget Strain, Social Support, Housing, Legal Assistance, Material Needs	Worcester
Community Healthlink, Inc.	Food, Social Support, Legal Assistance	Worcester
Dismas House	Childcare, Social Support	Worcester

Organization	SDoH Domains	Coverage Area
Easterseals Massachusetts	Education, Childcare, Social Support	Worcester
Edward M. Kennedy Community Health Center (CHC)	Social Support, Education, Childcare, Food	Worcester
Elder Services of Worcester Area (ESWA)	Housing, Legal Assistance	Worcester
Enlightened Interventions, LLC.	Housing, Social Support	Worcester
Ethiopian Dream Center	Social Support	Worcester
Eunice Kennedy Shriver Center	Housing, Social Support, Legal Assistance, Childcare	Worcester
Eversource - Eastern Massachusetts	Material Needs	Worcester
Fallon Health	Legal Assistance, Social Support	Worcester
Family Health Center of Worcester	Education, Employment, Social Support	Worcester
Fenway Health - AIDS Action Committee of Massachusetts	Dental Care, Social Support, Health Insurance	Worcester
Friendly House, Inc.	Food, Education, Social Supports	Worcester, Grafton, Shrewsbury, West Boylston
Gardner Community Action Committee, Inc.	Childcare, Social Support	Worcester
Genesis Club, Inc.	Employment, Education, Social Support	Worcester
Girls, Inc. of Worcester	Education and Social Support	Worcester
Greendale	Budget Strain, Utilities	Worcester
Guild of St. Agnes	Health Insurance, Social Support	Worcester
Habitat for Humanity MetroWest/Greater Worcester	Dental Care, Social Support, Health Insurance, Education, Legal Assistance, Material Needs	Worcester
Holden Housing Authority	Budget Strain, Utilities, Social Support	Worcester
Holy Family Parish	Housing, Material Needs, Education, Legal Assistance, Food, Social Support	Worcester
Jewish Family & Children's Service (JF&CS)	Budget Strain, Utilities, Transportation, Social Support, Legal Assistance	Worcester
LUK, Inc.	Transportation, Employment, Social Support, Budget Strain	Worcester
Massachusetts Department of Transitional Assistance (DTA)	Social Support	Worcester
Massachusetts Society for the Prevention of Cruelty to Children (MSPCC)	Childcare, Social Support	Worcester
MassHire Central Career Center	Social Support	Worcester
MetroWest Worker Center	Childcare, Social Support	Worcester

Organization	SDoH Domains	Coverage Area
Mill Swan A & B	Childcare, Social Support	Worcester
Millbury St.	Education, Housing, Material Needs	Worcester, Grafton, Shrewsbury, West Boylston
Net of Compassion	Budget Strain, Housing	Worcester
New England Business Associates	Food, Social support, Material Needs	Worcester
Notre Dame Health Care Center Inc	Social Support	Worcester
Open Sky Community Services	Social Support	Worcester
Oriol Health Care	Budget Strain, Social Support	Worcester
Pernet Family Health Service	Education, Social Support, Employment	Worcester
Quinsigamond Community College Worcester - Adult Community Learning Center	Education, Employment, Social Support	Worcester
Rainbow Child Development Center	Education, Childcare, Social Support	Worcester
RCAP Solutions	Social Support	Worcester
Refugee And Immigrant Assistance Center (RIAC)	Employment, Education, Social Support	Worcester
Sacred Heart - St. Catherine of Sweden Parish	Food, Education, Legal Assistance	Worcester
Salvation Army Massachusetts Division - Worcester Citadel Corps	Childcare, Social Support	Worcester
Seven Hills Foundation & Affiliates	Childcare, Social Support	Worcester
South Middlesex Opportunity Council (SMOC)	Food, Material Needs	Worcester
StandUp for Kids	Education, Employment, Social Support	Worcester
The MENTOR Network - Adult Day Services - Renaissance	Social Support	Worcester
Training Resources of America Inc	Housing, Social Support	Worcester
Veterans Inc.	Childcare, Housing, Budget Strain, Employment, Education Social Support	Worcester
Viability	Housing, Social Support	Worcester
Worcester Adult Learning Center	Social Support	Worcester
Worcester Community Action Council, Inc. (WCAC)	Food, Material Needs, Social Support, Education	Worcester
Worcester Comprehensive Education and Care	Social Support	Worcester
Worcester Free Clinic Coalition (WFCC)	Education and Social Support	Worcester
Worcester Public Library	Childcare, Food, Social Support, Education	Worcester
Worcester Public Schools	Housing, Budget Strain, Utilities, Education	Worcester

Organization	SDoH Domains	Coverage Area
Worcester Refugee Assistance Project (WRAP)	Housing, Education, Legal Assistance, Social Support	Worcester
Worcester Youth Center	Food, Material Needs	Worcester
Workforce Central Career Center	Social Support	Worcester
YOU, Inc.	Housing Food, Material Needs, Education, Childcare, Social Support	Worcester
YOU, Inc. An Affiliate of Seven Hills Foundation	Social Support	Worcester
Youth Villages of Worcester	Social Support, Childcare, Education, Employment	Worcester
YWCA Central Massachusetts	Social Support	Worcester

Source: Community Help Community HELP: Health & Everyday Living Programs by findhelp - Search and Connect to Social Care (auntbertha.com)

Appendix I: UMass Memorial Medical Center Evaluation of Impact

UMass Memorial Medical Center 2021-2023 Evaluation of Impact

UMass Memorial Medical Center developed and approved an Implementation Strategy to address significant health needs identified in the 2021-2023 Community Health Needs Assessment (CHA). These programs support the Greater Worcester Community Health Improvement Plan (CHIP) which was developed collaboratively with the Worcester Division of Public Health, Fallon Health, The Hanover Insurance Group, the Coalition for a Healthy Greater Worcester, and the community at large. The Implementation Strategy is informed by the CHA and closely aligns with the CHIP to address the following health needs through a commitment of Community Benefits programs and resources:

- Priority Area 1: Increase Access to Health Care
- Priority Area 2: Address Food Insecurity/Hunger and Healthy Eating
- Priority Area 3: Chronic Diseases and Injury Prevention
- Priority Area 4: Promote Positive Youth Development
- Priority Area 5: Enhance the Public Health Infrastructure of the Community
- Priority Area 6: Address disparities (e.g., COVID and other) through utilization of data
- Cross-Cutting: Promote Health Equity and Systemic Health Disparities

To accomplish the Implementation Strategy, goals were established to address the health needs. Strategies to address the priority health needs/areas were identified and impact measures tracked. The following tables outline the impact made on the selected significant health needs since the completion of the 2021 CHA. UMass Memorial has a dedicated Community Benefits Department that works closely with community organizations and reports activities to the UMass Memorial Health Board of Trustees and their Community Benefits Committees.

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
Priority Area 1: Increase Access to Health Care				
Support programs and develop collaborative efforts that will improve access to care for the medically underserved/uninsured in Greater Worcester	**UMass Memorial Care Mobile & Oral Health Task Force:** Deliver neighborhood-based medical and preventive dental mobile services at 10 sites and 20 schools as a means of decreasing access to care barriers and connecting underserved populations to on-going care	• Care Mobile not in operation due COVID • Staff redeployed to COVID community testing and vaccination	• Served minimum of 1,477 patients • Delivered care to 24 schools and 10 neighborhoods	• Served minimum of 4,700 patients (medical and dental) • Delivered care to 24 schools and 10 neighborhoods • Provided care at migrant shelters across the Alliance
	Hector Reyes House: Execute the delivery of a medical model that treats Latino males with substance use disorders in a culturally-sensitive way in a residential treatment program while placing emphasis on opiate addiction	• On-site medical care and cognitive behavioral therapy • Serves 80 Latino men annually • Offers job training and skill development at Café Reyes	• On-site medical care and cognitive behavioral therapy • Serves 80 Latino men annually • Offers job training and skill development at Café Reyes	• On-site medical care and cognitive behavioral therapy • Serves 80 Latino men annually • Offers job training and skill development at Café Reyes
	Health Insurance Enrollment: UMass Memorial Benefits Advisors conduct insurance enrollment for	• Approx. 12,000 people received health insurance enrollment assistance	• Approx. 12,000 people received health insurance enrollment assistance	• Approx. 12,000 people received health insurance enrollment assistance

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
	uninsured/underinsured individuals			
	UMass Memorial/Medical Legal Partnership: Legal Department implements a UMass Memorial/Medical Legal partnership with Community Legal Aid to integrate legal services into clinical sites to address underlying social/economic factors among socially-complex populations	• Processed 190 referrals • Conducted additional 118 legal consultations (50% increase over FY20) • Provided remote services due to COVID	• Processed 174 referrals • Conducted additional 117 legal consultations • Provided remote services due to COVID	• Processed 183 referrals • Conducted additional 70 legal consultations • Conducted weekly office hours at 4 clinics • Provided 8 trainings
	Maternal-Fetal Medicine Program: Support Worcester's Healthy Baby Collaborative efforts to address Infant Mortality disparities and promote equity in practices among maternal/child health population by having a community health worker work with high-risk mothers to help ensure the health of the patient and baby pre- and post-pregnancy as a means of improving health outcomes and address infant mortality among at-risk Latina and other vulnerable populations	• Approx. 45 patients enrolled • Bilingual CHW made over 40 SDOH referrals (many participants referred to more than one resource) • Home-visits were virtual due to COVID	• Approx. 20 patients enrolled (CHW position vacant most of the year) • Bilingual CHW made over 52 SDOH referrals (many participants referred to more than one resource) • Home-visits were virtual due to COVID	• Approx. 47 patients enrolled • Bilingual CHW made over 100 SDOH referrals • 20% of home-visits were face-to-face • CHW received doula training
	CommunityHelp: Enhance the CommunityHelp IT platform that integrates community resources (social determinants of health) and entities that provide services to community members and caregivers, and expand reach into Central Massachusetts	• Claimed organizations grew to 875 • Approx. 23,437 searches (in 2021 calendar year) • SDOH screening options extended in the EHR • Routine SDOH screening minimum 1x/year expanded to 34 clinics/offices (a 75% increase)	• Claimed organizations grew to 2,190 (a 19% increase) • Approx. 20,258 searches • Routine SDOH screening minimum 1x/year expanded to 43 primary care practices	• Expanded screening efforts and increased quality of resource listings to facilitate warm handoffs to community organizations
	Road to Care Mobile Addiction Van: Reduce opioid and substance use related morbidity and mortality, through a mobile addiction unit designed to reach out to those experiencing homelessness and substance use	• Total of 438 patient visits	• Totals of 2,094 clinical encounters and 450 unique patients Received Kraft Community Care in Reach mobile unit from Kraft Foundation in June 2022	• Totals of 3,699 clinical encounters and 869 unique patients

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
	disorder. The Van offers medical and behavioral health services and is designed to mitigate barriers such as lack of transportation or mistrust in health care systems. Supervised services include: * Addiction treatment for opiate use disorder * Naloxone counseling and distribution * Care for acute illness * Screening/Treatment for STD infection, TB and cancer * Chronic disease management i.e.: (medications for opiate use disorder, Naloxone counseling and distribution, diabetes, HIV, HEPC screening and treatment * Psychiatric screening and referral * Case Management (Housing, Insurance, Food and other SDOH needs) * Referrals to additional treatment			
Priority Area 2: Address Food Insecurity/Hunger and Healthy Eating				
Reduce barriers to access healthy food and nutrition through sustaining existing and developing new interventions and partnerships with community-based organization as well as through local and state policy efforts	Address food insecurity/poor nutrition by increasing availability of and access to affordable fresh and local fruits and vegetables for low-income residents	• Expanded **Food is Medicine** pilot with UMMC Cancer Center of Excellence to incorporate partnership with Fresh Connect to provide food insecure patients with prepaid debit cards restricted for healthy fruit and vegetable purchases	• **Worcester Common Ground** completed rooftop garden at a housing project for low-income residents where tenants learn to grow hydroponic vegetables in partnership with **2Gether We Eat**	• Expanded **Food is Medicine** to include Diabetes Center of Excellence
	In collaboration with the Worcester Division of Public Health, the Worcester Food Policy Council, the City of Worcester Task Force on Food Security and other stakeholders,	• Food is Medicine Massachusetts established state-wide Service Inventory to maximize access to programs providing medically-tailored meals and food packages	• Launched FoodHelpWorcester.org, a website that aggregates all food access resources, efforts and access points	• Worcester Food Assessment kicked-off in June 2023 • Successfully advocated for universal free lunch at schools

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
	support policy efforts to promote healthy weight and address food insecurity and hunger			
	Regional Environmental Council: The **YouthGROW**, **UGROW** and **Farmers Market** programs connect urban and rural sectors of the food system, develop entrepreneurial food projects and support urban agriculture	• Developed online preorder program with 5 pickup locations a 40 foot refrigerated trailer in Worcester Youth Center parking lot • Youth gardeners and neighborhood residents maintained 34 raised beds at Bell Hill Grant Square garden and distributed approx. 800-1000 pounds of fresh produce at 15 food insecure sites (Mobile Farmers' Market) • **YouthGROW** participants worked with Woo Sox to build rooftop garden at Polar Park	• Continued single pickup point with prebagged options for families whose SNAP and HIP benefits were going unused • Provided 10 free workshops to members of **UGROW** Community Garden network	• **YouthGROW, UGROW** and **Farmers Market** programs continued throughout the year
Priority Area 3: Chronic Diseases and Injury Prevention				
Develop and sustain community/clinical linkages with community stakeholders to address high rates of chronic conditions and injury prevention and other programs that reach vulnerable populations for screenings/education and other prevention efforts	**Pedi-Asthma Program:** Pediatric Pulmonary and Pediatric Primary will sustain an intervention with the ED and in-patient departments that targets patients most at risk by deploying bilingual CHWs to address asthma triggers in the home	• Due to the COVID pandemic, CHW home-visits were virtual/remote, services were minimized & CHW was reassigned to support COVID community work • Pediatric Pulmonary department established a text messaging reminder and asthma status check-in intervention for high-risk patients • Approx. 60 students enrolled in school-based AsthmaLink medication adherence program	• Due to the COVID pandemic, CHW was redeployed mostly to support COVID community projects; Pedi-Asthma Program operated minimally with virtual visits, then put on hold due to staffing capacity • Pediatric Pulmonary department continued text messaging reminder and asthma status check-in intervention for high-risk patients • Approx. 60 students enrolled in school-based AsthmaLink medication adherence program	• CHW hired and program resumed in January 2023 • CHW received over 25 referrals and approx. 12 enrolled • CHW started providing community education/outreach in August 2023 at food pantries and health fairs
	Cancer Prevention: Leverage and connect Cancer Committee and Cancer Center of Excellence to community resources and venues with targeted focus on addressing inequities in health	• Continued participation on Cancer Committee, but activity was limited due to COVID	• Reactivated efforts with Cancer Center to address disparities in accessing care and preventive screenings by facilitating connectivity with grassroots	• Cancer Team members collaborated with community sites to provide bilingual educational outreach on importance of breast cancer screening and colon cancer screening along with health

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
	outcomes and barriers to connectivity and access to care among minority populations		community-based organizations,	insurance enrollment assistance information to food pantry participants
	Reduce high rates and injury-related death, ED use and hospitalization through a variety of programs targeting gun-related injury (accidental and intentional) and vehicular accidents and driving related-injuries. [*Programs, activities and outcomes, like Teen Drive, subject to potential limitations due to COVID pandemic restrictions*]	• **Goods for Guns:** 1 community collection event and 30 firearms collected and destroyed • **Child Passenger Safety:** 107 families participated in educational sessions, 77 free car seats provided, 50 car seats inspected/installed	• **Goods for Guns:** 2 community collection event and 135 firearms collected and destroyed • **Child Passenger Safety:** 50 free car seats provided, 100 car seats inspected/installed	• **Guns 2 Garden [former Goods for Guns]:** 1 community collection event and 217 firearms collected and destroyed • **Child Passenger Safety:** 68 free car seats provided, 123 car seats inspected/installed
Priority Area 4: Promote Positive Youth Development				
Support at-risk youth programs that promote positive youth development (e.g., workforce development, access to physical activity, and violence prevention)	Address trauma (Adverse Childhood Trauma Experiences—ACEs) in young children who witness violence through a partnership with mental health providers and the Worcester Police Department (UMass Memorial's HOPE Coalition)	• **Worcester ACTS** Early Trauma Intervention (under the HOPE coalition) enrolled 79 families with young children who have been exposed to violence • **Trauma Training Tuesdays** held monthly as a forum for mental health providers	• **Worcester ACTS** Early Trauma Intervention (under the HOPE coalition) continued to support 79 families with young children who have been exposed to violence (program ended Sept. 2022) • **Trauma Training Tuesdays** held monthly as a forum for mental health providers	• **Trauma Training Tuesdays** held monthly as a forum for mental health providers
	Building Brighter Futures for Youth: Creates meaningful employment for youth ages 16-24 who work 24 hours over 6 weeks in the summer.	• UMass Memorial Medical Center employed 11 youth across the hospital system • 3 additional youth were employed at Grant Square Community Garden in Bell Hill through **YouthGrow**	• UMass Memorial Medical Center employed 8 youth across the hospital system • 3 additional youth were employed at Grant Square Community Garden in Bell Hill through **YouthGrow**	• UMass Memorial Medical Center employed 7 youth across the hospital system • 3 additional youth were employed at Grant Square Community Garden in Bell Hill through **YouthGrow**
	Recreation Worcester: In collaboration with the City of Worcester, implement summer programs that promote physical activity and active living, summer learning loss, prevention programming and healthy meals for at-risk children	• WDPH hired approx. 100 young people as program staff during summer months	• WDPH hired approx. 100 young people as program staff during summer months	• WDPH hired approx. 100 young people as program staff during summer months

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
	Regional Environmental Council YouthGROW: A youth development and employment program through formal leadership development and life skills curriculum for low-income, at-risk teens over six weeks, 20-30 each week.	• Employed 37 youth	• Employed 40 youth	• Employed 40 youth
Priority Area 5: Enhance the Public Health Infrastructure of the Community				
Community-wide Public Health Strategy: Develop and support strategies and systems that enhance the public health infrastructure of the Greater Worcester community	Enhance the capacity of the City of Worcester Public Health Department to deliver high quality prevention and promote equity to the residents in Worcester and the Alliance towns through regionalization and accreditation efforts	• Coalition for a Healthy Greater Worcester **(CHGW)** convenes partners to implement the Community Health Improvement Plan **(CHIP)** and promote continuous improvement of health for the Alliance	• Determination of Need **(DON)** Committee reconvened to complete disbursement of 2017/2018 funds through an RFP process to address mental health, housing and food insecurity	• **CHGW, Worcester DPH, Fallon Health,** and UMMMC embarked on completion of 2024 Community Health Needs Assessment **(CHA)** • 33 non-profit organizations received **DON** funding to address mental health, housing and food insecurity • Established **DON** committee for New Inpatient Building project with plans to initiate fund disbursement in 2024
Priority Area 6: Address disparities (e.g., COVID and other) through utilization of data				
Address racial and ethnic disparities related to COVID pandemic and other community health needs through a multi-pronged approach including neighborhood-level interventions such as: COVID testing, vaccination, and Mobile Vaccine Equity Enhancement Program (MVeeP) including homebound and disabled population	Implement a multi-pronged, community-based approach to address COVID-related disparities among high risk populations including Black and Hispanic in Worcester and surrounding area [*strategies to be carried out and continued on an as-needed basis based on the status of the pandemic*]	• **MVeeP** held more than 200 events and provided over 7,000 vaccinations • **Stop the Spread** provided over 69,000 free COVID tests in high risk/prevalent neighborhoods where people of color were most at risk • **Care Mobile** staff distributed 101,755 masks and provided critical COVID education	• **MVeeP** held more than 200 events and provided 5,913 vaccinations • **Stop the Spread** provided over 45,000 COVID tests • **Care Mobile** continued to provide COVID education and outreach	• **MVeeP** provided 428 vaccinations and ended on January 30, 2023 • **Stop the Spread** provided 1,632 tests and ended in March 2023
Cross-Cutting Priority: Promote Health Equity and Systemic Health Disparities				
Support programs, partnerships and policies that promote community-based health equity and reduce health disparities	Incorporate lessons learned and methods adopted during the COVID pandemic to reach vulnerable populations, ethnic and linguist minorities	• UMMMC maintained partnership with City of Worcester with the Worcester Health Equity Task Force to develop strategies to address	• Partnership continued to build upon the system-wide Health Equity Agenda with focus areas to include outreach and education,	• UMMMC sponsored Worcester Multicultural Community Health Fair to promote healing, hope and health equity in September 2023

Goal	Program/Strategies to Address Health Need	Outcomes/Impact		
		FY21	FY22	FY23
	experiencing health disparities and barriers to resources, health and SDOH related education, resources, and care	disparities in COVID positivity rates	testing and vaccination for Monkey Pox and addressing the opioid crisis while continuing a focus on community COVID efforts	• Health Equity Task Force chose new focus area: increase colon cancer screening for population groups with historically low levels of screening
	Central MA Agency on Aging's **Grandparents Raising Grandkids** program provides support to grandfamilies by connecting them to local community resources	N/A	• UMMMC provided funding to support the Grandparents Raising Grandkids Program	• Central MA Agency on Aging launched **Grandparents Raising Grandkids Resource Center** to provide wraparound family services
Support the institution's Anchor Mission Strategy	Community Benefits staff to remain highly engaged in the UMass Memorial Anchor Institution Mission and related Leadership, Steering, and Pillar Area Committees as a means of addressing Social Determinants of Health and addressing health inequities. These include: • Steering • Implementation • Investment • Hiring • Purchasing • Sustainability • Employee Volunteerism • Food is Medicine	• **Investment** Committee allocated $4M in hospital investment funds to address SDOH and economic opportunities • **Hiring** Committee partnered with community-based organizations that serve vulnerable populations to mitigate barriers to employment and formalize a hiring pipeline • **Purchasing** Committee built opportunities for local purchasing and vendor contracts • **Volunteerism** Committee expanded upon the network of UMMH employees to volunteer in community projects [United Way Day of Caring, Earth Day, etc.]	• **Investment**: Continued commitment to Place-Based Investments • **Hiring**: Continued work on formalizing hiring pipeline with community-based organizations • **Purchasing**: Focused on community involvement and awareness to increase vendor partnerships in local community • **Volunteerism**: Skate to Success, Information Services Department practiced "Skill-based volunteering" at a local food pantry	• **Investment**: Supported development of affordable commercial condos marketed to small minority owned local businesses and provided financing to support purchase of affordable properties for first-time homeowners • **Hiring**: Developed and implemented "Outside-In and Inside-Up" approaches and pathways to employment and career opportunities with UMMH for vulnerable populations • **Purchasing**: New contract diversity programs implemented • **Volunteerism**: Annual events include Community Harvest Project, Working for Worcester, Earth Day as well as 30 ongoing community partner volunteer opportunities • **Sustainability:** Officially launched in April with efforts directed at the OR