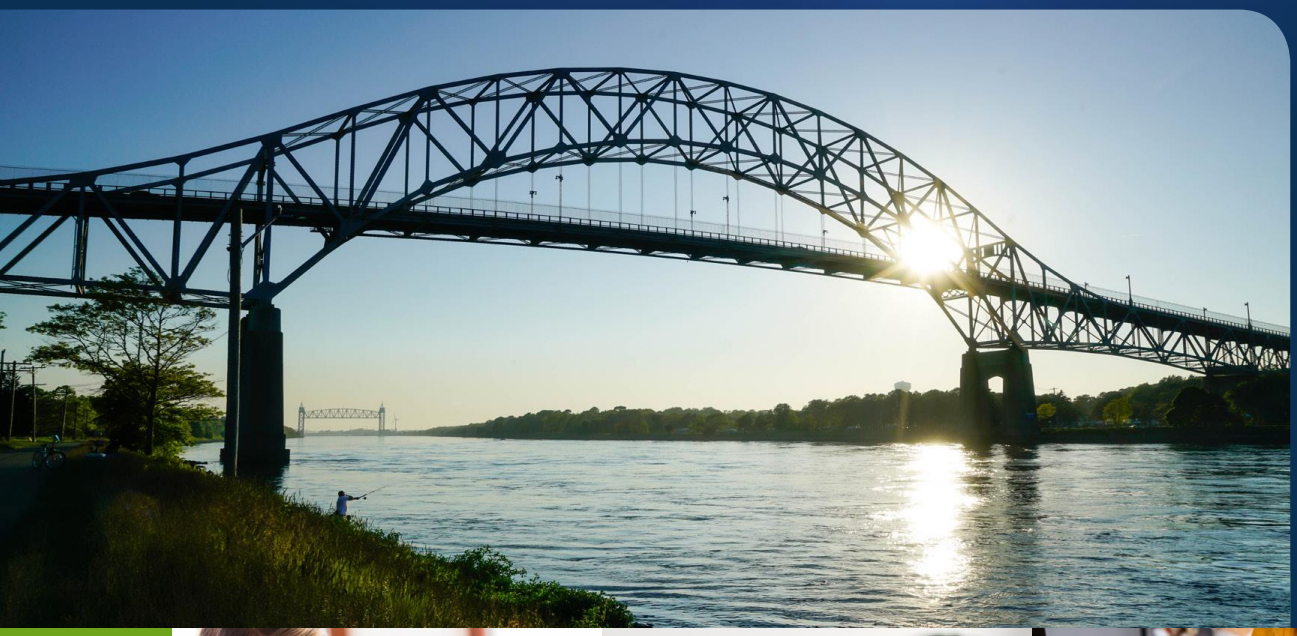
2023 - 2025 Community Health Needs Assessment



Cape Cod Healthcare

Contents

Introduction and Background

Purpose of the Community Health Needs Assessment

Cape Cod Healthcare is the leading provider of healthcare services for residents and visitors of Cape Cod. With nearly 500 physicians, 5,400 employees and 790 volunteers, Cape Cod Healthcare is comprised of two acute care hospitals, the Cape's leading provider of homecare and hospice services (VNA), a skilled nursing and rehabilitation facility, an assisted living facility, six urgent care centers and numerous health programs.

CCHC collaborates with community partners across the region to assess community needs, identify promising programs, and implement strategies to improve people's health. Through an open and competitive *Annual Strategic Grants* program, CCHC funds projects addressing a variety of health needs, prioritizing efforts that focus on physical and behavioral health, access to care, disease prevention and wellness, and health equity. Additionally, CCHC has invested in new and expanded hospital programs in areas such as cancer support, chronic disease self-management, case management for vulnerable populations, suicide prevention, and support for new families, among others. CCHC community benefits funding also supports medical interpreter services for limited English-speaking patients, hospital social workers and case managers, and financial counselors. Finally, CCHC plays a leadership role through participation in, among others, the Barnstable County Human Services Advisory Council, the Regional Network on Homelessness, the Children's Behavioral Workgroup, and the Barnstable County Community Leadership Group.

Cape Cod Hospital (CCH) and Falmouth Hospital (FH) share the service area of Cape Cod, also known as Barnstable County, and jointly conduct a Community Health Needs Assessment (CHNA) every three years. CCH and FH have released multiple prior joint Community Health Needs Assessment Reports and Implementation Plans (in 2014, 2017, and 2020).

The purpose of the CHNA is to undertake a data-driven and community-led process that identifies and prioritizes the health needs of residents of the region based on the frequency, size, scope, and magnitude of the issues. In addition, the CHNA process provides CCH and FH the opportunity to:

- Identify vulnerable, disadvantaged, and medically underserved target populations
- Identify key areas of significant community need and vulnerable populations
- Examine the impact and role of social determinants of health in the community
- Monitor regional health data and maintain an inventory of available resources
- Facilitate the development of multi-year implementation strategies to guide hospital community health initiatives and community investments to improve health
- Promote partnership and dialogue between the hospitals and community organizations

In 2014, the Internal Revenue Service (IRS) established requirements for non-profit hospitals to conduct health needs assessments and develop approaches to address identified needs. These requirements provide specific guidance for how hospitals assess and prioritize health needs in their service area and identify specific implementation strategies to address those needs.

In February 2018, the Massachusetts (MA) Attorney General released updated Community Benefits Guidelines for Non-Profit Hospitals. These guidelines include recommendations to ensure that CHNAs

align with the IRS requirements. The guidelines further suggest that hospitals include analysis of four statewide priorities identified by the MA Executive Office of Health and Human Services (i.e., chronic disease with a focus on cancer, heart disease, and diabetes; housing stability/homelessness; mental illness; and mental health and substance-use disorders) and six health priorities adopted by the MA Department of Public Health (i.e., built environment, social environment, housing, violence, education, and employment) in their data collection and analysis.

Project Collaborators

CCHC extends a special thanks to the Barnstable County Department of Human Services, the Cape Cod Commission, Barnstable No Place for Hate, and the Housing Assistance Corporation on Cape Cod for their contributions of data and research for this CHNA. More than 30 health, human, and public service agencies from across Barnstable County contributed to the assessment including organizations representing low-income, vulnerable, and medically underserved residents. Through various engagement activities, these organizations validated data findings, identified information gaps, identified specific target populations and populations experiencing health inequities, and offered input for health improvement strategies. For a complete list of participating organizations and the resident populations they represent, please see **Appendix A**.

Health Resources in Action (HRiA), a Boston-based public health research firm, served as a consultant on the project to collect and analyze publicly available data on the physical health, social conditions, behavioral risk factors, and environmental factors that influence the health of residents of Barnstable County. HRiA also provided valuable contributions to this project through the facilitation of community engagement activities, conduct of key informant interviews, administration of the community health survey, analysis and synthesis of data, and summary of the findings shared in this report.

Role and Review of Previous Community Health Needs Assessments

Previously released CCH and FH CHNA Reports and Implementation Plans spanning FY2014-FY2016, FY2017-FY2019, and FY2020-FY2022 serve as the foundation for this FY2023-FY2025 CHNA project. Access to care and behavioral health remained consistent concerns for Barnstable County in the previous assessments. Social Determinants of Health (SDOH) such as housing, economic stability, transportation, and food security, are critical drivers of health outcomes and have emerged as growing concerns and challenges for the community in recent years. These issues are longstanding and complex. Solutions addressing these issues require significant resources and community-wide collaboration and support. CCHC did not receive any written comments from stakeholders or community residents related to previously released CHNA reports.

The CHNA process and report ultimately inform the development of multi-year implementation strategies to guide hospital community health initiatives and investments to improve health. Since the release of the FY2017-FY2019 CHNA in September of 2016, CCHC has invested more than $66 million in community health initiatives including over $4 million in grants to local non-profit organizations.

In addition to grants, other CCHC community investments have included charity care for vulnerable populations, new and expanded hospital-based programs, support and strategic collaboration with Federally Qualified Health Centers (FQHCs), leadership participation in regional health and human service initiatives, and workforce development partnerships that addressed workforce gaps in the regional health care sector.

Examples of hospital-based initiatives at CCH and FH:

- Robust oncology programs including support groups and counseling services, nutrition and dietary support, physical conditioning and wellness programs, patient navigator programs, screening initiatives for the uninsured, and a new oncology clinical trials program
- A Congestive Heart Failure Clinic providing individuals with support to self-manage chronic diseases
- Recovery Specialists programs in CCH and FH emergency departments assisting patients with substance use disorders
- Behavioral health services including a Community Crisis Line, the Zero Suicide initiative, and providing psychiatric consult to police officers and emergency service providers in the community

Examples of new and expanded community programs supported through CCHC community benefits grants:

- Programs that expand access to healthy and locally sourced food to low-income seniors, families, and individuals
- Increased support and counseling services for caregivers of individuals with Alzheimer's disease and with mental health and substance use disorders
- Partnerships with local high schools and colleges on training programs for medical providers

Although progress has been made in each health priority area, challenges exist to fully address some issues or achieve anticipated outcomes. Areas in need of continued focus include:

- Recruitment of healthcare providers to the region
- Cape Cod's housing crisis and the implications on positive health outcomes
- The impact of COVID-19 on physical and mental health, particularly on youth and the older population
- Health disparities based on ethnicity, gender, geography, and income level

The successes and challenges of implementing strategies to address health priorities identified in previous CHNAs are recognized and woven into the assessment, analysis, and planning phases of the FY2023-FY2025 CHNA process.

Approach and Methodology

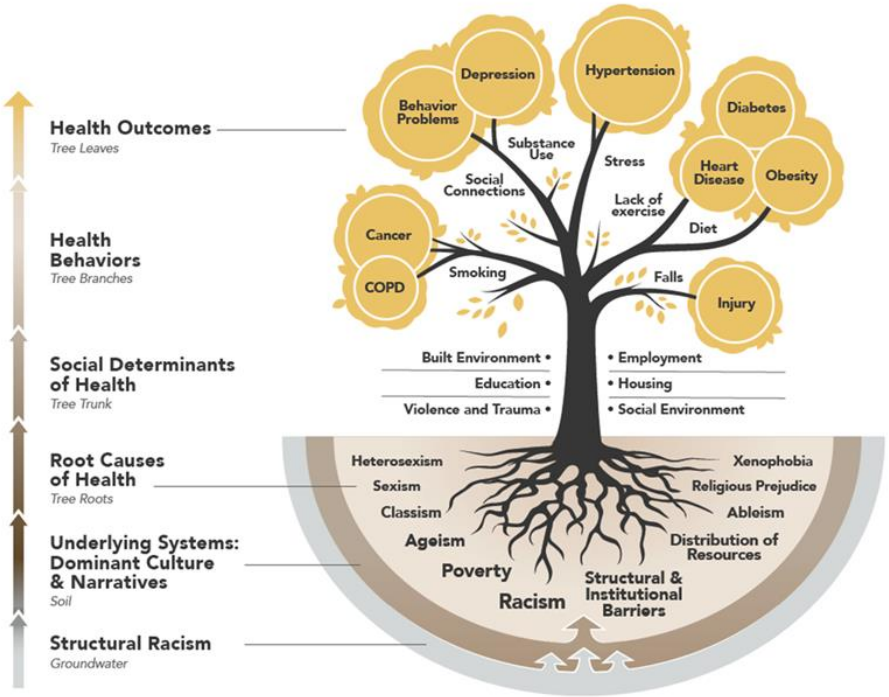
The following sections detail how the Cape Cod Healthcare CHNA process was conducted including the engagement of stakeholders and community members, methods for data collection and analyses, and the broader lens that was used to guide this process.

Social Determinants of Health Framework and Health Equity

Data collection and analyses were undertaken with a broad definition of health that recognized and emphasized numerous factors, beyond individual behaviors, that impact individual, community, and regional health. It is important to recognize that these multiple factors, referred to as the social determinants of health, have a downstream impact on health outcomes and that there is a dynamic relationship between real people and their lived environments. In addition to recognizing and emphasizing these social determinants of health, this CHNA was also undertaken with an understanding that health equity (or inequity) precedes these social determinants.

In the United States, social, economic, and political processes ascribe social status based on race and ethnicity, which may influence opportunities for educational and occupational advancement and housing options, which are two social determinants that profoundly affect health. Institutional racism, economic inequality, discriminatory policies, and historical oppression of specific groups are a few of the factors that drive health inequities in the U.S. **Figure 1** provides a visual representation of these factors and their relationship to community health and wellness.

Figure 1. Social Determinants of Health Framework



DATA SOURCE: Health Resources in Action, 2018

In the present report, findings from data collection and analyses are described overall, and when possible, disaggregated to identify areas of need for particular population groups. Understanding factors that contribute to health patterns for these populations can facilitate the identification of data-informed and evidence-based strategies to provide all residents with the opportunity to live a healthy life.

Data Collection Methodology

Many sources and data collection methodologies were used to obtain a comprehensive view of the health and healthcare needs of the region and the people served by CCH and FH. Input on the design of data collection instruments was solicited from public health experts, healthcare consumers, and persons representing vulnerable and medically underserved populations and minorities. Conscientious efforts were made to reach a wide-ranging population of residents during data collection to ensure broad representation of community interests and perspectives:

- **Secondary Data Review**. Existing data from national, state, and local sources were reviewed. The types of data collected included demographics, vital statistics, and public health surveillance. The selection of secondary data points was generally based on the prior CHNAs to allow for examination of trends over time. However, additional secondary data sources were

explored when major themes or issues arose from qualitative data collection. When available, data were stratified by age group or by income/poverty level to identify areas of disparity.

- **Key Informant Interviews.** Twenty-five virtual interviews were conducted with community leaders from organizations across all of Barnstable County, representing health centers, public safety organizations, housing organizations, and other human service groups. Key informants were identified for participation based on their in-depth knowledge of the health needs and resources of the region and drawn from the broader list of organizations and agencies collaborating with CCHC for this CHNA (**See Appendix A)**. Discussions focused on strengths and needs in the community and opportunities and challenges to addressing community needs. They were also asked to describe organizational partnerships within Barnstable County, perceptions of community services, and perceptions of CCHC.
- **Community Focus Groups.** Four virtual focus groups were held with residents to gather information about the community, health challenges and needs, and existing and needed services. These groups were targeted based upon input of CHC and the data collection gaps identified in the prior CHNA process. Completed groups included residents of Falmouth, residents of the Outer Cape, parents and/or caregivers to children with behavioral health concerns, and Portuguese-speaking residents. A total of 20 residents participated across the four focus groups.
- **Community Survey.** A community survey asking about community and individual health and healthcare needs was developed and made available on-line (via Qualtrics) and on paper to residents of Barnstable County. The survey included questions that focused on residents' perceptions of their own health, the health of their community, healthcare utilization, and social needs in the community. The survey was available in English, Spanish, Haitian, and Portuguese and was completed by 1,096 total residents. The demographic characteristics of the survey respondents are detailed in **Appendix B.**

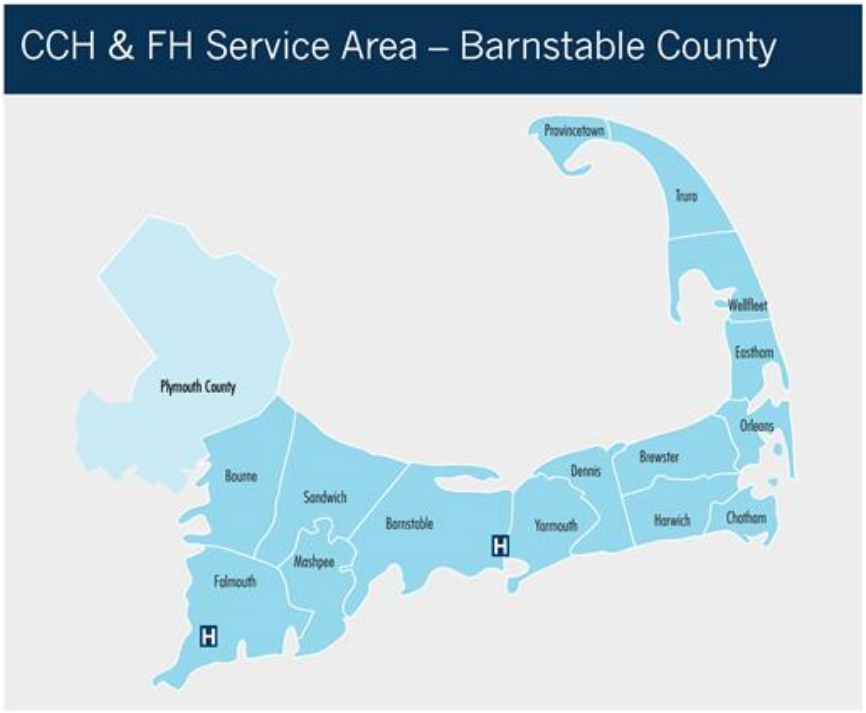
Data Limitations

As with all data collection efforts, several limitations should be acknowledged. A number of secondary data sources were drawn upon in creating this report. Although all are considered highly credible, each source may use different methods, assumptions, or time periods and may not be directly comparable to one another. Additionally, many secondary data sources are not available for the most recent years, thus findings or trends may not reflect the current state of the issue or condition. For the Community Health Survey, convenience sampling was used (i.e., data were collected from those who were readily available and willing to participate), thus survey findings may not be generalizable to the larger population or to specific sub-populations of Barnstable County residents. Finally, while key informant interviews and community focus groups provide valuable insights, results are not statistically representative of a larger population due to non-random recruitment and small sample size.

Community Profile

Definition of Community Served

CCHC's primary service area is Barnstable County. Barnstable County is a geographically isolated region located on the eastern seaboard of Massachusetts. The narrow peninsula spans over 70 miles in length and now hosts a year-round population of 228,996 residents[1]. Barnstable County consists of 15 towns that vary in their current population size from about 49,000 residents (Barnstable) to slightly more than 2,500 residents (Truro). In addition to serving year-round residents, the regional community infrastructure, including CCH and FH, must meet the demands of a significant influx of seasonal residents and visitors each year, which has historically been estimated to include about seven million visitors and residents on Cape Cod in the summer season[2].



Population Demographic Trends

Nearly half of the total population of Barnstable County reside in the three largest towns (Barnstable, Falmouth, and Yarmouth) and population size becomes increasingly smaller in towns of the Lower Cape (Harwich, Brewster, Chatham, and Orleans) and Outer Cape (Eastham, Wellfleet, Truro, and Provincetown), many of which are considered rural.

Between 2010 and 2020, the overall population of Barnstable County has increased by 6.1%.[3] In comparison, the state population grew by 7.4% during that time. These findings are in contrast to the prior CHNA, which showed little to no population growth between 2011 and 2016. It is possible that some of the population change in Barnstable County may be due to COVID-19 pandemic-related

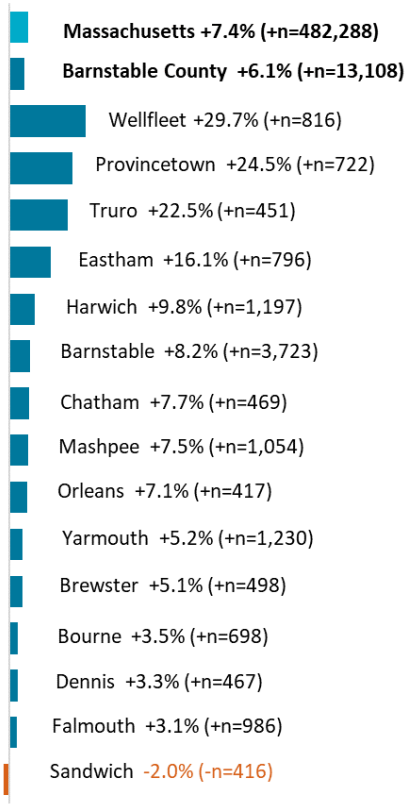
[1] U.S. Census Bureau, Decennial Census, 2020

[2] UMASS Donahue Institute. (2015). Long-term Population Projections for Massachusetts Regions and Municipalities. Retrieved from http://pep.donahue-institute.org

[3] U.S. Census Bureau, Decennial Census, 2010 and 2020

migration and could reflect typically seasonal residents choosing to move to the Cape more permanently. Official projections, based on data analyses prior to the pandemic, suggested the overall population of Barnstable County and the islands of Nantucket and Martha's Vineyard would decline by -13.0% between 2010 and 2035 due to continued out-migration of younger residents and to the fact that deaths currently outnumber births.[4] How recent population growth may impact these projections is currently unknown. **Figure 2**, details the population growth observed between 2010 and 2020 for each town within Barnstable County.

Figure 2. Percent Change in Population Size, 2010 and 2020



Source: U.S. Census Bureau, Decennial Census, 2010 and 2020

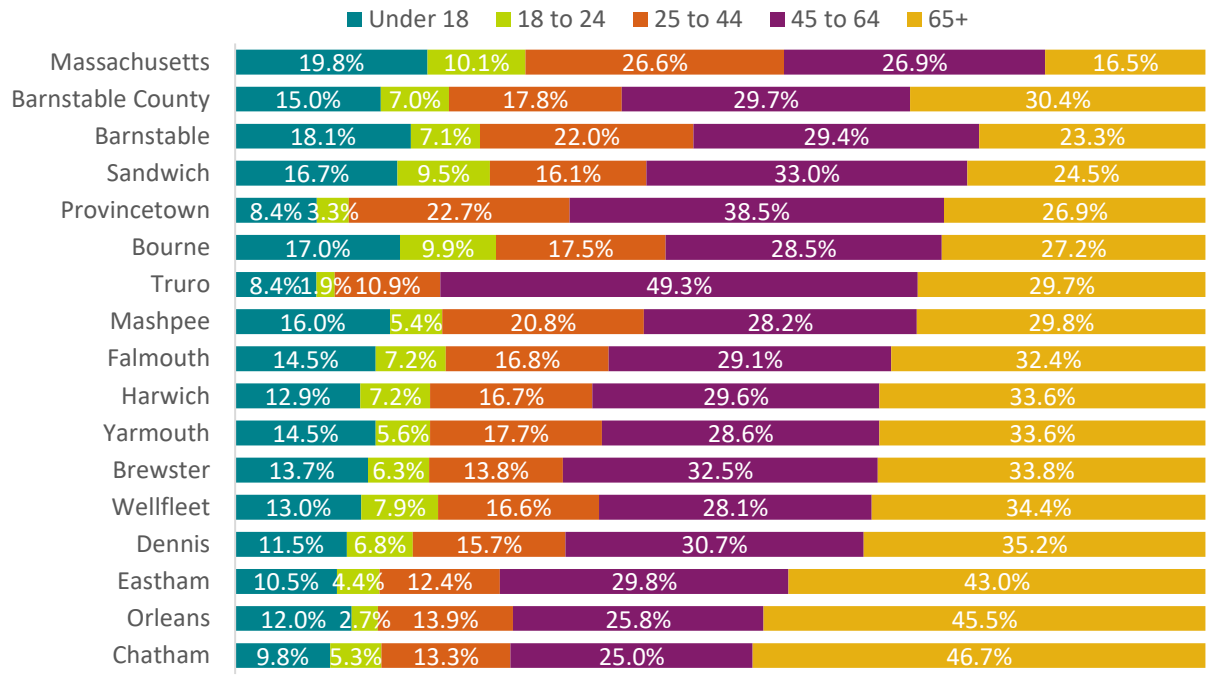
The population of Barnstable County is older than the state overall. The overall median age in Barnstable County is 53.7 years compared to 39.6 years at the state level. As illustrated in **Figure 3**, all towns within Barnstable County have smaller percentages of residents in the under 18 and 18- to 24-year-old age groups than the state overall and larger percentages of residents in the 65 years and older age group.

Public school enrollment data from 2014 to 2022 indicates that the size of the youth population in grades 1 through 8 in Barnstable County has declined by 15% over the past 8 years[5]. The largest decreases in this age group were seen in on the Upper Cape (Sandwich, Bourne, Mashpee & Falmouth) with most districts losing close to 20% of their grades 1-8 population. The only district with a measurable gain in youth over this time (and not attributed to redistricting) was Provincetown. Whether these shifts

[4] UMASS Donohue Institute. Long-term Population Projects for Massachusetts Regions and Municipalities, 2015.
[5] "Target Youth Data" for BBBSCCI., Big Brothers Big Sisters of Cape Cod & the Islands 2022

in the size of student populations reflect families fully moving off Cape, shifts from public to private schools, or declines in birthrates or family size remains unclear.

Figure 3. Age Distribution of Population, 2020



SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

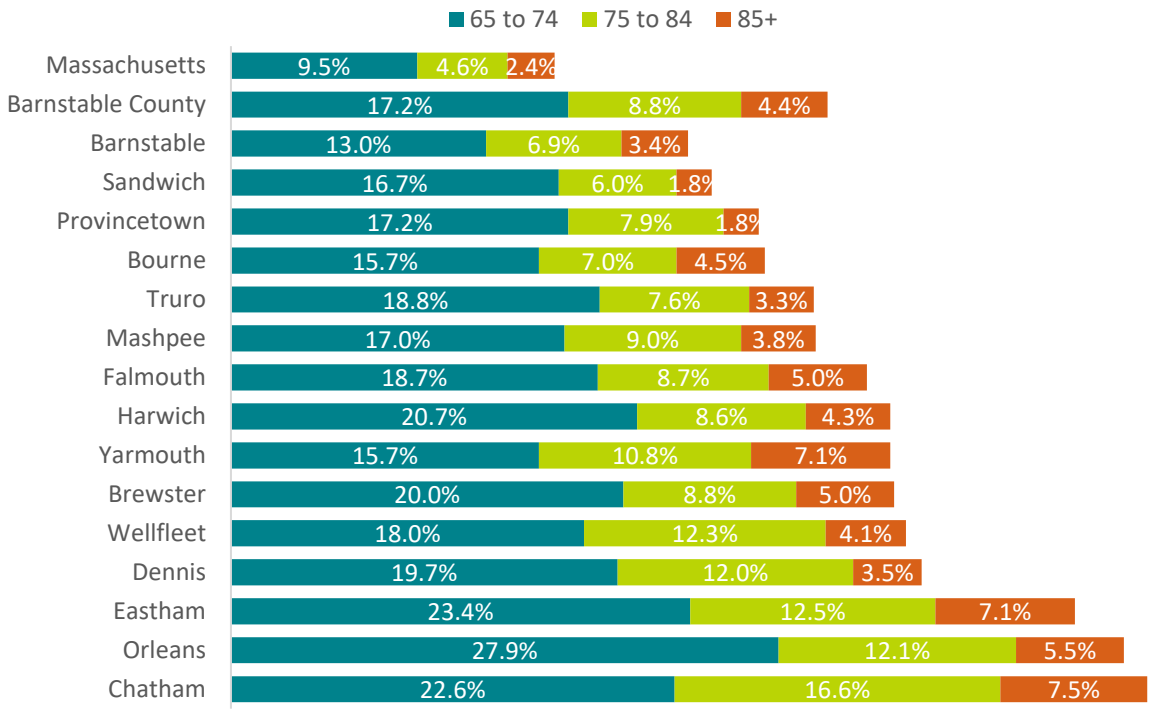
More detailed data on the age of residents reveal that Barnstable County compared to the state has a higher percentage of residents who are within the 'oldest' age categories, including those age 75 to 84 (8.8% vs. 4.4%, respectively) and those age 85 years and older (3.9% vs. 2.3%, respectively) (**Figure 4**). Several towns have notably large percentages of their population in these older age groups, specifically Eastham, Orleans, and Chatham.

Related in part to the older age of the population, Barnstable County also has larger percentages of veterans and residents with disabilities than the state overall. Nearly nine percent (8.8%) of county residents identified as veterans compared to 5.3% for the state.[6] Approximately 13% of residents in Barnstable have at least one disability, compared to 12% for the state -- this percentage does increase with age, 20.5% of residents aged 65 to 74 years and 38.5% of residents aged 75 years and older having at least one disability[7].

[6] U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020; NOTE: Rates are based upon the civilian population aged 18 years or older.

[7] U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

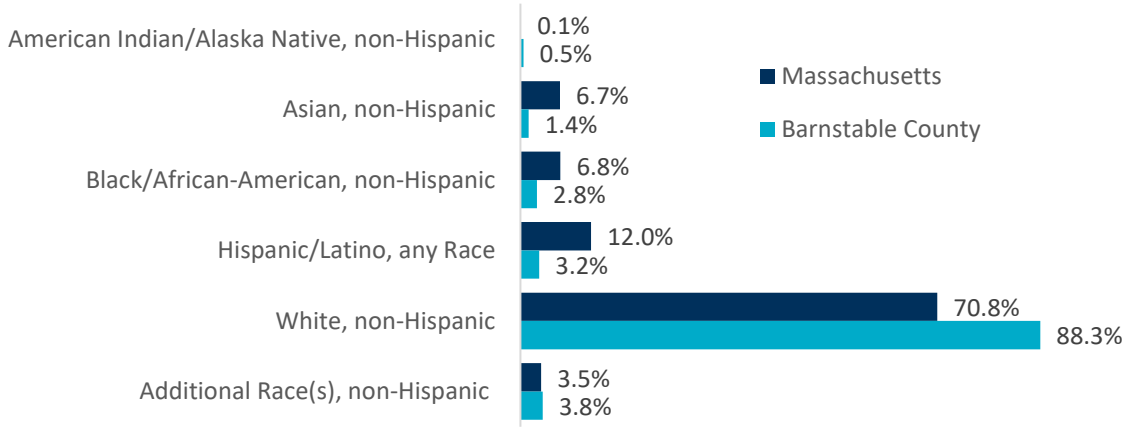
Figure 4. Detailed Age Distribution for Population Age 65 Years and Older, 2020



SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Based on self-identified race and ethnicity, the population of Barnstable County is less diverse than the state overall. Eighty-eight percent (88.3%) of Barnstable County residents identify as White, non-Hispanic compared to 70.8% in the state overall (**Figure 5**).

Figure 5. Racial/Ethnic Distribution of Population, 2020

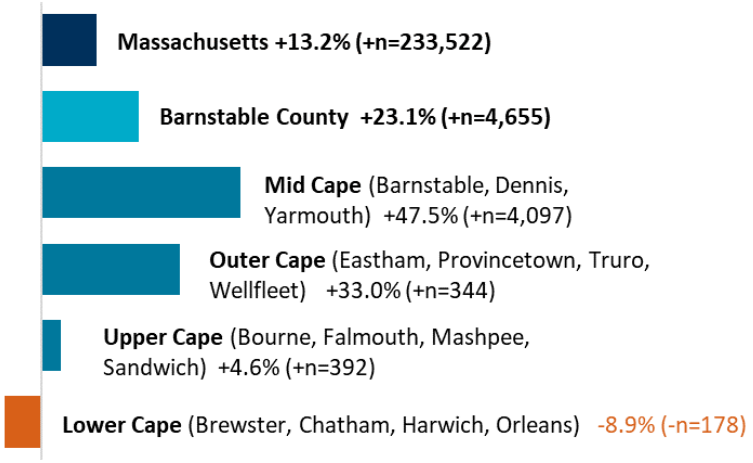


SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020
NOTE: Additional Race(s), non-Hispanic include residents who identified as Native-Hawaiian/Other Pacific Islander, some other race, or as two or more races

Though comprising a small proportion of the overall population, approximately 25,000 Barnstable County residents identify as a racial or ethnic minority. When examined geographically, the majority of residents identifying as a racial or ethnic minority reside within the towns of the Upper Cape (Bourne, Falmouth, Mashpee, and Sandwich) and the Mid Cape (Barnstable, Dennis, and Yarmouth). As observed

with the overall population growth overall across Barnstable County, the non-white population has also increased, although to different extents by region (**Figure 6**).

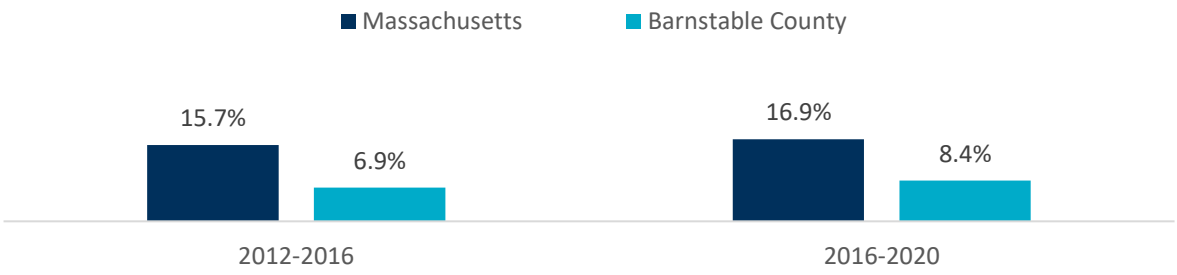
Figure 6. Estimated Percent Change in Size of Population Identifying as a Racial or Ethnic Minority, 2015 and 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2011-2015 and 2016-2020
NOTE: Population identifying as a racial or ethnic minority included all groups other than White, non-Hispanic

In interviews with stakeholders, immigrants were identified as a particularly vulnerable population in that they do not receive the same attention or resources as their native-born counterparts. The percent of Barnstable County residents who are foreign-born is currently estimated to be 8.4%, about half that in the state overall (16.9%) (**Figure 7**), however, this percentage does reflect an increase since 2016. When examined by town, Barnstable (15.3%), Provincetown (11.7%), and Yarmouth (11.0%) all had percentages of foreign-born residents that were larger than the County as a whole. Brazil is the country of origin for the largest percentage of foreign-born residents across Barnstable County (21%) followed by Jamaica (10.9%), Canada (4.9%), and Ecuador (4.5%).[8]

Figure 7. Percent of Population that is Foreign Born, 2016 and 2020

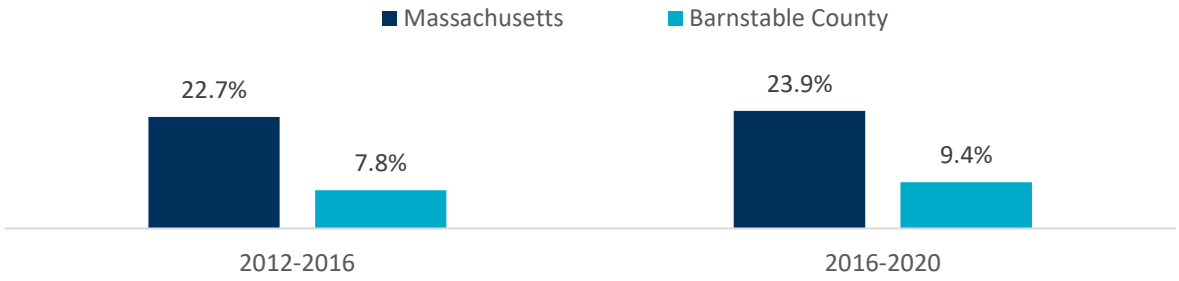


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2011-2015 and 2016-2020

Similarly, a smaller percentage (9.4%) of Barnstable County residents speak a language other than English compared to the state overall (23.9%) (**Figure 8**), though increases were also observed since 2016. When examined by town, Barnstable (17.4%), Wellfleet (13.2%), Yarmouth (13.2%), and Provincetown (10.6%) had percentages of non-English speakers that were larger than the County.

[8] U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Figure 8. Percent of Population age 5+ that Speak a Language other than English at Home, 2016 and 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2011-2015 and 2016-2020

Spanish is spoken by the largest percentage of non-English speakers across Barnstable County (22%) followed by French/Haitian (10%), and Russian/Polish/Other Slavic language (9%).[9] Portuguese, while not singled out in the US Census language categories, is a known language group within Barnstable County. This falls within the grouping 'other Indo-European languages' which accounts for another 39% of non-English speakers along with Italian, Persian, Gujarati, Hindi, and a number of Slavic languages.

About 3% of non-English speakers across Barnstable County are estimated to lack proficiency in English. Stakeholders highlighted how challenging language barriers can be when delivering care to non-English proficient individuals. They pointed to a need for hospitals and healthcare providers to maintain appropriate levels of interpretation services as well as the need to train and educate staff around communication.

> *"There are good interpreters, but staff need more training on when patients need interpretation services (e.g., patients may be nodding because they are embarrassed/ashamed to ask for help, but don't really understand what staff are saying)."* -Stakeholder Interview Participant

Community Social and Economic Environment

Community Strengths and Assets

Many of the stakeholders who participated in interviews identified the inter-connectivity of resources and the willingness of community-based organizations to provide aid to residents in need as major strengths of Barnstable County. Others pointed to the feeling of community and sense of closeness between residents.

> *"Everyone knows each other, especially if you work in a specific field or identify with a population -- ties to the community are very strong."* – Stakeholder Interview Participant

The geographic uniqueness of the Cape was also identified as a strength (i.e., rural and small town feel with strong community ties), but this was also acknowledged as a weakness in some ways (e.g., impact of summer season on traffic, housing, etc.). The community-based services available to support the aging population were also described as a valuable and important part of Barnstable County.

[9] U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020; NOTE: Rates are based upon the population aged 5 years or older.

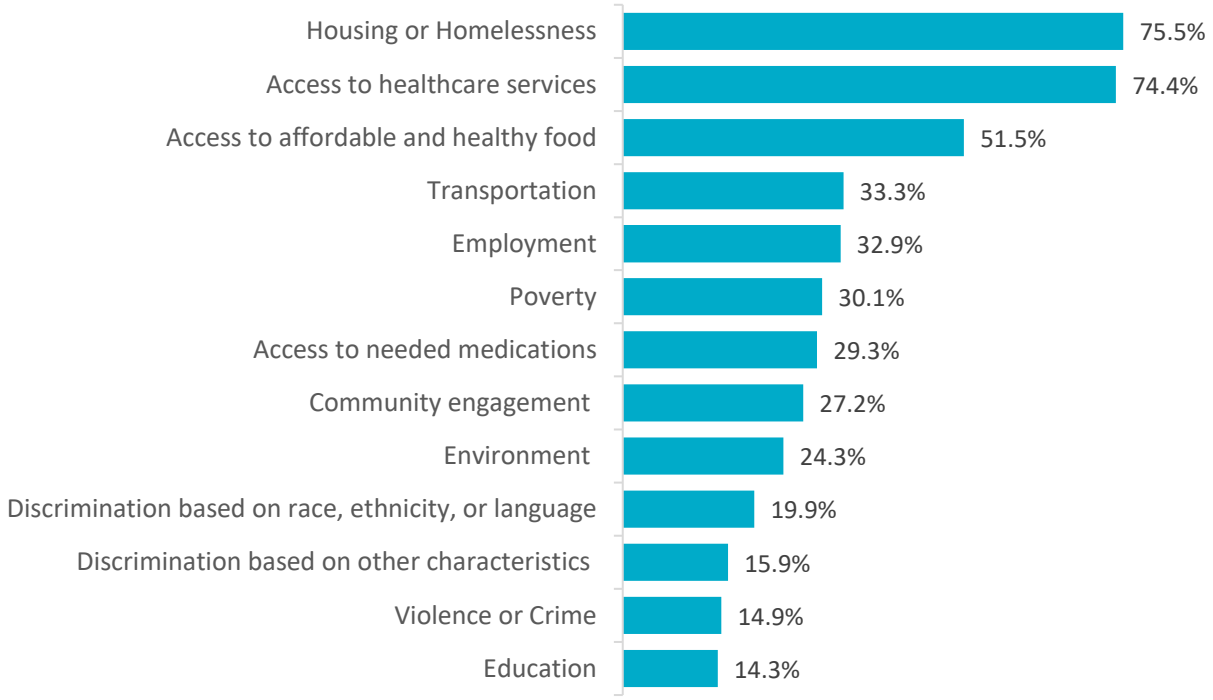
Resident focus group discussions highlighted the natural beauty of the area and the sense of genuinely being cared about as major advantages of living on the Cape. However, many residents also noted that these characteristics are often overshadowed by the socio-economic challenges of residing in the region.

Social Determinants of Health

Given the impact that social factors have on health, community survey respondents were asked to identify the social issues most affecting the community. 'Housing or homelessness' was identified as the top concern affecting the community by 75% of respondents; followed closely by 'access to healthcare services' (74% of respondents) (**Figure 9**). Other pressing community issues identified by respondents included 'access to affordable and healthy food' (51%), 'transportation' (33%), and 'employment' (32%).

In stratified analyses, 'access to medications' ranked more highly among survey respondents who were renters (34.8%), 'access to healthcare services' and 'transportation' ranked more highly among respondents on the Outer Cape (82.0% and 50.7%, respectively), and 'environment' ranked more highly among survey respondents aged 55 years or older (31.0%). Importantly, as explored in more depth in the *Systemic Racism and Discrimination* section, both categories of discrimination ranked much more highly among non-white individuals.

Figure 9. Percent of Survey Respondents Identifying Issue as a Top Social Concern for the Community, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=907; *respondents were asked to select up to five responses; percentages may not sum to 100%*

When the same list of social issues was reframed as affecting themselves or their families, 'access to healthcare services' (62.6%) was the issue most frequently identified by survey respondents, followed by 'environment' (36.9%), 'community engagement' (35.0%), 'access to affordable and healthy food' (34.5%), and 'housing or homelessness' (29.6%). Stratified analyses showed these to be the same top five personal social issues for most subgroups examined, however the issue of 'transportation' ranked

more highly among individuals aged 55+ (24.4%) and 'housing and homelessness' ranked more highly among renters (58.8%).

Housing and Homelessness

> *"The hardest thing to digest is not having people able to live here."* – Stakeholder Interview Participant

Housing has been a consistent challenge across Barnstable County for many years and has been the focus of many in-depth analyses that outline the complex contributing factors and the observable downstream effects of situation. The Housing Assistance Corporation Cape Cod issued one particular report in 2018 and it has extensively described the housing situation on the Cape.[10] Briefly, the report highlighted three main factors that are driving the housing shortage in Barnstable County: 1) second homeowners with greater purchasing power than locals, 2) strength of the short-term rental market (compounded by Airbnb-type transactions), and 3) overly restrictive zoning, which emphasizes restrictive use and minimum lot size. These factors interact and compound one another resulting in impacts on the local economy and residents. Some of these impacts have been clearly observed for many years, including a rental market that is financially out of reach for even professionals earning above average salaries, an inefficient housing market where people are not able to rent or own the appropriate size or style of home to meet their needs, and an oversupply of short-term rentals because of investors/second homeowners seeking to make money on the seasonal market.

The Housing Assistance Corporation report concluded by providing a number of recommendations for Barnstable County to consider in response to these housing challenges:

- Create innovative programs to incentivize seasonal homeowners to rent year-round
- Pass better Accessory Dwelling Unit (ADU) zoning bylaws
- Revise outdated zoning regulations to provide both higher density in village centers and a greater diversity of housing stock across Cape Cod
- Build regional capacity for action on housing issues by educating decision makers about the housing market and the need for increased supply at all income levels

Stakeholders shared a solid understanding of the downstream impacts of the housing challenges across the Cape. In interviews, they viewed the housing crisis as intertwined with challenges related to healthcare access and service delivery. Specifically, that there may be a variety of employment opportunities in the region, but unless individuals can affordably live locally, they will not be taking the jobs. Thus, many organizations and agencies in the services sector are understaffed.

> *"Everybody who works for me has a master's degree, they have student loans, car notes and they are paying $2,500 for rent. Even if we pay people 70k with benefits, it's not enough."* – Stakeholder Interview Participant

Importantly, stakeholders acknowledged that if the housing situation is tough for an educated and more privileged workforce, it must be nearly impossible for other groups. Several stakeholders also reported that the expansion of Airbnb/short-term rentals has increased housing scarcity dramatically and created major hardships for families in the area.

[10] Quinn and Coxe, "Housing on Cape Cod: The High Cost of Doing Nothing", Housing Assistance Corporation. 2018.

> *"I have a family that is being evicted not because they can't pay but because the house was sold and is going to be an Airbnb."* – Stakeholder Interview Participant

Seasonal instability was a key theme that arose during stakeholder interview discussions and that highlight the importance of housing as a social determinant of many health outcomes, particularly behavioral health. Thus, housing has multilayered ripple effects into health, income, employment, and other service needs the residents face.

> *"Housing is seasonal as well, if you rent somewhere between October-April, you might have to leave or pay more to stay in the summer. You might stay on a campground in the summer or in your car."* – Stakeholder Interview Participant

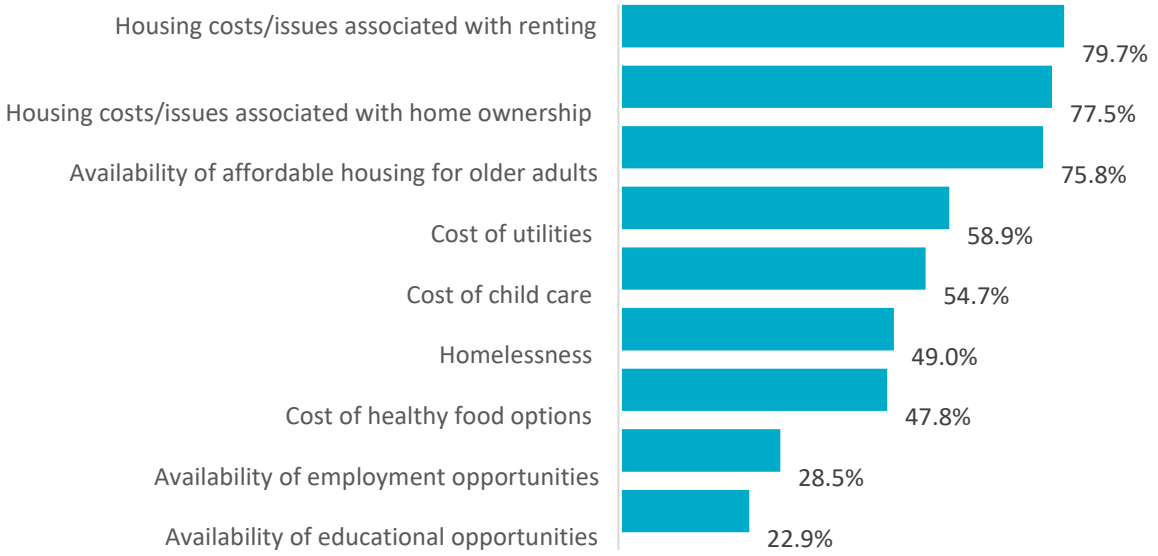
Similarly, housing was a major discussion point during resident focus groups. Many noted the awareness of the seasonal impact on housing cost and availability. The pandemic was also mentioned as a factor that has disrupted the status quo around housing when a significant number of people have moved to the area permanently with the intention to work remotely. This was viewed by some has creating barriers to older adults seeking to retire to the Cape, but also service workers who now struggle even more to find affordable rental housing.

> *"Working with people experiencing homelessness, a lot have had issues where houses are being sold and they get priced out. Many of these people are service workers."* – Resident Focus Group Participant

As noted earlier, 75% of community survey respondents identified housing and homelessness as one of their top social issues in the community (**Figure 9**). When asked to rate their level of concern for specific housing and economic issues impacting the community, the issues of 'housing costs and issues associated with renting', 'housing costs and issues associated with home ownership', and 'availability of affordable housing for older adults were rated as a high concern by the largest percentages of survey respondents (79.7%, 77.5%, and 75.8%, respectively) **(Figure 10**). Additionally, more than half of respondents identified the issues of 'cost of utilities' and 'cost of childcare' as a high concern (58.9% and 54.7%, respectively).

In stratified analyses, survey respondents who identified as renters were more likely to report high concern for 'homelessness' (60.0%) and for 'housing costs and issues associated with renting' (89.6%). Non-white individuals were more likely to report high concern for 'cost of childcare' (63.6%).

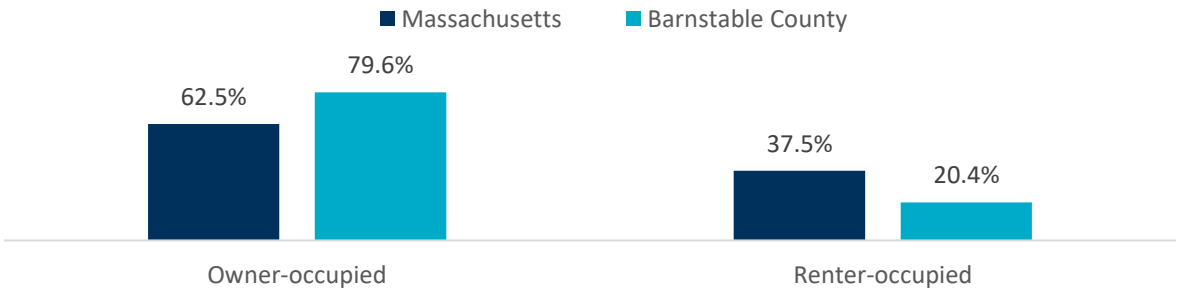
Figure 10. Percent of Survey Respondents Reporting "High Concern," by Housing/Economic Issue, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=936

Households in Barnstable County are predominately owner-occupied with less than one quarter (20.4%) being renter-occupied (**Figure 11**). However, some towns have larger percentages of renter-occupied households than the county, specifically Dennis (27.6%), Barnstable (26.2%), Bourne (25.8%), and Provincetown (24.8%).

Figure 11. Percent of Households That Are Renter vs. Owner Occupied, 2020

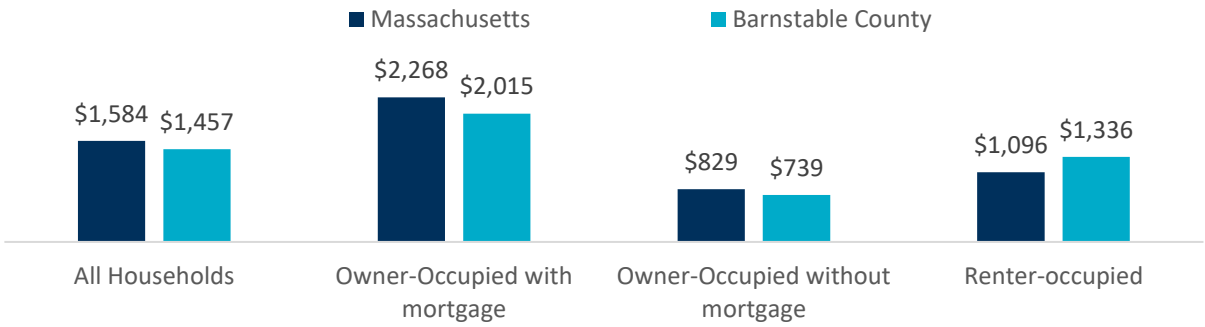


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Median monthly housing costs for residents of Barnstable County are slightly below the state for owner-occupied households (Owners with a mortgage: $2,268 in MA vs. $2,015 in Barnstable County; owners without a mortgage: $829 in MA vs. $739 in Barnstable County) (**Figure 12**). In contrast, the median monthly housing costs for renters is higher in Barnstable County than the state (Renters: $1,096 in MA vs. $1,336 in Barnstable County).

It should be noted that because the U.S. Census American Community Survey captures data using a 2-month residency rule (i.e., those residing in a place for less than 2 months are not included in the survey), these housing cost estimates may not reflect shorter-term seasonal pressure on housing costs and may underrepresent costs for some residents. Also, these estimates are based on US Census data collected between 2016 and 2020 and may not reflect the full impact of the COVID-19 pandemic on housing costs.

Figure 12. Median Monthly Housing Costs by Ownership Status, 2020

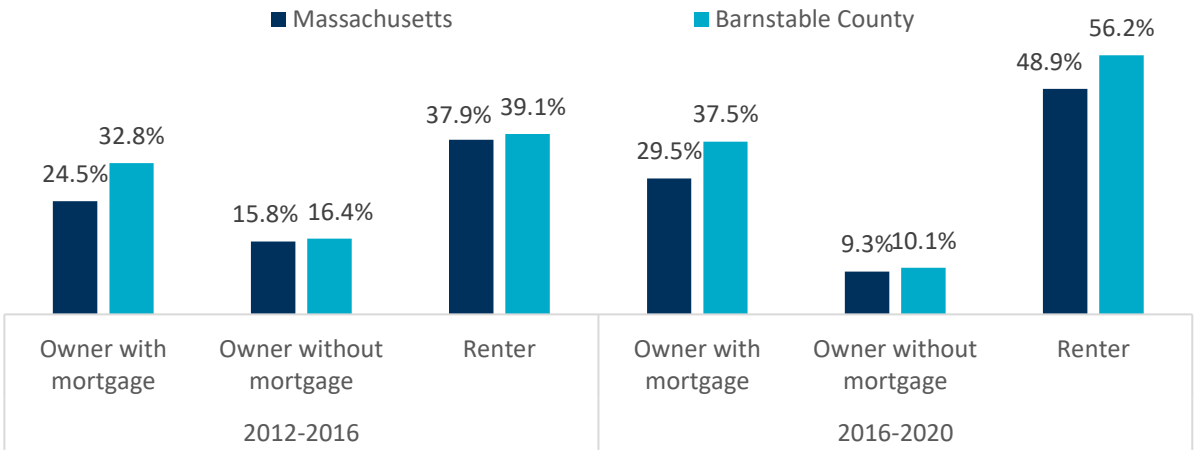


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

At the town level, the median monthly housing costs for owners with a mortgage ranged from a high of $2,733 in Chatham to a low of $1,675 in Dennis. While the median monthly housing costs for renters ranged from a high of $1,550 in Yarmouth to a low of $1,008 in Chatham.

Currently in Barnstable County, over half (56.2%) of renters and over one third (37.5%) of owners with a mortgage are identified as 'housing cost burdened' (i.e., the household devotes 35% or more of household income to housing costs) (**Figure 13**). These rates exceed those for the state overall and of note is the stark increase between 2016 and 2020 in the percentage of renters who are housing cost burdened, in Barnstable County (from 39.1% to 56.2%) and the state (from 37.9% to 48.9%).

Figure 13. Percent of Housing Units that are Cost Burdened, by Ownership Status, 2016 & 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Data from the 2021 Annual Report on the Cape Cod Housing Market provides a more current indicator of how dramatically the cost of housing is rising in the region. The median sales price for a single-family

home/condominium has increased +16.8% between 2019 and 2020 (from $410,000 to $479,000) and another +19.0% between 2020 and 2021 (from $479,000 to $570,000 in 2021).[11]

Over this same time period, the inventory of homes for sale has dropped dramatically, down -50.7% between 2019 and 2020 and down another -54.8% between 2020 and 2021. These data are clearly representative of the impact of the COVID-19 pandemic on housing across Barnstable County (individuals moving into the County either permanently or seasonally), but it is important to understand that these pressures are occurring on top of already strained housing sector as noted previously.

Another way to examine housing cost burden is to analyze what level of income is needed to afford housing. According to data from the National Low Income Housing Coalition[12], within the Barnstable Town MSA, the Fair Market Rent (FMR) for a two-bedroom apartment in 2021 is $1,667 per month. To afford this level of rent and utilities, without paying more than 30% of income on housing, a household must earn $66,680 annually. Assuming a 40-hour workweek for 52 weeks per year, this level of income translates into a wage of approximately $32.00 per hour. In Barnstable County, the estimated mean (average) wage for a renter is $13.27 per hour. Monthly rent affordable at mean renter wage is $690.

Income and Poverty

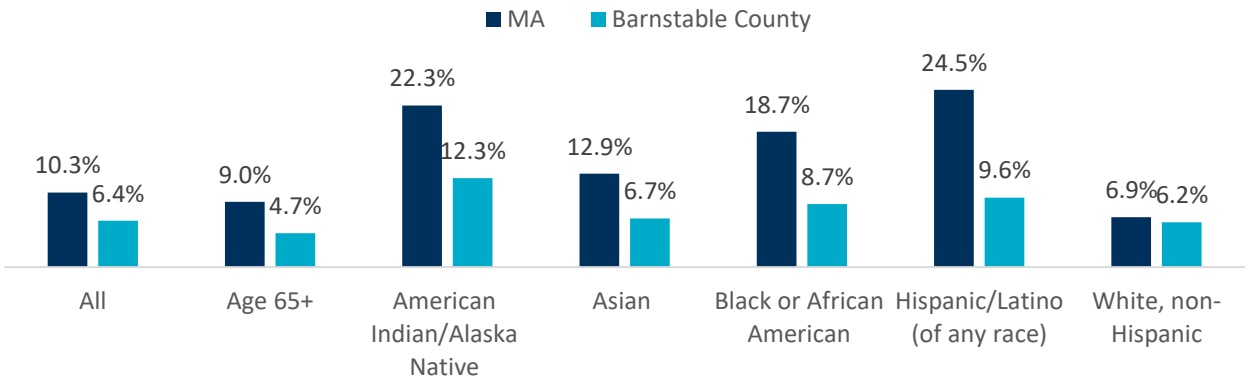
> *"You need to have your own home, your own car, you need to be really well resourced to live a life here and not feel like you are chasing something. The people I talk to on a regular basis are spending a tremendous amount of energy just to get by when they could be spending that energy elsewhere."* – Resident Focus Group Participant
>
> *"I think there is a lot more poverty than anyone realizes."* – Stakeholder Interview Participant

The individual poverty rate for Barnstable County is lower than for the state, 6.4% vs. 10.3%, respectively (**Figure 14**). However, there is variability between towns, with Provincetown (10.5%), Wellfleet (9.8%), Dennis (9.0%) having rates of poverty that are closer to the state level. Similarly, the poverty rate for individuals aged 65 and older is lower for Barnstable County than for the state (approximately 4% vs. 9%, respectively).

When examined by race/ethnicity, in Barnstable County the percentage of individuals in poverty is higher for those who are American Indian/Alaskan native (12.3%), Asian (6.7%), Black/African American (9.7%), or Hispanic/Latino (9.6%) compared to those who are white, non-Hispanic (6.2%), a pattern that is also observed at the state level.

[11] Annual Report on the Cape Cod Housing Market, Cape Cod & Islands Association of Realtors, 2021
[12] National Low-Income Housing Coalition, Out of Reach, 2018: Barnstable Massachusetts Statistical Area, 2021. http://nlihc.org/oor/massachusetts

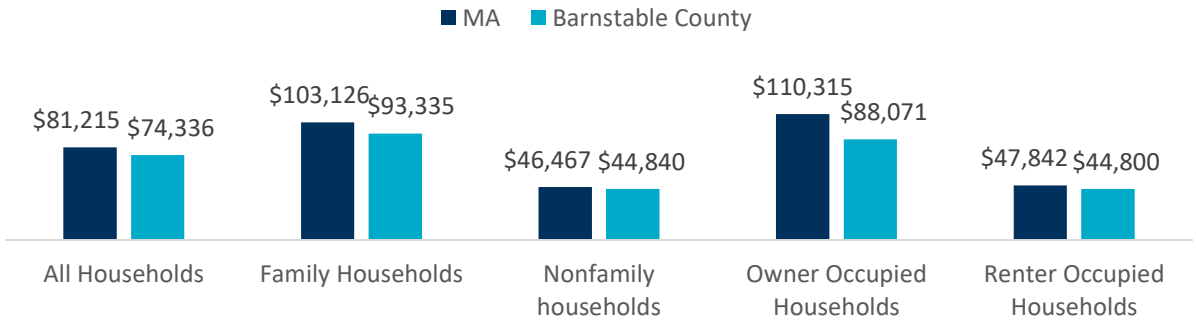
Figure 14. Percent of Individuals with Income Below 100% of Federal Poverty Line, Overall and Select Groups, 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

The overall median household income for Barnstable County is $74,336, which is just below the median for the state (**Figure 15**). Household incomes are generally much lower in non-family and renter-occupied households compared to family and owner-occupied households ($44,840 and $44,800 vs. $93,335 and $88,071, respectively) in Barnstable County). Differences in median household income by race/ethnicity are detailed in **Table 1**. Median household incomes are lower among Black householders and higher among Asian householders.

Figure 15. Median Household Incomes by Household Type, 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Table 1. Median Household Income by Race of Householder, 2020

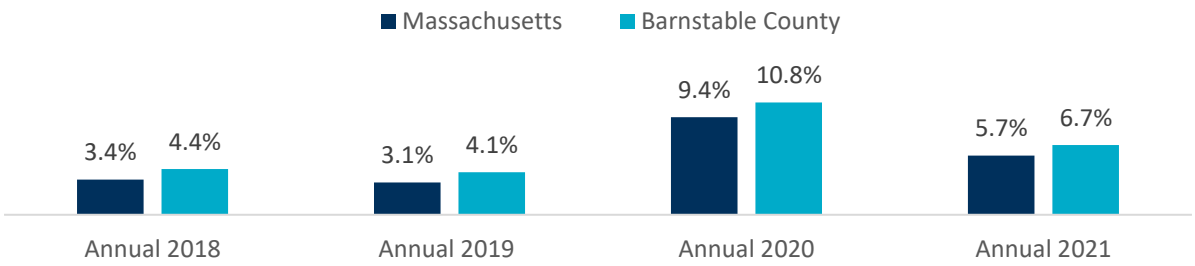
	MA	Barnstable County
Overall	$81,215	$74,336
Asian	$102,235	$116,944
Black	$54,835	$49,909
Hispanic	$48,450	$74,548
White, non-Hispanic	$91,759	$77,677

DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Employment

Because of the geographic uniqueness of Cape Cod and the influence of 'high tourist season' in the summer months, unemployment rates in Barnstable County are known to be highly variable, swinging from highs in the winter months to lows in the summer months. The abrupt and significant impact of the COVID-19 pandemic disrupted this pattern for much of 2020 and 2021. **Figure 16** summarizes the annual unemployment rates for Barnstable County and Massachusetts from 2018 through 2021. The rates for 2020 were approximately two to three times the rates in the prior two years for both county and state. The rates for 2021, while lower than 2020, remain higher than the pre-pandemic years.

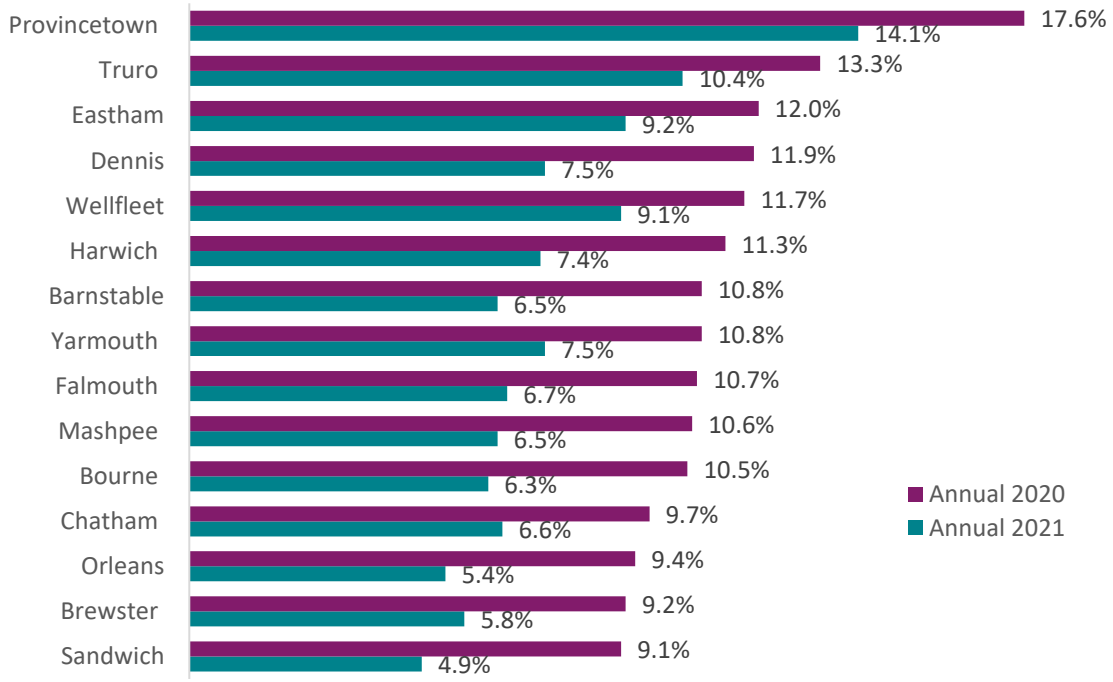
Figure 16. Annual Unemployment Rates, 2018 through 2021



DATA SOURCE: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, 2018-2021
NOTE: Local Area Unemployment Statistics are not seasonally adjusted; data represent the number unemployed as a percent of the labor force; unemployed is defined as persons aged 16 years and older who had no employment during the reference week, were available for work, except for temporary illness, and had made specific efforts to find employment sometime during the 4-week period ending with the reference week

When annual unemployment data are explored by town (**Figure 17**), it becomes clear that several towns were impacted particularly hard by the COVID-19 pandemic in 2020, specifically Provincetown (17.6%), Truro (13.3%), and Eastham (12.0%). Furthermore, several towns continued to have relatively high unemployment rates through 2021, including Provincetown (14.1%), Truro (10.4%), Eastham (9.2%), and Wellfleet (9.1%).

Figure 17. Annual Unemployment Rates by Town, 2020 and 2021



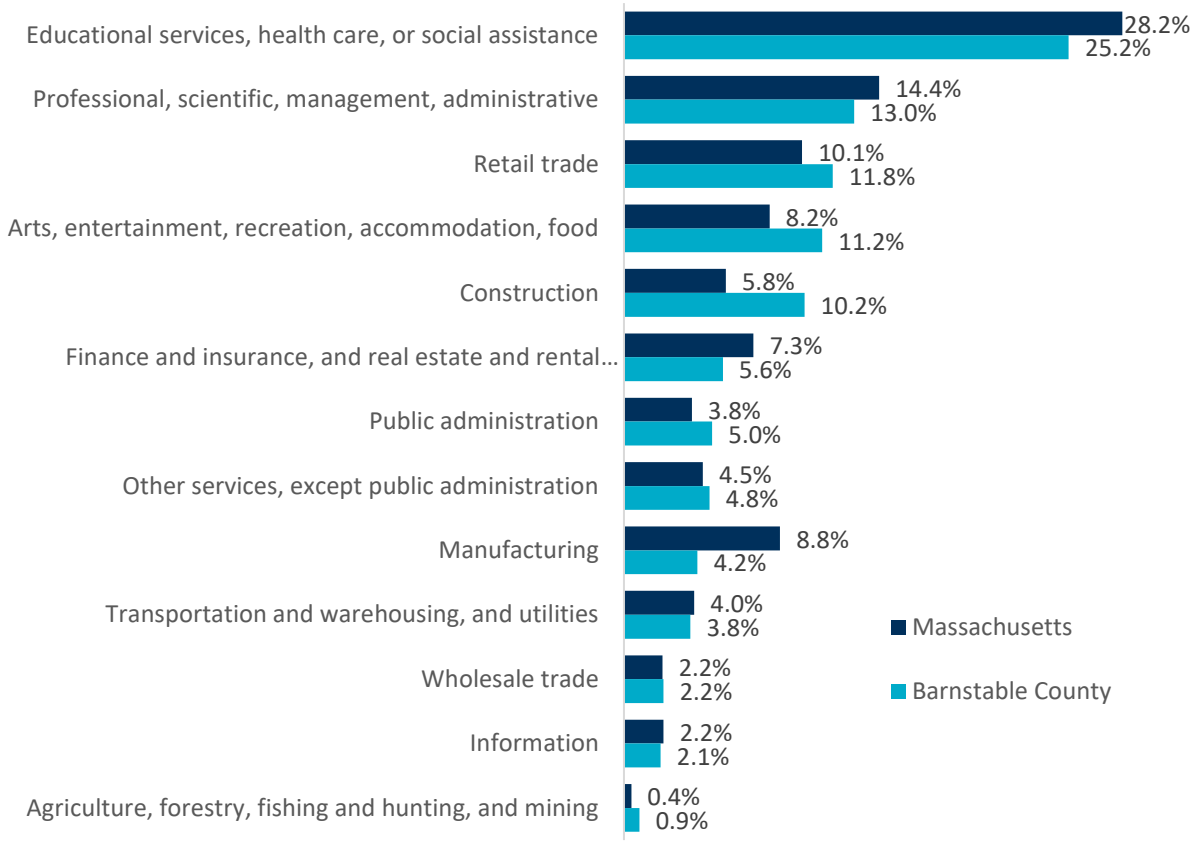
DATA SOURCE: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, 2020-2021

In stakeholder interviews, both income and employment were noted as ongoing issues in Barnstable County due to the entrenched seasonal economy. Service jobs were highlighted as critical to the local economy, but many people are overlooking the challenges these services workers face when trying to live on the Cape.

> *"Not a diverse set of employment opportunities or ways to advance in career. A lot of service jobs, but not a lot of ways in which people are earning enough money to live there."* – Stakeholder Interview Participant

Consistent with Cape Cod's designation as a tourist destination and the importance of tourism to the economy, larger percentages in Barnstable County are employed in industries related to tourism such as 'Retail trade' and 'Arts, entertainment, recreation, accommodation, food' than for the State as a whole (11.2% and 11.8% vs. 8.2% and 10.1%, respectively) (Figure 18). Other differences between Barnstable County and the state include a larger percentage employed in 'Construction' (10.2% vs. 5.8%) and a smaller percentage employed in 'Manufacturing' (4.2% vs. 8.8%).

Figure 18. Percent of Population Employed by Industry Type, 2016-2020

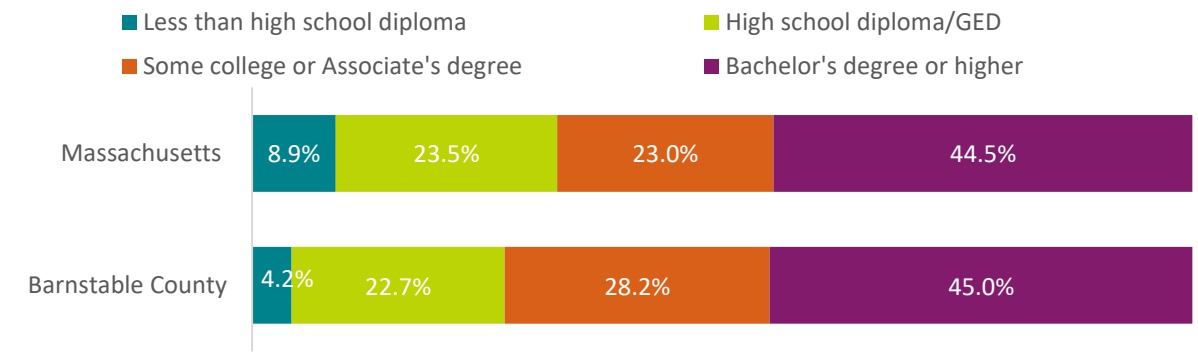


DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Education

In Barnstable County, the percent of residents with less than a high school education is lower than for the state (4.2% vs. 8.9%), while similar percentages of residents have obtained at least a bachelor's degree or higher level of education (45.0% vs. 44.5%) (**Figure 19**).

Figure 19. Educational Attainment for Population Age 25 Years and Over, 2020



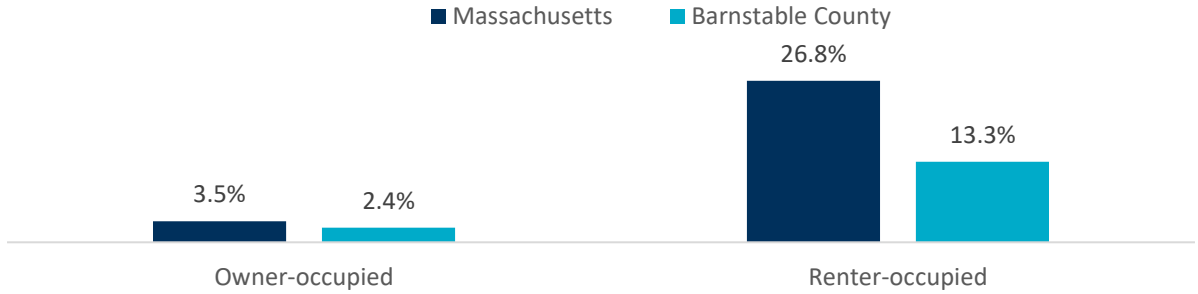
DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Transportation

> *"One of the organizations I'm a part of, 75% of the services we provide are related to transportation."* – Resident Focus Group Participant

Existing data suggest that access to a vehicle is not universal in Barnstable County. A small percentage (2.4%) of owner-occupied households do not have access to a vehicle. However, the rate is over five times higher (13.3%) among renter-occupied households (**Figure 20**). Geographic variation in access to a vehicle is also observed with particularly high percentages of renter-occupied households in Provincetown (28.6%) and Orleans (21.5%) not having access to a vehicle.

Figure 20. Percent of Households with No Vehicle Available, 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Stakeholders acknowledge that the remote geography of the Cape, coupled with limited public transportation options, creates challenges for many groups and has led to service gaps. Residents of the lower and outer Cape regions are particularly impacted, but so too are youth and families. For youth, the lack transportation can impact school attendance and prevent participation in afterschool programming, both of which are essential to positive youth development.

> *"We've tried to run late buses in a circle around the town so that kids can participate [in programming]."* - Stakeholder Interview Participant

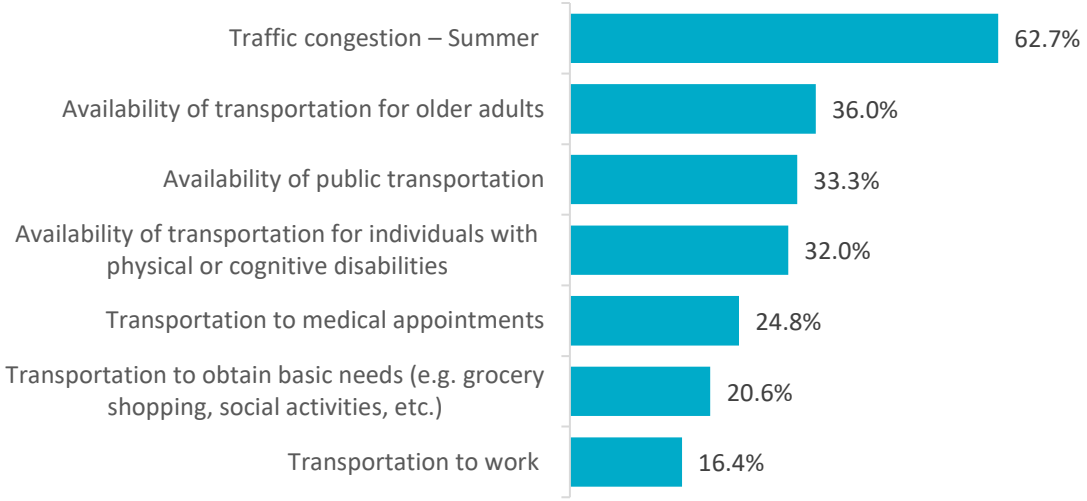
Resident focus group participants also discussed transportation as very challenging and highlighted the high need for transportation services among older adults who are no longer able to drive.

"We have terrible transportation especially with an aging population who doesn't drive as much. It'll get worse as people age." – Resident Focus Group Participant

As noted earlier, one-third (33.3%) of community survey respondents identified transportation as a top social concern in the community (**Figure 9**). When asked to rate their level of concern for specific transportation issues, 'summer traffic congestion' was rated as a high concern by the largest percentage of survey respondents (62.7%) (**Figure 21**). About one third of survey respondents also identified 'availability of transportation for older adults', 'availability of public transportation' and 'availability of transportation for individuals with physical or cognitive disabilities' as issues of high concern (36.0%, 33.3%, and 32.0%, respectively).

When examined by subgroup, some differences were observed. Survey respondents who identified as LGBTQ were more likely to report high concern for 'availability of public transportation' (56.5%), 'transportation for disabled individuals' (46.8%), and 'transportation for older individuals' (53.2%).

Figure 21. Percent of Survey Respondents Reporting "High Concern," by Transportation Issue, 2022



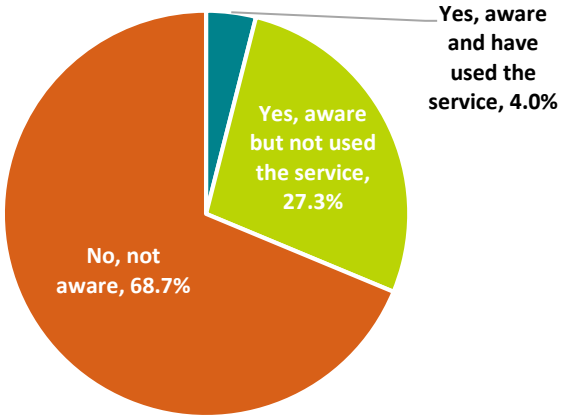
DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=921

Community survey respondents were asked whether they or members of their family had ever used Cape Cod Regional Transit Authority (CCRTA) transportation services to travel within Barnstable County'. Among the 918 who answered the question, 25.9% indicated that they (or a family member) had used the service at least once. In stratified analyses, CCTRA use appeared to be higher in several groups. Specifically, among those who are non-white (37.9%), renters (40.2%), or LGBTQ (32.3%).

In recent years, efforts to improve transportation options to healthcare services have been undertaken in Barnstable County. Most notably the partnership between Peter Pan Bus Lines, Cape Cod Regional Transit Authority (CCRTA), and Cape Cod Healthcare that supports transportation between Provincetown and healthcare services in Wellfleet, Harwich, and Hyannis. A specific question was added to the community survey to assess the extent to which residents are aware of this service. Most

respondents (68.7%) were not aware and only a small percentage (4%) reported that they had used the service (Figure 22). However, several subgroups were much more likely to report that they had used this new service, including non-white individuals (11.1%) and renters (7.9%). However, overall awareness of the service remained low in all groups.

Figure 22. Awareness of CCRTA/PeterPan service among Survey Respondents, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=908

Of further note are CCHC's own program data from their Patient Reported Outcomes Measurement Information System (PROMIS), which was initiated in Fall 2020. At the time data was shared for the CHNA in Spring of 2022, among the 1,891 referrals that had been made for 2,301 patients, 19% were specifically for transportation services.[13]

Food Access & Food Insecurity

> ***"We are feeding anyone who drives up, but we aren't getting to the root problem. About 10% of the Falmouth population uses the service center. We even help people feed their pets."*** – Stakeholder Interview

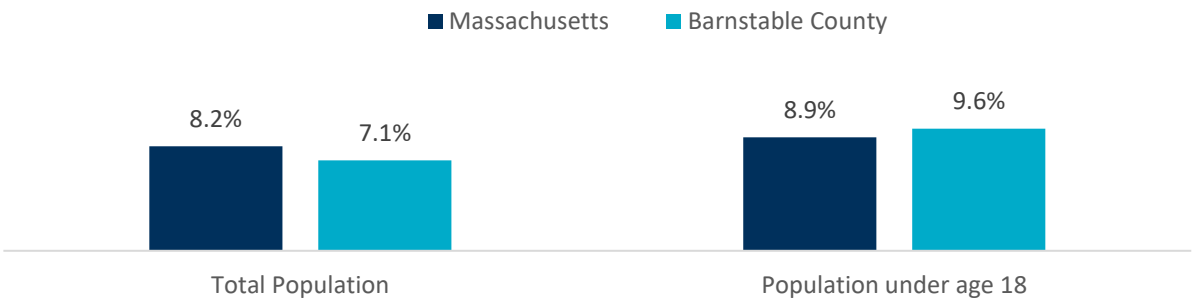
While many food access barriers are related to income constraints, access may also be more challenging for residents of Barnstable County due to its unique geography and transportation challenges. This is particularly true for older adults (a large segment of the population in Barnstable County) who experience mobility challenges related to their health. Among stakeholder interviews, it was also pointed out that for residents who are immigrants, access to food pantries and similar support services may be underutilized due to misinformation or confusion around eligibility given their status.

[13] CCHC PSYCHOSOCIAL DISTRESS SCREENING data report, 2021

As noted earlier, 'access to affordable and healthy food' was the third most frequently identified social issue for the community among survey respondents (**Figure 9**) and 'cost of healthy food options' was rated as a high concern by nearly half (47.8%) of survey respondents (**Figure 10**). Renters were particularly likely to report they had high concern for the 'cost of healthy food options (e.g., full-service grocery stores, farmer's markets, etc.)' in the community compared to the overall survey sample (33.9% vs. 25.3%).

Overall, the percentage of the population estimated to be food insecure is slightly lower in Barnstable County than the state overall (7.1% vs. 8.2%). However, the percentage of children estimated to be food insecure is slightly higher in Barnstable County than the state (9.6% vs. 8.9%) (**Figure 23**).

Figure 23. Percent of Population that is Food Insecure, 2019



DATA SOURCE: Feeding America, Map the Meal Gap, Food Insecurity Estimates at the County Level, 2019

Additionally, among the 8.2% who are food insecure in Barnstable County, an estimated 33% of these individuals have incomes above the income threshold of <200% of the federal poverty line and are therefore not eligible for Supplemental Nutrition Assistance Program (SNAP benefits[14]. This suggests that some, or even many, families with moderate incomes are also experiencing food insecurity. It is important to note that these estimates from 2019 do not reflect the significant impact of the COVID-19 pandemic on employment, income, and food security.

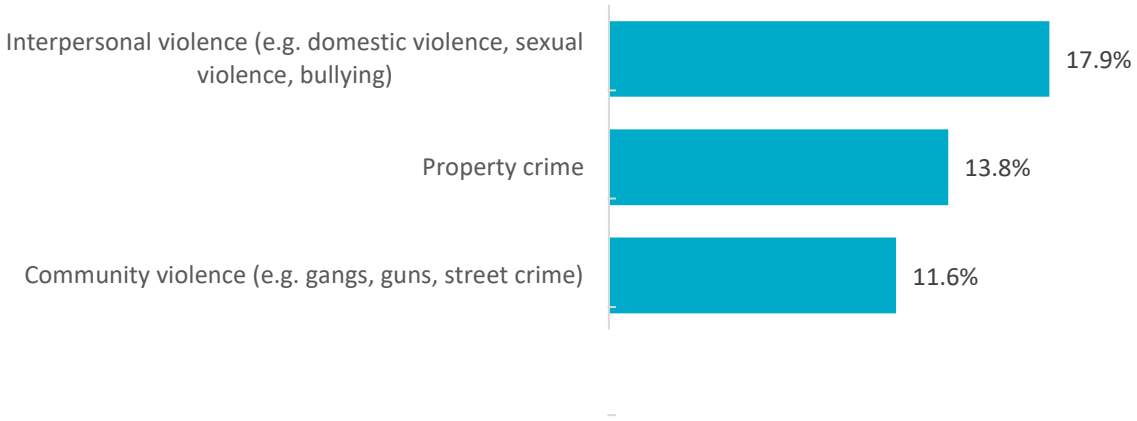
[14] Feeding America, Map the Meal Gap, Food Insecurity Estimates at the County Level, 2019

Crime and Violence

'Violence and Crime' ranked 12th among the social concerns included in the community survey with 15.9% of respondents identifying it as one of their top social concerns for the community (**Figure 9**). When asked more specifically about their level of concern for specific issues related to safety issues, a slightly larger percentage of respondents (17.9%) indicated they had high concern for 'interpersonal violence' in the community, which includes instances of domestic violence, sexual violence, and bullying (**Figure 24**). An additional 13.8% and 11.6% of survey respondents, respectively, indicated they had a high concern for 'property crime' and 'community violence (e.g., gangs, guns, street crime).

When examined by subgroup, respondents who were renters were more likely to identify 'interpersonal violence' (20.0%) and 'community violence' (16.3%) as issues of high concern.

Figure 24. Percent of Survey Respondents Reporting "High Concern" by Violence/Safety Issue, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=921

Based on secondary data, nearly all towns in Barnstable County have violent crime rates that are below the state rate of 3.0 crimes per 1,000 residents. However, the violent crime rate is nearly twice the state rate in Provincetown (5.7 crimes per 1,000).[15] Similarly, most towns in Barnstable County also have property crime rates that are on par or below the state rate of 10.3 crimes per 1,000. The property crime rate is slightly higher in Provincetown (12.3 crimes per 1,000).

Systemic Racism and Discrimination

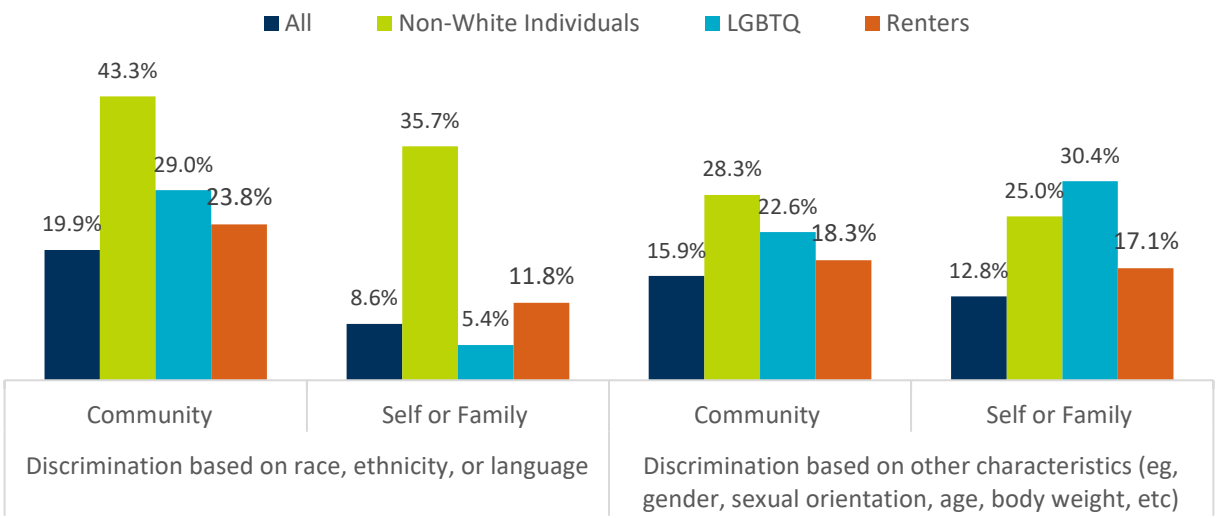
It is important to note that issues of discrimination, which can and do escalate into safety or violence issues, were identified as a top social issue in the community by a larger percentage of survey respondents than had identified 'violence or crime' (**Figure 9**). Specifically, 'discrimination based on race, ethnicity, or language' was selected as a topic social issue by 19.9% of respondents and

[15] Federal Bureau of Investigation, Criminal Justice Information Services (CJIS), Uniform Crime Reporting (UCR), Offenses Known to Law Enforcement, 2020; Violent crime includes murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault; Property crime includes burglary, larceny-theft, and arson; Rates calculated using U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

'discrimination based on other characteristics (e.g., gender, sexual orientation, age, body weight, etc.)' by 15.9% of respondents.

Unsurprisingly, these findings differ when examined by subgroup (**Figure 25**). At the community level, stratified results showed that larger percentages of non-white individuals selected both types of discrimination as top social concerns for the community (43.3% and 28.3%, respectively). At the self or family level, non-white individuals were more likely to report discrimination based on race, ethnicity, or language as a top social concern for themselves for their family (35.7%), while LGBTQ individuals were more likely to report discrimination based on other characteristics as a top social concern for themselves or their family (30.4%).

Figure 25. Percent of Survey Respondents Selecting Discrimination as a Top Social Issue, by Subgroup, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=921

In focus group discussions, the close and tightknit community that many cited as a strength of the region was also reported to be challenging and isolating for those moving to the area or who do not belong to the majority population. Focus group participants further noted how important diversity is as a factor leading to more acceptance and less isolation. Provincetown was mentioned specifically as one town that demonstrates the positive impact of a diverse resident population.

Barnstable No Place For Hate (BNPFH) conducted the 'Survey on Youth Racism' in August 2020 to identify the racial climate in public and private high schools, particularly within the town of Barnstable. Data indicated that racist and derogatory language was a common occurrence between friends and fellow students at school, in hallways, and at gatherings. Some of the most concerning overall findings included:

- Student use of the N-Word, catcalls toward female students, homophobic language, and racist jokes appeared to be ubiquitous at school, even among 'friends', initiated most by boys
- Language derogatory toward Asian, Latinx and LGBTQ students are also reported
- Some respondents described microaggressions, stereotypes, homophobia, and trans-phobia
- Others described sexual harassment toward females, including catcalls and whistling

- Some students reported frustration at how situations are dealt with by teachers or employers, that incidents are minimized, rationalized, and/or ignored

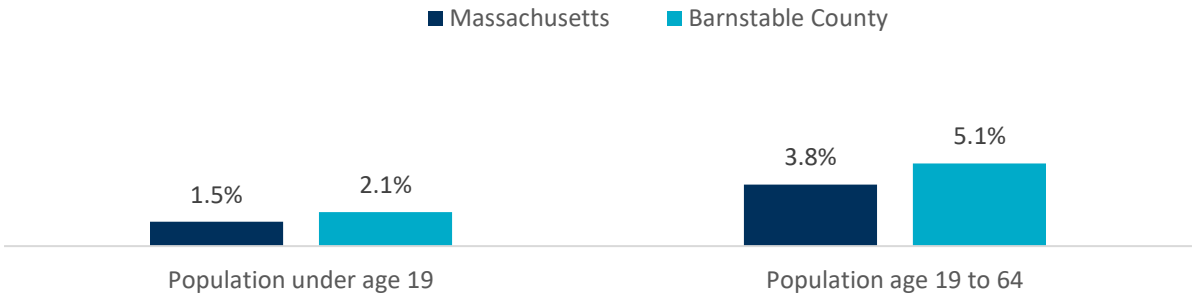
Healthcare Access and Utilization

Insurance Status

For Barnstable County residents aged 19 to 64 years, 5.1% are uninsured, a larger percentage compared to the state (3.8%) (**Figure 26**). The towns of Barnstable (8.2%) and Yarmouth (6.8%) had percentages of uninsured that were slightly higher, while the towns of Falmouth (3.2%), Sandwich (3.3%), and Mashpee (3.4%) were lower compared to the county or state rates.

Among residents under age 19 in Barnstable County, the percentage that is uninsured is also higher than the state (2.1% vs. 1.5%). Several towns have higher uninsured rates than the county for this age group, including Harwich (7.1%), Sandwich (4.8%), and Dennis (3.8%). However, many towns have virtually fully insured populations of children based on the US Census estimates.

Figure 26. Percent of Population that is Uninsured, by Age Group 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2012-2016

The previously described seasonal variation in employment impacts many Barnstable County residents' insurance coverage. For seasonal employees, access to insurance can be cyclical with employees having insurance in summer months but not in the off-season. Thus, access to healthcare services may be limited and inconsistent for many families.

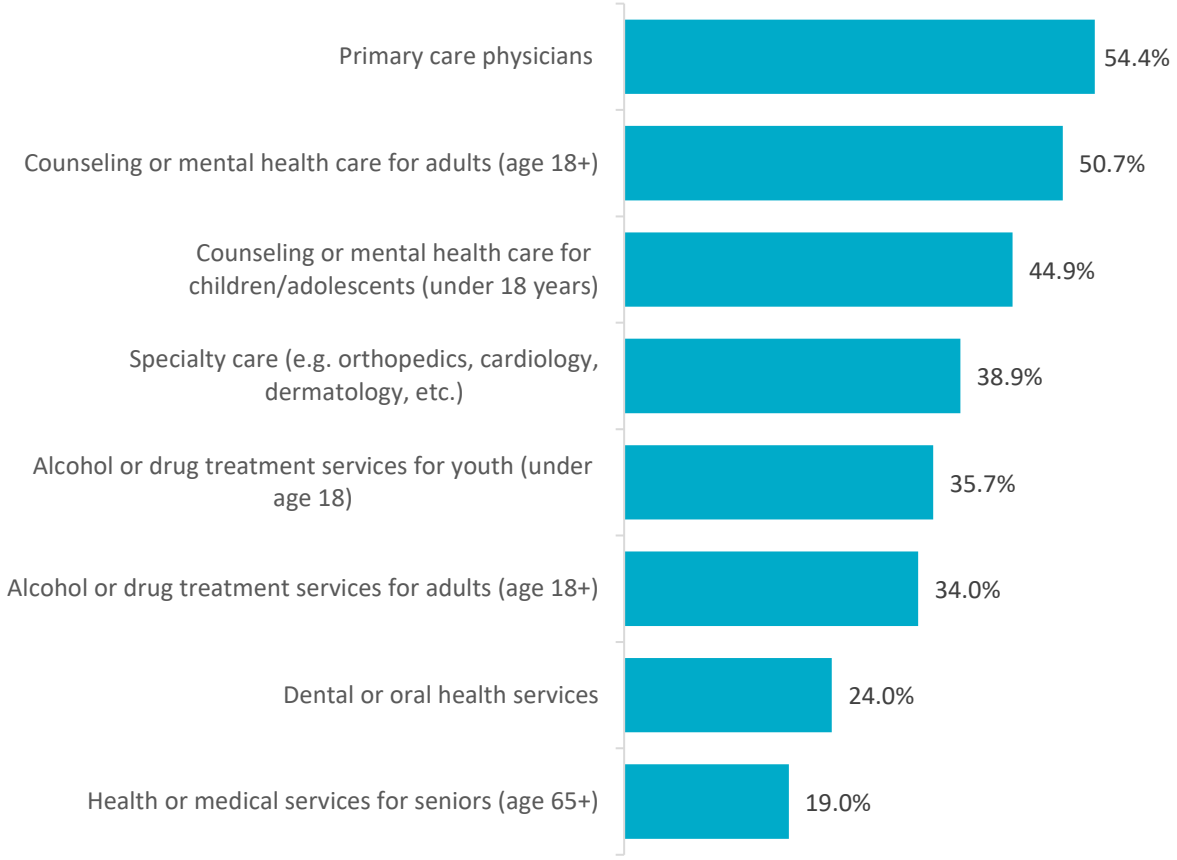
Access to Services

Community survey respondents were asked to identify from an extensive list, the types of healthcare services they felt were 'very hard' to access. The services that were most frequently identified were 'primary care physicians' (54.4%), 'counseling or mental health for adults' (50.7%), and 'counseling or mental health for children/adolescents' (44.9%) (**Figure 27**). Additionally, over one third or survey respondents selected 'Specialty care', 'alcohol or drug treatment services for youth', and 'Alcohol or drug treatment services for adults' (38.9%, 35.7%, and 34.0%, respectively).

Stratified results showed that the same healthcare services rose to the top as the most difficult to access across the subgroups examined (age 55+, non-white, renters, LBGTQ). In addition, it was observed that larger percentages of non-white, renters, or LGTBQ respondents selected 'dental or oral health services' as very hard to access (38.5%, 45.06%, and 48.3%, respectively).

Also observed, larger percentages of LGBTQ respondents and Outer Cape residents identified each of the healthcare services on the list as 'very hard' to access compared to the overall sample, suggesting some systemic issues related to access may be occurring for these populations.

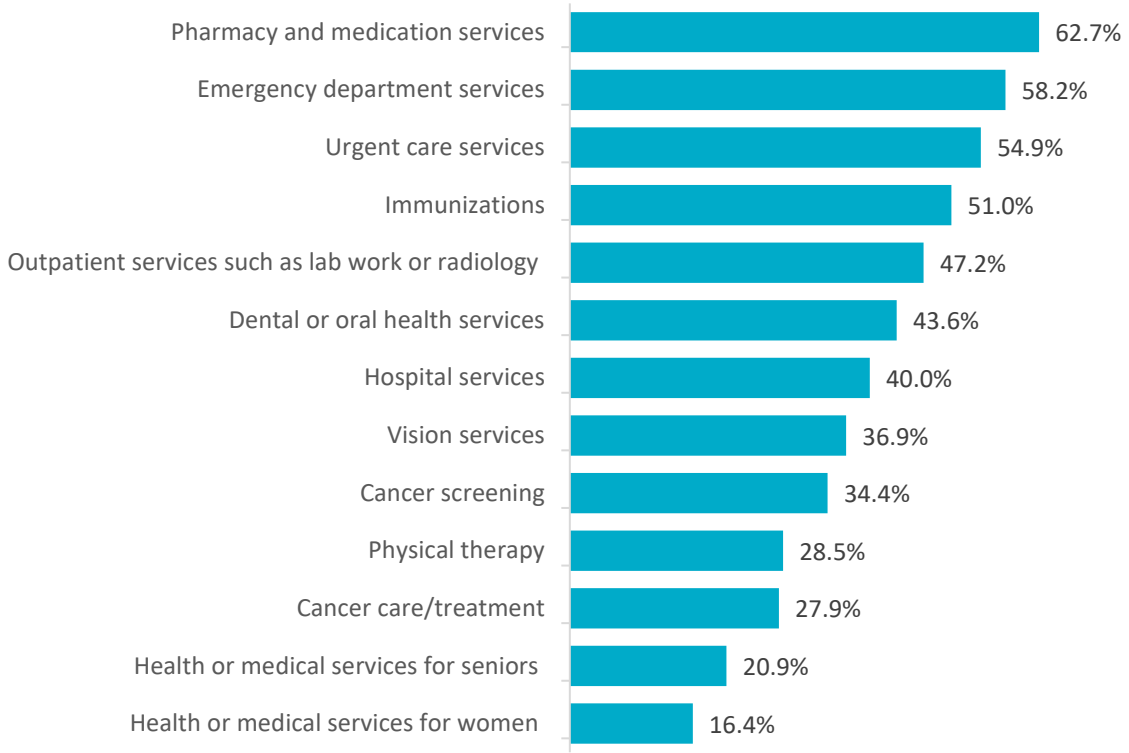
Figure 27. Healthcare Services Perceived as "Very Hard" to Access, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=862; only categories selected by 15% or more respondents are shown

In contrast, based on the same list of services, survey respondents were asked to identify the types of services they felt were 'very easy' to access. The services that were most frequently identified were 'pharmacy and medication services' (62.7%), 'emergency department services' (58.2%), 'urgent care services' (54.9%), and 'immunizations' (51.0%).

Figure 28. Healthcare Services Perceived as "Very Easy" to Access, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=862; only categories selected by 15% or more respondents are shown

Consistent with survey findings, stakeholders highlighted the great need for improved access to primary care and many were concerned over the lack of behavioral health services in Barnstable County. The latter issue being most critical for children and youth. This included the complete absence of pediatric psych beds for children and youth, and the very limited number of therapists that see children or teens locally.

> *"Even if family and child have financial means to seek help, there are no providers, and you can't even get on a wait list."* – Stakeholder Interview Participant

The concern that behavioral health services are lacking for children and youth frequently arose during resident focus group discussions. Specifically, the need for eating disorder treatment (both therapists and facilities) among teens was mentioned as a high need. Additionally, behavioral health services that are local and maintain consistent staffing over time was viewed as essential needs. Several residents also suggested that specialty care for children with chronic conditions (e.g., diabetes) or care tailored to the needs of younger LGBTQ community were also lacking. Many residents mentioned having to drive long distances to find care for their child off-Cape.

> *"You need facilities in the top, middle, and Lower Cape. The people that do this work need to get paid well because that's why they leave. A lot has also gone private. Stability of providers is really important."* – Resident Focus Group Participant

Additionally, the lack of local mental health services had led to the use and reliance on emergency services for acute crises in many instances, which is neither satisfactory to the patient/family nor an effective healthcare solution. This is particularly concerning for youth.

"We had a teenager who was having suicidal ideation. She went to the ER and had to wait 6 hours before seeing anyone. Then they said Pembroke was the nearest facility. It is crazy. If you have a child or loved one, the ER is your only choice and it's not a choice." – Resident Focus Group Participant

"I can't say enough how concerning it is that there are no pediatric psych beds for kids. We have a high school student who's been in the ER for 2 weeks." – Stakeholder Interview Participant

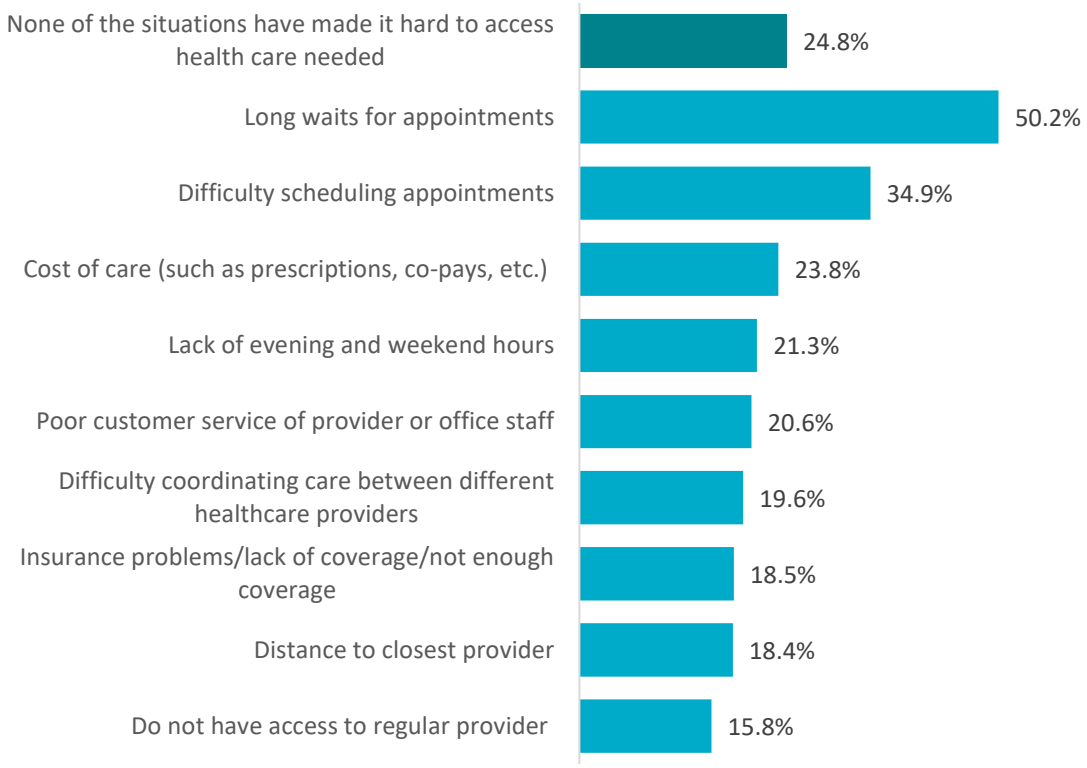
With few or limited options for mental health services for youth in the area, schools were mentioned by stakeholders as a de facto site of intervention and management of student mental health needs. However, many stakeholders felt these issues should be addressed at the municipal level, with more coordination and connection to healthcare and other resources.

Barriers to Care

The most frequently identified barriers experienced by community survey respondents were 'long waits for appointments' (50.2%), 'difficulty scheduling appointments' (34.9%), 'cost of care' (23.8%), 'lack of evening and weekend hours' (21.3%), and 'poor customer service of provider or office staff' (20.6%) (**Figure 28**). In stratified analyses, the most frequently identified barriers were generally the same across subgroups, however survey respondents who were non-white, renters, or LGBTQ identified them all more frequently compared to the overall sample.

In addition, several barriers that did not rise to the top for the overall sample did rank highly in some subgroups. Specifically, 'insurance problems/lack of coverage/not enough coverage' which was selected by 30.8% of non-white respondents, 40.7% of renters, and 29.3% of LGBTQ respondents, and 'distance to closest provider' which was selected by 29.0% of renters and 36.2% of LGBTQ respondents. For parents of children under 18, larger percentages reported experiencing 'lack of evening and weekend hours' (32.8%) and 'lack of childcare' (28.2%). Unsurprisingly, respondents on the Outer Cape were much more likely to identify 'distance to closest provider' as a barrier (40.0%).

Figure 29. Top Barriers Experienced when Accessing Healthcare in prior 12 Months, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=898; only categories selected by 15% or more respondents are shown

Overall, only about a quarter (24.8%) of respondents indicated that they had not experienced any of the listed barriers in the prior year. This percentage is substantially lower than was reported in the prior CHNA survey when 40% of respondents said they had not experienced any of the listed barriers. Differences were also observed in stratified analyses. Survey respondents who were aged 55+ had the largest percentage reporting no barriers to healthcare in the prior 12 months (32.7%), while renters had the lowest percentage (14.2%).

In discussions about challenges accessing healthcare, stakeholders noted that the very long wait times to see providers can often be a total barrier to receiving care for many individuals. Some indicated that high staff turnover and provider retirements were contributing to these long wait times. And again, the topic of staffing shortages frequently led back to limited affordable housing in Barnstable County.

> *"I have a primary care provider now, but it took me about 8 months. I work in the field, have access to a computer, and it still took me a really long time."* – Stakeholder Interview Participant

> *"We aren't generating more nurses/psychiatrists on the Cape. Generally, our workforce is aging, or they come from off the Cape. We haven't been able to get social workers. The applicants aren't there."* – Stakeholder Interview Participant

> *"The geography makes hiring harder; there are only 88 houses on the Cape for sale under $1 million. Even finding places to rent can be expensive. We have a workforce and real estate issue."* – Stakeholder Interview Participant

> *"It all starts with the housing crisis. If we can make housing more affordable here, you can attract healthcare workers and skilled professionals."* – Stakeholder Interview Participant

Resident focus group discussions mirrored these concerns. Most reported experiencing major challenges finding providers who were accepting new patients or who did not have months-long wait lists. This came up in discussions related to primary care, specialty care, mental healthcare, and dental care.

Focus group discussions further identified some underlying barriers or challenges encountered when receiving mental healthcare services for children and youth. Specifically, the fragmented system that does not effectively support transitions between programs or across different levels of care. High staff turnover was also identified as a major hindrance to effective care as children need consistency in their providers in order build trust.

One stakeholder identified a unique observation within the school system: parents appeared to be leveraging school nursing staff to meet the healthcare needs of their child. Whether this is in reaction to long wait times and provider inaccessibility or because students are experiencing higher rates of health concerns while at school remains unclear. While school nurses are tasked with supporting the health and wellbeing of students, this may not be a viable or effective long-term solution at the community level.

Additionally, stakeholders noted that some barriers occur because providers and or services are not well integrated into the community. Their examples included off-Cape providers who apply to provide services through state contracts but do not have the existing relationships or communication channels with other organizations and agencies to serve residents effectively. Thus, services provided are siloed, lacking collaboration with other providers in the area, and are less likely to meet the needs of residents.

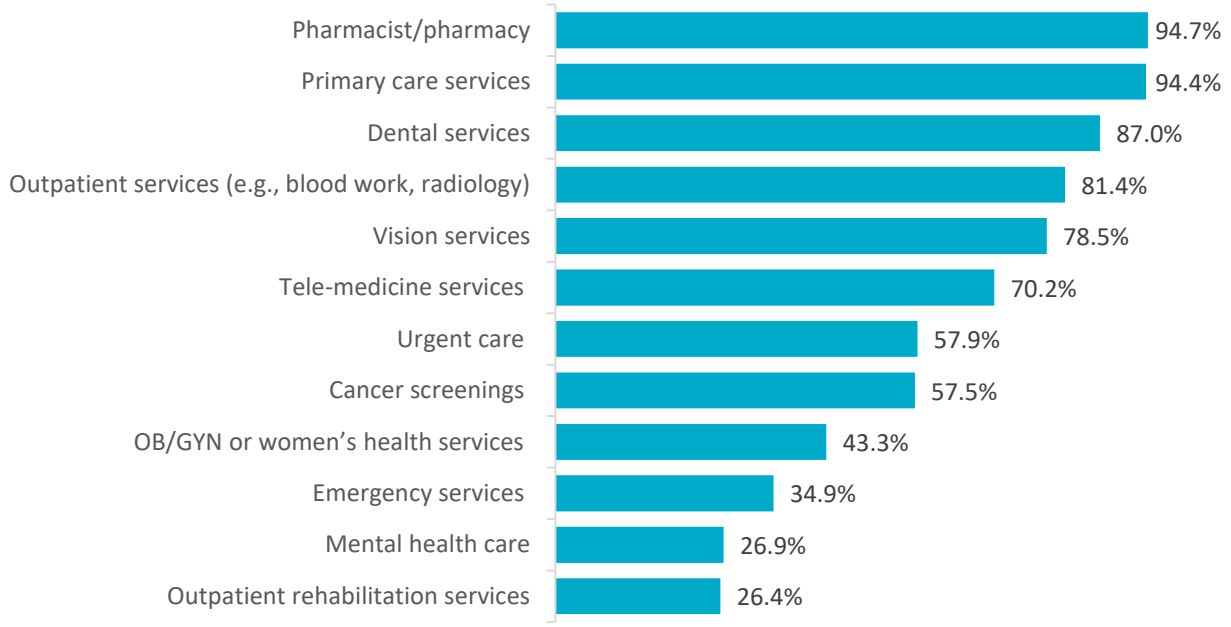
> *"[We] don't have a home grown, regional mental health center that is designed to serve Cape Cod. We need a more fluid or collaborative way of cross-sharing information and working together across organizations to provide services."* – Stakeholder Interview Participant

Healthcare Utilization

Healthcare utilization, as reported by community survey respondents (**Figure 30**), indicated that most respondents or their families received at least some type of healthcare in the prior 12 months. Nearly all reported use of pharmacy (94.7%), primary care (94.4%), dental (87.0%) and outpatient services such as bloodwork for radiology (81.4%).

Some differences in healthcare utilization were observed in stratified analyses. Compared to the overall sample, non-white survey respondents were much less likely to report having received cancer screenings (34.9% vs. 57.5%), vision services (59.1% vs. 78.5%), or outpatient services such as blood work or radiology (62.1% vs. 81.4%). While utilization of mental health services was lower among those aged 55+ (12.8%) and among LGBTQ individuals (4.8%) compared to the overall sample (26.9%).

Figure 30. Healthcare Services Utilized by Self or Family in prior 12 Months, 2022

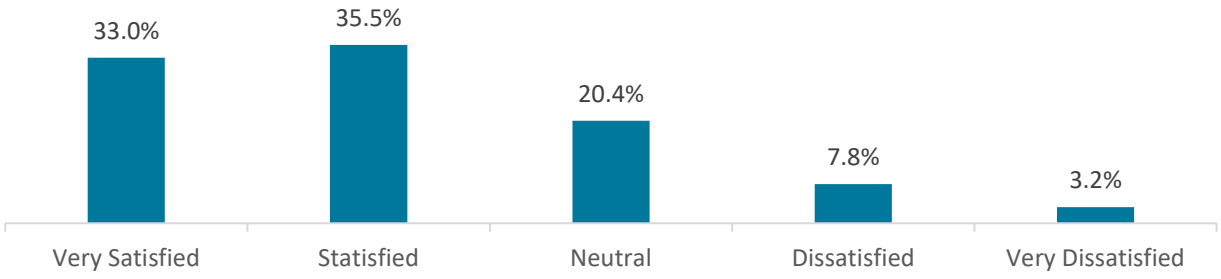


DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=926; only categories selected by 15% or more respondents are shown

Tele-medicine

As the COVID-19 pandemic severely impacted the ability of individuals to obtain in-person healthcare services in 2020, tele-medicine (health services or consultations delivered via remote video) was expanded to meet the need of patients. This expansion happened within Cape Cod Healthcare as well as within healthcare systems across the state and across many medical disciplines or specialties. As detailed in **Figure 30**, a majority (72.2%) of community survey respondents had utilized tele-medicine services over the prior year. This is a striking increase from the prior CHNA survey in 2018 in which only 1% of survey respondents had used such services. Among this larger group of tele-medicine users in 2022, satisfaction with the services was generally high (**Figure 31**). Approximately two thirds of users indicating they were either 'very satisfied' or 'satisfied' (33.0% and 35.5%, respectively). Neither the use of tele-medicine nor satisfaction with tele-medicine differed between subgroups in stratified analyses.

Figure 31. Satisfaction with Tele-Medicine Services in prior 12 Months, Among Users, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=651

In stakeholder interviews, tele-medicine was viewed favorably as a solution to some of the barriers to care that many residents are experiencing. The lack of specific types of providers (e.g., mental health) could be mitigated through an expansion of care delivered virtually. Residents in focus groups also suggested that tele-medicine might be a feasible way to expand access, particularly for specialty care and behavioral health.

> *"Telehealth can bridge that gap and is less complicated. Why are we making it so hard for people to get healthcare?"* – Stakeholder Interview Participant

Perceptions of Cape Cod Healthcare

Stakeholder shared some specific perspectives related to Cape Cod Healthcare. Overall, CCHC was recognized as a key partner, collaborating well with the community and the non-profit social sector of Barnstable County. It is also perceived by many that the healthcare services delivered by CCHC are comprehensive and reflect growing investments in the past few years. During focus group discussions, residents also report a solid awareness of the quality of service provided by CCHC and generally high satisfaction with the resources it provides.

> *"They (CCHC) have always been good at partnering with the community. They recognize people's needs and find a way to solve that issue whatever it may be. "–* Stakeholder Interview Participant

> *"CCHC is doing a great job, the services are there – everything offered in Boston is offered here."* – Stakeholder Interview Participant

Some additional stakeholder feedback related to concerns that CCHC leadership may not be ready to begin addressing community needs around the social determinants of health. Residents were more apt to note concerns that CCHC was not providing adequate mental health services and that the patient experience and wait times within the ER is severe and likely impacted by staffing challenges and the continued influx of overdose cases.

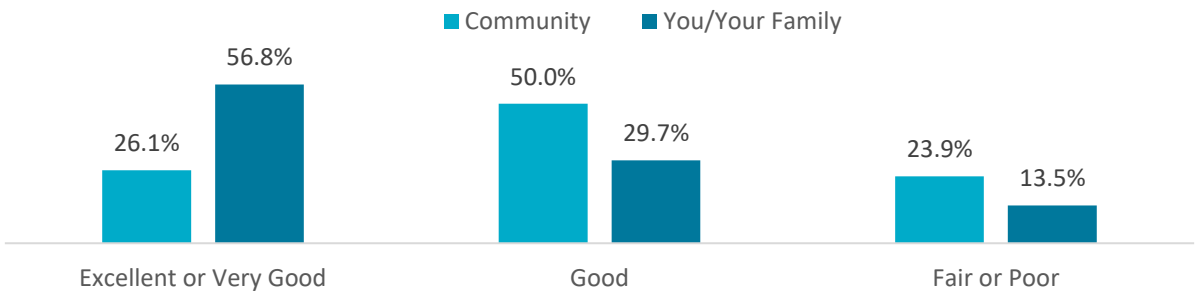
> *"With that said though, Cape Cod Healthcare has made more affiliations with Worcester, Brigham, Dana Farber; it's not as much of an island as it used to be. They have made strides."* – Stakeholder Interview Participant

Community Health Issues

Overall Health and Mortality

Survey respondents generally rated their own/family's health higher than the health of the community **(Figure 32)**. Overall, 56.8% of survey respondents rated their own/family's health as 'Excellent' or 'Very Good' while 26.1% rated community health as 'Excellent' or 'Very Good'. Survey respondents who were non-white and those who were renters were more likely to rate their own/family's health as 'fair' or 'poor' compared to the overall sample (22.4% and 28.8% vs. 13.5%, respectively). However, no notable differences were observed between subgroups for the rating of overall community health.

Figure 32. Self-Rated Health Status, Overall Community and Self/Family, 2022

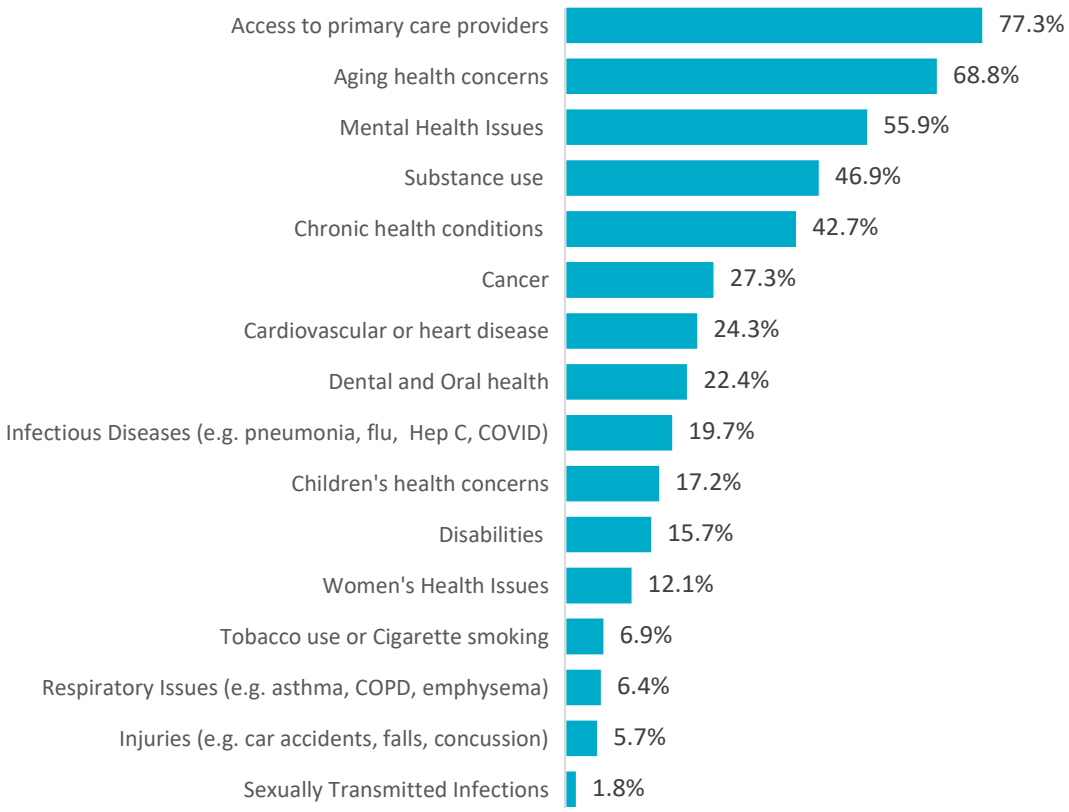


DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=1,033 and 1,095, respectively

Among community survey respondents, the most frequently selected health issues impacting the community were 'access to primary care' (77.3%, 'aging health concerns' (68.8%, 'mental health issues' (55.9%, 'drug use' (46.9%, and 'chronic health conditions' (42.7% (**Figure 33**.

The top health issues impacting the community did not differ by subgroup in stratified analyses except for 'dental and oral health' which ranked above 'chronic health conditions' among LGBTQ respondents. Additionally, a larger percentage of non-white respondents identified 'children's health concerns' as a top community health concern (31.3% though it did not rank among the top 5 issues.

Figure 33. Percent of Survey Respondents Identifying Issue as a Top Health Concern for Community, 2022



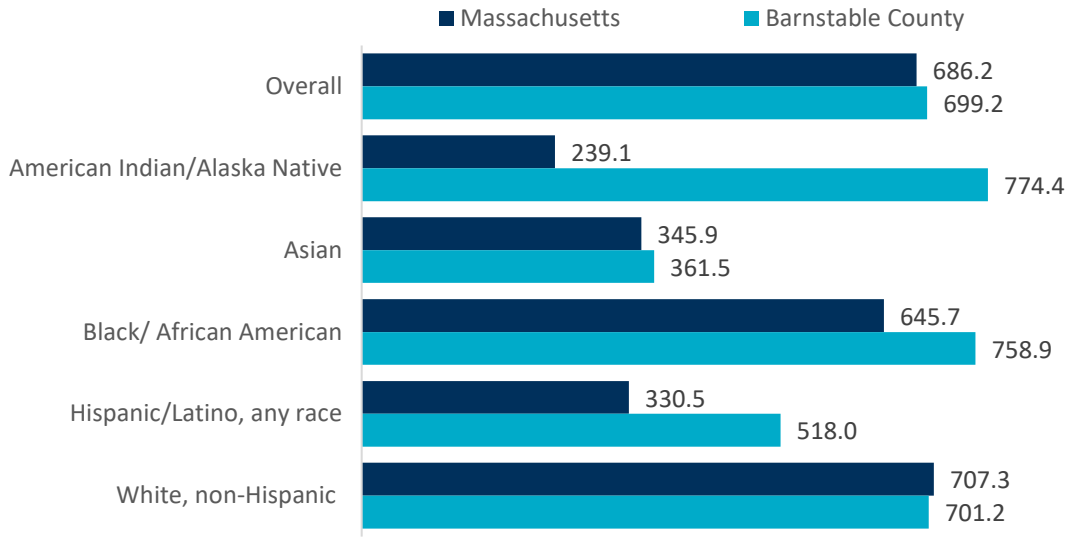
DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=1,017; Respondents were asked to select up to five responses; percentages may not sum to 100%

Survey respondents were also asked to identify the top health issues impacting themselves or their families. The most frequent issues were nearly identical to those at the community level, however 'dental and oral health' replaced 'substance use' as one of the top health concerns.

For health issues impacting themselves or their families, more differences between issues emerged. 'Mental health' was selected by larger percentages of non-white respondents (46.3%), renters (53.0%), and LGBTQ individuals (58.1%) compared to the overall sample (37.0%). Similarly, 'dental and oral health' was selected by larger percentages of non-white respondents (43.3%), renters (45.5%), and LGBTQ individuals (46.8%) compared to the overall sample (33.2%).

The overall, all-cause mortality rate for Barnstable County is on par with that of the state at 699.2 per 100,000 vs. 686.2 per 100,000 (**Figure 34**). When examined by race and ethnicity, some differences between groups are observed. The all-cause mortality rate is higher among Barnstable County residents who are American Indian/Alaskan Native (774.4 per 100,000), Black/African American (758.9 per 100,000), or White, non-Hispanic (701.2 per 100,000) compared to Asian (361.5 per 100,000) and Hispanic/Latino (518.0 per 100,000) residents. Premature mortality, that is death before 75 years of age due to any cause, is slightly higher in Barnstable County than that state based on data for 2019 (28.5.4 per 100,000 vs. 272.8 per 100,000).[16]

Figure 34. All-Cause Mortality Rate per 100,000 Population, by Race/Ethnicity, 2020



DATA SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2016-2020
NOTE: Rates shown are age adjusted

[16] Massachusetts Department of Public Health, Registry of Vital Records, *Massachusetts Deaths 2019* (Feb 2022)

Mortality data for 2020 show that cancer and heart disease remain the top two leading causes of death in both Barnstable County and in Massachusetts (**Figure 35**), as they were in 2015. Accidental injuries and poisonings also persisted through 2020, ranking 3rd for Barnstable County and 4th for the State. COVID-19, which emerged in 2020, ranked as the fourth leading cause of death for Barnstable County and highlights the swift and large impact the pandemic had on the health of residents. The other leading causes of death generally remained the same between 2015 and 2020; however, it is notable that Alzheimer's disease dropped from fourth to seventh leading cause of death in Barnstable County.

Figure 35. Leading Causes of Mortality, Age-Adjusted Rates per 100,000 Population, 2020

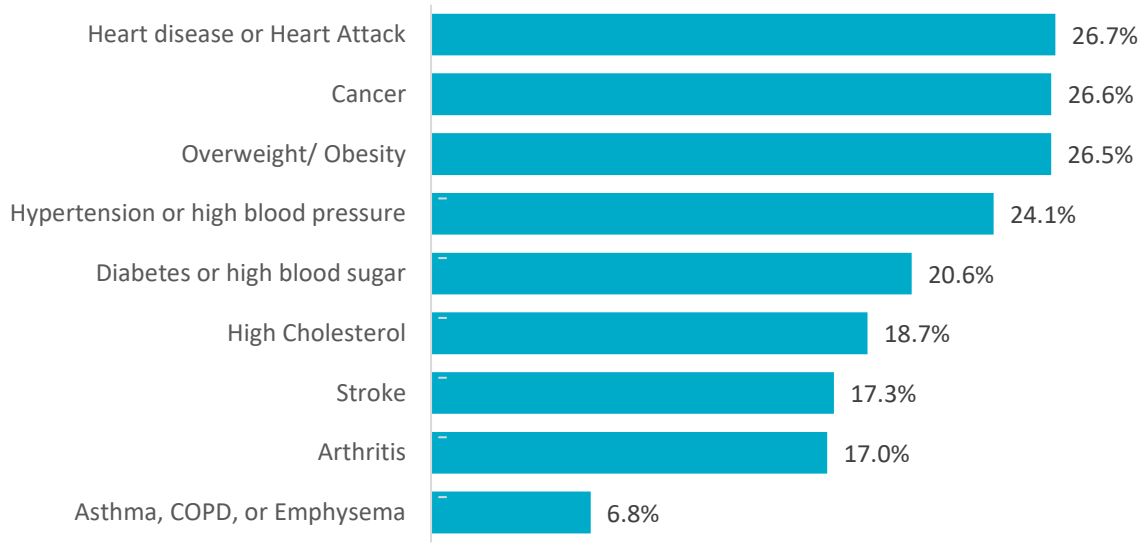
RANK	MASSACHUSETTS 2015	BARNSTABLE COUNTY 2015	MASSACHUSETTS 2020	BARNSTABLE COUNTY 2020
1	Cancer 152.8	Cancer 164.1	Cancer 135.2	Cancer 132.7
2	Heart disease 138.7	Heart disease 149.8	Heart disease 126.9	Heart disease 124.4
3	Accidential Injuries and Poisonings 58	Accidental Injuries and Poisonings 80.1	COVID-19 100.2	Accidental Injuries and Poisonings 72.4
4	Chronic lower respiratory diseases 33	Alzheimer's disease 29.2	Accidental Injuries and Poisonings 54.3	COVID-19 39.2
5	Cerebrovascular disease 28.4	Cerebrovascular disease 28.7	Chronic lower respiratory diseases 27.8	Cerebrovascular disease 31.8
6	Alzheimer's disease 20.2	Chronic lower respiratory diseases 28.5	Cerebrovascular disease 24.4	Chronic lower respiratory diseases 25.2
7	Pneumonia and Influenza 17.1	Pneumonia and Influenza 17.7	Alzheimer's disease 18.6	Alzheimer's disease 22.5
8			Diabetes 17.2	Chronic Liver Disease and Cirrhosis 14.2
9			Pneumonia and Influenza 14.5	Intentional self-harm (suicide) 13.6
10			Kidney Disease 13.2	Diabetes 12.8

DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, 2015 and Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death, 2020

Chronic Disease

As previously noted, 42.7% of community survey respondents identified 'chronic health conditions' as a top health concern for the community **(Figure 33).** When asked to rate their level of concern for specific chronic health conditions at the community-level, the issues of 'heart disease or heart attack' (28.0%, 'cancer' (26.6%, 'overweight/obesity' (26.9%, and 'hypertension or high blood pressure' (24.1% were identified as a high concern by the largest percentages of respondents **(Figure 36)**. Survey respondents were also asked to rate their level of concern at the self or family-level and similar to the community-level findings, 'heart disease or heart attack', 'overweight/obesity', and 'hypertension or high blood pressure' were each among the conditions most frequently rated as a high concern.

Figure 36. Percent of Survey Respondents Reporting "High Concern" for Community, by Chronic Condition, 2022

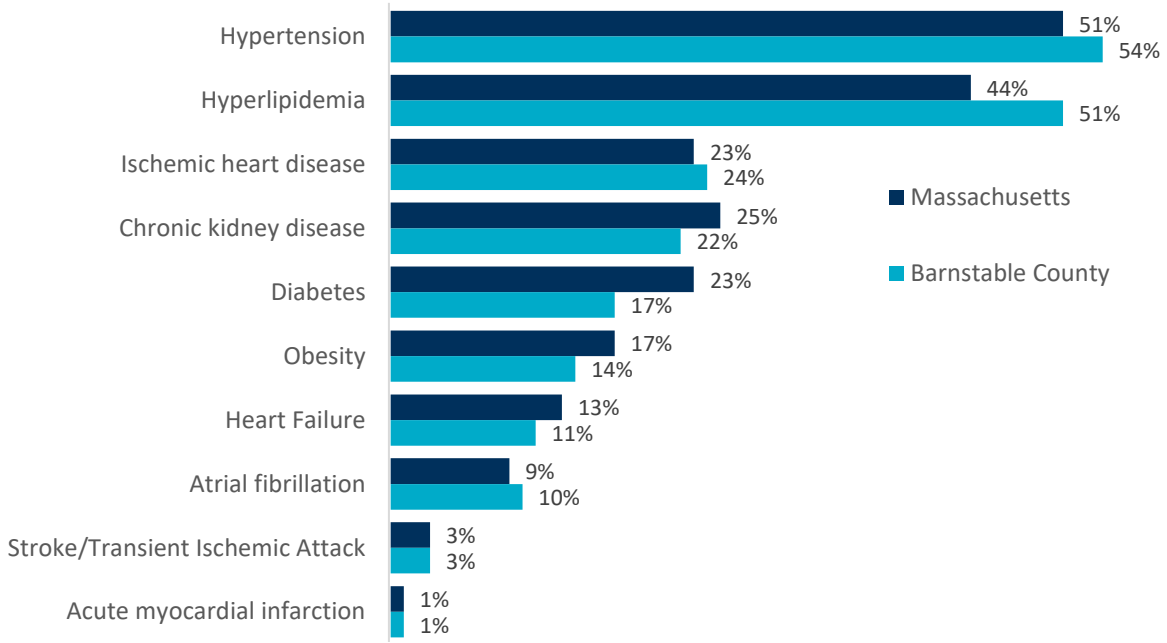


DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=984

Cardiovascular Disease and Related Risk Factors

Using Medicare claims data, it is possible to examine the prevalence of a number of chronic health conditions among eligible beneficiaries (i.e., those who are age 65 and older or have a qualifying disability). As illustrated in **Figure 37**, more than half of the Medicare population in Barnstable County currently has a diagnosis of hypertension or hyperlipidemia (54% and 51%, respectively) which is higher than for the state (51% and 44%, respectively). Additionally, about one quarter of the Medicare population in Barnstable County has a diagnosis of ischemic heart disease or chronic kidney disease, which is on par with the state. Diabetes and obesity, which are risk/contributing factors for the above conditions, have been diagnosed among 14-17% of Barnstable County Medicare recipients.

Figure 37. Prevalence of Cardiovascular Disease and Related Conditions among Medicare Beneficiaries, 2020



DATA SOURCE: Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020
NOTE: Prevalence rates are unsmoothed actual percentages based on claims data for 10,000+ beneficiaries

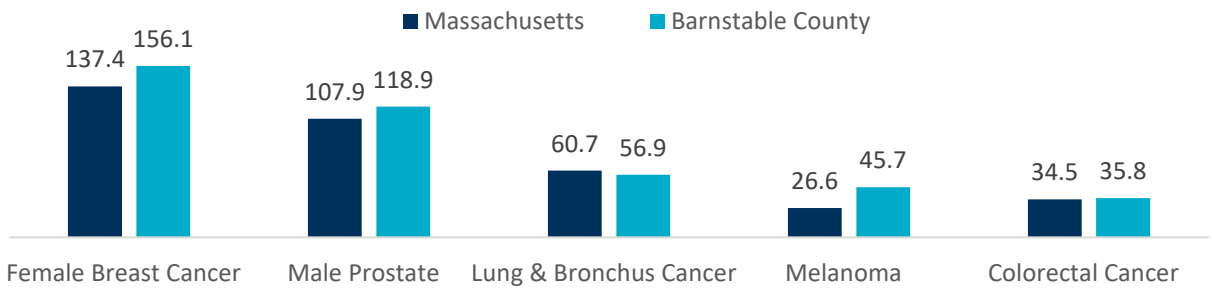
Cancer

Over one quarter (27.3%) of community survey respondents identified 'cancer' as a top health concern in the community (**Figure 33**). Similarly, over one quarter (26.6%) of community survey respondents rated 'cancer' as a high concern for the community (**Figure 36**).

The incidence (i.e., newly diagnosed cases) of some types of cancer are higher among Barnstable County than for the state. Specifically, female breast cancer (156.1 per 100,000 vs. 137.4 per 100,000), male prostate cancer (118.9 per 100,000 vs. 107.9 per 100,000), and melanoma (45.7 per 100,000 vs. 26.6 per 100,000). Incidence rates for lung/bronchus cancer (56.9 per 100,000) and colorectal cancer (34.5 per 100,000) are on par with the state rates (Figure 38). Among Medicare beneficiaries, the prevalence of any cancer (i.e., colorectal, breast, prostate, and lung) in 2020 was 10%.[17]

[17] Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020

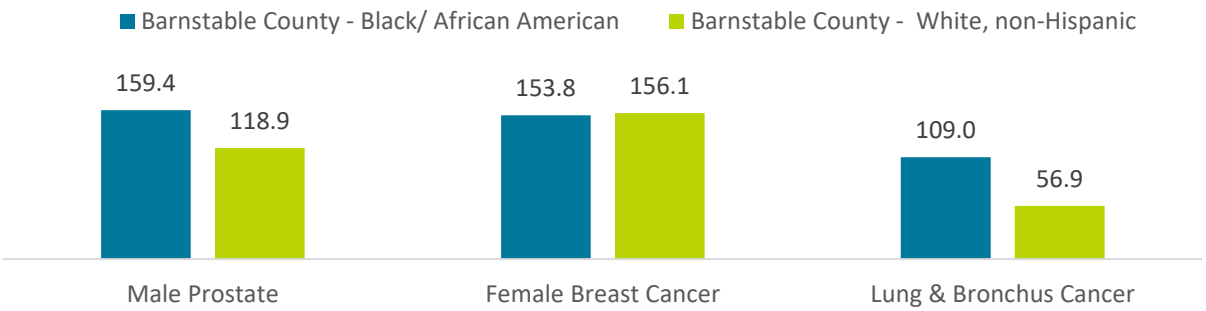
Figure 38. Incidence Rate of Cancers per 100,000, 2014-2018



DATA SOURCE: Centers for Disease Control and Prevention and National Institutes of Health, State Cancer Profiles, 2014-2018

Sufficient data were also available to examine incidence rates for several types of cancer among Black/ African American individuals, a group known to experience higher rates of cancer incidence and mortality compared to other groups (**Figure 39**). In Barnstable County, the incidence rate of male prostate cancer is higher for Black/African American individuals (159.4 per 100,000) than for White, non-Hispanic individuals (118.9 per 100,000) as is the incidence of lung/bronchus cancer (109.0 per 100,000 vs. 56.9 per 100,000, respectively)

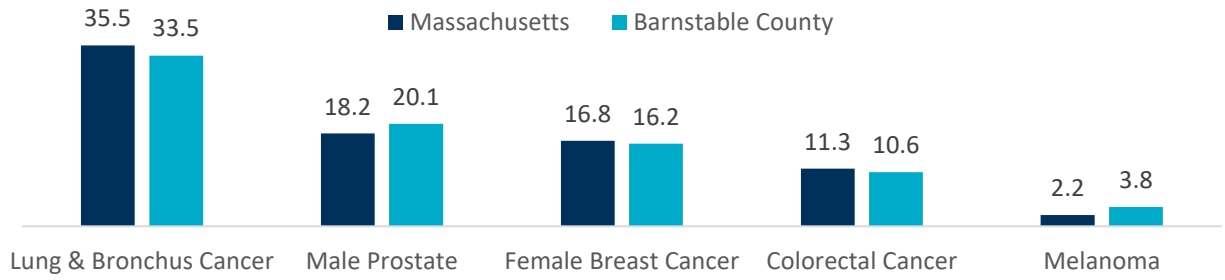
Figure 39. Incidence Rate of Cancers per 100,000 by Race/Ethnicity, 2014-2018



DATA SOURCE: Centers for Disease Control and Prevention and National Institutes of Health, State Cancer Profiles, 2014-2018

The overall mortality rates for lung/bronchus cancer (33.5 per 100,000), female breast cancer (16.2 per 100,000), and colorectal cancer (10.6 per 100,000), were similar to the rates for the state (Figure 40). However, the mortality rates for male prostate cancer and melanoma were slightly higher than the state (prostate cancer: 20.1 per 100,000 vs. 18.2 per 100,000, melanoma: 3.8 per 100,000 vs. 2.2 per 100,000, respectively).

Figure 40. Mortality Rate of Cancers per 100,000, 2015-2019

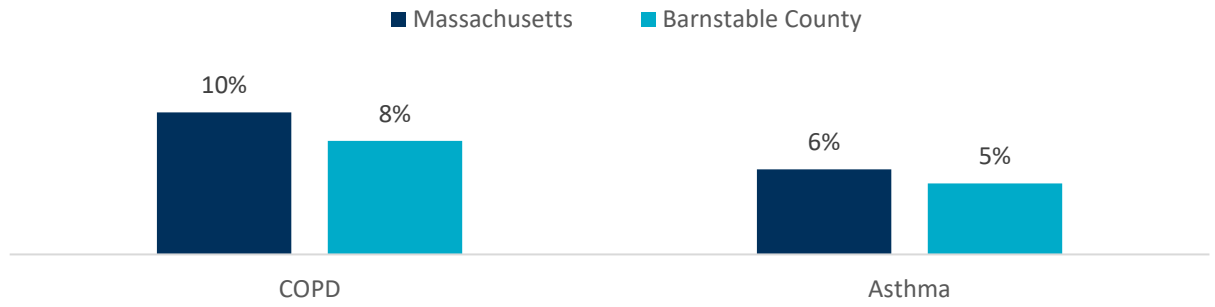


DATA SOURCE: Centers for Disease Control and Prevention and National Institutes of Health, State Cancer Profiles, 2015-2019

Respiratory Conditions

Respiratory conditions, such as asthma, Chronic Obstructive Pulmonary Disorder (COPD), and emphysema were not identified as leading health issues among community survey respondents (**Figure 33**). However, these conditions impact individual well-being and may be related or exacerbated by environmental factors, such as exposure to tobacco smoke or unhealthy homes (e.g., mold, pests, etc.). Among Medicare beneficiaries in Barnstable County, 8% have a diagnosis of COPD (compared to 10% at the state level) and 5% have Asthma (compared to 6% at the state level) (**Figure 41**). Among children, Asthma prevalence is typically higher than among adults. As of the 2016-2017 school year (the most recent data available) 9.8% of students in Barnstable County schools have a current asthma diagnosis which is lower that the statewide prevalence for that school year (12.1%)[18].

Figure 41. Prevalence of Respiratory Conditions among Medicare Beneficiaries, 2020



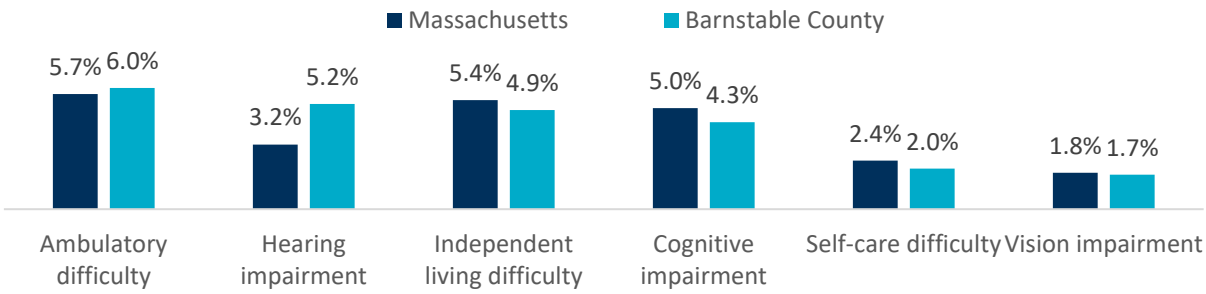
DATA SOURCE: Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020
NOTE: Prevalence rates are unsmoothed actual percentages based on claims data for 10,000+ beneficiaries

[18] Massachusetts Department of Public Health, Bureau of Environmental Health, Public Health Tracking; Rates are based on public, private, and charter school students aged 5-14 during 2016/2017 school year.

Disability

As mentioned in the demographics section of the report, approximately 13% of Barnstable County residents have some type of disability. As detailed in **Figure 42**, the most common type of disability is ambulatory or difficulty getting around (6.0%), followed by hearing impairment (5.2%), independent living difficulty (4.9%), and cognitive impairment (4.3%). Among Medicare beneficiaries in Barnstable County, 7% have been diagnosed with some level of hearing impairment or deafness (compared to 8% at the state level) and 1% with some level of vision impairment or blindness (equal the state level).[19]

Figure 42. Percent of Population with a Disability, by Type, 2020



DATA SOURCE: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2016-2020

Alzheimer's Disease and Dementia

As noted previously, Alzheimer's disease is the seventh highest leading cause of death among residents of Barnstable County **(Figure 35)**. Center for Medicare data indicate that the prevalence of Alzheimer's disease or related dementias among Medicare beneficiaries is 9% across Barnstable County, slightly lower than the state prevalence of 11%.[20] Extrapolating from this prevalence rate, and based on the estimated population count of 62,000 residents who are aged 65 and older, it could be estimated that 5,500 individuals are living with Alzheimer's disease or a related dementia in Barnstable County.

Though no data sources are currently available, anecdotally it was noted that many older adults experienced steep cognitive declines over the course of the COVID-19 pandemic, due in part to increased isolation. As individuals continue to re-engage with their healthcare providers, the specific needs related to memory loss, Alzheimer's disease, and related dementias may become clearer.

> *"I've seen a lot of elderly women who struggle with isolation and are unable to drive due to their conditions. People who were familiar with clients pre-pandemic have noticed steep cognitive declines."* – Resident Focus Group participant

[19] Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020

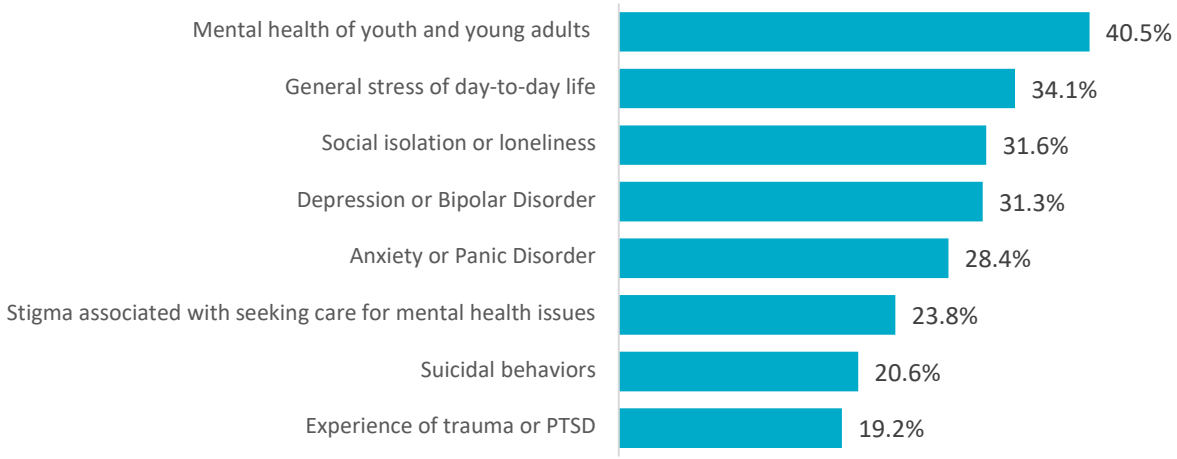
[20] Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020

Behavioral Health: Mental Health & Substance Use

Mental Health

Over half (55.9%) of community survey respondents identified 'mental health' as a community concern, ranking it third among all concerns **(Figure 33**). The issues of 'mental health of youth and young adults' (40.5%), 'general stress of day-to-day life' (34.1%), 'social isolation or loneliness' (31.6%), and 'depression or bipolar disorder' (31.3%) were rated as a high concern for the community by the largest percentages of community survey respondents (**Figure 43**). Respondents were also asked to rate their level of concern at the self or family-level and similar to the community-level findings, 'mental health of youth and young adults', 'general stress of day-to-day life', and 'depression or bipolar disorder' were all among the conditions more frequently rated as a high concern.

Figure 43. Percent of Survey Respondents Reporting "High Concern" for Community, by Mental Health Condition, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=962

Among stakeholder interviews, the topic of mental health among youth was raised repeatedly. Many suggested that the needs of youth are being overshadowed by the needs of older adults, who are the main demographic on the Cape, and that many youths in need of services are falling through the gaps. Stakeholders noted that many youth and young adults are ending up homeless. Suicidality and mental health crises are becoming more common among children and youth.

> *"Because we are geographically diverse and more focused on older people and families, it's difficult to identify youth who need services."* – Stakeholder Interview Participant

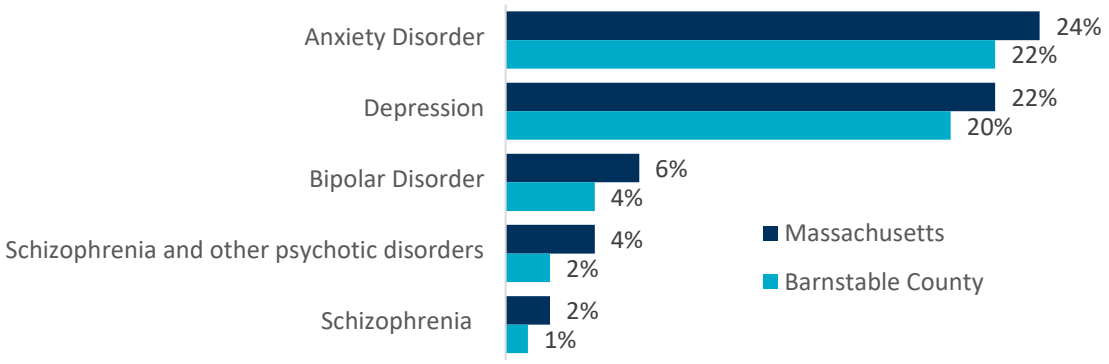
Focus group discussions highlighted that large numbers of youth in Barnstable County are struggling with anxiety, social phobias, eating disorders, and severe behavioral issues. While discussions frequently included the challenges finding treatment and care for their children (as noted previously in the **'access'** and **'barriers'** to healthcare sections) the topic of their own mental health also came up. Parents and caregivers experience tremendous impacts on their own mental health and wellbeing while caring for their child. In addition, having to be a constant advocate, dealing with a complex healthcare system full of barriers, adds to the challenge and leaves them feeling unseen.

> *"Parents need mental health care and support as well. [I] feel indivisible as a caregiver to challenging and high needs children."* – Resident Focus Group participant

Existing data related to the prevalence of mental health conditions or experiences of poor mental health are limited. Self-reported data suggest similar percentages of adults in Barnstable County and the state overall report 14 or more days of poor mental health in the prior month (13%).[21] Data collected in the fall of 2020 as part of the Massachusetts Department of Public Health effort to assess the broader impact of the COVID-19 pandemic suggested that the percent of individuals reporting a high number of poor mental health days in the prior month had skyrocketed to 30% of survey respondents in Barnstable County and 33% of respondents statewide.[22]

Data related to the prevalence of specific mental health diagnoses are available for Medicare beneficiaries (Figure 44). Among those living in Barnstable County, the most frequent diagnoses are anxiety disorder (22%) and depression (20%) which are slightly below the state percentages.

Figure 44. Prevalence of Mental Health Diagnoses among Medicare Beneficiaries, 2020



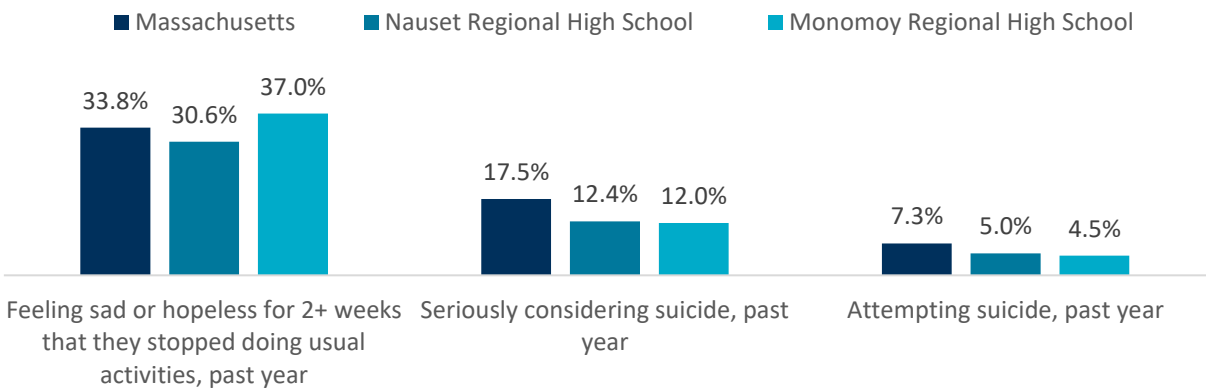
DATA SOURCE: Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020 NOTE: Prevalence rates are unsmoothed actual percentages based on claims data for 10,000+ beneficiaries

[21] Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, as reported by County Health Rankings, 2019.

[22] Massachusetts Department of Public Health, COVID-19 Community Impact Survey (CCIS), 2020 (note: this survey used a cutoff of 15 or more days rather than 14 or more days as used by BRFSS survey)

Local data collected from high school students in two regional public high schools located in Barnstable County indicate that self-reported depressive symptoms and suicidal ideation are at least as prevalent as the state. As illustrated in **Figure 45**, approximately one third of students at each regional high school (30.6% and 37.0%, respectively) reported two or more weeks of depressive symptoms in the prior year, which is on par with the state overall (33.8%). Suicidal ideation was reported by approximately 12.0% of students at the regional high schools (compared to 17.5% statewide) and attempted suicide was reported by approximately 5.0% of student at the regional high schools (compared to 7.3% statewide).

Figure 45. Percentage of High School Students Reporting Depression or Suicidality, 2019

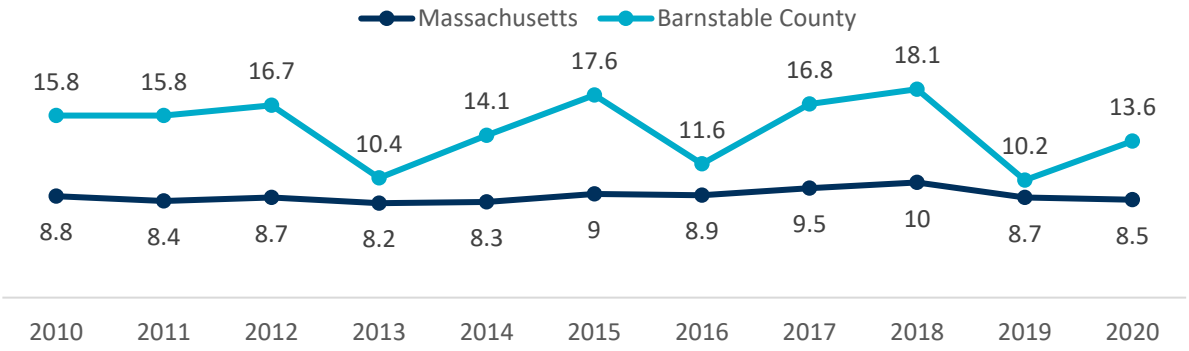


DATA SOURCE: Massachusetts Department of Elementary and Secondary Education and Department of Public Health, Health and Risk Behaviors of Massachusetts Youth, 2019; Monomoy Regional High School, Youth Risk Behavior Survey, 2019; Nauset Regional High School, Youth Health Survey, 2019
NOTE: Data shown reflect students in grades 9-12; Depressive symptoms defined as "felt sad or hopeless for 2+ weeks that they stopped doing usual activities"

It is important to note, these findings pertain to data collected prior to the COVID-19 pandemic and may not reflect the current level of depressive symptoms or suicidality being experienced by youth. In interviews with stakeholders, it was clear that there was tremendous concern for the perceived increase in suicidality among youth in recent years. Many had heard anecdotally that rates were rising sharply and death due to suicide was being underreported.

Overall, death due to suicide has persistently been higher than the state rate for many years. As illustrated in (Figure 46, the rate for Barnstable County has been variable, ranging from lows of approximately 10 per 100,000 to highs of 16, 17, and even 18 per 100,000. As of 2020, death due to suicide among residents of Barnstable County was 13.6 per 100,000, compared to 8.5 per 100,000 statewide.

Figure 46. Trend in Suicide Mortality Rate, 2010 to 2020



DATA SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 1999-2020 on CDC WONDER Online Database
NOTE: Rates are Age-adjusted; based on UCD codes: X60-X84 (Intentional self-harm); Y87.0 (Sequelae of intentional self-harm)

While 26.9% of community survey respondents reported that they or a family member had used some type of mental health services in the prior 12 months (**Figure 30**), it was also clear from the survey data that access to mental health services was perceived as difficult among survey respondents (**Figure 27**). More specifically, half (50.7%) of respondents rated 'counseling or mental health care for adults' as very hard to access and 44.9% rated 'mental health services for children/adolescents' as very hard to access.

Substance Use

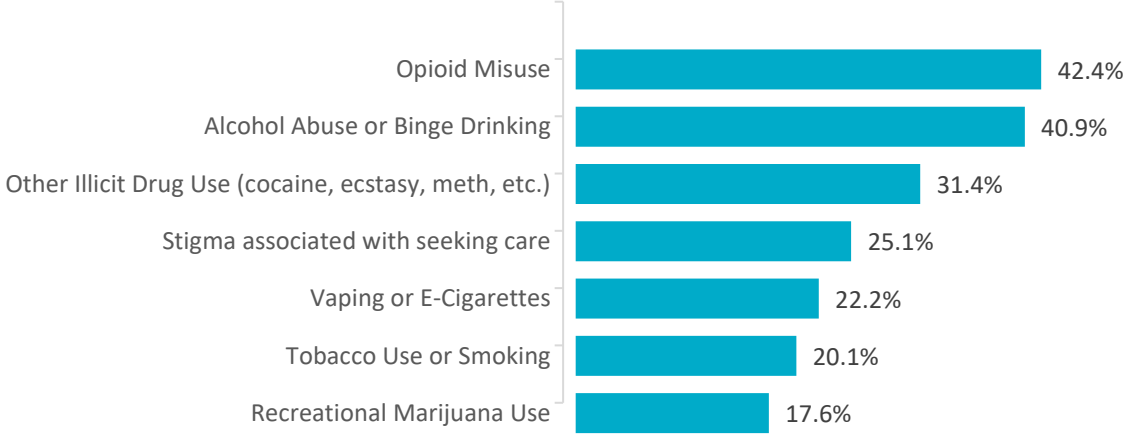
Substance use was identified as an area of particular concern among stakeholders. During interviews they frequently discussed how the more recent mental health crisis is bleeding into the ongoing substance abuse problems in the region. Many residents experienced increased loneliness and isolation during the pandemic, leading them to use more substances as a way of self-medicating. Use of alcohol by older adults was pointed out as a particularly acute problem. Stakeholder also indicated that they were aware of an increasing trend in methamphetamine use.

> *"[The] pandemic has made this all worse—increase in overdoses, overdose deaths, mental health issues."* – Stakeholder Interview Participant

> *"Substance use is a huge problem and Falmouth has been hard hit in particular."* – Resident Focus Group Participant

Substance use was identified as a top health concern at the community level by nearly half (46.9%) of community survey respondents (Figure 33). When survey respondents were asked to rate their level of concern for specific substance use issues at the community-level, the issues of 'opioid misuse' (42.4%), 'alcohol or binge drinking' (40.9%), and 'other illicit drugs' (31.4%) were rated as a high concern by the largest percentage of survey respondents (Figure 47). Fewer than 10% of respondents rated any of these issues as a high concern at the self or family-level.

Figure 47. Percent of Survey Respondents Reporting "High Concern" for Community, by Substance Use Issue, 2022

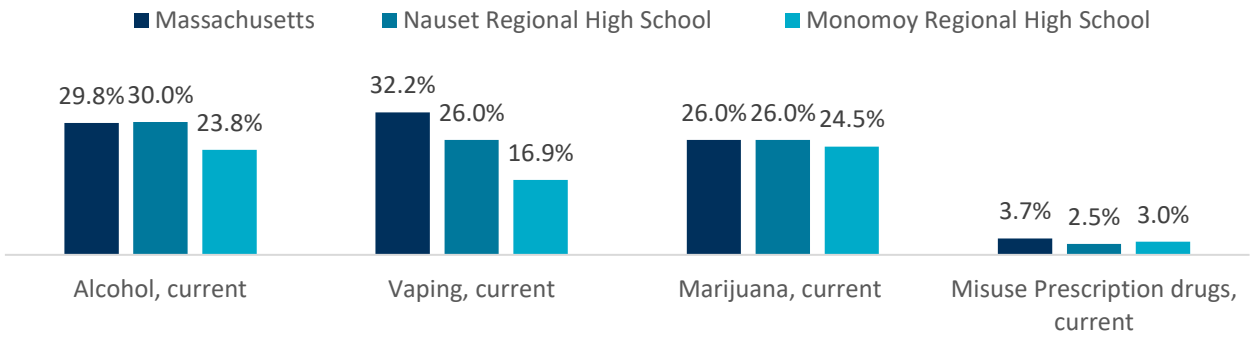


DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Percentages were based on sample size of n=964

Existing data on the prevalence of substances use is sparse. Available self-reported data indicate similar percentages of adults who binge drink (approximately 25%) or smoke cigarettes (approximately 15%) in Barnstable County and the state overall.[23] While Medicare data suggests that 2% of Medicare beneficiaries living in Barnstable County have at least one indicator of an opioid use disorder (compared to 3% statewide).[24]

More current and detailed substance use data are available for high school age youth. Among 9-12th grade students in two regional public high schools located in Barnstable County, self-reported current use (i.e., in prior 30-days) of alcohol, vaping, marijuana, or misuse of prescription drugs were on par or lower than for the state (alcohol: 30.0% and 23.8% vs. 29.8%; vaping: 26.0% and 16.9% vs. 32.2%; marijuana: 26.0% and 24.5% vs. 26.0%; and prescription drugs: 2.5% and 3.0% vs. 3.7%, respectively) (**Figure 48**).

Figure 48. Percentage of High School Students Reporting Current use of Substance, by Type, 2019



DATA SOURCE: Massachusetts Department of Elementary and Secondary Education and Department of Public Health, Health and Risk Behaviors of Massachusetts Youth, 2019; Monomoy Regional High School, Youth Risk Behavior Survey, 2019; Nauset Regional High School, Youth Health Survey, 2019.
NOTE: Data shown reflect students in grades 9-12; Current use defined as use within prior 30 days

[23] Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System 2018, as reported by County Health Rankings, 2022.
[24] Centers for Medicare & Medicaid Services, Mapping Medicare Disparities Tool, 2020

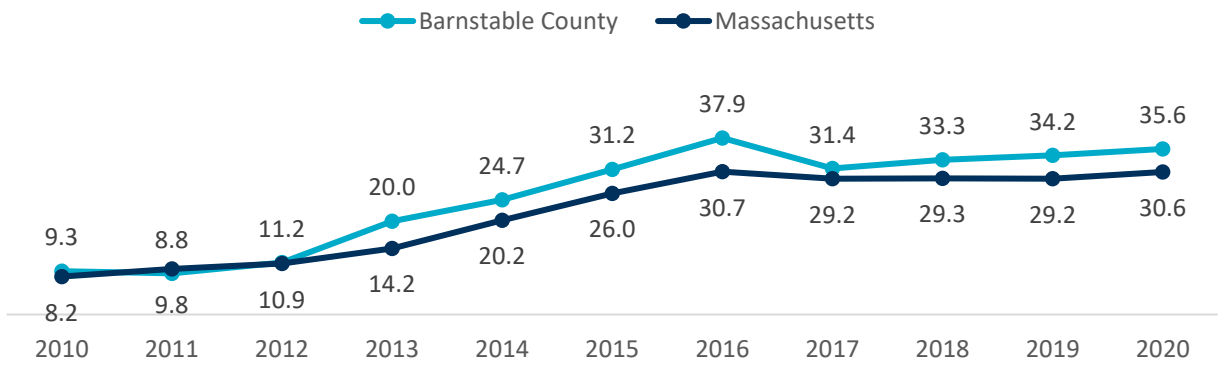
In contrast to the Youth Health Survey data above, stakeholders perceived vaping among youth as extremely prevalent. In recent years, local high schools have installed 'vaping sensors' which capture and track data weekly. Despite regular communication with parents on the topic and direct messaging to youth to stop, the problem appears to be persisting. It was also noted that most youth are vaping THC. Some perceived that students vape to self-treat their anxiety or to cope with stress.

> *"What we do know is that kids are using THC. Our suspension rates are through the roof. The principal wants to bring in a program where instead of suspension it's an in-person program about the harms of vaping and what it does to your health."* – Stakeholder Interview Participant

Overdose Death

Opioid-related overdose deaths have been a primary indicator of the severity of substance use for many years and Massachusetts Department of Public Health has tracked detailed data since 2010. Opioid-related mortality in Barnstable County has been higher than the state rate since 2012, though the upward and downward trends have mirrored those of the state (**Figure 49**). As of 2020, death due to opioid overdoes among residents of Barnstable County was 35.6 per 100,000, compared to 30.6 per 100,000 statewide. More than half (63%) of these deaths were residents of four towns, specifically Barnstable, Falmouth, Dennis, and Yarmouth.

Figure 49. Trend in Opioid-Related Mortality Rate, 2010 to 2020



DATA SOURCE: Massachusetts Department of Public Health, Registry of Vital Records and Statistics, Current Opioid Statistics, current data as of November 2021
NOTE: Rates are crude rates; Calculated based on population estimates reported by US Census Bureau, American Community Survey 5-Year data sets (2011-2015 and 2016-2020)

The severity of the opioid epidemic was topic that arose in many stakeholder interviews and resident focus group discussions. Some stakeholders cited statistics that indicated upwards of 15% of EMS/firefighter calls pertain to overdoses and there is at least one overdose death per week. Other stakeholders highlighted the problem is most prevalent among men between 25 and 50 years.

The consistent volume of overdose/potential overdose cases occurring on the Cape was widely acknowledged and many noted that there simply was not enough substance use disorder treatment resources available to effectively curb the problem. They specifically noted a dire need for more detox centers, treatment beds, sober houses, and community-based services. Residents also highlighted that current substance use treatment services are very geographically centralized, making them harder to access for individuals on other parts of the Cape.

> *"There is a lack of mental health and substance use treatment; it's hard to find beds for people and inpatient care. It's just gotten worse with the pandemic."* – Resident Focus Group participant

Few community survey respondents (2.6%) reported that they or a family member had used some type of alcohol or drug abuse treatment in the prior 12 months (**Figure 30**). However, like mental health services, survey respondents perceived alcohol and drug treatment services as difficult to access (**Figure 27**). More specifically, about a third of respondents rated 'alcohol or drug treatment services for youth' and 'alcohol or drug treatment services for adults' as very hard to access (35.7% and 34.0%, respectively).

Environmental Health

About one quarter (24.3%) of community survey respondents identified environmental issues as a top social concern for the community (**Figure 9**). When asked to rate their level of concern for specific issues, the issues of 'air or water quality' was rated as a high concern by nearly half (45.1%) of survey respondents and 'healthy homes', which includes issues like indoor air quality, pests, led, mold, etc., was rated as a high concern by one quarter of respondents (data not shown). In stratified analyses, renters were more likely to have high concern about healthy homes (33.7% vs. 25.6%).

> *"Water too. I'm personally on a well and I know there is stuff about PFAS, that's a big thing. Clean water."* – Resident Focus Group Respondent

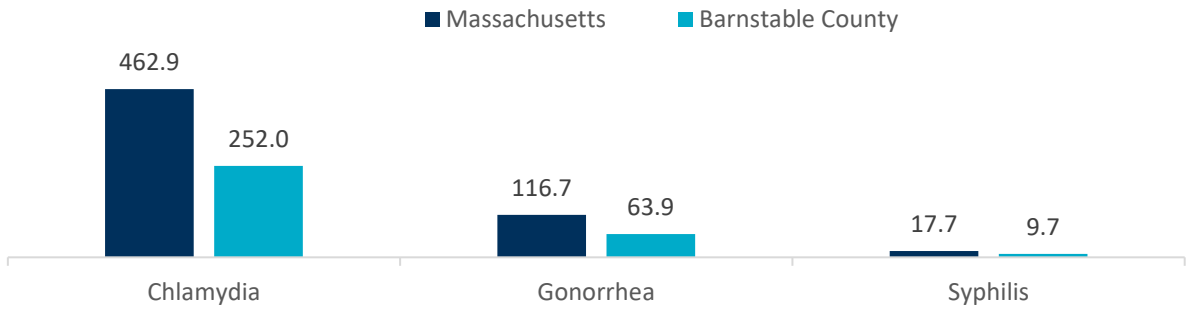
Infectious and Communicable Disease

Sexually Transmitted Infections

Among community survey respondents, sexually transmitted infections (STIs) did not rise to the top as health issue of concern. In fact, it was the community health issue identified by the fewest percentage of survey respondents (1.8%)(Figure 33). However, sexually transmitted infections are impacting residents of Barnstable County.

Chlamydia is the most frequently reported sexually transmitted infection (STI) nationally as well as within Massachusetts. While most recent available data from 2018 show that the rate of chlamydia cases in Barnstable County is lower than the state (252.0 per 100,000 vs. 462.0 per 100,000, respectively) (**Figure 50**), the rates of chlamydia have been on the rise since 2010 in both Massachusetts and Barnstable County. The data for Barnstable County further indicate that chlamydia rates are higher for women (291.1 per 100,000), higher among young adults (the rate reached 2,822.8 per 100,000 among 20 to 24-year-old women), and higher among residents of Provincetown (2,233.2 per 100,000).[25]

Figure 50. Chlamydia, Gonorrhea, and Syphilis Case Rates per 100,000 Population, 2018



DATA SOURCE: Massachusetts Department of Public Health/Bureau of Infectious Disease and Laboratory Sciences/Division of STD Prevention, data current as of 6/29/2019

The rate of reported gonorrhea in Massachusetts has continued to increase since 2010, while Barnstable County did not begin seeing an increase until 2013. Currently, the most recent data show that the rate of gonorrhea in Barnstable County is lower than the state (63.9 per 100,000 vs. 116.7 per 100,000, respectively **(Figure 50)**. However, data for Barnstable County further indicate that gonorrhea rates are higher for men (93.3 per 100,000, higher among young adults (313.2 per 100,000 among 20 to 24-year-old, and higher among residents of Provincetown (1,223.7 per 100,000.

While less prevalent than either chlamydia or gonorrhea, the rate of syphilis has also been increasing since 2010 in Barnstable County with a notable peak occurring in 2016. Most recent data indicate that syphilis rates are lower in Barnstable County than the state (9.7 per 100,000 vs. 17.7 per 100,000 (**Figure 50)**. The data for Barnstable County further indicate that syphilis rates are higher among 30 to 34-year-olds (34.8 per 100,000) and higher for residents of Provincetown (378.5 per 100,000). It is also important to note that in 2018, all cases of syphilis reported in Barnstable County occurred among men (20.4 per 100,000).

[25] Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, Division of STD Prevention, STI County Report – Barnstable County, 2018

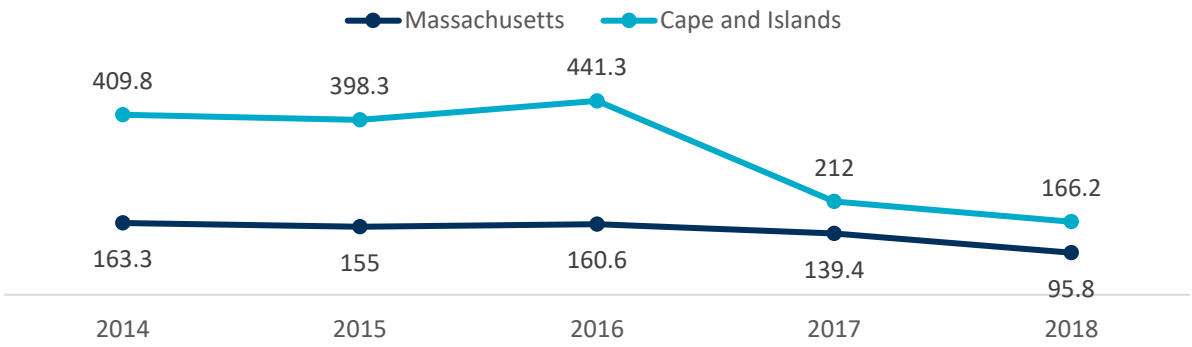
Hepatitis C

Hepatitis C is a liver infection caused by the hepatitis C virus and is spread through contact with blood from an infected person. While it can be transmitted through personal contact between individuals, injection-drug use is currently the most common mode of transmission in the US.

As of 2018, the overall Hepatitis C rate across the Cape and Islands was slightly above that of the state (92.3 per 100,000 vs. 86.8 per 100,000, respectively), although the data reflect downward trends for both geographies since 2014 when rates were at 146.7 and 117.0, respectively.

At the state level, rates of hepatitis C among those aged 15 to 29 are only slightly higher than for the overall population. In contrast, for the Cape and Islands, rates of hepatitis C have historically been much higher in this youth and young adult age group. As illustrated in **Figure 51**, the current rate for those age 15 to 19 years is 166.2 per 100,000 on the Cape and Islands and 95.8 per 100,000 for the state. It is important to note the trend reflects a rapid and steep decrease in hepatitis C cases in this age group since 2016. Although the reasons for the decline are unclear, the state report suggests the increase from 2009 to 2015 was most likely linked to the injectable opioid use epidemic.

Figure 51. Trend in Hepatitis C Case Rate per 100,000 Population, Age 15 to 29 Years, 2014-2018

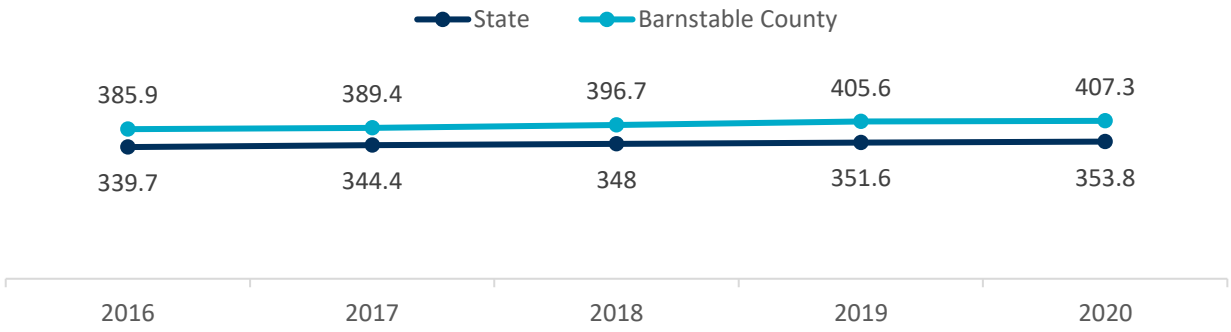


DATA SOURCE: Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences. Hepatitis C Virus Infection 2014-2018 Surveillance Report
NOTE: 'Cape and Islands' includes data for Barnstable, Dukes, and Nantucket Counties

HIV Infection

As of 2020, Barnstable County has the third highest HIV prevalence rate of all counties in Massachusetts (407.3 per 100,000) behind Suffolk County (808.9 per 100,000) and Hampden County (492.9 per 100,000). As illustrated in **Figure 52**, the HIV prevalence rate for Barnstable County has been relatively stable since 2016, but it has continued to be slightly above the state rate each year.

Figure 52. Trend in HIV Prevalence Rate per 100,000 Population, 2016-2018

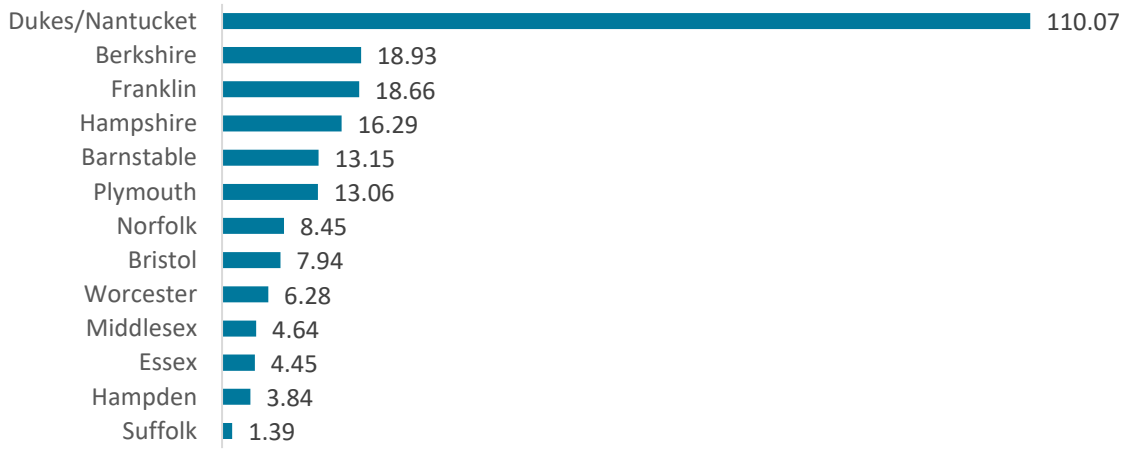


DATA SOURCE: CDC National Center for HIV, Viral Hepatitis, STD, and TB Prevention, AtlasPlus
NOTE: Rates reflect the population aged 13 years and older; Data for the 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing

Tick-Borne Diseases

The Massachusetts Department of Public Health now reports the annual rate of emergency department visits that result in a specific diagnosis of Lyme disease, Babesiosis, or Anaplasmosis. Data for 2022 show that Barnstable County ranked second within the state based on ED diagnoses of these tick-borne diseases with 18.9 diagnoses occurring per 10,000 ED visits (**Figure 53**). However, this rate was far below the leading counties of Dukes and Nantucket (110.07 per 10,000).

Figure 53. Rate of Tick-Borne Disease Emergency Room Visits per 10,000 Population, by County, 2021



DATA SOURCE: MDPH, Bureau of Infectious Disease and Laboratory Sciences. Tick Exposure and Tick-borne Disease Syndromic Surveillance Report, April 2022.
NOTE: Data based on ICD-10 query of the first three diagnostic codes assigned to the ED visit for: Lyme disease (A69.2), babesiosis (B60.0), anaplasmosis (A77.49), and other tick-borne diseases (A68.1, A68.9, A77.40, and A93.8).

COVID-19

The COVID-19 pandemic emerged in March of 2020 and spread rapidly, affecting all geographies and populations. As of May 2022, the total cases that have been reported/identified by MA DPH are summarized in **Table 2**. A total of 37,910 cases of COVID-19 have occurred across Barnstable County and all towns have at least 100 reportable cases. The largest number of cases have occurred in the towns of Barnstable (4,869 cases), Falmouth (1,950 cases), and Yarmouth (1,944 cases) and the least number of cases in Truro (115 cases), Wellfleet (119 cases), and Eastham (254 cases). It is extremely important to note that these counts reflect only those that have been identified and reported to MA DPH and may be underrepresenting the true number of cases that have occurred among residents. This is particularly true as rapid antigen/at-home testing has become more common over the prior year and many of those positive tests may not be officially reported.

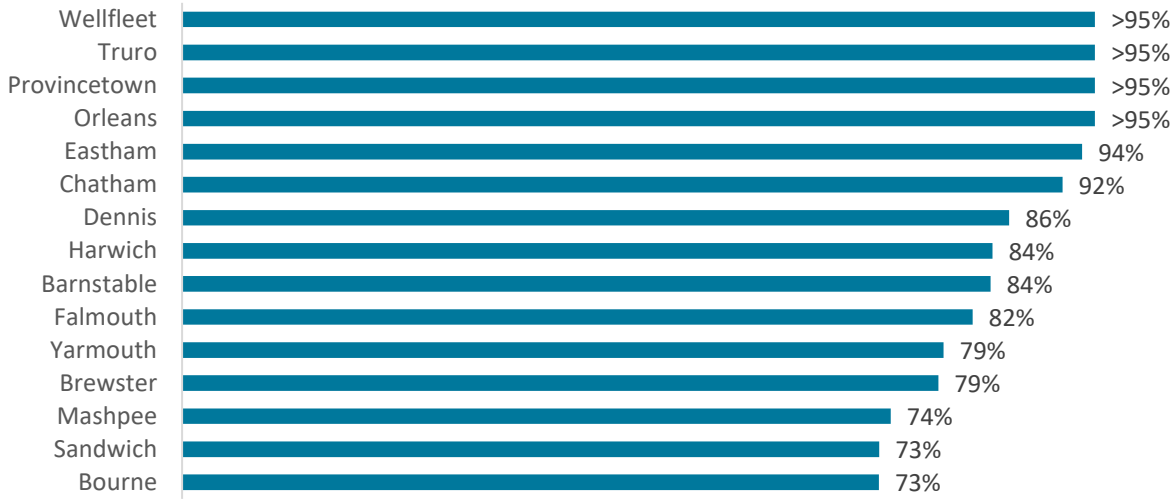
Table 2. COVID-19 Cases, by Town, 2020-2022

	Count of COVID Cases (through 5/22)	COVID Cases as % of Total COVID Cases	Total Population (2020)	COVID Cases as % of Total Population
Barnstable County	37,910	--	228,996	16.6%
Barnstable	4,869	12.8%	48,916	10.0%
Bourne	1,566	4.1%	20,452	7.7%
Brewster	617	1.6%	10,318	6.0%
Chatham	397	1.0%	6,594	6.0%
Dennis	986	2.6%	14,674	6.7%
Eastham	254	0.7%	5,752	4.4%
Falmouth	1,950	5.1%	32,517	6.0%
Harwich	898	2.4%	13,440	6.7%
Mashpee	1,063	2.8%	15,060	7.1%
Orleans	351	0.9%	6,307	5.6%
Provincetown	341	0.9%	3,664	9.3%
Sandwich	1,490	3.9%	20,259	7.4%
Truro	115	0.3%	2,454	4.7%
Wellfleet	119	0.3%	3,566	3.3%
Yarmouth	1,944	5.1%	25,023	7.8%

DATA SOURCE: Massachusetts Department of Public Health, COVID-19 Interactive Data Dashboard and Weekly Municipality Vaccination Report, 2022
NOTE: Data reflect confirmed and probable case counts reportable to MA DPH as of 5/19/22

Throughout 2021, several FDA approved COVID-19 vaccines have been available to the public with higher risk individuals and those age 65 and older having the earliest access to them. Additionally, booster doses have become available and are recommended for most age and risk group. At the time of this report, children under the age of five are still not eligible for the primary vaccination series, although approval is expected for this age group in the very near future. As illustrated in ***Figure 55***, the percentage of residents who are fully vaccinated (have received the primary vaccination series) varies somewhat by town. Towns such as Wellfleet, Truro, Provincetown, and Orleans have all exceeded 95% of their population aged 5 years and older.

Figure 54. Percent of Residents aged 5 and older who are Fully Vaccinated for COVID-10, by Town, 2022



DATA SOURCE: Massachusetts Department of Public Health, COVID-19 Interactive Data Dashboard and Weekly Municipality Vaccination Report, 2022
NOTE: Data reflect vaccination status as of 5/19/22

Beyond the physical impact of COVID-19 infections, the pandemic has had a tremendous and far-reaching impact on individuals and families that is important to recognize in the context of future program planning and intervention. It has been clearly identified by stakeholders and residents alike that vulnerable older adults who were necessarily isolated for long periods of time appear to have experienced noticeable cognitive declines, that individuals of all ages have experienced high levels of anxiety, depression, and symptoms of trauma, and many impacted by disruptions in employment struggled with the costs of housing and other basic needs. While the acute phase of the pandemic is passed, full recovery will likely take several more years.

> *"We had a physician from CCHC come in to speak with our principals and they said we should expect from our students that 25% will take a 1–3-year recovery, 50% will need 5 years and the other 25% will need long-term recovery from the trauma of Covid."* – Stakeholder Interview participant

> *"Because of the pandemic, the food insecurity, mental health, behavioral health needs are going up. We're being squeezed."* – Stakeholder Interview participant

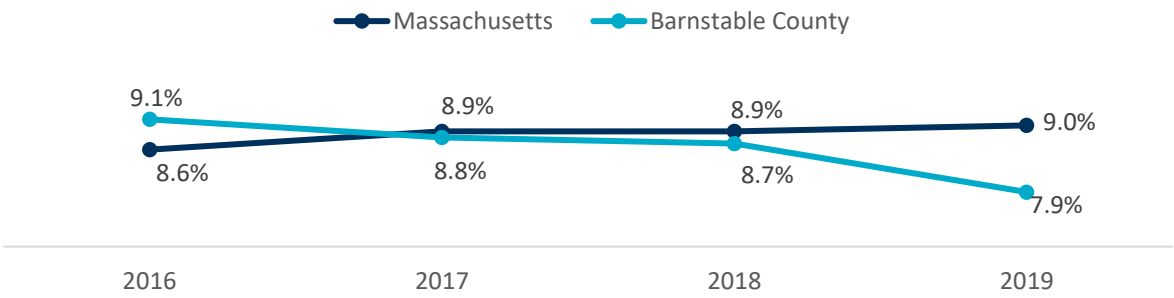
Maternal and Child Health

Among community survey respondents, 43.3% reported they or a family member had utilized 'OB/Gyn or women's health services' in the prior 12 months (**Figure 30**). Yet 'women's health issues' were selected as top health issue at the community-level by relatively few survey respondents (12.1%) **(Figure 33)** and 'health or medical services for women' was rated as very hard to access by relatively few survey respondents (14.4%) (Figure 27).

While these data suggest that the needs of women around reproductive health have been well met across Barnstable County, in stratified analyses, larger percentages of renters (20.9%) and LGBTQ individuals (30.0%) selected 'Health or medical services for women (e.g., reproductive health, pregnancy, breast health, pelvic health)' as very hard to access.

Based on available data, a total of 1,474 births occurred to residents of Barnstable County in 2019, which reflects a slight downward trend in births since 2016 (1,601 births). As the number of births have declined, so too have the percentages of births that are occurring pre-term (i.e., prior to 37 weeks gestation (**Figure 55**). As of 2019, 7.9% of births to Barnstable County residents were pre-term, compared to 9.1% in 2016. This downward trend is also in contrast to a slight upward trend observed for the state.

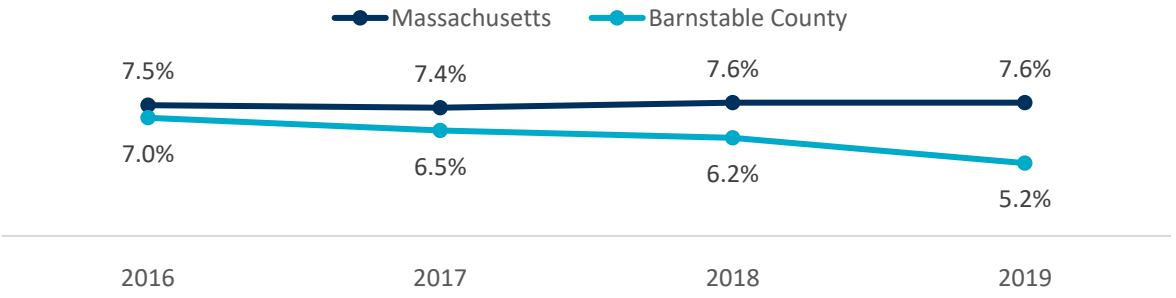
Figure 55. Trend in Percentage of Resident Births that are Pre-term, 2016-2019



DATA SOURCE: MDPH, Registry of Vital Records and Statistics, Massachusetts Birth Reports: 2016, 2017, 2018, and 2019
NOTE: Pre-term defined as birth prior to 37 weeks gestation

A downward trend between 2016 and 2019 is also observed for the percentage of births that are low birthweight (i.e., weight less than 2,500 grams) (**Figure 56**). As of 2019, 5.2% of births to Barnstable County residents were low birth weight, compared to 7.0% in 2016. The percentage of births that are low birth weight has been consistent at the state level over the same time period.

Figure 56. Trend in Percentage of Resident Births that are Low Birth Weight, 2016-2019



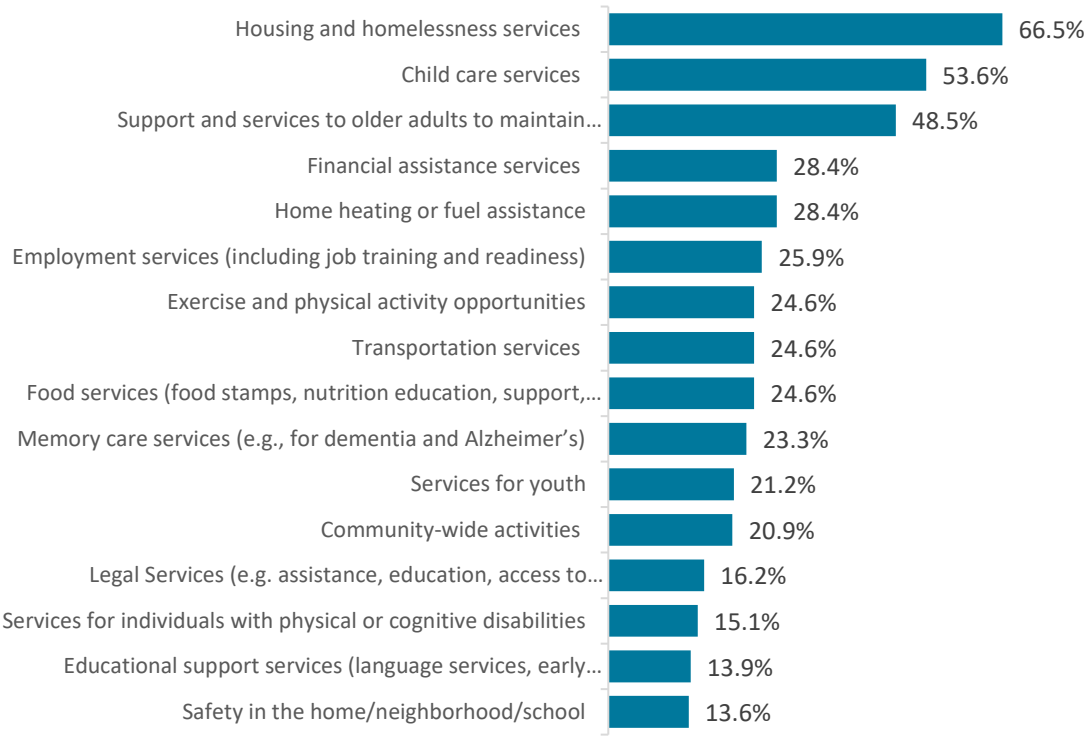
DATA SOURCE: MDPH, Registry of Vital Records and Statistics, Massachusetts Birth Reports: 2016, 2017, 2018, and 2019
NOTE: Low birth weight defined as weight less than 2,500 grams

Community Priorities and Suggestions for the Future

Suggestions for Social Services

Community survey respondents were asked to select up to five social or human services they believed should be a priority in their community. The most frequently selected were 'housing services' (66.5%), 'childcare services' (53.6%), and 'support and services to older adults to maintain independent living' (48.5%) (**Figure 57**). Additionally, at least one quarter of respondents selected 'Financial assistance services' (28.4%), 'Home heating or fuel assistance' (28.4%), and 'Employment services' (25.9%) as top social service priorities. Together, these priorities highlight the depth and breadth of the housing and economic pressures facing the community.

Figure 57. Percent of Survey Respondents Identifying Social Service as a Top Priority, 2022



DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Respondents were asked to select up to five priorities; percentages may not sum to 100%; Percentages were based on sample size of n=841

Social service priorities differed for some subgroups in stratified analyses (**Table 3**. Compared to the overall survey sample, 'transportation services' ranked more highly among survey respondents who were age 55+ (27.3% or LGBTQ (41.3%, while 'Employment services' ranked more highly among non-white respondents (32.8%) and renters (26.2%).

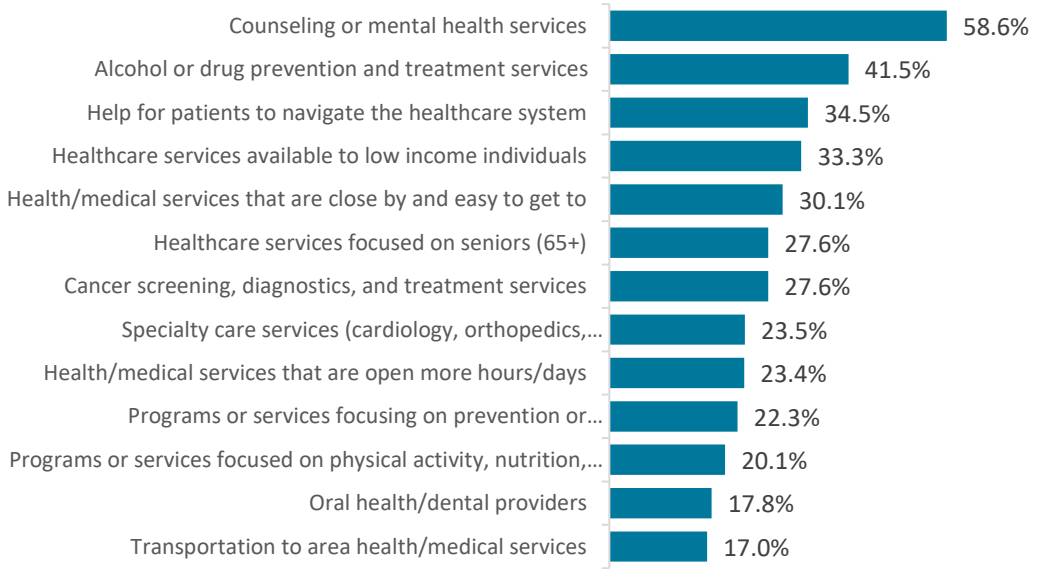
Table 3. Top Five Social Services Identified as a Priority, by Subgroup, 2022

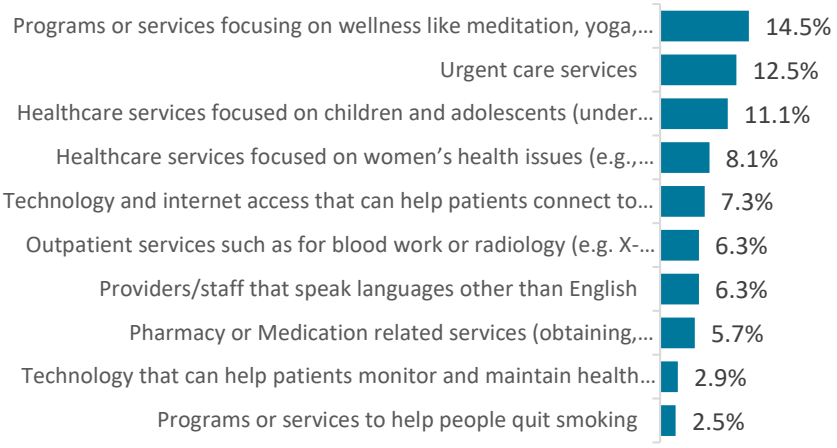
RANK	Overall Sample	Age 55+	Non-White	Renters	LGBTQ
1	Housing services	Support and services to older adults to maintain independent living	Housing services	Housing services	Housing services
2	Child care services	Housing services	Child care services	Child care services	Child care services
3	Support and services to older adults to maintain independent living	Child care services	Exercise and physical activity opportunities	Financial assistance services	Support and services to older adults to maintain independent living
4	Financial assistance services	Home heating or fuel assistance	Financial assistance services	Support and services to older adults to maintain independent living	Transportation services
5	Home heating or fuel assistance	Transportation services	Employment services	Employment services	Financial assistance services

Suggestions for Healthcare Services

Community survey respondents were asked to select up to five healthcare services they thought should be a priority in their community. The most frequently selected healthcare services were 'counseling or mental health services' (58.6%), 'alcohol or drug prevention and treatment services' (41.5%), 'help for patients to navigate the healthcare system' (34.5%), 'healthcare services available to low-income individuals' (33.3%) and 'health/medical services that are close by and easy to get to' (30.1%) (**Figure 58**). Additionally, at least one quarter of respondents selected 'Healthcare services focused on seniors (65+)' (27.6%) and 'Cancer screening, diagnostics, and treatment services' (27.6%) as a top healthcare priority.

Figure 58. Percent of Survey Respondents Identifying Healthcare Service as a Top Priority, 2022





DATA SOURCE: CCHC Community Health Survey, 2022
NOTES: Respondents were asked to select up to five priorities; percentages may not sum to 100%; Percentages were based on sample size of n=841

The leading healthcare priorities observed in stratified analyses were the same as the overall sample, with some exceptions (**Table 4**). 'Healthcare services focused on seniors' ranked more highly among survey respondents age 55+ (45.4%), 'health/medical services that are open more hours/days' ranked more highly among non-white respondents (28.1%), and 'oral health/dental providers' ranked more highly among LGBTQ respondents (34.9%).

Table 4. Top Five Healthcare Services Identified as a Priority, by Subgroup, 2022

RANK	Overall Sample	Age 55+	Non-White	Renters	LGBTQ
1	Counseling or mental health services	Healthcare services focused on seniors (65+)	Counseling or mental health services	Counseling or mental health services	Counseling or mental health services
2	Alcohol or drug prevention and treatment services	Counseling or mental health services	Alcohol or drug prevention and treatment services	Alcohol or drug prevention and treatment services	Healthcare services available to low income individuals
3	Help for patients to navigate the healthcare system	Healthcare services available to low income individuals	Healthcare services available to low income individuals	Healthcare services available to low income individuals	Health/medical services that are close by and easy to get to
4	Healthcare services available to low income individuals	Help for patients to navigate the healthcare system	Health/medical services that are close by and easy to get to	Health/medical services that are close by and easy to get to	Alcohol or drug prevention and treatment services
5	Health/medical services that are close by and easy to get to	Alcohol or drug prevention and treatment services	Health/medical services that are open more hours/days	Help for patients to navigate the healthcare system	Oral health/dental providers

Stakeholder Identified Priorities

- Better Communication and Coordination – getting people to be aware of resources that are available to them, connecting them more effectively, wraparound or transitional services for vulnerable individuals.

  "More streamlined services, closer collaboration across the board, improved transportation, mental health services, everything we've talked about. A real identification of the particular regional challenges we face and how we might address them uniquely. Lean into regional approach that addresses what we're talking about and makes systems change."

"CCHC do more 'evaluation' Listening sessions, town halls. More staff need to be out in the community soliciting feedback. That will help inform new programming by what the community needs."

- More Community Based Resources – mental health, substance use, domestic violence; talk more and promote these services in communities; Prevention and harm reduction should be resourced more equitability (compare to law enforcement funding)
- Improve Healthcare access – mobile vans, expand telemedicine, more clinicians that deliver care in the community where individuals are (i.e., direct outreach/delivery of care)
- Vulnerable populations – unhoused individuals, immigrant populations/non-English speakers

"Immigrant populations need better and more available translations of messages and more effective communication around what resources and services are available and how to access them."

"Homelessness is a related issue facing the community. Cape only has one homeless shelter, a problem especially in winter. And families aren't always placed together so they choose to sleep elsewhere."

- Housing

"Housing - It's not impossible to solve, not about having enough land, it's the political will to use the land efficiently. We need more contact zoning, sewer, water, this is doable it just takes people to do it. We talk about it as a lack of housing and that's true, but it's also that wages are low, so houses aren't affordable."

- Opportunity for healthcare to work with schools/school nurses

"We need experts and thought partnership. We are really good at the education component. The experts that exist at CCHC can help us attend to childhood and adolescent needs. We want to do that work and we're trying to learn that work and reimagine and revision childhood and adolescent development but thought partnership around that work would be helpful."

Resident Focus Group Identified Priorities

- Better communication and coordination – getting people to be aware of resources that are available to them, connecting them more effectively; wraparound or transitional services for vulnerable individuals; having a resource advocate or centralized support; Interdisciplinary services

"There're so many resources, but the ability to access those things, knowing about where to go and how to access it. There is so much more than what I expected. That knowledge and sharing."

"Consolidated point person for all of your needs. Health is very expansive. I wish there was a place where you could go when you need help in a bunch of areas in your life. I wish there was a list of all providers that I could go to, it is very disorganized."

- Improve mental healthcare access for youth – Resources available to youth for mental health support and their parents – group therapy, psych beds, advocates, consistent providers, caregiver support, affordability for low/moderate incomes

  "For schools, I think having a small healthcare team including an NP and social worker would do wonders so kids can get care in school. It would make a huge difference, especially for mental health."

Key Themes

Through a review of secondary data, implementation of a community health survey, and a range of discussions with stakeholders and residents of Barnstable County, this assessment report provides an overview of the perceptions of strengths and gaps in the current environment. Several key findings, or themes, were identified through the synthesis of these data, which are briefly summarized below.

Economic stress and instability

The cost of living in Barnstable County is high -- this includes housing costs, food, childcare, and other basic needs, all of which were major concerns among residents based on data from the community survey as well as stakeholder interviews and resident focus groups. While documented poverty rates are lower compared to the state, the true cost of living in the region requires an income level that far exceeds poverty level incomes. Median household incomes are notably lower among renter-occupied households among householders who are under 25 years of age, over 65 years of age, or Black. Many of these economic pressures stem from or are exacerbated by the seasonal nature of the local economy in Barnstable County. Seasonal instability can impact the consistency of household income as well as the consistency of health insurance coverage. Thus, residents and families in Barnstable County may be forced to prioritize the costs of basic needs like housing, food, or childcare over healthcare services, contributing to poorer health outcomes over time

Food Access

In the context of any economic instability, food access is often acute and has an early effect that is felt by individuals and families. However, residents struggle with food access for multiple reasons and can be made more challenging due to geographical barriers, transportation challenges, and individual mobility or disability constraints. Community survey respondents identified access to healthy foods and the cost of healthy food options as major concerns for their community as well as their own families. Stakeholders also consistently noted concern for food insecurity for many families and individuals in Barnstable County. Additionally, due to having incomes over SNAP eligibility requirements, a large segment of the population in need of food assistance do not qualify and may be unaware of services that are locally available to them.

Housing

Housing is the issue most affecting the economic stability of individuals and families of Barnstable County and is the result of both high housing costs and the low availability of non-seasonal housing stock—both issues that stem from the economic seasonality in the region and its importance as a tourist destination. In recent years, the percentage of renter-occupied households that are housing cost burdened has increased sharply, exacerbated by the acute pressure the COVID pandemic has had on the already limited stock of year-round housing on the Cape. While housing has been a major issue among residents for many years the COVID-19 pandemic has accelerated the problem and compounded its downstream effects—including creating barriers to healthcare access due to staffing shortages. In many stakeholder interviews, it was clear that the lack of available and affordable housing was preventing employers in the healthcare and social service sectors from filling their many open positions.

Transportation

Transportation is a barrier for many residents in relation to their ability to maintain employment, income, access to food, and access to healthcare. Access to private transportation is not universal for residents of Barnstable County and lacking easy and affordable transportation options impacts many areas of an individual's life. Particularly vulnerable groups include renter-occupied households, residents of the Outer Cape, and older adults who may have physical or cognitive impairments that prevent them from driving. Many survey respondents, particularly those residing on the Outer Cape, identified transportation as a major concern for the community as well as their families. Concern also extended to transportation options that served vulnerable populations such as older adults, those with physical or cognitive disabilities, and those needing transportation to medical appointments. Among survey respondents, the awareness of the CCRTA/PeterPan Service as transportation connected to healthcare was very low among survey respondents, although self-reported utilization did indicate that vulnerable groups (renters, non-white individuals) were using the service slightly more often than other groups.

Healthcare Access

Timely and accessible healthcare is essential to prevent underlying health conditions from developing into more become acute issues/concerns and larger problems in the future. It was clear from the data collected from community residents and stakeholders alike, that access to healthcare in Barnstable County has become increasingly challenging compared to findings from the prior CHNA, with barriers now being more numerous, more severe, and impacting more residents. Affordability of care or having health insurance were major factors of concern for many, but systems issues and navigation of the system seemed to be a more recent barrier for many more individuals—specifically long waits for appointments, difficulty scheduling appointments, lack of evening and weekend hours, and poor customer service of provider or office staff. Language barriers were also identified as important issues for healthcare providers to address given the growing number of immigrant residents in Barnstable County who may also struggle with English fluency. In stakeholder interviews, the experience of BIPOC individuals and LGBTQ+ (particularly those who are transgender) also came up frequently as example where healthcare or social services were not currently meeting their needs.

Overall, primary care was the type of healthcare identified as most challenging to access, however many stakeholders and residents were concerned over the lack of behavioral health services in Barnstable County, particularly for children and youth. For some groups, access to dental and oral healthcare was also reported as challenging. A major factor that has contributed to difficulties in accessing most types of healthcare services was staffing shortages, which itself is related to the challenges around economic stability, income, and housing costs in Barnstable County. On a positive note, the availability and use of Telemedicine expanded greatly due to the COVID-19 pandemic. Utilization did not appear to vary by sub-group and satisfaction with this type of care was high among survey respondents.

Health Outcomes

Aging and Chronic Disease

Age related conditions and chronic disease remain the leading causes of morbidity and mortality in Barnstable County, just as in the state. The median age of Barnstable County's population is markedly higher than the state and it is expected that the overall population of Barnstable County will have greater healthcare needs than other regions, including both primary and specialty care services. In

addition, an increased need for home-based healthcare and wraparound social services that help support older adults live independently is expected. Data highlight that over half of Medicare recipients in Barnstable County have current diagnoses of hypertension and/or hyperlipidemia, while just under ten percent have a diagnosis of Alzheimer's disease or related dementias. Survey respondents frequently identified aging health concerns as a top health issue for the community as well as their families, second only to access to primary care. Importantly, stakeholders emphasized their concern for the capacity of the healthcare and social services sector to manage the needs of the large older adult population in Barnstable County, particularly in the face of growing staffing shortages and the reliance on lower wage workers to support older adults living at home.

Behavioral Health

Mental health appeared to be the single greatest concern for residents and stakeholders across Barnstable County. High prevalence of issues for most populations and age groups were noted (though youth identified most frequently), coupled with a healthcare sector that is not adequately meeting the needs of those seeking services related to mental health. Both issues have been severely exacerbated by the COVID-19 pandemic. Mental health was identified frequently as a top health issue by survey respondents for the community as well as themselves or their families, particularly among respondents who were non-white, renters, parents, or LGBTQ. Substance use has also been a consistent concern of residents in Barnstable County for many years. Driven by historically higher rates of opioid misuse and overdose deaths and systemic challenges to meeting the treatment and recovery needs of those seeking care. Substance use is also impacting youth and older adults, though for different types of substances. All has been exacerbated by the COVID-19 pandemic. Nearly half of survey respondents identified drug use as a top health issue for the community with concern highest for the specific issues of opioid misuse and alcohol/binge drinking. Groups of particularly concern among stakeholders included older adults, those experiencing high levels of stress and anxiety/depression, economically unstable individuals, labor/service workers, and youth.

The severity and persistence of the opioid epidemic was also a topic that arose in many stakeholder interviews and resident focus group discussions. The consistent volume of overdose/potential overdose cases occurring on the Cape was widely acknowledged and many noted that there simply was not enough substance use disorder treatment resources available to effectively curb the problem. Stakeholders specifically noted a dire need for more detox centers, treatment beds, sober houses, and community-based services. Residents also highlighted that current substance use treatment services are very geographically centralized, making them harder to access for individuals on other parts of the Cape - consensus seems to suggest that the healthcare sector is not adequately meeting the residents' needs related to mental health conditions or substance use disorder.

Health Equity

Issues of bias and discrimination arose consistently as major concerns among non-white and LGBTQ residents of Barnstable County. Their concerns pertained to acute experiences of violence, racism, or bullying in the community. The close and tightknit community that many cite as a strength of the region can be challenging and isolating to those moving to the area or who do not belong to the majority population. Unwelcoming environments with bias, discrimination, and racism can quickly escalate into violence and safety concerns and contributes to the experience of trauma among non-white and LGBTQ individuals. Focus group participants noted how important diversity is as a factor leading to more

acceptance and less isolation, but many towns/communities on the Cape lack this diversity. Well over one third of non-white survey respondents identified discrimination based on race, ethnicity, or languages as a top social issue for the community and nearly one quarter of LGBTQ survey respondents identified discrimination based on other characteristics as a top social issue for the community.

On top of the direct impact on an individual's emotional and physical health, such experiences of bias, discrimination, and racism are known to be major upstream factors that lead to receipt of less frequent or less appropriate healthcare services. This then compounds the impacts on health and ultimately manifests as poorer health outcomes and more prevalent health disparities. Some differences in healthcare utilization were observed in stratified analyses of survey respondents - compared to the overall sample, non-white survey respondents were much less likely to report having received cancer screenings, vision services, and outpatient services such as blood work or radiology. Furthermore, survey respondents who were non-white were more likely to rate their own/family's health as 'fair' or 'poor' compared to the overall sample.

COVID impact

While not as hard hit by Covid deaths compared to other regions in MA, the impact of the COVID-19 pandemic was severe and far-reaching. These include striking impacts on employment, housing, and cost of living as well as severe and lasting impacts on the mental health of residents in most age groups. Recent data show that the impacts of the COVID-19 pandemic on employment have not yet returned to their pre-pandemic levels and the pandemic appears to have also accelerated the housing shortage in Barnstable County with no end currently in sight. These economic impacts have further exacerbated healthcare staffing shortages and created new and larger barriers to healthcare. The myriad impacts on employment/income/housing/cost of living were clearly identified by stakeholders and residents alike. They further noted that vulnerable older adults who were necessarily isolated for long periods of time appear to have experienced noticeable cognitive declines. Participants also emphasized that individuals of all ages have experienced high levels of anxiety, depression, and symptoms of trauma, and many continue to be impacted by increasing costs of housing and other basic needs. While the acute phase of the pandemic has passed, full recovery will likely take several more years given the depth and breadth of its impacts on the lives and health of residents.

Prioritization Process and Priorities Selected for Planning

Process Used to Prioritize Health Needs

In July 2022, HRiA led a facilitated process with the Community Health Committee of Cape Cod Healthcare and key CCHC leadership to review the key themes from the CHNA and identify recommended priorities for future Strategic Implementation Planning efforts. During this virtual meeting, HRiA presented the key health issues identified in the 2023-2025 Community Health Needs Assessment (CHNA) (see ***Key Themes*** section), including the magnitude and severity of these issues and their impact on the most vulnerable populations. HRiA then facilitated a discussion with participants to evaluate possible priorities based on the key criteria outlined in **Figure 59**.

Figure 59: Criteria for Prioritization

RELEVANCE *How Important Is It?*	**APPROPRIATENESS** *Should We Do It?*	**IMPACT** *What Will We Get Out of It?*	**FEASIBILITY** *Can We do It?*
• Burden (magnitude and severity, economic cost; urgency) of the problem) • Community concern • Focus on equity and accessibility	• Ethical and moral issues • Human rights issues • Legal aspects • Political and social acceptability • Public attitudes and values	• Effectiveness • Coverage • Builds on or enhances current work • Can move the needle and demonstrate measurable outcomes • Proven strategies to address multiple wins	• Community capacity • Technical capacity • Economic capacity • Political capacity/will • Socio-cultural aspects • Ethical aspects • Can identify easy short-term wins

Priority Community Needs to be Addressed

Through thoughtful consideration of the data presented, the prioritization criteria and knowledge of the existing and planned programs already in place, participants were polled to identify the top three themes they would select as a priority. Following discussion of the polling results and consideration by CCH leadership, three priorities were recommended with two cross-cutting themes to be included in the objectives and/or strategies in each of the priority areas.

Priorities

1. Behavioral Health
2. Healthcare Access
3. Housing

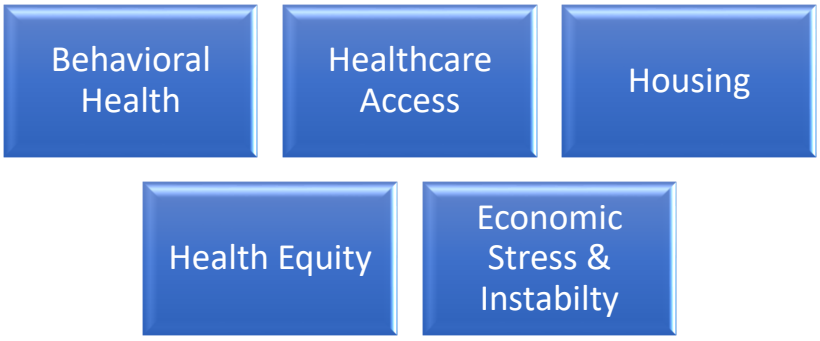
Cross-Cutting Themes

1. Health Equity
2. Economic Stress & Instability

Next Steps

The priorities and cross-cutting themes identified during the prioritization process will inform CCHC's Strategic Implementation Plans (SIP) for the years 2023, 2024 and 2025. The SIP is an annual blueprint of how CCHC plans to accomplish its Community Benefits Mission, and facilitates community engagement and collaboration across institutions.

Figure 60: Priorities and Cross-Cutting Themes for CCHC's 2023-2025 Strategic Implementation Plans



CCHC's SIP will be updated annually and will identify the target populations that CCHC will support, as well as specific programs or activities that address the significant needs identified in this CHNA. The SIP will also outline the resources that are committed to each strategy and any planned collaborations between CCHC and other organizations. CCHC will work with the Community Health Committee to develop and evaluate the SIP each year.

Appendix A – List of Participating Organizations

Organization	Type of Organization	Populations Served/Represented by Organization				
		Seniors	Children	Low-Income	Minority	Medically Underserved*
AIDS Support Group of Cape Cod and the Islands	Community Based Organization / Health	•	•	•	•	•
Alzheimer's Family Support Center	Human Services	•		•	•	•
B Free Wellness	Community Based Organization	•	•	•	•	•
Barnstable Council on Aging	Municipal	•		•	•	•
Barnstable County Department of Human Services	County	•	•	•	•	•
Barnstable County Substance Use Prevention	County	•	•	•	•	•
Barnstable Fire Department	Municipal / Complimentary Service Provider	•	•	•	•	•
Bourne Department of Health	Municipal	•	•	•	•	•
Barnstable No Place for Hate	Community Based Organization	•	•	•	•	•
Barnstable School District	School		•	•	•	•
Cape and Islands Emergency Medical Services System	Complimentary Service Provider	•	•	•	•	•
Cape Cod Chamber of Commerce	Chamber of Commerce	•	•	•	•	
Cape Abilities	Human Services	•	•	•	•	•
Cape Cod Children's Place	Human Services		•	•	•	•
Cape Cod Councils on Aging Serving Together	Community Based Organization	•		•	•	•
Cape Cod Commission	Community Based Organization / Environment	•	•	•	•	•
Cape Cod Cooperative Extension	County	•	•	•	•	•
Cape Cod Foundation	Community Based Organization	•	•	•	•	•

Organization	Type of Organization	Populations Served/Represented by Organization				
		Seniors	Children	Low-Income	Minority	Medically Underserved*
Cape Cod Healthcare Accountable Care Organization	Health	•	•	•	•	•
Cape Cod Regional Transit Authority	Transportation	•	•	•	•	•
Cape Cod US Veterans Center	Community Based Organization	•		•	•	•
Cape Organization for the Rights of the Disabled	Human Services	•	•	•	•	•
Coalition for Children	Community Based Organization		•	•	•	•
Community Action Committee of Cape Cod and Islands, Inc.	Community Action Agency	•	•	•	•	•
Council of Churches	Faith Based	•	•	•	•	•
Duffy Health Center	Federally Qualified Health Center / Homeless population	•	•	•	•	•
Elder Services of Cape Cod and the Islands	Area Agency of Aging (AAA)	•		•	•	•
Falmouth Department of Human Services	Municipal	•	•	•	•	•
Falmouth Service Center	Community Based Organization / Human Services	•	•	•	•	•
Fenway Health	Health / LGBTQ+	•	•	•	•	•
Health Imperatives Cape Cod	Community Based Organization / Health	•	•	•	•	•
Health Ministry	Community Based Organization / Brazilian	•	•	•	•	•
Homeless Prevention Council	Community Based Organization	•	•	•	•	•
Housing Assistance Corporation	Community Based Organization	•	•	•	•	•
Mashpee Wampanoag Tribe	Tribal	•	•	•	•	•
MLK Task Force	Community Based Organization	•	•	•	•	•
Outer Cape Health Services	Federally Qualified Health Center	•	•	•	•	•
Sandwich School District	School		•	•	•	•

Organization	Type of Organization	Populations Served/Represented by Organization				
		Seniors	Children	Low-Income	Minority	Medically Underserved*
The Family Pantry of Cape Cod	Community Based Organization / Food Security	•	•	•	•	•
Town of Barnstable Community Services	Municipal	•	•	•	•	•
Visiting Nurse Association of Cape Cod	Health	•	•	•	•	•
YMCA Cape Cod	Community Based Organization	•	•	•	•	•

*Per IRS Definition: Medically underserved populations include populations experiencing health disparities or that are at risk of not receiving adequate medical care because of being uninsured or underinsured, due to geographic, language, financial, or other barriers, or those living within a hospital facility's service area but not receiving adequate medical care from the facility because of cost, transportation difficulties, stigma, or other barriers.

Appendix B – Demographic Characteristics of Community Survey Respondents

Table 5. Community Member Survey Respondents, by Demographic Characteristics, 2022

Age	n=883	%
Under 18	1	0.1%
18-24	5	0.6%
25-34	55	6.2%
35-44	121	13.7%
45-54	213	24.1%
55-64	240	27.2%
65-74	105	11.9%
75-84	19	2.2%
85 and over	19	2.2%
Gender	**n=867**	**%**
Male	150	17.3%
Female	681	78.6%
Non-binary	-	-
Prefer not to say	32	3.7%
Race/Ethnicity	**n=879**	**%**
American Indian or Alaskan Native	4	0.5%
Asian	7	0.8%
Black or African American	14	1.6%
Brazilian or Portuguese	17	1.9%
Hispanic/Latino(a)	17	1.9%
Middle Eastern or North African	2	0.2%
Native Hawaiian or Other Pacific Islander	2	0.2%

White or European	808	91.9%
Some other race, ethnicity, or origin	8	0.9%
Prefer not to say	30	3.4%
Language Spoken at Home	**n=867**	**%**
English	862	98.4%
Portuguese	8	0.9%
Spanish	3	0.3%
Other	2	0.2%
Mandarin	1	0.1%
Sexual Orientation	**n=838**	**%**
Straight/heterosexual	727	86.8%
Gay	15	1.8%
Lesbian	24	2.9%
Bisexual	17	2.0%
Not sure/Questioning	2	0.2%
Prefer to self-describe	5	0.6%
Prefer not to answer	48	5.7%
Educational attainment	**n=883**	**%**
Less than high school	2	0.2%
High school graduate or GED	30	3.4%
Vocational or trade school graduate	14	1.6%
Some college	105	11.9%
Associate or technical degree/certification	78	8.8%
College graduate	324	36.7%
Graduate or professional degree	312	35.3%
Prefer Not to Answer	18	2.0%
Household Income	**n=867**	**%**
Less than $35,000	59	6.8%
$35,000 to $74,999	188	21.7%
$75,000 to $99,999	135	15.6%
$100,000 to $149,999	183	21.1%
$150,000 or more	154	17.8%
prefer not to answer	148	17.1%
Region	**n=1,096**	**%**
Upper Cape (Bourne, Falmouth, Mashpee, Sandwich)	352	32.1%
Mid Cape (Barnstable, Dennis, Yarmouth)	430	39.2%
Lower Cape (Brewster, Chatham, Harwich, Orleans)	223	20.4%
Outer Cape (Eastham, Provincetown, Truro, Wellfleet)	91	8.3%

DATA SOURCE: CCHC Community Health Survey, 2022