Care New England

2019 Community Health Needs Assessment

Final Report

September 2019

Butler Hospital

Kent Hospital

Women & Infants Hospital

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Our Commitment to Community Health

Care New England Health System is a trusted organization that fuels the latest advances in medical research, attracts the nation's top specialty-trained doctors, hones renowned services and innovative programs, and engages in the important discussions people need to have about their health and end-of-life wishes. Care New England is helping to transform the future of health care, providing a leading voice in the ongoing effort to ensure the health of the individuals and communities we serve.

Backed by a broad range of services—primary care, surgery, cardiovascular care, oncology, psychiatry, behavioral health, newborn pediatrics and the full spectrum of women's health services—CNE is reinventing the way health care is delivered, partnering with our patients to provide the best care possible while working to create a community of healthier people.

The true value of the benefits CNE provides to the community is seen not only on the corporate balance sheet. It takes place in our facilities every time we offer care to individuals who cannot pay for it. It happens in communities across Rhode Island when we bring educational programs to groups of all ages. It is the result of our creative brainstorming and problem-solving, when we devise programs to boost the supply of nurses or roll out technology or construction projects designed to address the needs of people in this area.

To guide our community benefit and health improvement efforts across the community, since 2011 Care New England has participated with the Hospital Association of Rhode Island (HARI) and other member hospitals across Rhode Island to conduct a statewide comprehensive Community Health Needs Assessment (CHNA). The 2019 CHNA builds upon the 2013 and 2016 studies to monitor health status across the state and in local hospital communities. The CHNAs included a mix of statistical research and stakeholder input to collect and analyze health trends that impact the health of our community.

This report outlines findings from the 2019 CHNA and highlights strengths and opportunities across Rhode Island. The findings will be used to guide services at Care New England, as well as to serve as a community resource for grant making, advocacy, and to support the many programs provided by our community health and social service partners.

To learn more about Care New England's work to improve the health of our community, visit carenewengland.org or contact Gail Robbins, Senior Vice President, Planning and Finance at Care New England.

Executive Summary of CHNA Findings

CHNA Leadership
The 2019 Hospital Association of Rhode Island (HARI) was conducted in collaboration with the eight Rhode Island hospitals listed below. A steering committee of hospital and HARI representatives coordinated and oversaw the research and stakeholder engagement.

- Care New England: Butler Hospital, Kent Hospital, and Women and Infants Hospital
- CharterCARE: Roger Williams Medical Center and Our Lady of Fatima Hospital
- Landmark Medical Center
- South County Hospital
- Yale New Haven Westerly Hospital

CHNA findings were shared with local and regional community partners for review and input to determine localized health disparities as well as statewide opportunities for collaboration. Stakeholder input helped to prioritize health needs and guide each hospital's Implementation Plan. Community health consultants assisted in all phases of the CHNA including project management, data collection and analysis, and report writing.

2019 HARI CHNA Steering Committee Members
Gina Rocha, Hospital Association of Rhode Island, Vice President, Clinical Affairs
Otis Brown, CharterCARE, Vice President, Marketing & External Affairs
Laurel Holmes, Westerly Hospital, Director of Community Partnerships & Population Health
Carolyn Kyle, Landmark Medical Center, Director of Public Relations, Marketing & Physician Relations
Kimberly O'Connell, South County Hospital, Vice President and Chief Strategy Officer
Gail Robbins, Care New England, Senior Vice President of Planning & Finance

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Care New England Service Area Description
For purposes of collaboration on the 2019 CHNA with the Hospital Association of Rhode Island and its member hospitals, Care New England examined its primary service areas within the state of Rhode Island.

CHNA Methodology
The 2019 CHNA was conducted from April 2018 to June 2019 and included quantitative and qualitative research methods to determine health trends and disparities across hospital service areas. Data were compared to health indicators across Rhode Island and the nation. Primary study methods were used to solicit input from health care consumers and key community stakeholders representing the broad interests of the community. Secondary study methods were used to identify and analyze statistical demographic and health trends.

Specific CHNA study methods included:

- An analysis of existing secondary data sources, including public health statistics, demographic and social measures, and health care utilization
- A key informant survey with health and human service providers among other representatives from education institutions, civic and social associations, faith communities, employers and businesses, elected officials, and other community based organizations
- Focus groups and community discussions with local stakeholders to review CHNA findings and collect feedback
- Prioritization of community health needs

The CHNA was conducted in a timeline to comply with IRS Tax Code 501(r) requirements to conduct a CHNA every three years as set forth by the Affordable Care Act (ACA). The findings will be used to guide each hospital's community benefit initiatives and engage local partners in collectively addressing identified health needs.

Community Engagement

Community engagement was an integral part of the CHNA research. In assessing community health needs, input was solicited and received from persons who represent the broad interests of the community, as well as underserved, low income and minority populations. These individuals provided wide perspectives on health trends, expertise about existing community resources available to meet those needs, and insights into service delivery gaps that contribute to health disparities. Research and planning was conducted in coordination with the Rhode Island Department of Health, the local Health Equity Zones (HEZ), and community partners across the state to promote collaboration across existing initiatives and reduce duplication of activities.

Summary Findings

The population of Rhode Island is less diverse than the nation in general, but, in line with the nation, diversity is increasing with the growth of Latinx, and other minority populations. Providence County is projected to have the greatest increase in minority populations by 2023.

Rhode Island has a higher median age compared to the nation. The national and statewide median age is projected to continue to grow over the next 10 years, which will have significant impact on Rhode Island economic, health, and social service systems.

Rhode Island fares better than the nation on most economic indicators. State residents are less likely to live in poverty and are more likely to attain higher education achievement than the average American. However, economic indicators vary among the five counties with areas of greater socioeconomic need. Providence County residents experience the greatest disparity with approximately one in five individuals and one in four children living in poverty. Housing cost burden is also a concern for residents across the state. Approximately 50% of renters and 35% of homeowners are considered housing cost-burdened. These percentages are similar to or exceed national rates.

Many key health measures for the state are also favorable when compared to the nation. More people in Rhode Island have health insurance compared to the national average. The rate of primary healthcare and mental healthcare providers is higher than the national rate. Residents are more likely to have a medical home and receive recommended preventive care.

However, not all residents experience health and social equity in these and other measures. Taking a closer look at data by county, zip code, race, ethnicity, poverty, education, and other socioeconomic measures uncovers significant disparities among Rhode Island residents. As one indicator, poverty rates among minority populations in Rhode Island are more than double the rate among Whites.

Within Providence County, residents in the four core cities–-Central Falls, Pawtucket, Providence, and Woonsocket–-experience greater economic distress and greater potential for health inequity than residents in other communities. Cyclical poverty, trauma, and higher disease morbidity, lead to shortened life expectancy for many residents. Throughout Rhode Island, these inequalities can be subtle; neighboring zip codes can have as much as a 10-year difference in average life expectancy.

Qualitative research was used to determine how community perceptions compared with statistical data. Based on this research, areas of opportunity across the state continue to be centered on:

- treating and preventing mental health and substance use disorders;
- reducing health disparities that lead to higher rates of chronic disease;
- addressing the growing health and social needs among seniors
- reducing risk behaviors among youth and young adults; and
- improving maternal and child outcomes and the well-being of families.

Treating and Preventing Mental Health and Substance Use Disorders

Key informant survey participants indicated that behavioral health needs were the most pressing community health needs that affect residents. Statistical data reinforced this perception on numerous measures. Rates of depression and deaths due to mental and behavioral health disorders are higher than national comparisons. Within the state, opioid use and overdose deaths are highest in the core cities of Providence, Central Falls, Pawtucket, and Woonsocket, and West Warwick.

Health Disparities Related to Chronic Disease

Despite decreasing uninsured rates and more residents reporting a regular medical home, chronic disease deaths due to heart disease, diabetes, and cancer continue to be the leading causes of death statewide. Socioeconomic disparities increase health disparities for residents in underserved communities like the core cities. Fewer health providers are available within these communities, and fewer still that reflect patients' languages and cultures. Risk factors, including high blood pressure, high cholesterol, lack of physical activity, and behavioral health comorbidities are key drivers for increased deaths.

Senior Health Needs

Health providers need to prepare to meet the needs of an older, and aging, Rhode Island population. Seniors across the state experience multiple comorbidities and are more likely to live alone, increasing challenges for individuals and health providers alike to manage chronic disease. Home health providers describe an increase in social and behavioral health needs among home-based seniors as untreated mental health needs are exacerbated with aging and the prevalence of Alzheimer's disease increases. Social engagement is seen as a key protective factor for seniors and services are widely available through senior centers, libraries, and faith based organizations. There are wide variances in these offerings between communities, resulting in reduced benefit of these services and reinforcement of disparities.

Youth and Adolescent Health Needs

Among youth, alcohol consumption and other substance use is widely accepted, which can also lead to abuse. Among high school students statewide, approximately 23% reported current use of alcohol. A similar percentage of students report current use of marijuana. While fewer adults and adolescents are smoking traditional cigarettes, e-cigarettes and vaping are on the rise. One in five high school students report vaping.

In addition to behavioral health needs, youth and adolescents are at-risk for respiratory disease. Approximately 14% of children statewide have been diagnosed with asthma, a key driver for school absenteeism. Across Rhode Island from 2012 to 2016, asthma was the primary diagnosis for 7,917 emergency department visits among children under age 18. Children residing in the four core cities had a higher rate of emergency department visits compared to the rest of the state

Maternal and Child Health

Women of color and their children who experience socioeconomic disparities and limited access to care are at increased risk for poorer birth outcomes. Barriers to care access–-particularly early prenatal care–-increases risk for preterm births, low birth weight, and mortality.

Other noted disparities include teen births and incidence of neonatal abstinence syndrome. The rate of babies born with neonatal abstinence syndrome has tripled in recent years, while policies aimed at protecting infants deter mothers from seeking substance abuse treatment for fear of losing their child. Of the total births in Rhode Island between 2012 and 2016, approximately 3,000 were to teen mothers between the ages of 15 and 19. The resulting teen birth rate of 15 per 1,000 is half the reported rate for the prior decade, but, 2,400 or nearly 80% of the statewide teen births were to mothers residing within the four core cities.

Children residng in the core cities experience more trauma, abuse, and neglect than in other communities, resulting in higher rates of adverse childhood experiences (ACEs). In turn, ACEs can lead to increased risky behaviors, higher rates of mental and substance use disorders, lower education attainment, and a continued cycle of poverty for families.

Community Health Priorities

To work toward health equity, it is imperative to prioritize resources and activities toward the most pressing health and crosscutting needs within communities. In determining the issues on which to focus efforts over the next three-year cycle, Care New England solicited input from community partners and stakeholders and sought to align efforts with existing initiatives headed by the Rhode Island Department of Health, the HEZs, and other community partners.

The CHNA findings confirmed that residents who experience greater socioeconomic disparities are at increased risk for poorer health outcomes. Care New England is dedicated to promoting health equity—the attainment of the highest level of health for all people. To that end, we will focus community health improvement efforts on increasing access to and the advancement of treatment for mental health and substance use disorders; addressing cyclical poverty, trauma, and health disparities that that lead to poorer outcomes and shortened life expectancy, and delivering the best birth outcomes for all mothers and babies and improving the well-being of families.

Care New England Community Health Priorities for 2019-2022

- **Behavioral Health:** increase access to and the advancement of treatment for mental health and substance use disorders
- **Chronic Disease:** address cyclical poverty, trauma, and health disparities that lead to poorer outcomes and shortened life expectancy
- **Maternal and Child Health:** deliver the best birth outcomes for all mothers and babies and improve the well-being of families

Board Approval

In support of the health system's continued investment in meeting the health needs of residents across the communities we serves, the Care New England Board of Directors reviewed and approved the 2019 CHNA Final Report. A copy of the 2019 CHNA can be found on the Care New England website.

Full Report of CHNA Findings

Social Determinants of Health

Analyses of demographic and socioeconomic data are essential in understanding health trends and determining key drivers of health status. Socioeconomic indicators play a significant role in community and individual health. Known as **social determinants of health**, they are defined as factors within the environment in which people live, work, and play that can affect health and quality of life. Social determinants of health are often the root causes of **health disparities**. Healthy People 2020 defines a health disparity as "a particular type of health difference that is closely linked with social, economic, or environmental disadvantage."

Social determinants of health are factors within the environment in which people live, work, and play that can affect health and quality of life

County data are presented with comparisons to Rhode Island and the U.S. data sets to demonstrate broad trends and areas of strength or opportunity. Demographic analysis by zip code follows the county level analysis to provide a detailed view of population statistics. All reported data were provided by ESRI Business Analyst, 2018 and the US Census Bureau unless otherwise noted.

Population Trends

The 2018 population of Rhode Island was 1,067,528. Providence County comprises the largest proportion of the total population (60%). The state population grew from 2010 to 2018, and is expected to continue growing through 2023. Growth rates in Providence, Newport, and Kent counties will continue through 2023 while Bristol and Washington County will decrease.

Population Growth

	2018 Population	% Growth 2010–2018	% Growth 2018–2023
Bristol County	49,418	-0.9%	-0.2%
Kent County	167,033	0.5%	0.6%
Newport County	84,539	2.0%	0.9%
Providence County	637,835	1.8%	1.5%
Washington County	128,703	1.4%	-0.2%
Rhode Island	1,067,528	1.4%	1.1%

Source: ESRI, 2018

Across the state, and consistent with the nation, the population that identifies as White is projected to decrease through 2023, while the percentage of residents identifying as Asian, Black/African American, and/or Latinx is projected to increase. In Rhode Island this trend is due in large part to the older age of the White population compared to those of other races and ethnicities. Fewer White women in Rhode Island are in their childbearing years compared to minority women.

Rhode Island has a higher median resident age than the nation, and nearly 1 in 5 residents are age 65 or over. Providence County is the only county with a lower median age than the state or nation. The median age is highest in Bristol and Newport counties.

2018 Population Overview

	Asian	Black or African American	White	Latinx (any race)	Primary Language Other than English*
Bristol County	2.2%	1.2%	93.7%	3.2%	12.1%
Kent County	2.6%	1.9%	91.1%	5.1%	8.7%
Newport County	1.9%	4.3%	88.0%	6.3%	10.3%
Providence County	4.4%	9.5%	68.7%	23.4%	30.5%
Washington County	2.0%	1.4%	92.6%	3.4%	6.4%
Rhode Island	3.6%	6.5%	77.8%	15.9%	21.6%
United States	5.7%	12.9%	70.0%	18.3%	21.2%

Source: ESRI, 2018 *Data are reported for 2012–2016 based on most recent records available.

Population by Race/Ethnicity as a Percentage of Total Population (Projected Change)

	Asian		Black/African American		White		Latinx	
	2010	2023	2010	2023	2010	2023	2010	2023
Bristol County	1.4%	2.9%	0.8%	1.5%	95.7%	92.1%	2.0%	4.3%
Kent County	2.0%	3.1%	1.5%	2.3%	93.4%	89.3%	3.2%	6.7%
Newport County	1.6%	2.1%	3.5%	4.7%	90.2%	86.4%	4.2%	8.1%
Providence County	3.7%	5.0%	8.5%	10.3%	73.4%	65.4%	18.8%	27.0%
Washington County	1.6%	2.2%	1.2%	1.5%	93.8%	91.7%	2.4%	4.3%
Rhode Island	2.9%	4.0%	5.7%	7.2%	81.4%	75.2%	12.4%	18.6%

Source: ESRI, 2018

2018 Population by Age

	14 years and under	15–24 years	25–34 years	35–54 years	55–64 years	65+ years	Median Age
Bristol County	14.6%	14.6%	10.5%	24.3%	15.8%	20.3%	45.1
Kent County	15.0%	10.5%	12.4%	26.9%	15.7%	19.6%	44.9
Newport County	14.4%	12.9%	11.3%	24.8%	15.5%	21.2%	45.3
Providence County	16.7%	15.2%	14.2%	24.9%	12.9%	16.1%	38.1
Washington County	14.0%	16.4%	10.0%	23.8%	16.3%	19.5%	44.4
Rhode Island	15.8%	14.4%	13.0%	25.1%	14.1%	17.6%	40.7
United States	18.6%	13.3%	13.9%	25.3%	13.0%	16.0%	38.3

Source: ESRI, 2018

2018 Population by Age

	65+ years	75+ years	85+ years
Bristol County	20.3%	9.4%	3.5%
Kent County	19.6%	8.6%	3.1%
Newport County	21.2%	9.2%	3.1%
Providence County	16.1%	7.2%	2.7%
Washington County	19.5%	7.9%	2.6%
Rhode Island	17.7%	7.8%	2.8%
United States	16.0%	6.6%	2.0%

Source: ESRI, 2018

Economic Measures

While there are fewer people living in poverty in Rhode Island, more households receive SNAP benefits than the national average

The median household income for Rhode Island slightly exceeds that of the nation and there are fewer individuals and children living in poverty than in the nation in general. However, a greater proportion of Rhode Island households receive Supplemental Nutrition Assistance Program (SNAP) benefits. A higher percentage of families accessing SNAP benefits is a potentially positive finding because it means that supportive services are accessible, but it points at greater food insecurity across the state.

The median household income for all counties except Providence exceeds the state and nation. Providence County residents are more likely to live in poverty and receive SNAP benefits.

Fewer individuals and children in Kent and Washington counties live in poverty compared to the state and the nation. Of note, Washington County has the highest median household income in the state, but the second highest overall poverty rate. The Kent County median household income is the second lowest in the state, but the county has among the lowest rates of poverty for both individuals and children.

Median Household Income and Poverty Indicators

	Median Household Income	People in Poverty	Children in Poverty	Households with SNAP Benefits
Bristol County	$77,309	7.0%	6.7%	8.2%
Kent County	$64,878	7.8%	8.9%	12.0%
Newport County	$76,030	9.0%	11.5%	9.8%
Providence County	$51,926	16.7%	24.4%	20.5%
Washington County	$78,882	9.6%	10.1%	8.6%
Rhode Island	$58,972	13.4%	18.9%	16.1%
United States	$58,100	14.6%	20.3%	13.0%

Source: ESRI, 2018; US Census Bureau, 2013–2017

The following data illustrate poverty rates among Black/African American and Latinx residents, pinpointing areas of disparity. Among Black/African American residents, the greatest disparity is seen in Providence County, including the core cities, and Washington County. Latinx residents

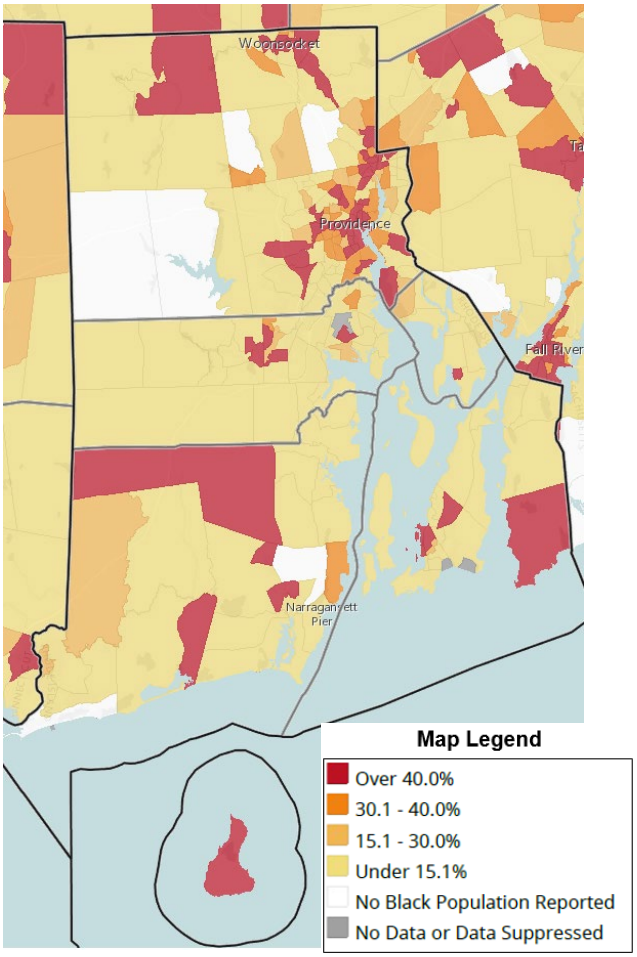
have similar pockets of disparity in Providence and Washington County. The disparity among Latinx residents within the Providence, Central Falls, and Pawtucket regions is greater than that among Blacks/African Americans. There is also greater disparity among Latinx in the area of West Warwick in Kent County.

Poverty Rates by Race and Ethnicity

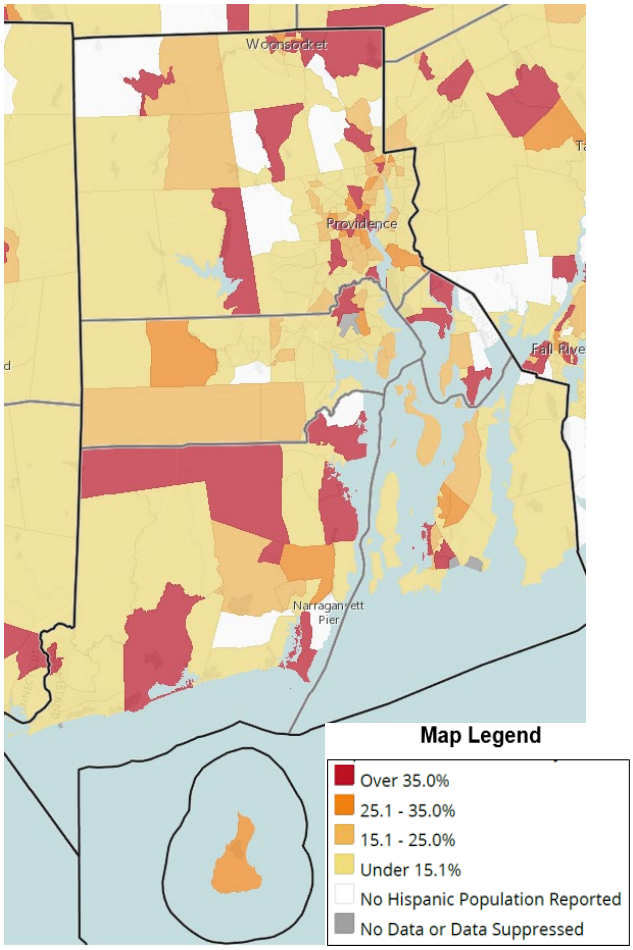
	White		Black/African American		Latinx	
	Count	Percentage	Count	Percentage	Count	Percentage
Bristol County	2,808	6.4%	301	47.6%	127	11.2%
Kent County	12,342	8.2%	191	8.2%	778	11.7%
Newport County	5,680	8.0%	563	23.0%	872	20.8%
Providence County	61,249	13.8%	14,887	25.4%	42,541	32.8%
Washington County	10,166	9.0%	532	33.9%	546	17.3%
Rhode Island	92,245	11.2%	16,474	25.1%	44,864	31.0%

Source: US Census Bureau, 2012–2016

Black/African American Population Below the Poverty Level by Census Tract



Latinx Population Below the Poverty Level by Census Tract



Rhode Island and the nation have equivalent white collar and blue collar work forces and unemployment rates. Washington and Kent counties have a greater proportion of white collar workers compared to the state and the nation. Compensation for white collar workers tends to include benefits like private health insurance more often than it does for blue collar workers. Washington County also has a very low unemployment rate at 2.8%. Providence County has the highest blue collar workforce and unemployment rate, both of which are greater than the state and national percentages.

Population by Occupation and Unemployment

	White Collar Workforce	Blue Collar Workforce	Unemployment Rate
Bristol County	69.0%	31.0%	4.1%
Kent County	63.0%	37.0%	4.9%
Newport County	65.0%	35.0%	3.4%
Providence County	58.0%	42.0%	5.9%
Washington County	66.0%	34.0%	2.8%
Rhode Island	61.0%	39.0%	5.0%
United States	61.0%	39.0%	4.8%

Source: ESRI, 2018

Housing Measures

Homeownership and housing affordability are measures of economic stability. The median home values for Rhode Island and all five counties are higher than the national median.

The Newport and Washington County median home values are the highest in the state, and exceed both the state and the national medians. While Washington County residents are more likely to own their home, Newport County residents are among the least likely to own their home, behind Providence County.

Population by Household Type and Housing Cost Burden

	Renter-Occupied	Renters Paying 30% or More of Income on Rent	Owner-Occupied	Median Home Value	Mortgages Costing 30% or More of Household Income
Bristol County	29.7%	53.5%	70.3%	$330,000	31.7%
Kent County	29.9%	49.4%	70.1%	$208,400	33.8%
Newport County	39.1%	47.4%	60.9%	$352,900	35.3%
Providence County	47.1%	51.2%	52.9%	$209,800	35.9%
Washington County	27.6%	50.3%	72.4%	$315,100	32.2%
Rhode Island	40.3%	50.7%	59.7%	$238,200	34.6%
United States	36.4%	51.1%	63.6%	$184,700	30.8%

Source: US Census Bureau, 2012–2016

Housing cost burden is defined by the US Census Bureau as spending more than 30% of household income on rent or mortgage expenses. Housing cost-burdened households are more likely to have difficulty affording other necessities like food, transportation, and medical care.

Housing cost burden is defined as spending more than 30% of household income on rent or mortgage expenses

Half of all renters and about one-third of homeowners in Rhode Island are considered housing cost burdened. While housing cost burden in Kent, Providence, and Washington counties is consistent with the state and the nation for renters, more homeowners are considered housing cost burdened compared to the nation. Providence County has the highest percentage of housing cost-burdened homeowners in the state.

Half of all renters and about one-third of homeowners in Rhode Island are considered housing cost burdened

The Rhode Island Comprehensive Housing Production and Rehabilitation Act of 2004 and Rhode Island Low and Moderate Income Housing Act (Rhode Island General Laws 45-53) require that 10% of each municipality's housing stock be "affordable." Twenty-nine communities are covered by the Act; 10 are exempt due to their percentage of rental housing and/or current affordable housing inventory. The following table indicates the availability of low- and moderate-income housing for Rhode Island by target demographic.

Low and Moderate Income Housing (LMIH) Units by Target Demographic

	Total LMIH Units	Total Housing Units	LMIH Percent of Total	Elderly Housing Units	Family Housing Units	Special Needs Housing Units
Rhode Island	37,157	445,902	8.3%	19,631 (53%)	13,726 (37%)	3,800 (10%)

Source: State of Rhode Island Office of Housing and Community Development, 2017

Homelessness

Each year, the Rhode Island Coalition for the Homeless conducts a point-in-time study to identify individuals experiencing homelessness. The unduplicated statewide count is conducted on a single night in January. The study does not include individuals at risk of homelessness or those who are "couch surfing."

In 2018, 1,101 people across Rhode Island were identified as homeless, including 747 single adults and 354 persons in families. Of the single adults, nearly 75% were in emergency shelters and 19% were in transitional housing. Family households were more evenly split between emergency shelters (51%) and transitional housing (48%). Single adults were more likely than persons in families were to be unsheltered.

The vast majority (94%) of the chronically homeless population was in emergency shelters; 6% were unsheltered. Veterans were the most likely to be in transitional housing (61%), while youth were the most likely to be in emergency shelters (73%).

Homeless Point in Time Count

	Single Adults		Persons in Families	
	Count	Percent	Count	Percent
Emergency Shelter	557	74.6%	182	51.4%
Transitional Housing	141	18.9%	170	48.0%
Unsheltered	49	6.6%	2	0.6%

Source: Rhode Island Coalition for the Homeless, 2018

Homeless Point in Time Count by Subpopulation

	Chronically Homeless		Veterans		Youth	
	Count	Percent	Count	Percent	Count	Percent
Emergency Shelter	247	93.6%	37	35.9%	40	72.7%
Transitional Housing	0	0.0%	63	61.2%	14	25.5%
Unsheltered	17	6.4%	3	2.9%	1	1.8%

Source: Rhode Island Coalition for the Homeless, 2018

Children comprised 22% of all homeless individuals in Rhode Island, 51% of whom were under age 6.

The Rhode Island Department of Health defines homeless children as children under age 18 who stayed at homeless shelters, domestic violence shelters, or transitional housing facilities with their families. Across Rhode Island in 2017, 539 families with 998 children stayed at a homeless shelter or other emergency housing facility. Children comprised 22% of all homeless individuals in Rhode Island, 51% of who were under age 6. The following tables depict homeless children identified by public schools during the 2016–2017 school years.

Homeless Children Identified during the 2016–2017 School Year

	Total Student Enrollment	Number of Children Identified as Homeless
Four Core Cities	41,419	444
Remainder of Rhode Island	91,811	770
All of Rhode Island	142,142	1,245

Source: Rhode Island Department of Health, 2016–2017

Homeless Children in the Core Cities Identified during the 2016–2017 School Year

	Total Student Enrollment	Number of Children Identified as Homeless	Percent of Children Identified as Homeless
Central Falls	2,589	63	2.4%
Pawtucket	8,984	63	0.7%
Providence	23,983	227	0.9%
Woonsocket	5,863	91	1.6%

Source: Rhode Island Department of Health, 2016–2017

Education Measures

Individuals without a high school diploma earn an average of $29,000 less annually than individuals with a bachelor's degree

Education is the largest predictor of poverty and one of the most effective means of reducing inequalities. Across Rhode Island, individuals without a high school diploma earn an average of nearly $29,000 less annually than individuals with a bachelor's degree, and nearly $50,000 less than individuals with a graduate or professional degree. Bristol, Newport, and Washington counties experience similar income differences as the state, based on educational attainment. Kent and Providence Counties experience less of an income gap, particularly when comparing individuals with a graduate or profession degree to individuals with less than a high school diploma.

Median Earnings in the Past 12 Months for the Population 25 Years or Over by Educational Attainment

	Less than a High School Graduate	High School Graduate/ GED	Some College or Associate's Degree	Bachelor's Degree	Graduate or Professional Degree
Bristol County	$27,222	$30,669	$42,510	$56,720	$81,333
Kent County	$28,805	$35,740	$41,686	$53,934	$71,439
Newport County	$25,707	$33,279	$37,984	$53,659	$79,644
Providence County	$23,115	$31,898	$36,236	$51,754	$69,101
Washington County	$27,136	$37,016	$40,871	$56,736	$77,168
Rhode Island	$24,141	$32,734	$38,016	$53,036	$72,937
United States	$21,738	$29,815	$35,394	$52,019	$69,903

Source: US Census Bureau, 2013–2017

Education attainment in Providence County is lower than the state and the nation.

Rhode Island has a greater proportion of residents attaining a bachelor's degree or higher and fewer residents who do not complete high school than the nation. Providence County has the lowest proportion of residents who have not completed a high school diploma or attained a bachelor's degree or higher degree. Higher education attainment levels in Bristol, Newport, and Washington counties exceed other counties, the state, and the nation. Providence and Kent counties higher education levels are lower than other counties, the state, and the nation.

Population (25 Years or Over) by Educational Attainment

	Less than a High School Diploma	High School Graduate/GED	Bachelor's Degree or Higher
Bristol County	7.9%	20.3%	49.5%
Kent County	7.1%	28.0%	34.5%
Newport County	5.7%	22.1%	48.5%
Providence County	14.2%	29.6%	30.0%
Washington County	5.2%	22.2%	47.5%
Rhode Island	10.9%	27.4%	35.3%
United States	12.3%	27.0%	31.8%

Source: ESRI, 2018

The following tables profile educational attainment by race and ethnicity. Across Rhode Island, minority populations are more likely to be impacted by adverse social determinants of health, including education, when compared to Whites.

Providence County has the greatest racial and ethnic diversity within the state, as well as some of the greatest socioeconomic disparity among minority populations. Education attainment is closely linked with socioeconomic disparity, particularly poverty. In Providence County, less than one in five Black/African American or Latinx residents have attained a bachelor's degree or higher compared to nearly one in three White residents. Similarly, one in four Black/African American residents and one in three Latinx residents live in poverty compared to approximately one in 10 White residents.

Bachelor's Degree or Higher by Race and Ethnicity

	White		Black/African American		Latinx	
	Count	Percentage	Count	Percentage	Count	Percentage
Bristol County	15,194	46.2%	174	43.1%	290	45.3%
Kent County	35,497	31.4%	605	33.3%	1,001	28.8%
Newport County	25,242	46.1%	594	34.3%	700	33.8%
Providence County	96,947	29.3%	6,553	18.4%	7,615	10.8%
Washington County	36,661	45.3%	242	30.1%	614	37.6%
Rhode Island	209,541	34.2%	8,168	20.2%	10,220	13.1%

Source: US Census Bureau, 2012–2016

Analysis of Health and Social Disparities by Zip Code

Zip code of residence is one of the most important predictors of health disparity; where residents live matters in determining their health. The Community Need Index (CNI) was developed by Dignity Health and Truven Health Analytics to illustrate the potential for health disparity at the zip code level. The CNI scores zip codes on a scale of 1.0 (low need) to 5.0 (high need) based on 2015 data indicators for five socio-economic barriers:

- Income: Poverty among elderly households, families with children, and single female-headed families with children
- Culture/Language: Minority populations and English language barriers
- Education: Population over 25 years without a high school diploma
- Insurance coverage: Unemployment rate among population 16 years or over and population without health insurance
- Housing status: Householders renting their home

The following tables list the social determinants of health contributing to zip code CNI scores. Zip codes with a CNI score of 3.4 or greater are shown in comparison to their respective county and the state and are presented in descending order by CNI score. Cells highlighted in yellow are more than 2% points *higher* than the county statistic. Note: The 2% point difference does not represent statistical significance.

Social Determinants of Health Indicators by Zip Code

	HHs in Poverty	HHs Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemp-loyment	Less than HS Diploma	Without Health Insurance	CNI Score
Kent County	**9.7%**	**12.0%**	**8.9%**	**8.7%**	**4.9%**	**7.1%**	**5.7%**	**2.4**
02893 (West Warwick)	17.3%	19.5%	19.4%	10.5%	4.9%	10.2%	7.2%	3.4
Newport County	**10.6%**	**9.8%**	**11.5%**	**10.3%**	**3.4%**	**5.7%**	**7.3%**	**2.7**
02841 (Newport)	25.0%	25.0%	NA	13.6%	9.0%	4.0%	26.3%	3.6
Providence County	**17.3%**	**20.5%**	**24.4%**	**30.5%**	**5.9%**	**14.2%**	**9.6%**	**3.5**
02863 (Central Falls)	32.5%	43.5%	41.5%	72.3%	7.4%	38.1%	25.1%	4.8
02907 (Providence)	28.7%	45.7%	36.3%	69.0%	11.2%	25.0%	19.9%	4.8
02905 (Providence)	24.9%	31.5%	37.9%	48.2%	9.7%	15.8%	12.9%	4.8
02903 (Providence)	35.7%	26.7%	22.7%	32.3%	6.2%	17.1%	11.1%	4.8
02909 (Providence)	35.3%	44.2%	42.6%	64.8%	10.1%	33.4%	20.5%	4.8
02860 (Pawtucket)	24.0%	31.5%	36.2%	47.9%	8.4%	19.9%	13.4%	4.4
02908 (Providence)	22.6%	27.0%	30.8%	42.5%	6.6%	16.8%	11.4%	4.4
02895 (Woonsocket)	24.6%	28.3%	38.5%	24.6%	4.3%	17.2%	9.4%	4.2
02914 (East Providence)	15.0%	18.8%	17.1%	34.7%	6.4%	20.2%	10.9%	4.0
02904 (Providence)	23.1%	21.9%	24.4%	29.1%	5.0%	11.5%	8.9%	4.0
02920 (Cranston)	12.0%	11.1%	17.8%	24.2%	5.5%	10.6%	6.9%	3.6
02861 (Pawtucket)	11.4%	15.9%	18.5%	25.7%	6.5%	12.3%	8.9%	3.4
Rhode Island	**14.1%**	**16.1%**	**18.9%**	**21.6%**	**5.0%**	**10.9%**	**8.0%**	**3.1**

Demographic Indicators by Zip Code

	White	Black/ African American	Latinx	18-24	25-34	35-44	45-54	55-64	65+
Kent County	**91.1%**	**1.9%**	**5.1%**	**7.2%**	**12.4%**	**12.3%**	**14.5%**	**15.7%**	**19.6%**
02893 (West Warwick)	88.2%	2.9%	7.9%	7.5%	14.9%	14.3%	12.9%	14.0%	17.2%
Newport County	**88.0%**	**4.3%**	**6.3%**	**9.5%**	**11.3%**	**11.0%**	**13.8%**	**15.5%**	**21.2%**
02841 (Newport)	61.3%	19.7%	22.9%	37.6%	29.3%	14.4%	6.1%	2.2%	2.0%
Providence County	**68.7%**	**9.5%**	**23.4%**	**11.7%**	**14.2%**	**12.1%**	**12.8%**	**12.9%**	**16.1%**
02863 (Central Falls)	47.7%	10.6%	69.1%	11.6%	17.6%	13.2%	11.4%	9.0%	10.0%
02907 (Providence)	23.9%	23.7%	63.9%	12.0%	17.6%	12.3%	11.7%	10.2%	8.8%
02905 (Providence)	45.4%	19.6%	42.9%	17.0%	15.4%	10.7%	11.4%	11.1%	11.4%
02903 (Providence)	54.9%	13.8%	23.0%	35.1%	19.0%	8.5%	7.7%	8.2%	14.3%
02909 (Providence)	35.9%	14.3%	63.8%	13.7%	19.2%	13.0%	10.8%	8.4%	7.6%
02860 (Pawtucket)	50.5%	20.0%	31.4%	9.9%	15.8%	13.0%	12.9%	12.0%	13.2%
02908 (Providence)	49.9%	17.9%	40.5%	20.6%	15.9%	12.0%	10.3%	9.1%	10.2%
02895 (Woonsocket)	71.5%	7.9%	19.7%	8.9%	14.3%	12.6%	12.6%	12.9%	15.9%
02914 (East Providence)	72.6%	10.1%	8.6%	7.9%	14.5%	13.0%	12.8%	12.9%	19.4%
02904 (Providence)	66.5%	13.2%	20.3%	8.4%	14.1%	12.2%	12.2%	13.5%	21.8%
02920 (Cranston)	75.4%	7.3%	17.1%	8.6%	14.4%	12.8%	13.3%	13.5%	21.0%
02861 (Pawtucket)	78.3%	7.3%	18.1%	8.1%	14.0%	12.8%	13.9%	14.2%	17.3%
Rhode Island	**77.8%**	**6.5%**	**15.9%**	**10.9%**	**13.0%**	**11.7%**	**13.3%**	**14.1%**	**17.7%**

Statistical Analysis of Health Indicators

Background

Health indicators were analyzed for a number of health issues, including access to care, health behaviors and outcomes, chronic disease prevalence and mortality, mental health and substance use disorder, and maternal and child health. Data were compiled from secondary sources including the Rhode Island Department of Health, the Centers for Disease Control and Prevention (CDC), the Behavioral Risk Factor Surveillance System (BRFSS), Youth Risk Behavior Surveillance System (YRBSS), and the University of Wisconsin County Health Rankings & Roadmaps program, among other sources. A comprehensive list of data sources is provided in Appendix A.

Health data focus on county-level reporting which is generally the most recent and most consistent data available. Health data for the counties are compared to state and national averages and Healthy People 2020 (HP 2020) goals, where applicable, to provide benchmark comparisons. Healthy People is a US Department of Health and Human Services health promotion and disease prevention initiative that sets science-based, 10-year national objectives for improving the health of all Americans.

Age-adjusted rates are referenced throughout the reporting to depict a comparable burden of disease among residents. Age-adjusted rates are summary measures adjusted for differences in age distributions so that data from one year to another, or between one geographic area and another, can be compared as if the communities reflected the same age distribution.

The BRFSS is a telephone survey of residents age 18 or over conducted nationally by states as required by the CDC. A consistent survey tool is used across the US to assess health risk behaviors, prevalence of chronic health conditions, access to care, preventive health measures, among other health indicators. BRFSS results included within this report were provided by the Rhode Island Department of Health.

The YRBSS is a school-based survey conducted by the CDC every other odd year to monitor priority health risk behaviors among youth. YRBSS findings are reported for youth in grades 9–12 by county.

The most recent data available at the time of this study were used unless otherwise noted.

Access to Healthcare

The five Rhode Island counties received the following rankings for clinical care, as reported by the University of Wisconsin County Health Rankings & Roadmaps program. The rankings are based on a number of indicators, including health insurance coverage and provider access. The rankings are unchanged since the 2016 CHNA.

2018 Clinical Care County Health Rankings

#1 Bristol County (#1 in 2015)

#2 Washington County (#2 in 2015)

#3 Newport County (#3 in 2015)

#4 Kent County (#4 in 2015)

#5 Providence County (#5 in 2015)

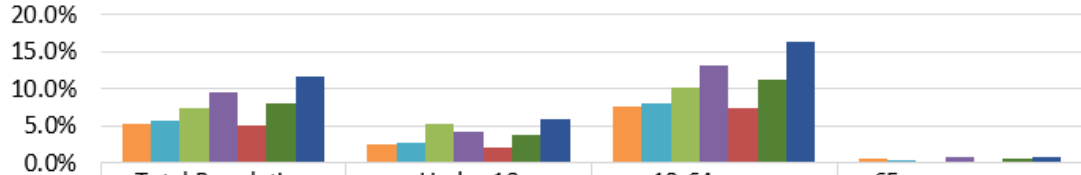
Health Insurance Coverage

The State of Rhode Island has fewer uninsured residents compared to the nation; however, no counties meet the Healthy People 2020 goal of having 100% of all residents insured. Providence County has the highest percent uninsured, but the percentage is still lower than the nation by 2% points.

Rhode Island has proportionately fewer people uninsured than the nation. The percent of uninsured dropped 7 points from 2012 to 2016.

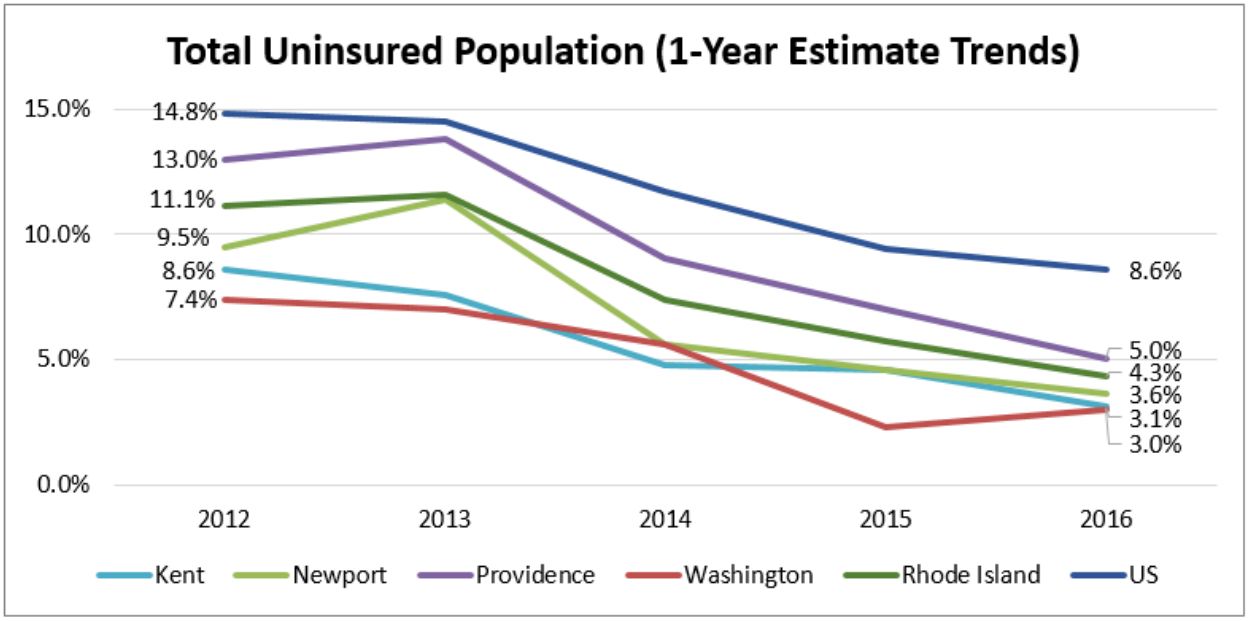
Over the past five years, the percentage of uninsured residents declined, though there was a slight increase between 2015 and 2016 in Washington County. Providence County experienced the greatest decline of 8% points between 2012 and 2016.

Population without Health Insurance Coverage (2012-2016 5-Year Aggregate)

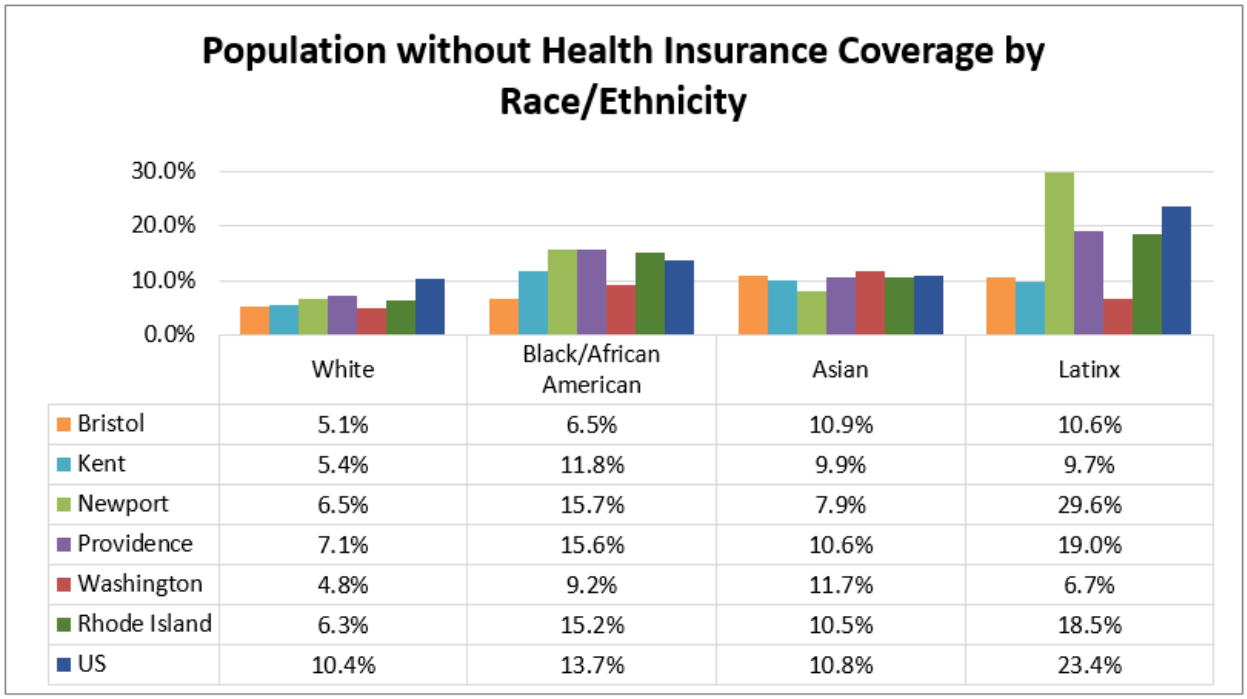


	Total Population	Under 18	18-64 years	65 years or over
Bristol	5.3%	2.6%	7.6%	0.6%
Kent	5.7%	2.7%	8.0%	0.3%
Newport	7.3%	5.2%	10.2%	0.1%
Providence	9.6%	4.1%	13.2%	0.8%
Washington	5.1%	2.0%	7.3%	0.2%
Rhode Island	8.0%	3.7%	11.2%	0.5%
US	11.7%	5.9%	16.4%	0.9%

Source: US Census Bureau, 2012–2016



Source: US Census Bureau, 2012–2016
*The Bristol County uninsured rate is all reported as a five-year aggregate based on data availability.



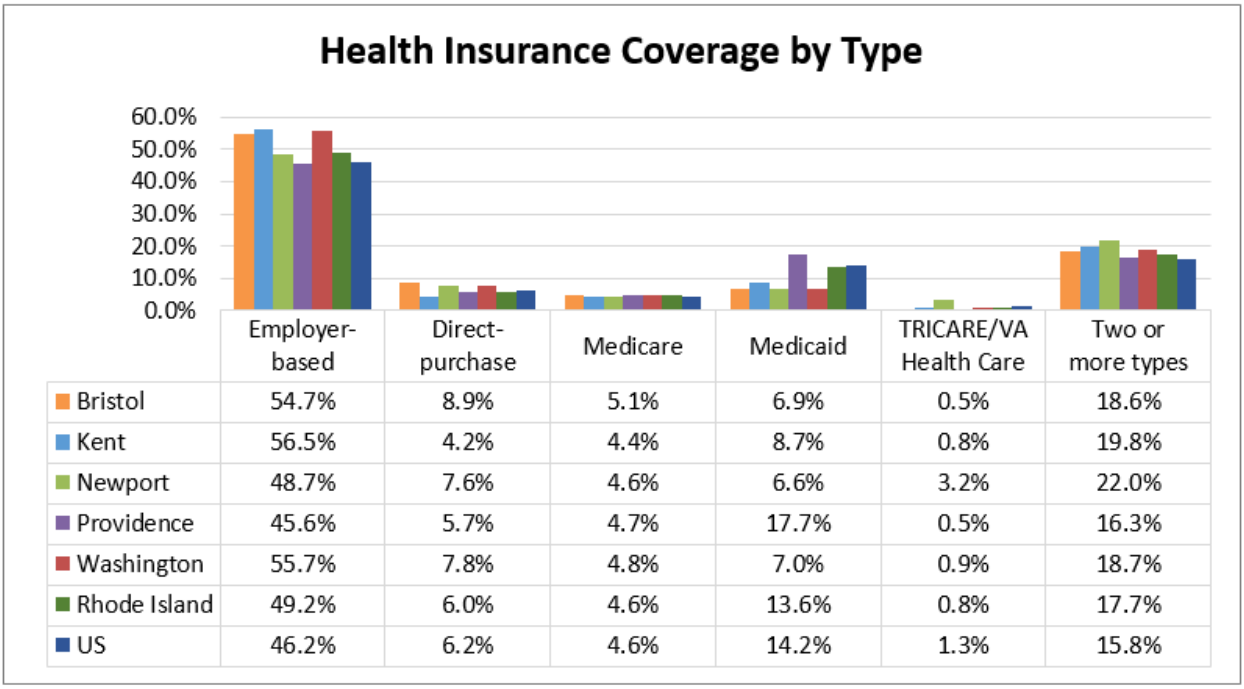
	White	Black/African American	Asian	Latinx
Bristol	5.1%	6.5%	10.9%	10.6%
Kent	5.4%	11.8%	9.9%	9.7%
Newport	6.5%	15.7%	7.9%	29.6%
Providence	7.1%	15.6%	10.6%	19.0%
Washington	4.8%	9.2%	11.7%	6.7%
Rhode Island	6.3%	15.2%	10.5%	18.5%
US	10.4%	13.7%	10.8%	23.4%

Source: US Census Bureau, 2012–2016

Uninsured percentages across Rhode Island and the nation are highest among Latinx residents. Providence County is consistent with the state and the nation in this way. However, in Kent and Washington counties, the percent uninsured is highest among Blacks/African Americans and Asians respectively.

The following graph depicts health insurance coverage by type of insurance. Residents of Rhode Island and all of the counties are most likely to be covered by employer-based insurance. A higher percentage of residents in Providence County are covered by Medicaid insurance.

A higher percentage of Providence County residents are insured by Medicaid



	Employer-based	Direct-purchase	Medicare	Medicaid	TRICARE/VA Health Care	Two or more types
Bristol	54.7%	8.9%	5.1%	6.9%	0.5%	18.6%
Kent	56.5%	4.2%	4.4%	8.7%	0.8%	19.8%
Newport	48.7%	7.6%	4.6%	6.6%	3.2%	22.0%
Providence	45.6%	5.7%	4.7%	17.7%	0.5%	16.3%
Washington	55.7%	7.8%	4.8%	7.0%	0.9%	18.7%
Rhode Island	49.2%	6.0%	4.6%	13.6%	0.8%	17.7%
US	46.2%	6.2%	4.6%	14.2%	1.3%	15.8%

Source: US Census Bureau, 2012–2016

Provider Access

Provider rates are measured as the number of providers in an area per 100,000 people, and are measured against state and national benchmarks for primary care physicians, dentists, and mental health care providers. Primary care physicians include non-federal, practicing physicians under age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics. Mental health providers include psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, mental health providers that treat alcohol and other drug abuse, and advanced practice nurses specializing in mental health care.

Rhode Island has a higher rate of primary care providers, but a lower rate of dental providers when compared to the nation

All Rhode Island counties have a higher primary care physician rate than the nation, indicating a greater number of providers per person and potential for greater access to care.

The Kent and Providence County provider rates increased from 2011 to 2015 by 9 points 4 points respectively. The Washington County rate declined 2 points during the same time period.

Rhode Island has a lower dentist provider rate than the nation, indicating fewer dentists per person. However, the dentist provider rate increased 3–4 points from 2012 to 2016 across Rhode Island and in Kent, Providence, and Washington counties. Kent County has a higher dentist provider rate than the state and the nation.

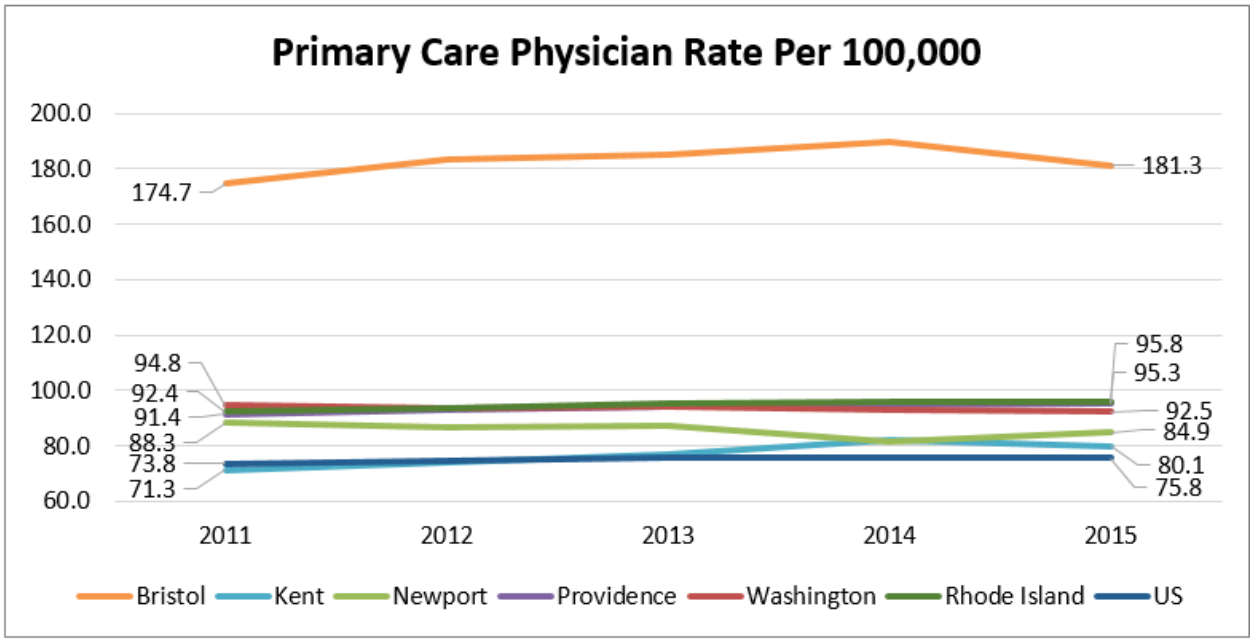
The mental health care provider rate increased by 61 points in Providence County between 2014 and 2017.

Rhode Island has a higher mental health provider rate than the nation. The statewide provider rate increased more than 50 points from 2014 to 2017. The rate also increased in Kent, Providence, and Washington counties. Providence County saw the greatest provider rate increase of 61 points; the current rate for the county is the highest in the state. These findings indicate overall improved access to care, but may not account for specialty provider shortages, including psychiatrists and psychologists.

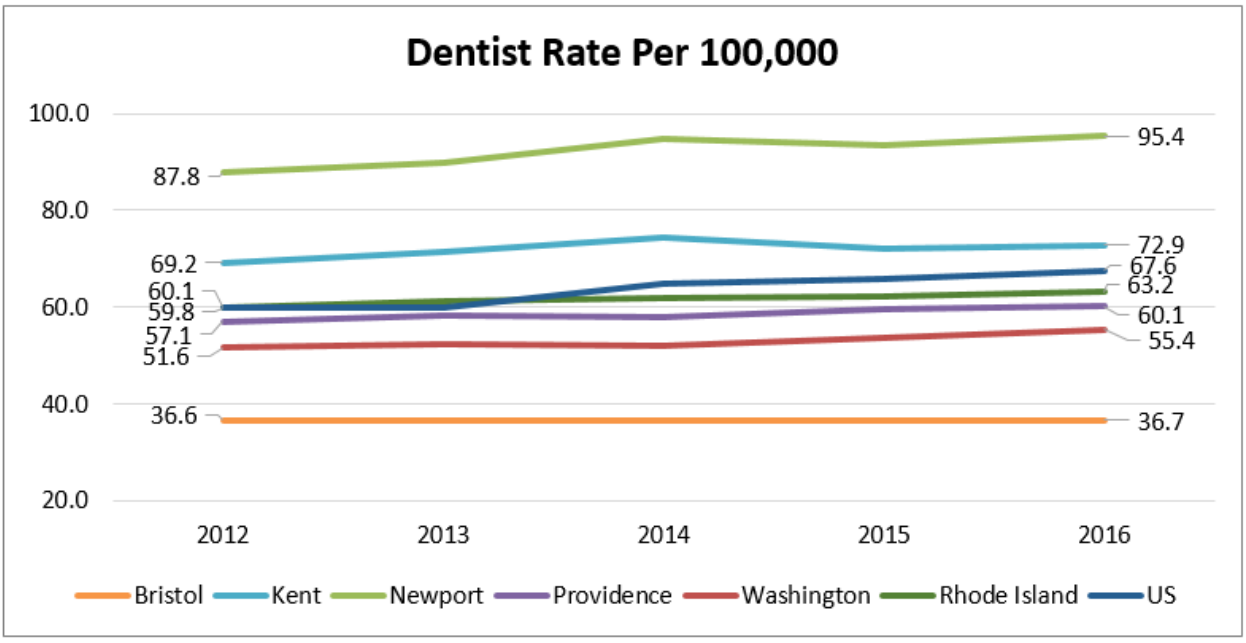
Provider Rates per 100,000
(Green = Higher than the State or Nation; Red = Lower than the State or Nation)

	2015 Primary Care Physician Rate	2016 Dentist Provider Rate	2017 Mental Health Care Provider Rate
Bristol County	181.3	36.7	185.5
Kent County	80.1	72.9	281.3
Newport County	84.9	95.4	302.0
Providence County	95.3	60.1	433.0
Washington County	92.5	55.4	285.1
Rhode Island	95.8	63.2	370.2
United States	75.8	67.6	212.8

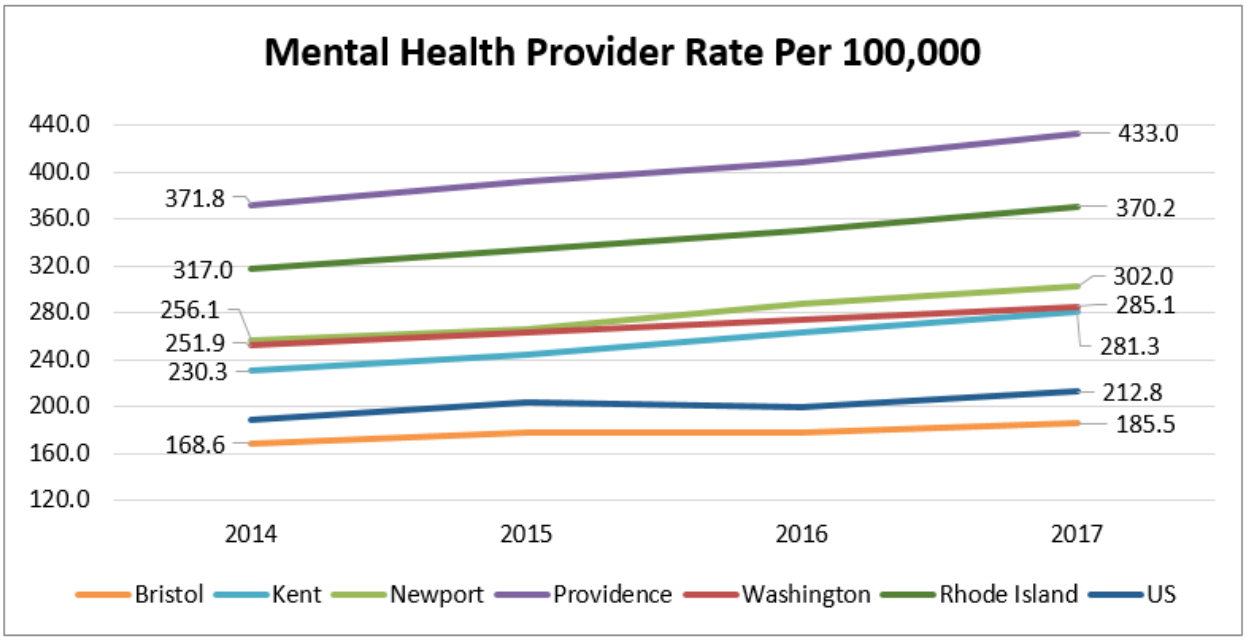
Source: Health Resources & Services Administration, 2015 & 2016; Centers for Medicare and Medicaid Services, 2017



Source: Health Resources & Services Administration, 2011–2015
*Primary care physicians are identified based on the county in which their preferred professional/business mailing address is located. Rates do not take into account providers that serve multiple counties or satellite clinics.



Source: Health Resources & Services Administration, 2012–2016



Source: Centers for Medicare and Medicaid Services, 2014–2017
*An error occurred in the County Health Rankings method for identifying mental health providers in 2013. Data prior to 2014 are not shown.

The Health Resources & Services Administration is responsible for designating geographic areas as Health Professional Shortage Areas (HPSAs) for primary, dental, and mental health care. Shortage areas are determined based on a defined ratio of total health professionals to total population. The following HPSAs are located within Rhode Island:

Newport, Providence, and Washington counties are HPSAs for mental health care

Health Professional Shortage Areas in Rhode Island

Newport County:

- All of Newport County: Mental health HPSA
- Newport/Middletown Area: Dental health HPSA for low-income populations

Providence County:

- All of Providence County: Mental health HPSA for low-income populations
- Four Core Cities (Central Falls, Pawtucket, Providence, and Woonsocket): Primary care and dental health HPSA for low-income populations

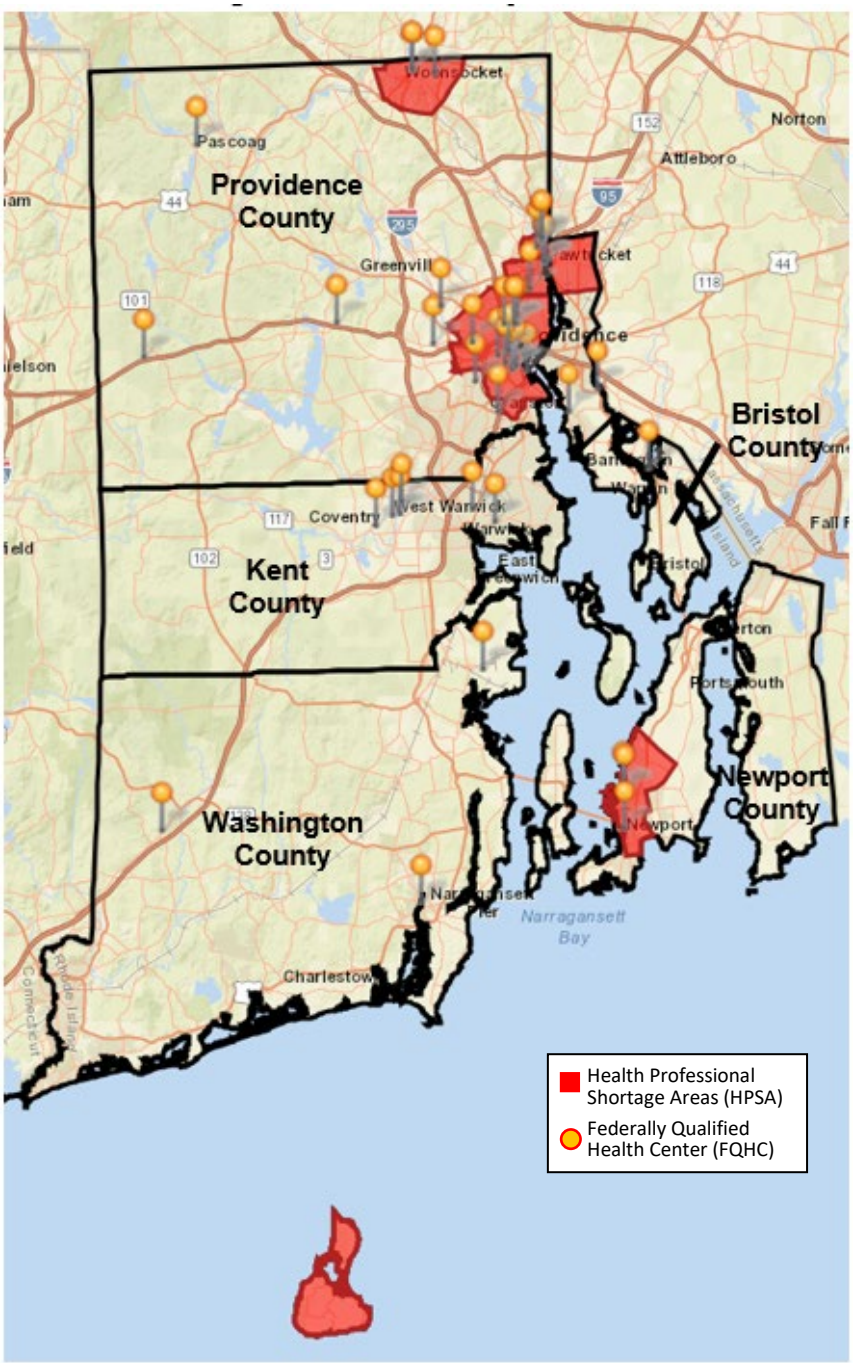
Washington County:

- All of Washington County: Mental health HPSA
- New Shoreham: Primary care HPSA

The Health Resources & Services Administration also plays a role in designating Federally Qualified Health Centers (FQHCs). Federally Qualified Health Centers are defined as "community-based health care providers that receive funds from the HRSA Health Center

Program to provide primary care services in underserved areas." Services are provided on a sliding fee scale based on patient ability to pay. The following map identifies the location of primary and dental care HPSAs and FQHCs across the state. A list of FQHC locations is provided in Appendix B.

Health Professional Shortage Area and Federally Qualified Health Center Locations



Routine Health Care Access

Health insurance coverage and provider availability can affect the number of residents who have a primary care provider and receive routine care. Rhode Island adults are more likely to have a usual primary care provider and receive routine checkups, and are less likely to consider cost as a barrier to receiving care. However, a higher percentage of Providence County adults do not receive care due to cost when compared to the state and the nation.

Adult Routine Health Care Access
(Green/Red = Higher than the State or Nation)

	Has a Personal Doctor	Received a Routine Checkup within the Past 2 Years	Unable to See a Doctor within the Past Year due to Cost
Bristol County	92.7%	96.9%	6.7%
Kent County	88.7%	94.1%	5.9%
Newport County	87.5%	89.2%	6.5%
Providence County	86.0%	91.8%	12.3%
Washington County	90.2%	90.5%	8.7%
Rhode Island	87.2%	92.0%	10.3%
United States	77.1%	83.6%	12.0%

Source: Centers for Disease Control and Prevention, 2016; Rhode Island Department of Health, 2016

Overall Health Status

Rhode Island counties received the following health outcomes rankings, as reported by the University of Wisconsin County Health Rankings & Roadmaps program. Health outcomes are measured in relation to premature death (before age 75) and quality of life. The rankings are unchanged since the 2016 CHNA.

2018 Health Outcomes County Health Rankings

#1 Bristol County (#1 in 2015)

#2 Newport County (#2 in 2015)

#3 Washington County (#3 in 2015)

#4 Kent County (#4 in 2015)

#5 Providence County (#5 in 2015)

Kent and Providence counties, ranking #4 and #5 respectively for health outcomes, have a higher premature death rate than the state. Providence County adults are also more likely to self-report having "poor" or "fair" health status, and a higher average of poor physical and mental health days. Health care access barriers, including provider availability and adults who receive timely care, may affect the findings for Providence County.

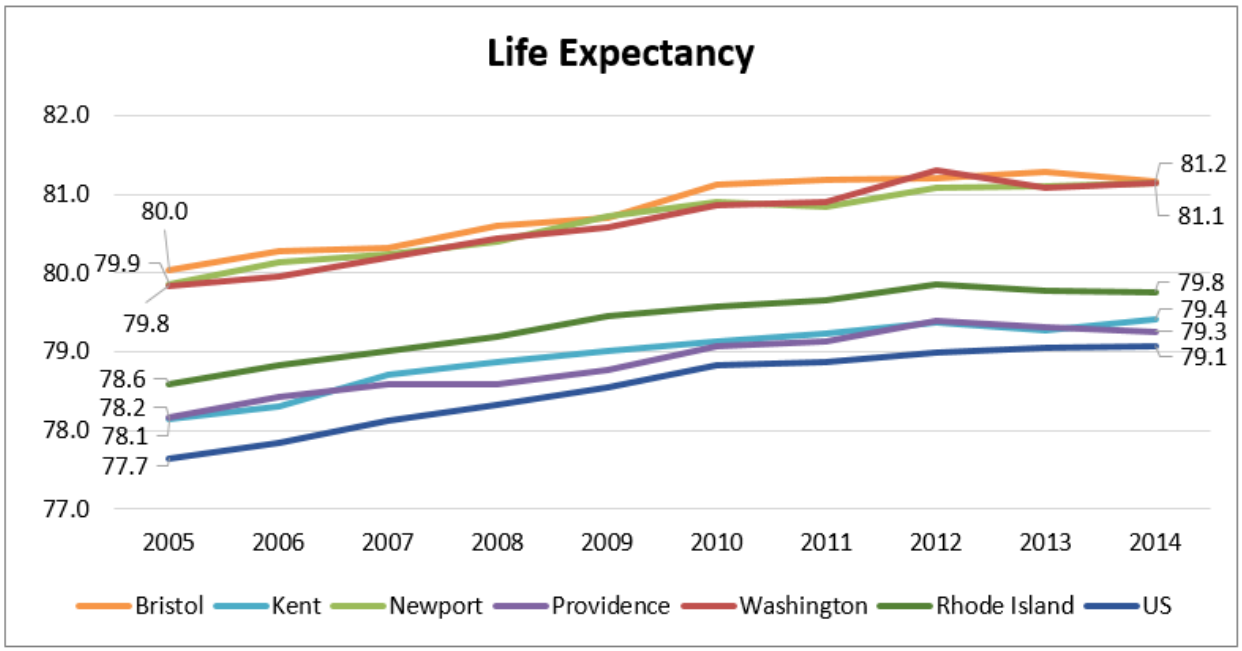
Rhode Island adults are more likely to receive routine care, however, a higher percentage of Providence County residents delay care due to cost

Life expectancy increased across the state and all counties by approximately one year from 2005 to 2014. Washington County residents have one of the highest life expectancies (81.1 years), while Kent and Providence County residents have the lowest life expectancies (79.3–79.4 years).

Health Outcomes Indicators
(Green = Lower than the State or Nation; Red = Higher than the State or Nation)

	Premature Death Rate per 100,000	Adults with "Poor" or "Fair" Health Status	30-Day Average - Poor Physical Health Days	30-Day Average - Poor Mental Health Days
Bristol County	4,599	10.2%	3.4	3.7
Kent County	6,042	11.9%	3.6	4.1
Newport County	4,484	11.0%	3.3	3.5
Providence County	6,284	16.5%	4.0	4.4
Washington County	5,424	11.3%	3.4	3.9
Rhode Island	5,920	14.8%	3.8	4.3
United States	6,700	16.0%	3.7	3.8

Source: National Center for Health Statistics, 2014–2016; Centers for Disease Control and Prevention, 2016



Source: Institute for Health Metrics and Evaluation, 2005–2014

The following maps depict life expectancy by census tract (CT) within each county, as available. Data are provided by the US Small-area Life Expectancy Estimates Project, a partnership of the National Center for Health Statistics, the Robert Wood Johnson Foundation, and the National Association for Public Health Statistics and Information Systems. All data are reported as a five-year aggregate for 2011–2015.

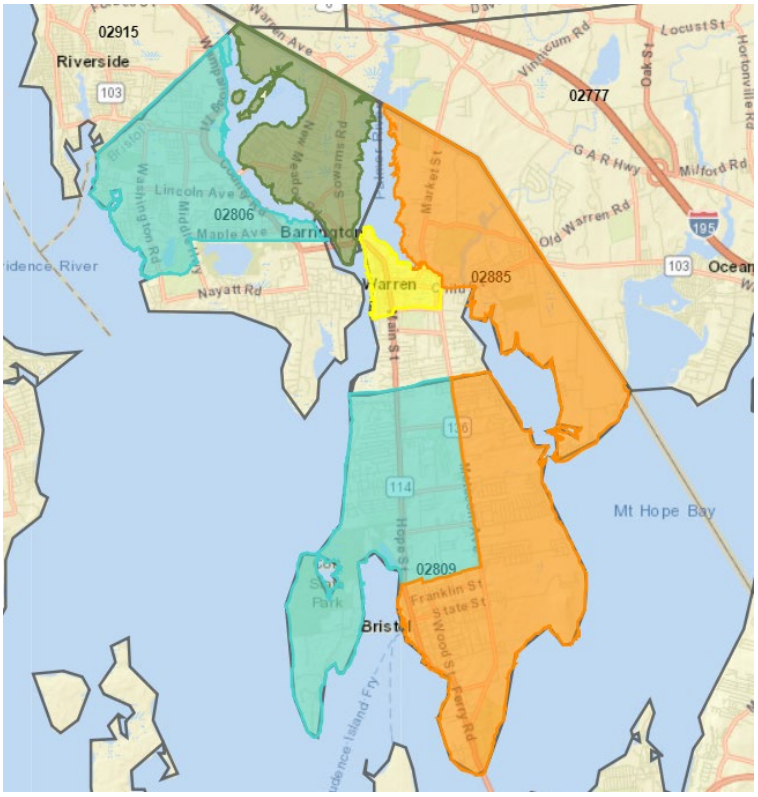
All counties have a higher life expectancy compared to the nation

Kent and Providence County have the lowest life expectancies and highest premature death rates in the state

The average life expectancy in all reported census tracts within Bristol, Newport, and Washington counties is 75 years or greater. Within Kent and Providence counties, several areas have an average life expectancy of less than 75 years. These areas are concentrated in the core cities in Providence County and West Warwick in Kent County, where residents experience greater socioeconomic disparity and potential for health disparity. For each county, areas with an average life expectancy of less than 78 years are noted.

Bristol County Life Expectancy by Census Tract

Area of Disparity: Warren

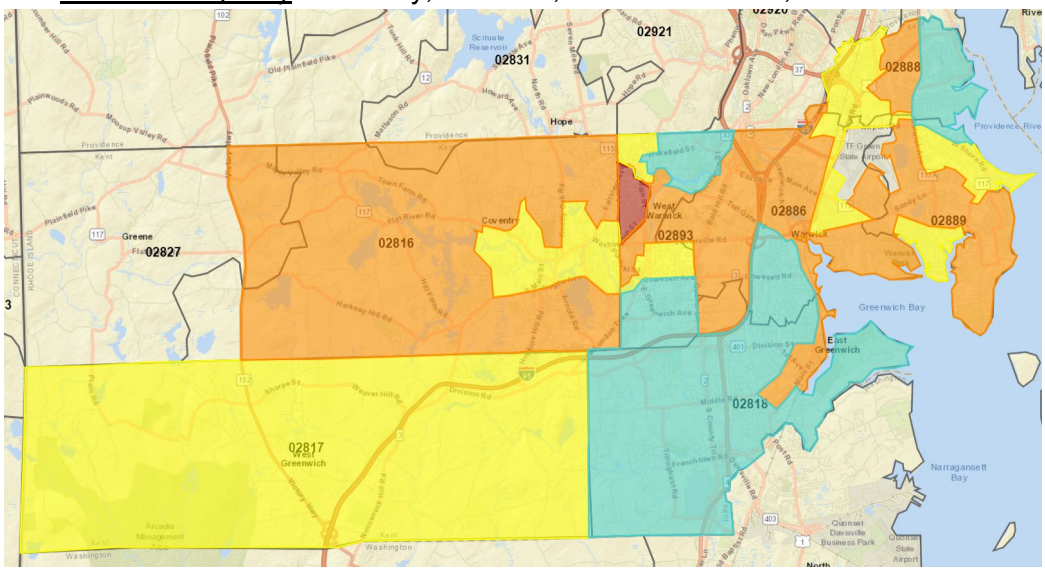


Legend

- = Life expectancy of less than 75 years
- = Life expectancy of 75-77.9 years
- = Life expectancy of 78-80.9 years
- = Life expectancy of 81-83.9 years
- = Life expectancy of 84 years or more

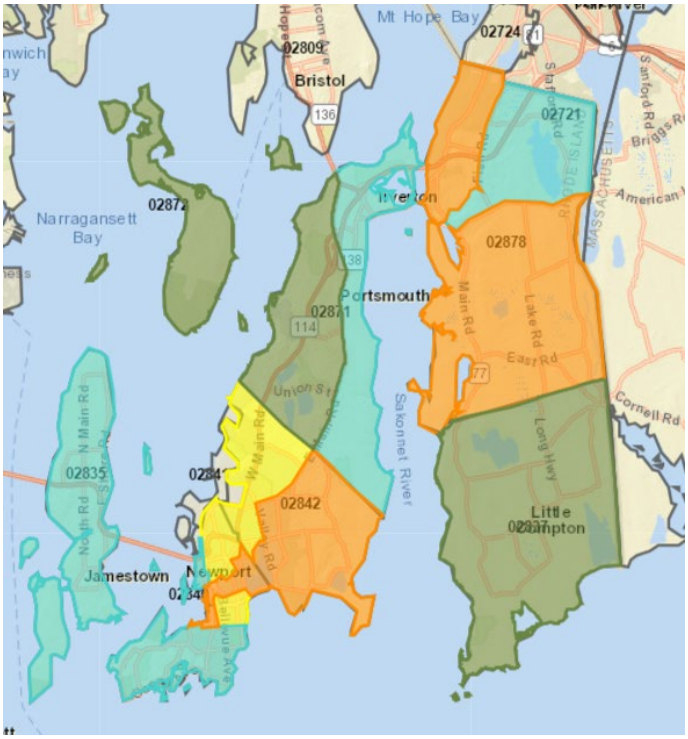
Kent County Life Expectancy by Census Tract

Areas of Disparity: Coventry, Warwick, West Greenwich, West Warwick



Newport County Life Expectancy by Census Tract

Areas of Disparity: Middletown, Newport

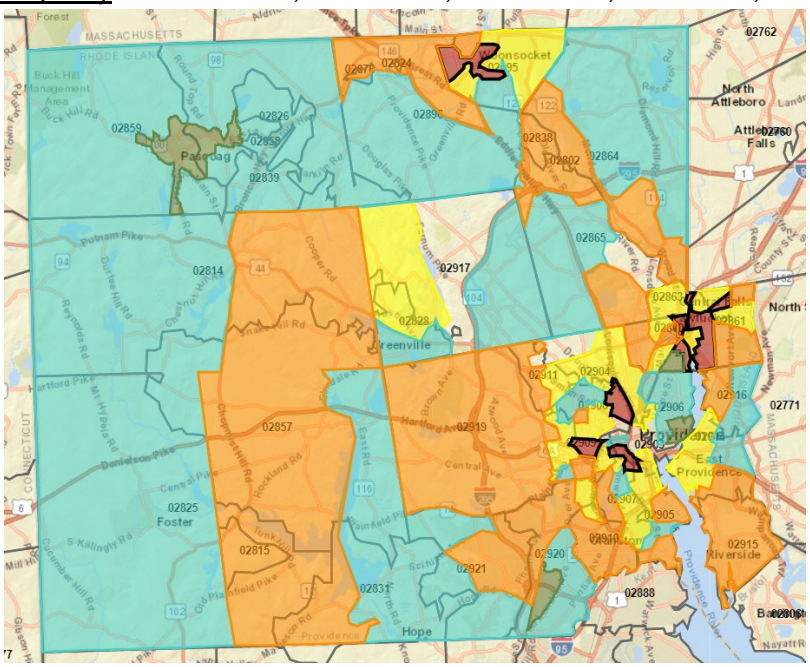


Legend

- = Life expectancy of less than 75 years
- = Life expectancy of 75-77.9 years
- = Life expectancy of 78-80.9 years
- = Life expectancy of 81-83.9 years
- = Life expectancy of 84 years or more

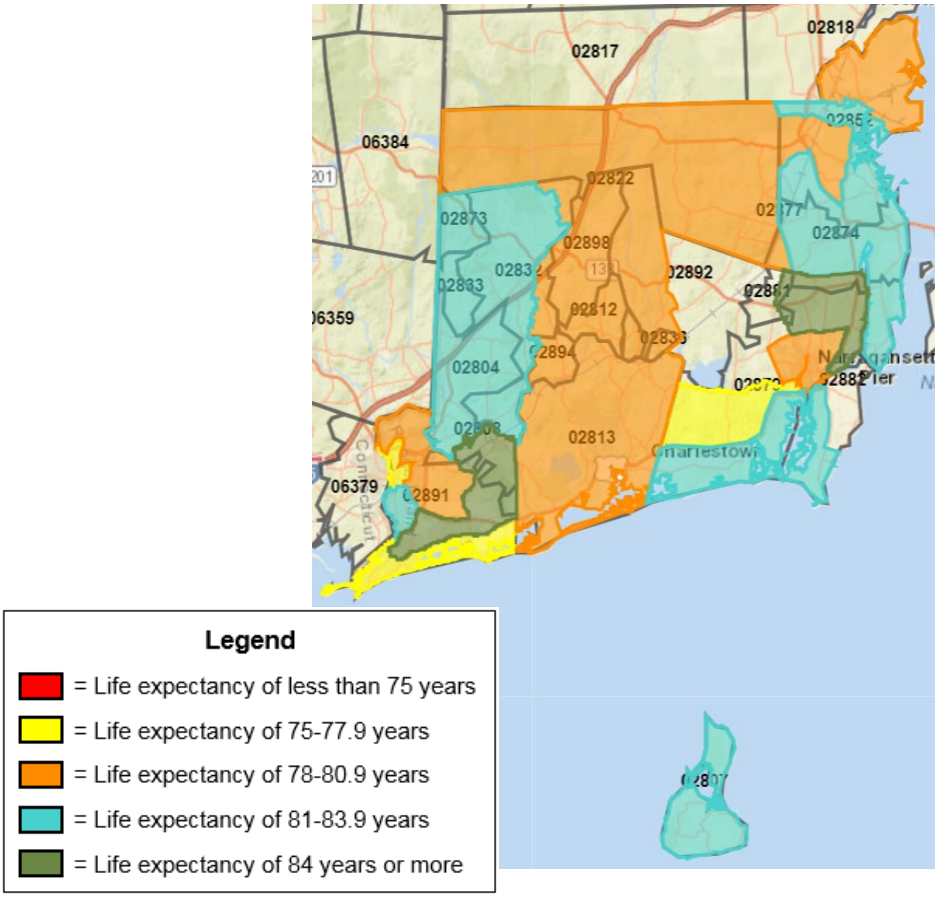
Providence County Life Expectancy by Census Tract

Areas of Disparity: Central Falls, Pawtucket, Providence, Smithfield, Woonsocket



Washington County Life Expectancy by Census Tract

Areas of Disparity: South Kingstown, Westerly



Health Behaviors

Health behaviors may increase or reduce the likelihood of disease or early death. Individual health behaviors include risk factors like tobacco use and obesity, or health promoting behaviors like exercise, good nutrition, and stress management. The prevalence of these health behaviors is provided below, with benchmark comparisons, as available.

Tobacco use

According to the CDC, tobacco use is the leading cause of preventable disease, disability, and death in the United States. Since 2012, smoking rates among adults declined across the state and all counties except Kent and Newport. In Kent County, the percent of adults who reported smoking increased by one percentage point. In Newport County the percent increased by 6.5 percentage points. As a whole, Washington County adults are less likely to smoke when compared to the state and the nation, nearly meeting the Healthy People 2020 goal of 12% of the population.

Smoking among Adults from the 2016 CHNA to Present
(Green = Decrease of More than 2 Points; Red = Increase of More than 2 Points)

	2012	2016
Bristol County*	15.7%	12.5%
Kent County	16.1%	17.3%
Newport County	8.5%	15.0%
Providence County	19.3%	15.4%
Washington County	15.0%	12.7%
Rhode Island	17.4%	14.4%
United States	17.0%	17.0%
Healthy People 2020	12.0%	12.0%

Source: Centers for Disease Control and Prevention, 2012 & 2016; Healthy People 2020
*Bristol County data is reported for 2010 due to data availability. A change in methods occurred in 2011 that may affect the validity of comparisons to prior years.

It is important to note that new trends related to e-cigarettes are affecting smoking data. Some traditional cigarette smokers have changed to e-cigarettes, while others who had never smoked before, particularly teens, are trying “vaping.” Data reflecting these trends were not available at the time of this report, but qualitative research indicated that “vaping” is a fast growing trend, especially among teens and young adults.

20% of RI high school students reported current use of e-cigarettes in 2017

According to the Rhode Island Department of Health, in 2017 26% of Rhode Island high school students reported using a form of tobacco (cigarettes or cigars, smokeless tobacco, or e-cigarettes) on at least one day during the past 30 days. E-cigarette use surpassed traditional cigarette use among teens. In 2017, 20% of high school students reported current use of e-cigarettes, while 6% of students reported current use of traditional cigarettes.

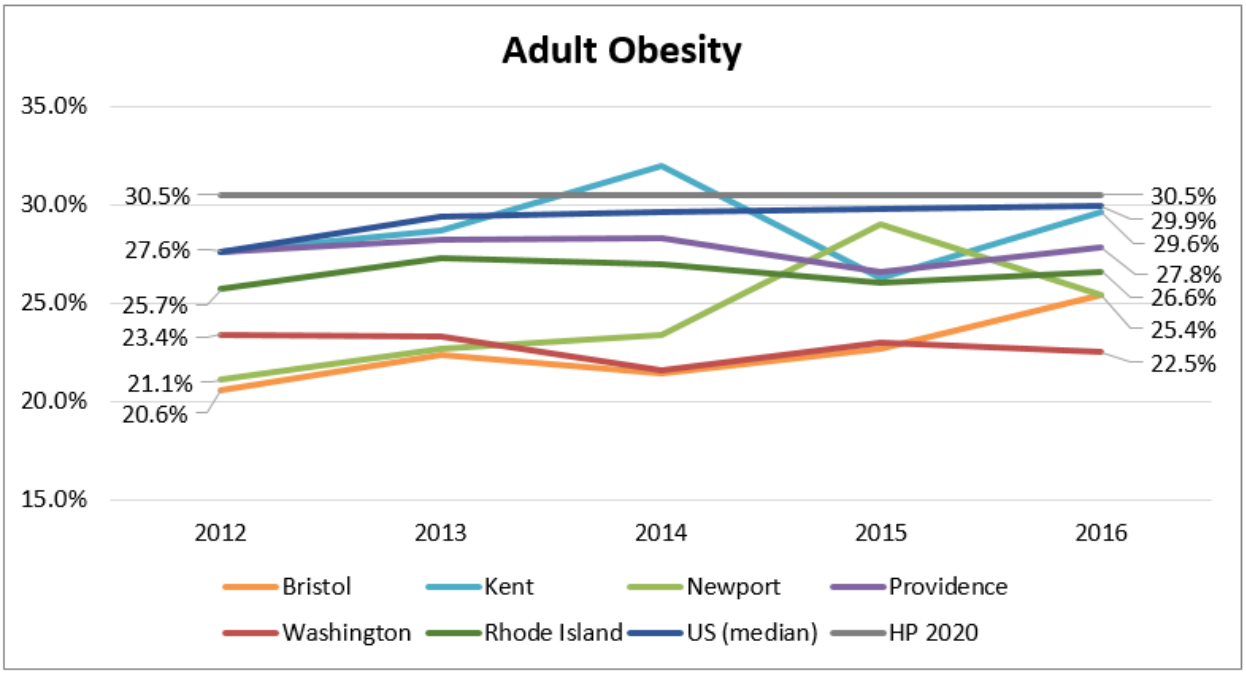
Smoking among High School Students from the 2016 CHNA to Present

	2013	2017
Rhode Island	8%	6%
United States	16%	9%

Source: Rhode Island Department of Health; Centers for Disease Control and Prevention, 2013 & 2017

Adult Obesity

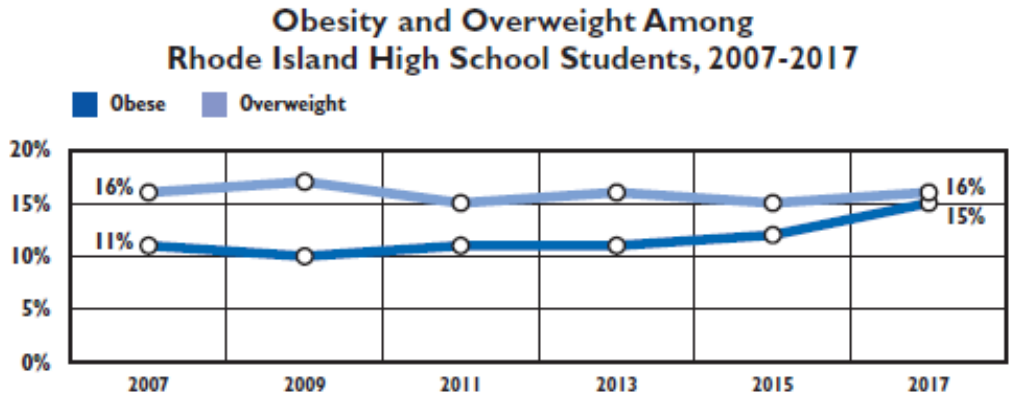
Obesity is associated with an increased risk of disease and mortality, as well as a reduced quality of life. Healthy People 2020 sets a goal of having no more than 30.5% of all adults obese. Rhode Island counties and the state are below the Healthy People 2020 goal and the national average. However, current percentages still indicate that more than one in five adults living in Rhode Island is obese and trends are increasing in most counties.



Source: Centers for Disease Control and Prevention, 2002–2016; Rhode Island Department of Health, 2012–2016

Adolescent Obesity

In 2017, 15% of Rhode Island high school students were obese and 16% were overweight. The percentage of obese students increased since 2007, while the percentage of overweight students has remained stable. A higher percentage of Latinx students (21%), males (17%), and Black/African American students (18%) were obese compared to their peers.



Source: Rhode Island Department of Health, 2007–2017

Physical Activity and Nutrition

Lifestyle habits such as regular exercise and good nutrition are important to maintaining health. Environments that foster these habits provide easy access to places where people can be active and obtain nutritious foods. Parks, gyms, pools, and recreation centers can encourage positive physical activity habits. Grocery stores, community gardens, farm stands, and mobile food markets make it easier for residents to obtain healthy foods.

Despite availability, other factors can influence residents' ability to access these resources. Transportation, neighborhood safety, times of operation, cost, and other factors present barriers for some residents to take advantage of existing community assets.

As an example, 94% of Providence County residents live within close proximity of venues that promote physical activity; yet, the percentage of adults in Providence County that engage in physical activity is the lowest in the state. In contrast, Washington County residents are least likely to have access to physical activity venues, but are among the most likely to be physically active.

Residents in Providence County are more likely to experience higher socioeconomic needs, while residents in Washington County generally experience lower socioeconomic needs, which may account for the difference in physical activity, despite availability of resources.

Physical Activity
(Green = Higher than the State or Nation; Red = Lower than the State or Nation)

	Access to Venues that Promote Physical Activity	Participated in Physical Activity within the Past Month
Bristol County	91.9%	77.8%
Kent County	94.0%	78.8%
Newport County	83.9%	81.7%
Providence County	94.0%	72.2%
Washington County	76.1%	80.7%
Rhode Island	91.0%	75.6%
United States	83.0%	76.9%

Source: Business Analyst, Delorme Map Data, ESRI, & US Census Tigerline Files, 2010 & 2016; Centers for Disease Control and Prevention, 2016; Rhode Island Department of Health, 2016

Food insecurity is defined as being without a consistent source of sufficient and affordable nutritious food. Food insecurity is reflective of a variety of socioeconomic factors including employment, income, access to healthy food options, transportation, housing, and other factors. Residents who are food insecure may also experience challenges with healthy eating and weight management. Acknowledging the relationship between socioeconomics and food insecurity, the percent of children eligible for school lunch at no cost or reduced cost is shown in the table below along with the percentage of food insecure residents and children.

Food Insecure Residents
(Red = Higher than the State or Nation)

	All Residents	Children	Free or Reduced School Lunch Eligibility
Bristol County	10.0%	13.8%	19.5%
Kent County	10.4%	15.1%	31.6%
Newport County	11.5%	15.4%	31.8%
Providence County	13.2%	19.1%	58.6%
Washington County	10.7%	15.2%	23.2%
Rhode Island	12.1%	17.4%	47.0%
United States	12.9%	17.5%	

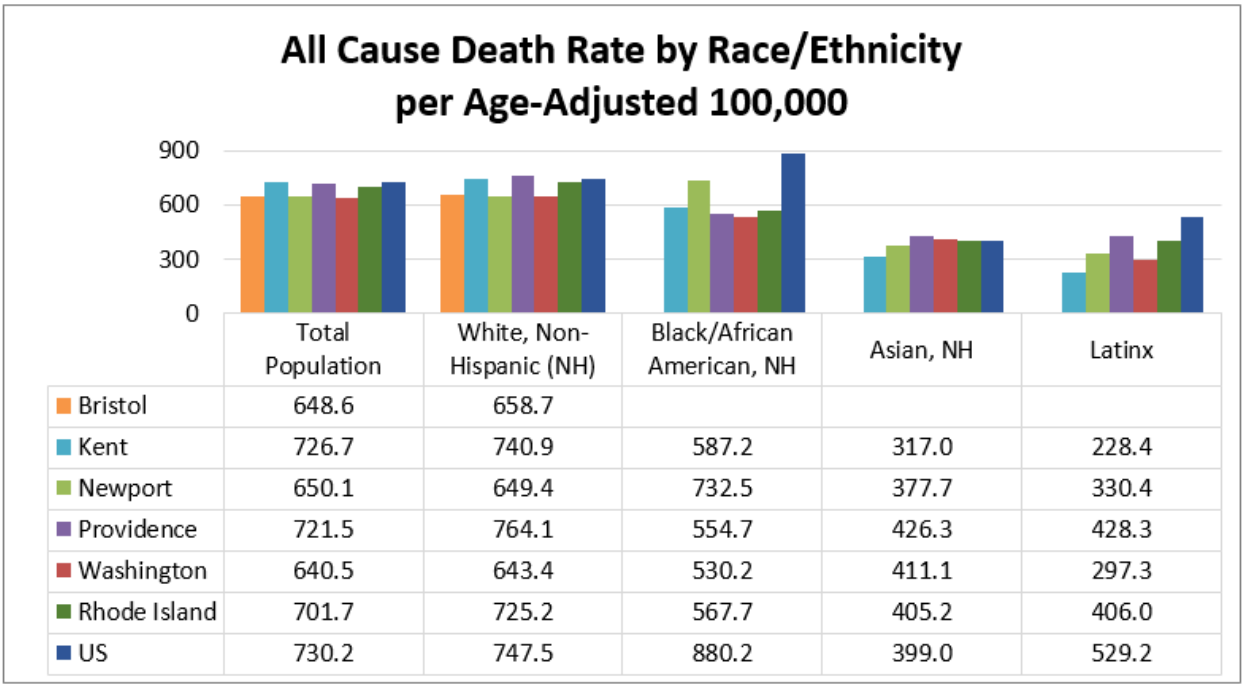
Source: Feeding America, 2016; National Center for Education Statistics, 2015-2016

Nearly 20% of Providence County children are food insecure and nearly 60% of children are eligible for free or reduced school lunch. Eligibility for free school lunch includes households with an income at or below 130% of the poverty threshold. Households with an income between 130% and 185% of the poverty threshold are eligible for reduced priced school lunch.

Food insecurity in Providence County is higher than the state and the nation

Mortality

The following graph depicts the all cause age-adjusted death rate by county, race, and ethnicity. The overall death rate for all Rhode Island counties is lower than the national rate. The death rate for Washington County is also lower than the state, while the death rates for Kent and Providence counties are higher than the state.



	Total Population	White, Non-Hispanic (NH)	Black/African American, NH	Asian, NH	Latinx
Bristol	648.6	658.7			
Kent	726.7	740.9	587.2	317.0	228.4
Newport	650.1	649.4	732.5	377.7	330.4
Providence	721.5	764.1	554.7	426.3	428.3
Washington	640.5	643.4	530.2	411.1	297.3
Rhode Island	701.7	725.2	567.7	405.2	406.0
US	730.2	747.5	880.2	399.0	529.2

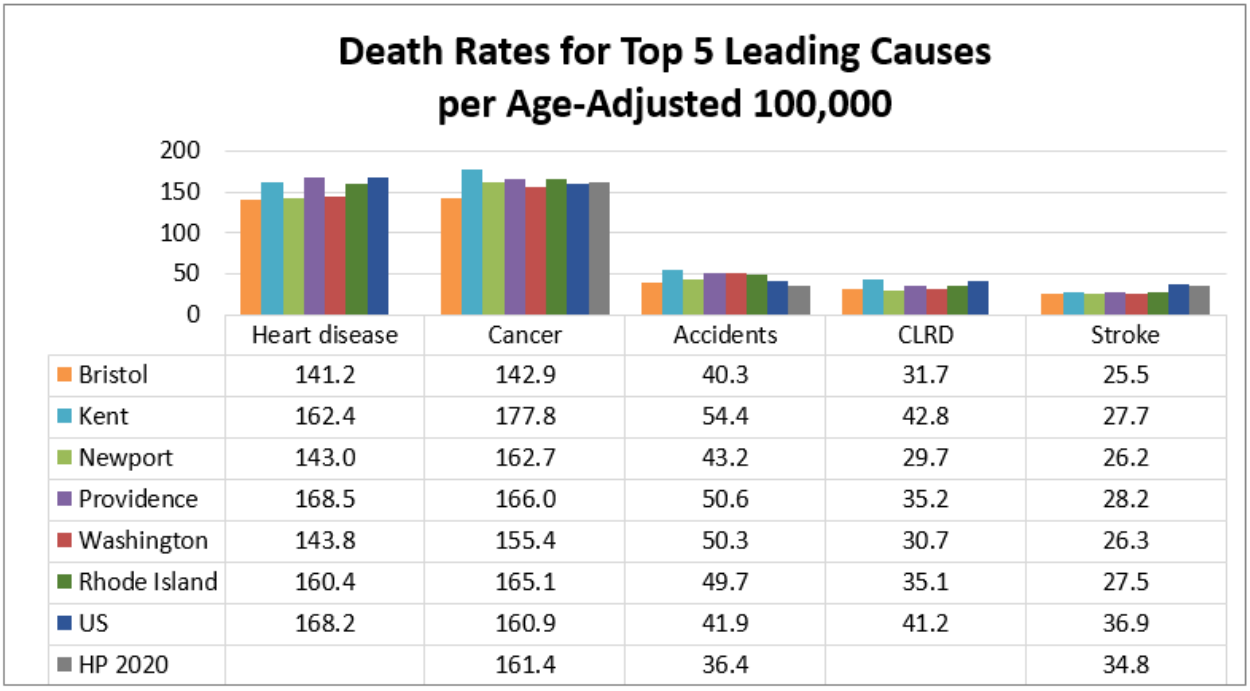
Source: Centers for Disease Control and Prevention, 2012-2016
*Data for Bristol County are reported as available due to low death counts.

While heart disease remains the top cause of death in the nation, cancer is beginning to surpass heart disease as the top cause of death in some states, including Rhode Island. Cancer is the leading cause of death in all counties except Providence County, which has a higher rate of death due to heart disease. Kent County has the highest rate of cancer deaths in the state, outpacing other counties, the state, the nation, and the Healthy People 2020 goal. Analysis of cancer mortality and morbidity is included within the chronic disease section of this report.

Kent County has the highest rate of cancer deaths in the state, outpacing other counties, the state, the nation, and the Healthy People 2020 goal

Accidents or unintentional injuries are the third leading cause of death in Rhode Island and the nation. Rhode Island has a higher accidental death rate than the nation and the state, and all five counties exceed the Healthy People 2020 goal for accidental deaths. Accidental deaths in rank order from highest cause of death in Rhode Island include accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), unspecified falls, accidental poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances, unspecified motor-vehicle accidents, and accidental poisoning by and exposure to alcohol.

The following chart profiles death rates for the top five causes by county.



	Heart disease	Cancer	Accidents	CLRD	Stroke
Bristol	141.2	142.9	40.3	31.7	25.5
Kent	162.4	177.8	54.4	42.8	27.7
Newport	143.0	162.7	43.2	29.7	26.2
Providence	168.5	166.0	50.6	35.2	28.2
Washington	143.8	155.4	50.3	30.7	26.3
Rhode Island	160.4	165.1	49.7	35.1	27.5
US	168.2	160.9	41.9	41.2	36.9
HP 2020		161.4	36.4		34.8

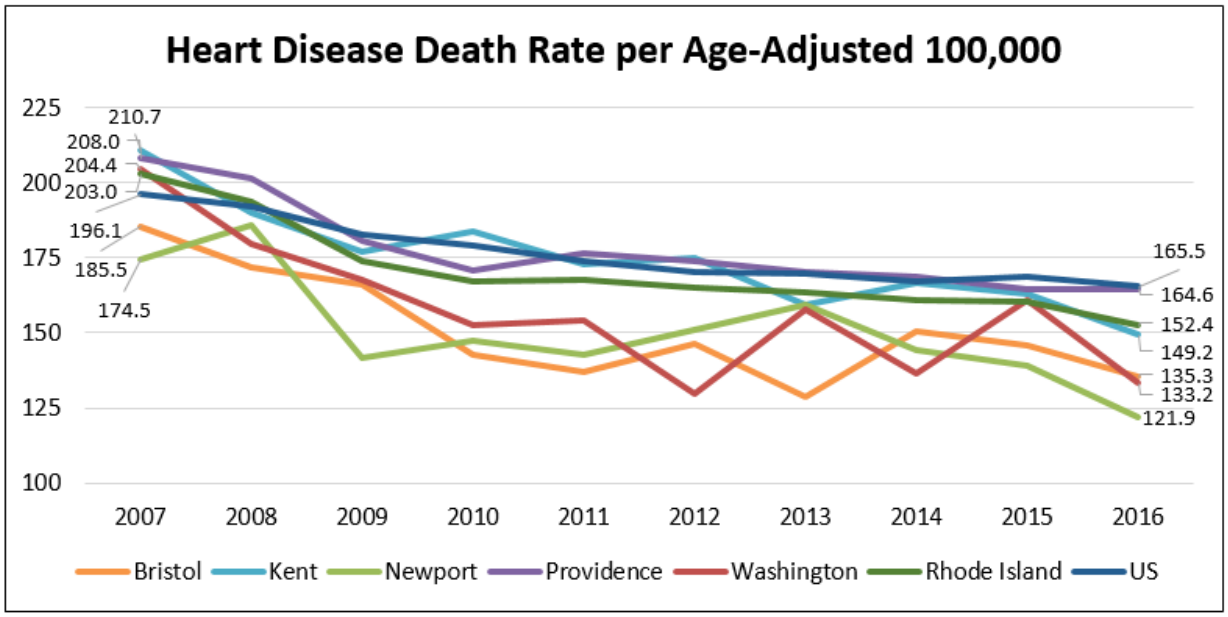
Source: Centers for Disease Control and Prevention, 2012–2016; Healthy People 2020

Chronic Diseases

Most top causes of death in Rhode Island fall under the broader category of chronic diseases, which are the leading causes for death and disease. Chronic diseases are often preventable through reduced risk behaviors like tobacco or alcohol use; regular physical activity; good nutrition; early detection of risk factors and disease, and effective disease management.

Heart Disease and Stroke

Between 2007 and 2016, death rates due to heart disease declined across the state and the nation. Heart disease death rates for all five counties fall below the national rate. Death rates for all five counties except Providence also fall below the state rate.



Source: Centers for Disease Control and Prevention, 2007–2016

Across the nation, the heart disease death rate is highest among Blacks/African Americans. Rhode Island and Providence County differ from the national trend with a higher rate of death among Whites. Data by race and ethnicity are not reported for all counties due to low death counts.

Heart Disease Death Rates per Age-Adjusted 100,000 by Race and Ethnicity

	White, Non-Hispanic	Black/African American, Non-Hispanic	Latinx
Newport County	141.2	206.6	NA
Providence County	178.2	121.0	84.8
Rhode Island	165.4	126.8	80.6
United States	170.9	212.6	118.2

Source: Centers for Disease Control and Prevention, 2012–2016

*Data for Bristol, Kent, and Washington counties are not reported due to low death counts.

Hypertension and high cholesterol can lead to heart disease. A higher percentage of Rhode Island adults have hypertension when compared to adults across the nation. Kent County adults have the highest prevalence of hypertension in the state. In contrast, a lower percentage of Rhode Island adults have high cholesterol when compared to adults across the nation. Washington County adults have the lowest prevalence of high cholesterol among Rhode Island counties.

Heart Disease Prevalence among Adults
(Green = Lower than the State or Nation; Red = Higher than the State or Nation)

	Hypertension	High Cholesterol
Bristol County	28.1%	38.8%
Kent County	36.5%	34.9%
Newport County	31.3%	34.4%
Providence County	32.5%	35.9%
Washington County	30.9%	33.7%
Rhode Island	32.4%	35.2%
United States	30.9%	36.3%

Source: Centers for Disease Control and Prevention, 2015; Rhode Island Department of Health, 2015

Coronary heart disease is characterized by the buildup of plaque inside the coronary arteries. Rhode Island, Kent County, and Providence County do not meet the Healthy People 2020 goal for coronary heart disease death. Washington County has one of the lowest coronary heart disease death rates in the state; the rate is lower than all state and national indicators.

Several types of heart disease, including coronary heart disease, are risk factors for stroke. Rhode Island and all five counties meet the Healthy People 2020 goal for stroke death and have a lower rate of death than the nation.

All counties meet the Healthy People 2020 goal for stroke death

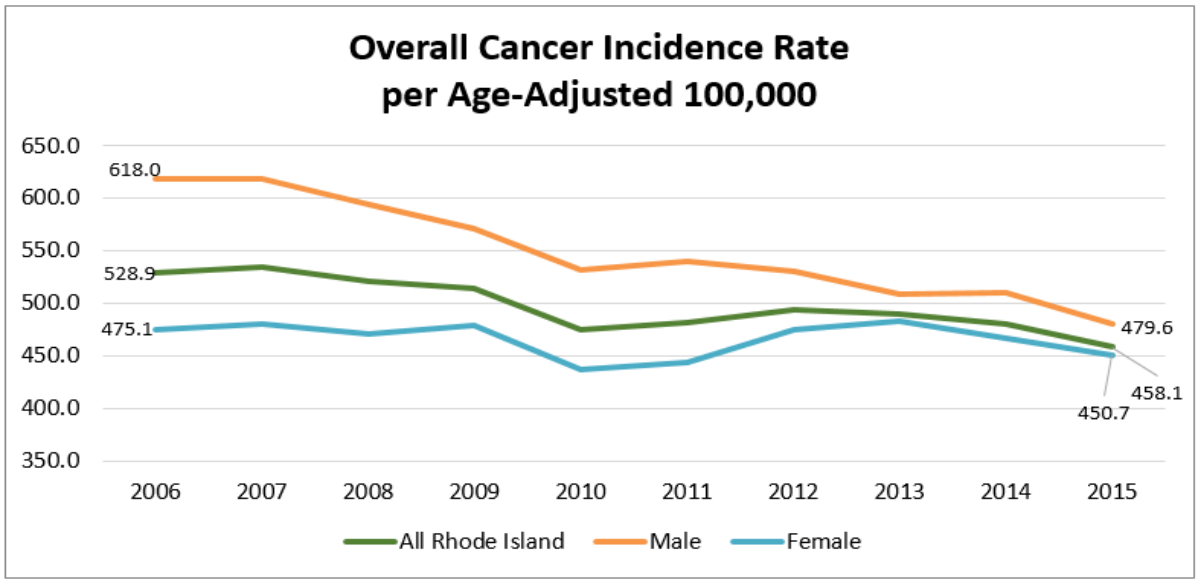
Coronary Heart Disease and Stroke Death Rates
(Green = Lower than State or National Benchmarks;
Red = Higher than State or National Benchmarks)

	Coronary Heart Disease Death per Age-Adjusted 100,000	Stroke Death per Age-Adjusted 100,000
Bristol County	97.0	25.5
Kent County	115.4	27.7
Newport County	89.0	26.2
Providence County	117.1	28.2
Washington County	93.2	26.3
Rhode Island	110.1	27.5
United States	99.6	36.9
Healthy People 2020	103.4	34.8

Source: Centers for Disease Control and Prevention, 2012–2016; Healthy People 2020

Cancer

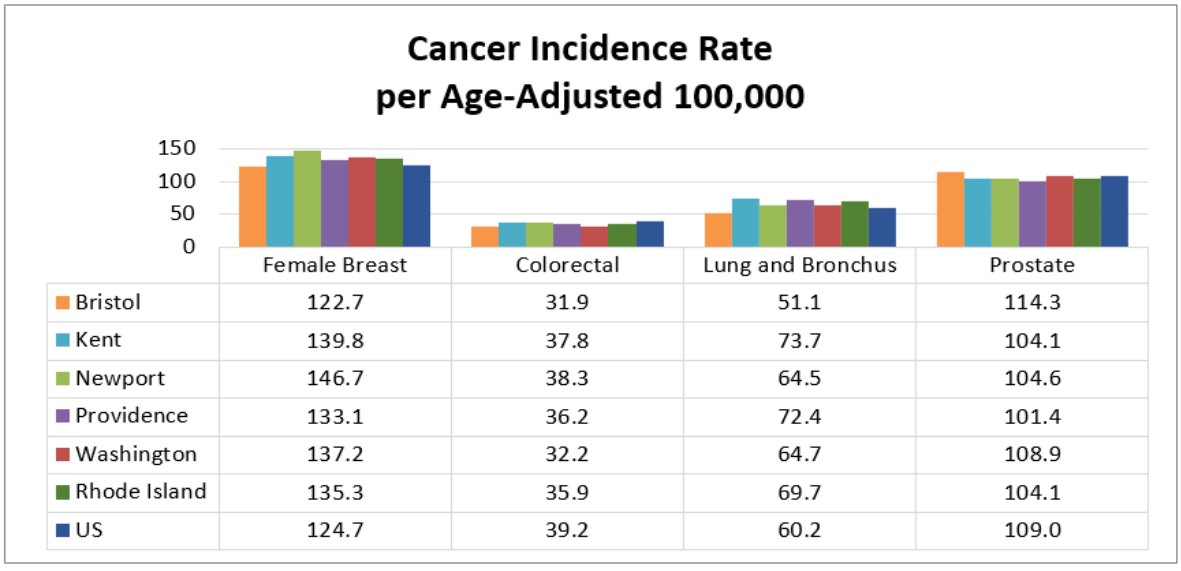
Cancer is the second leading cause of death in America, and although often treatable, it is a significant contributor to morbidity. Within Rhode Island, the age-adjusted overall incidence of cancer is higher among males than females.



Source: Rhode Island Department of Health, 2006–2015

Presented below are the incidence rates for the most commonly diagnosed cancers: breast (female), colorectal, lung, and prostate (male). Rhode Island outpaces the nation for breast and lung cancer incidence; and Kent County rates exceed the state. Providence County has a higher incidence of lung cancer compared to the state and the nation, while Washington County has a higher incidence of breast cancer.

Rhode Island has higher incidence rates for female breast and lung cancer compared to the nation

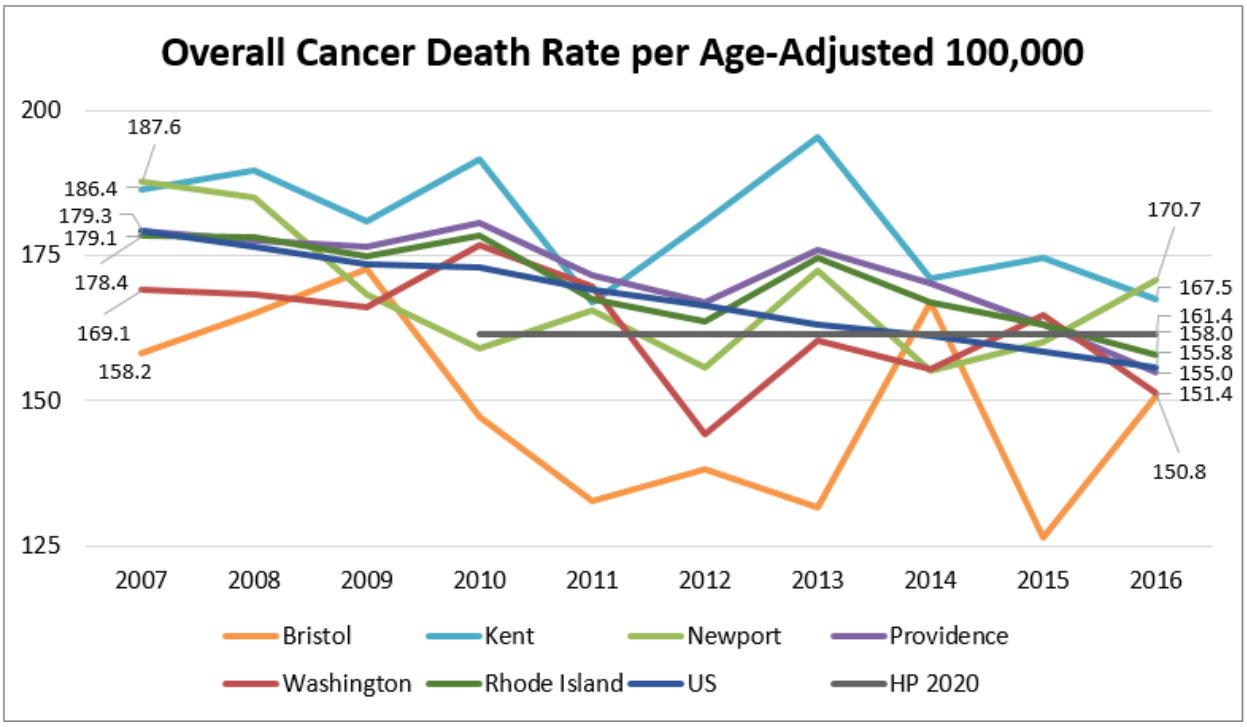


	Female Breast	Colorectal	Lung and Bronchus	Prostate
Bristol	122.7	31.9	51.1	114.3
Kent	139.8	37.8	73.7	104.1
Newport	146.7	38.3	64.5	104.6
Providence	133.1	36.2	72.4	101.4
Washington	137.2	32.2	64.7	108.9
Rhode Island	135.3	35.9	69.7	104.1
US	124.7	39.2	60.2	109.0

Source: Centers for Disease Control and Prevention, 2011–2015

Cancer death rates among Rhode Island counties have been variable over the past decade, but declined over the past decade. Death rates for all counties except Kent and Newport meet or nearly meet the Healthy People 2020 goal of 161.4 per age adjusted 100,000 people.

Cancer death rates declined over the past decade



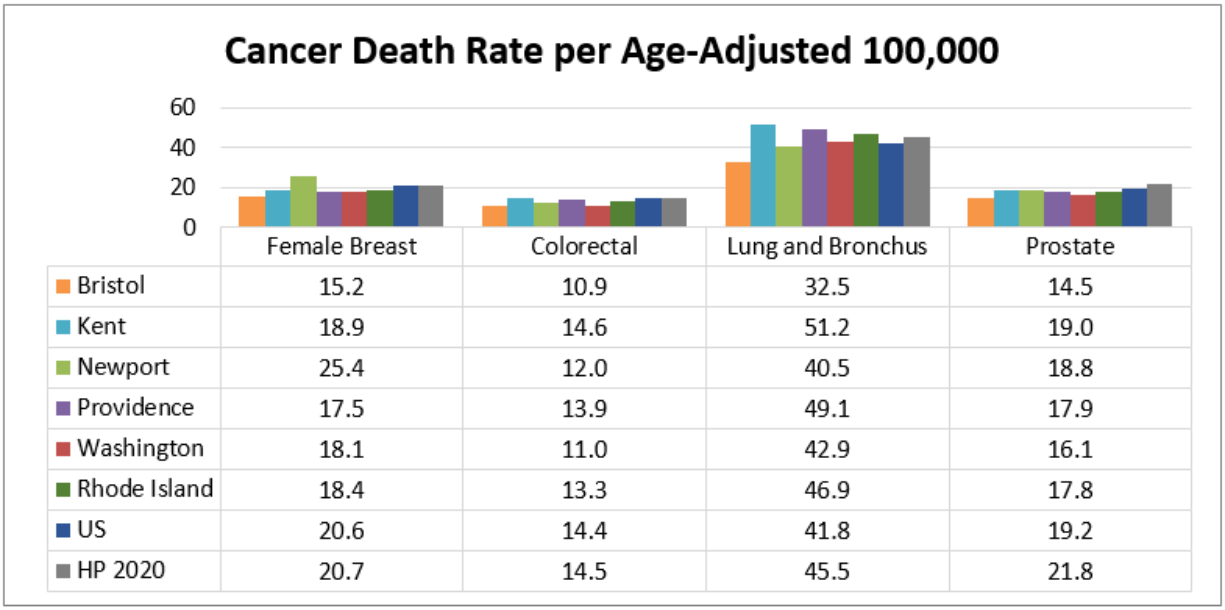
Source: Centers for Disease Control and Prevention, 2007–2016

Across the nation, Blacks/African Americans have a higher rate of cancer death than Whites do. However, across Rhode Island and in Providence County, Whites have a higher death rate than Blacks/African Americans. Data by race and ethnicity are not reported for all counties due to low death counts.

Cancer Death Rates by Race and Ethnicity

	White, Non-Hispanic	Black/African American, Non-Hispanic	Latinx
Newport County	162.0	189.7	NA
Providence County	178.2	114.8	94.7
Rhode Island	171.9	120.1	91.3
United States	165.7	190.0	112.6

Source: Centers for Disease Control and Prevention, 2012–2016
*Data for Bristol, Kent, and Washington counties are not reported due to low death counts.



	Female Breast	Colorectal	Lung and Bronchus	Prostate
Bristol	15.2	10.9	32.5	14.5
Kent	18.9	14.6	51.2	19.0
Newport	25.4	12.0	40.5	18.8
Providence	17.5	13.9	49.1	17.9
Washington	18.1	11.0	42.9	16.1
Rhode Island	18.4	13.3	46.9	17.8
US	20.6	14.4	41.8	19.2
HP 2020	20.7	14.5	45.5	21.8

Source: Centers for Disease Control and Prevention, 2012–2016

Radon is the second leading cause of lung cancer.

Washington County meets all of the Healthy People 2020 goals. Rhode Island, Kent County, and Providence County meet Healthy People 2020 goals for all cancer types except lung.

Radon levels of 1 in 4 Rhode Island homes exceed EPA standards; the national average is 1 in 15 homes

Rhode Island has higher reported incidence and death rates due to lung cancer than the nation. A potential contributor to higher rates is the prevalence of radon in homes across the state. Radon is a colorless and odorless gas produced from the decay of radium in rocks, soil, and water. It is the second leading cause of lung cancer. The Environmental Protection Agency recommends action to mitigate radon when testing shows radon levels of 4.0 pCi/L or higher. One in four homes in Rhode Island has radon levels at or above 4.0 pCi/L compared to the national average of one in 15 homes.

The Environmental Protection Agency distinguishes counties by radon zones. The following table shows each county's radon zone, its average radon level, and the percentage of radon testing results above 4 pCi/L.

Average Reported Indoor Radon Levels

	Radon Zone	Average Radon Level (pCi/L*)	Radon Testing Results Above 4 pCi/L
Bristol County	Zone 3 (less than 2 pCi/L)	1.9	10.2%
Kent County	Zone 2 (2 to 4 pCi/L)	3.3	23.8%
Newport County	Zone 2 (2 to 4 pCi/L)	3.5	23.2%
Providence County	Zone 2 (2 to 4 pCi/L)	2.4	14.4%
Washington County	Zone 1 (greater than 4 pCi/L)	4.7	34.9%
Rhode Island	NA	4.3	NA

Source: Environmental Protection Agency, no date. *Picocuries per liter

Many forms of cancer, if identified early, can be successfully treated. Screening rates for three of the most common forms of cancer (cervical, breast, and prostate) are shown in the table below. Among Rhode Island females ages 21–65, more than 8 in 10 receive cervical cancer screenings. A similar percentage of females aged 50–74 receive breast cancer screenings. The prevalence of cervical and breast cancer screenings among females is higher in all Rhode Island counties compared to the nation. A higher percentage of Rhode Island males ages 40 or older receive prostate cancer screenings when compared to the nation, however, less than half of all males are screened.

Less than half of men age 40 or older are screened for prostate cancer

Adult Routine Cancer Screenings
(Green = Higher than the State or Nation; Red = Lower than the State or Nation)

	Pap Test in Past Three Years (Ages 21–65)	Mammogram in Past Two Years (Ages 50–74)	PSA Test in Past Two Years (Ages 40+)
Bristol County	91.3%	96.5%	40.7%
Kent County	83.6%	83.9%	42.1%
Newport County	82.3%	85.1%	48.6%
Providence County	85.6%	84.9%	39.1%
Washington County	94.7%	86.1%	47.6%
Rhode Island	85.7%	85.5%	41.5%
United States	79.8%	77.6%	39.5%

Source: Centers for Disease Control and Prevention, 2016; Rhode Island Department of Health, 2016

Chronic Lower Respiratory Disease

Chronic lower respiratory disease (CLRD) is the third most common cause of death in the nation. CLRD encompasses diseases like chronic obstructive pulmonary disorder (COPD), emphysema, and asthma, all of which contribute to lower quality of life and increased risk of early death.

Kent County has a higher CLRD death rate than the state and the nation and a higher rate of adult asthma

CLRD Death Rates per Age-Adjusted 100,000 by Race and Ethnicity
(Green = Lower than the State or Nation; Red = Higher than the State or Nation)

	Total Population	White, Non-Hispanic	Black/African American, Non-Hispanic	Latinx
Bristol County	31.7	32.6	NA	NA
Kent County	42.8	44.0	NA	NA
Newport County	29.7	30.2	NA	NA
Providence County	35.2	39.1	20.3	9.4
Washington County	30.7	31.0	NA	NA
Rhode Island	35.1	37.4	19.9	8.8
United States	41.2	46.3	29.7	17.8

Source: Centers for Disease Control and Prevention, 2012–2016
*Data by race/ethnicity is limited due to low death counts.

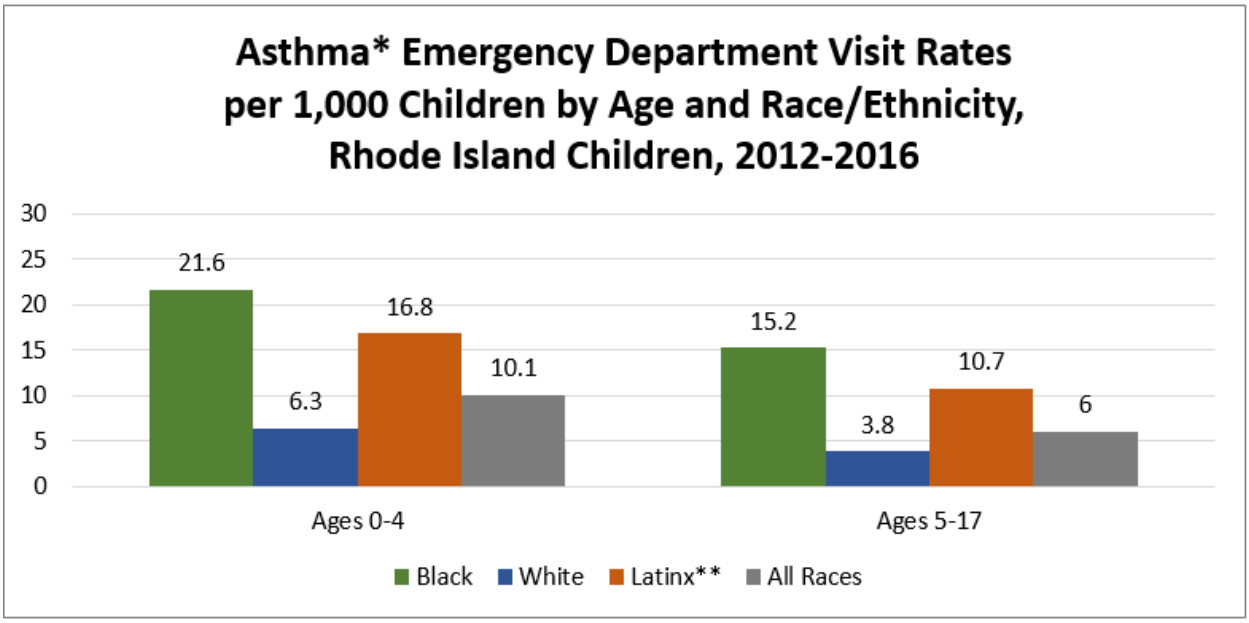
CLRD Prevalence
(Green = Lower than the State or Nation; Red = Higher than the State or Nation)

	Adults with Asthma (Current)	Children with Asthma (Ever)	Adults with COPD (Ever)
Bristol County	9.8%	6.0%	3.9%
Kent County	12.1%	10.3%	8.3%
Newport County	11.9%	15.5%	7.4%
Providence County	10.6%	14.7%	6.4%
Washington County	12.0%	16.9%	8.0%
Rhode Island	10.7%	13.6%	6.9%
United States	9.3%	NA	6.3%

Source: Centers for Disease Control and Prevention, 2016; Rhode Island Department of Health, 2016

Rhode Island has a lower rate of CLRD death than the nation, however, a higher percentage of adults in the state are diagnosed with asthma and/or COPD. Kent County has a higher CLRD death rate than the state and the nation; the county has the highest percentage of adults with diagnosed with COPD or asthma.

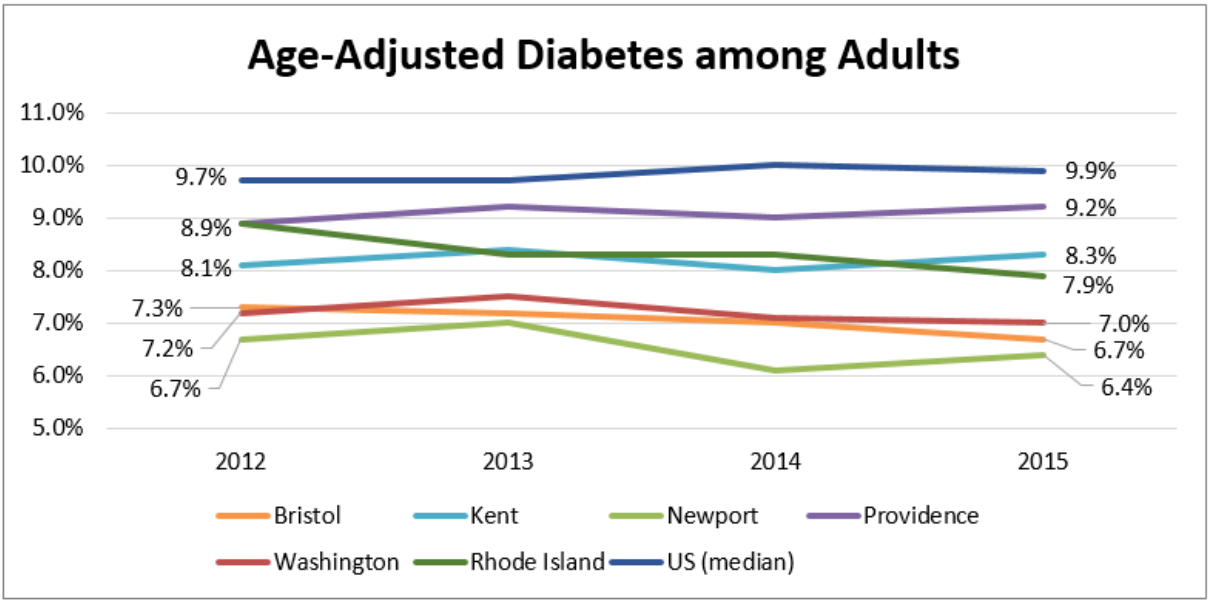
Asthma is the most common chronic condition among children. Between 2012 and 2016, asthma was the primary diagnosis for 7,917 emergency department visits among children under age 18. Black/African American and Latinx children had the highest rates of emergency department visits, as shown in the graph below. Children of all races and ethnicity residing in the four core cities had a higher rate of emergency department visits (12.2 per 1,000) compared to the rest of the state (4.5 per 1,000).



Source: Rhode Island Department of Health, 2012-2016
*Rates are for primary a diagnosis of asthma. **Latinx children can be of any race.

Diabetes

Diabetes is among the top 10 causes of death in the nation. Diabetes can cause a number of serious complications. Type II diabetes, the most common form, is largely preventable through diet and exercise. The percentage of adults in Rhode Island diagnosed with diabetes is less than the nation, and decreased over the past three years. All Rhode Island counties have a lower prevalence of adult diabetes compared to the nation; however, the prevalence in both Kent and Providence counties exceeds the state.



Source: Centers for Disease Control and Prevention, 2012–2015

The Rhode Island death rate due to diabetes is lower than the national death rate. All Rhode Island counties except Providence also have a lower death rate than the nation. Across the state, nation, and Providence County, the diabetes death rate is highest among Blacks/African Americans compared to Whites and Latinxs.

Diabetes Death Rate per Age-Adjusted 100,000
(Green = Lower than the State or Nation; Red = Higher than the State or Nation)

	Total Population	White, Non-Hispanic	Black/African American, Non-Hispanic	Latinx
Bristol County	17.0	16.7	NA	NA
Kent County	17.6	17.6	NA	NA
Newport County	11.5	11.4	NA	NA
Providence County	19.7	19.2	24.2	19.5
Washington County	14.8	14.5	NA	NA
Rhode Island	17.8	17.4	24.0	18.1
United States	21.1	18.6	38.6	25.6

Source: Centers for Disease Control and Prevention, 2012–2016
*Data by race/ethnicity is limited due to low death counts.

Senior Health

Chronic Disease Among Medicare Beneficiaries

Seniors face a growing number of challenges related to health and well-being as they age. People over 65 are more prone to chronic disease, social isolation, and disability. The following sections highlight key health indicators for the region's senior population.

According to the CDC, "Among Medicare fee-for-service beneficiaries, people with multiple chronic conditions account for 93% of total Medicare spending."

The tables below note the percentage of Rhode Island Medicare Beneficiaries who have been diagnosed with a chronic condition. Cells highlighted in red represent percentages that are higher than state and national benchmarks.

Senior Medicare beneficiaries Kent and Providence counties experience more chronic disease than other counties.

The presence of chronic conditions among Medicare Beneficiaries varies by county. Medicare beneficiaries in Kent and Providence counties are more likely to have a chronic condition diagnosis. Washington County Beneficiaries have a lower prevalence of all report chronic conditions except arthritis.

Chronic Conditions among Medicare Beneficiaries 65 Years or Over
(Red = Higher than the State or Nation)

	Bristol County	Kent County	Newport County	Providence County	Washington County	Rhode Island	US
Alzheimer's Disease	12.4%	12.0%	11.2%	12.4%	9.3%	11.7%	11.3%
Arthritis	30.5%	33.0%	29.3%	31.2%	32.9%	31.5%	31.3%
Asthma	8.7%	9.7%	9.0%	10.2%	7.7%	9.5%	7.6%
Cancer	10.6%	10.8%	10.8%	10.2%	10.2%	10.4%	8.9%
COPD	9.3%	12.4%	11.3%	12.1%	10.6%	11.7%	11.2%
Depression	16.2%	18.5%	16.9%	18.5%	14.5%	17.5%	14.1%
Diabetes	23.7%	27.0%	22.3%	29.3%	21.6%	26.6%	26.8%
Heart Failure	12.1%	14.7%	12.9%	15.2%	12.8%	14.3%	14.3%
High Cholesterol	51.9%	55.7%	51.9%	55.0%	51.7%	54.1%	47.8%
Hypertension	60.0%	63.7%	59.0%	64.1%	60.0%	62.6%	58.1%
Ischemic Heart Disease	24.9%	32.0%	25.0%	29.1%	27.4%	28.6%	28.6%
Stroke	3.9%	4.3%	5.7%	4.3%	3.9%	4.4%	4.2%

Source: Centers for Medicare & Medicaid Services, 2015

Number of Chronic Conditions among Medicare Beneficiaries 65 Years or Over

	Bristol County	Kent County	Newport County	Providence County	Washington County	Rhode Island	US
0 to 1 condition	29.9%	25.9%	31.1%	26.8%	30.5%	27.9%	32.3%
2 to 3 conditions	33.2%	31.3%	32.1%	30.8%	33.3%	31.6%	30.0%
4 to 5 conditions	22.0%	24.2%	21.2%	23.5%	21.9%	23.0%	21.6%
6 + conditions	14.9%	18.6%	15.6%	19.0%	14.3%	17.5%	16.2%

Source: Centers for Medicare & Medicaid Services, 2015

Regular screenings are essential for the early detection and management of chronic conditions. The following table analyzes diabetes and mammogram screenings among Medicare enrollees. Rhode Island and all five counties exceed national metrics for both screenings. Medicare enrollees in Providence and Washington counties are more likely to receive annual hA1c tests for diabetes than the state. Medicare enrollees in Kent and Washington counties are more likely to receive mammograms than the state.

Chronic Disease Screenings among Medicare Enrollees
(Green = Higher than the State or Nation)

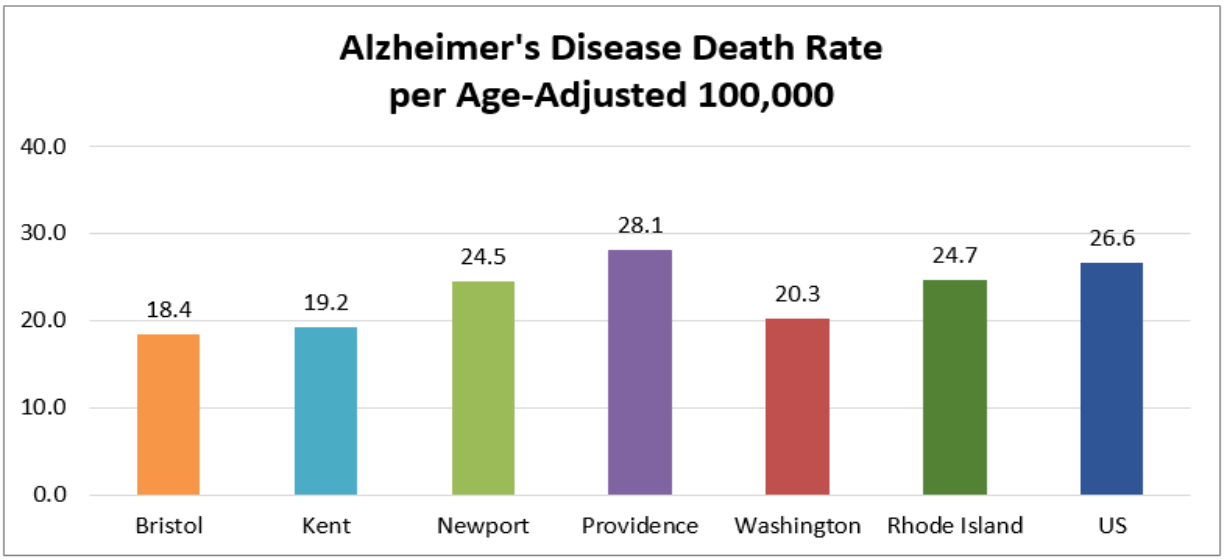
	Annual hA1c Test from a Provider (65–75 Years)	Mammogram in Past Two Years (67–69 Years)
Bristol County	89.0%	76.0%
Kent County	87.4%	68.7%
Newport County	87.0%	67.8%
Providence County	87.8%	65.3%
Washington County	88.0%	72.6%
Rhode Island	87.7%	67.9%
United States	85.0%	63.0%

Source: Dartmouth Atlas of Healthcare, 2014

Alzheimer's Disease

Alzheimer's disease is currently the sixth leading cause of death in the United States. According to the National Institute on Aging, "Alzheimer's disease is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and, eventually, the ability to carry out the simplest tasks. In most people with Alzheimer's, symptoms first appear in their mid-60s. Estimates vary, but experts suggest that more than 5.5 million Americans, most of them age 65 or older, may have dementia caused by Alzheimer's."

In Rhode Island, only Providence County has a higher rate of death due to Alzheimer's disease than the state and nation. Washington County and Kent County have a lower rate of death due to Alzheimer's disease than the state and nation.

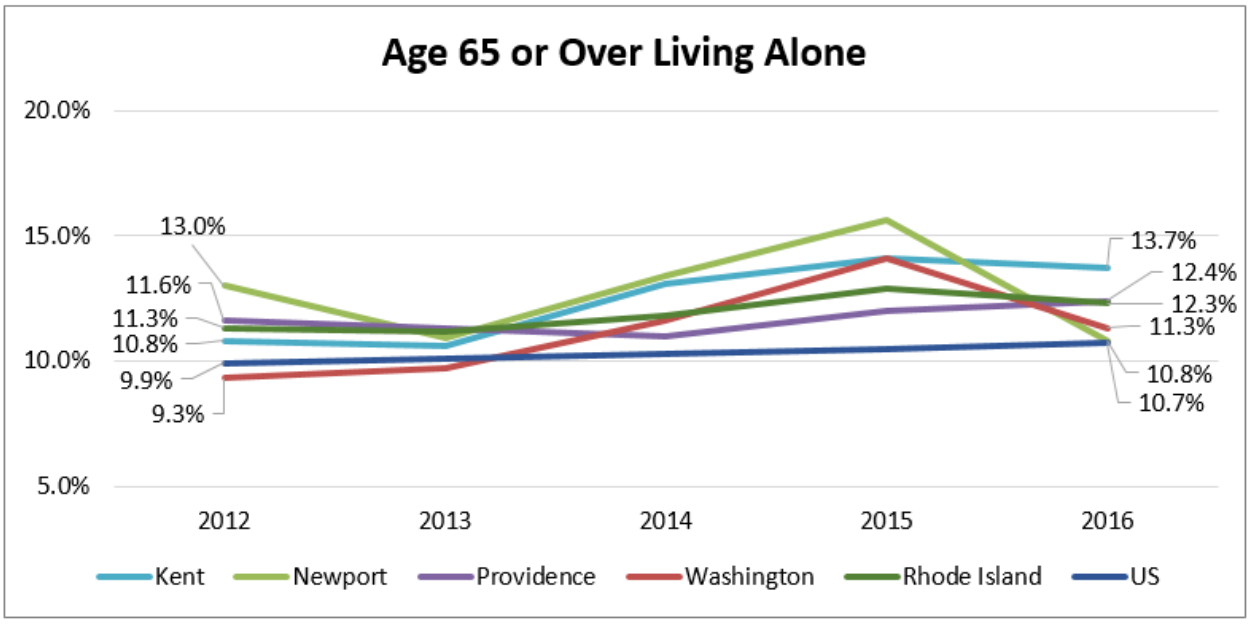


Source: Centers for Disease Control and Prevention, 2012–2016

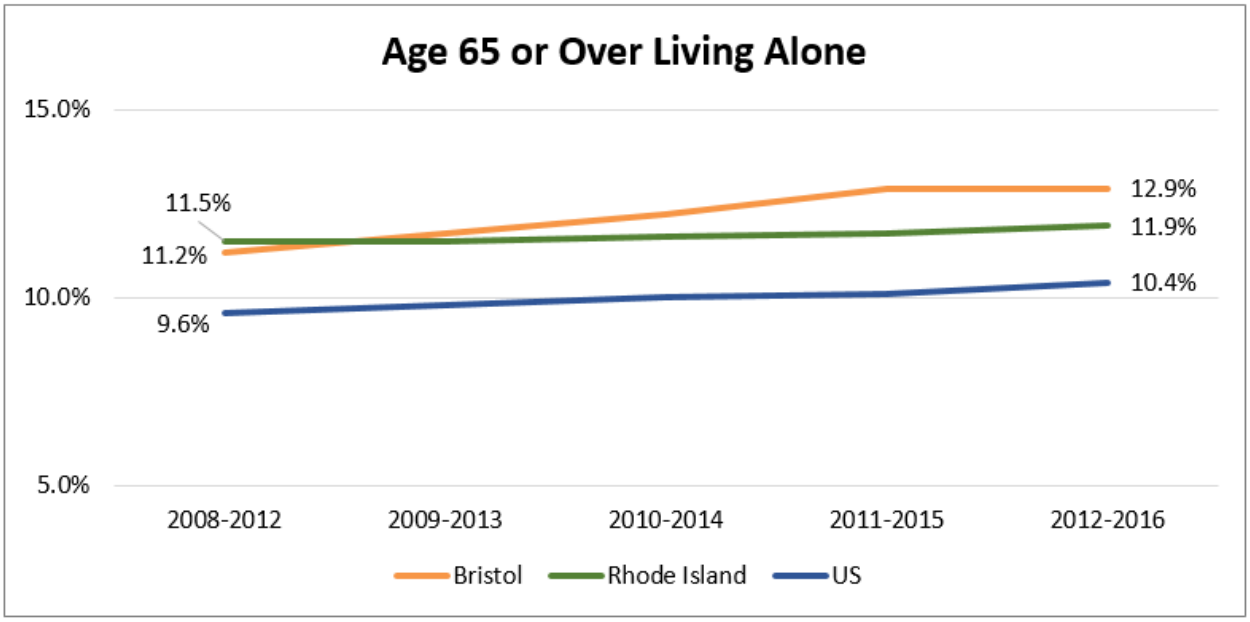
Social Isolation Among Seniors

As seniors age, they are at risk for isolation due to physical limitations and decreasing social circles. One indicator of isolation is the percentage of seniors age 65 or over who live alone. In Rhode Island, seniors are more likely to live alone than seniors across the nation. Kent County has the highest percentage of seniors living alone compared to the state and other counties.

More Rhode Island seniors live alone; Kent County has the largest percentage in the state



Source: US Census Bureau, 2012–2016



Source: US Census Bureau, 2008–2012 – 2012–2016
*The Bristol County uninsured rate is trended as a five-year aggregate based on data availability.

Behavioral Health

Mental Health

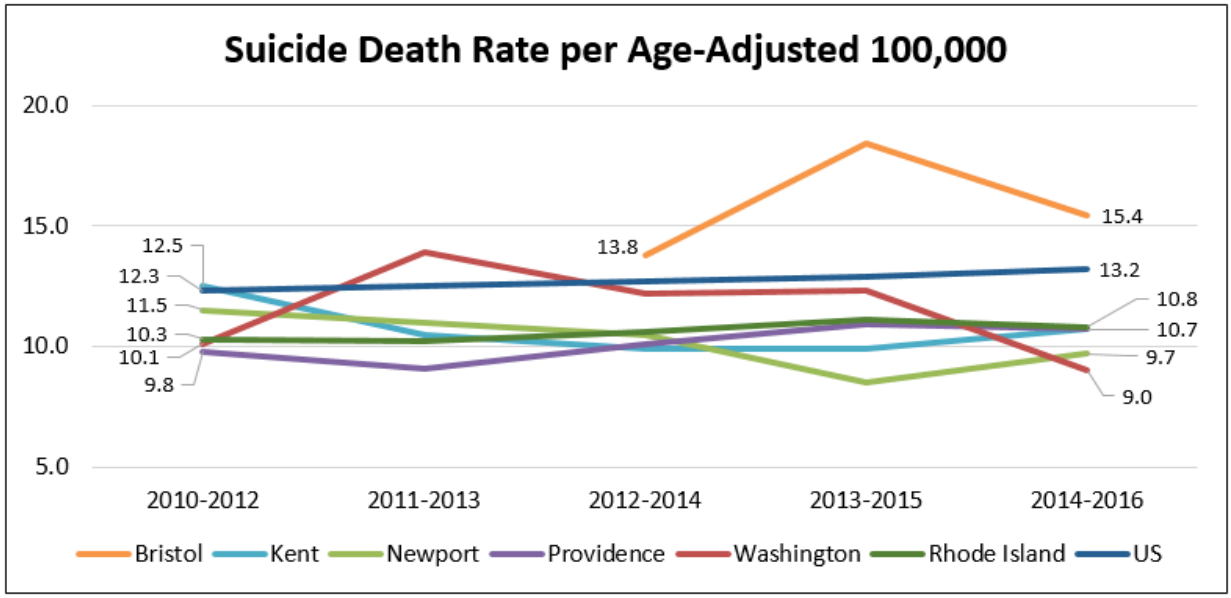
A higher percentage of Rhode Island adults have been diagnosed with a depressive disorder

A higher percentage of Rhode Island adults have been diagnosed with a depressive disorder when compared to the nation. Adults in Providence and Kent counties are among the most likely to have been diagnosed with a depressive disorder. All Rhode Island counties except Bristol meet or nearly meet the Healthy People 2020 goal for suicide death. The suicide rate increased slightly in Providence County over the past six years, but declined in other counties.

Mental Health Measures
(Red = Higher than State or National Benchmarks)

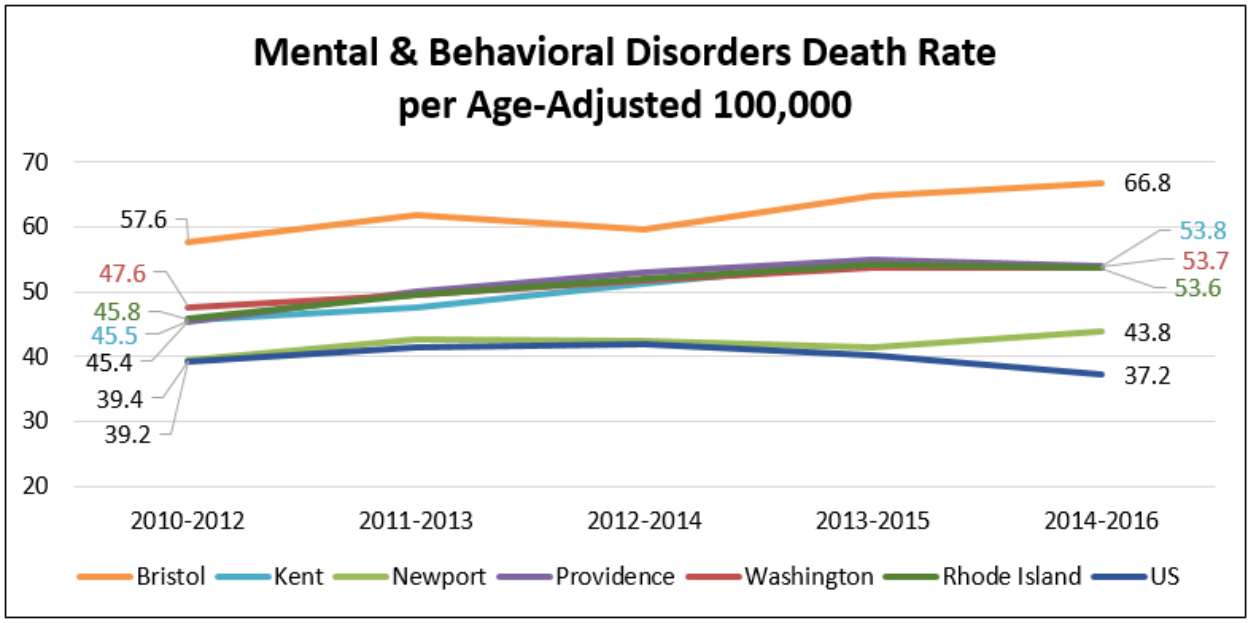
	Adults with a Depressive Disorder (Ever)	Suicide Rate per Age-Adjusted 100,000	Mental & Behavioral Disorders Death Rate per Age-Adjusted 100,000
Bristol County	20.9%	15.4	66.8
Kent County	22.1%	10.7	53.8
Newport County	20.4%	9.7	43.8
Providence County	23.1%	10.7	53.9
Washington County	19.5%	9.0	53.7
Rhode Island	22.3%	10.8	53.6
United States	17.4%	13.2	37.2
Healthy People 2020	NA	10.2	NA

Source: Centers for Disease Control and Prevention, 2014–2016 & 2016; Healthy People 2020



Source: Centers for Disease Control and Prevention, 2010–2012 – 2014–2016
*Data for Bristol County are suppressed for years prior to 2012–2014 due to low death counts.

Mental and behavioral disorders span a wide range of disorders, including disorders due to psychoactive substance use, anxiety disorders, Schizophrenia and other delusional disorders, and mood or personality disorders. The disorders are not induced by alcohol and other psychoactive substances, but they may result from substance abuse. The mental and behavioral disorders death rate for all counties except Newport exceeds the state and national rate. The death rate increased in all counties over the past six years by four or more points.



Source: Centers for Disease Control and Prevention, 2010–2012 – 2014–2016
*Death rates for Kent and Washington Counties and RI are color-coded to distinguish trends.

Substance Use Disorder

The category of substance use disorder includes alcohol and drug use, including the use of prescription drugs outside of the prescribed use.

Excessive drinking and DUI deaths are higher for most counties than national averages

Excessive drinking includes binge drinking and heavy drinking. Across Rhode Island, approximately 17% of adults report excessive drinking. The percentage of county adults who report excessive drinking is higher than the state and the nation for all counties except Providence. Washington County has one of the highest percentages of excessive drinking among adults, and the highest percentage of deaths due to DUI.

Substance Use Disorder Measures
(Red = Higher than National Benchmarks)

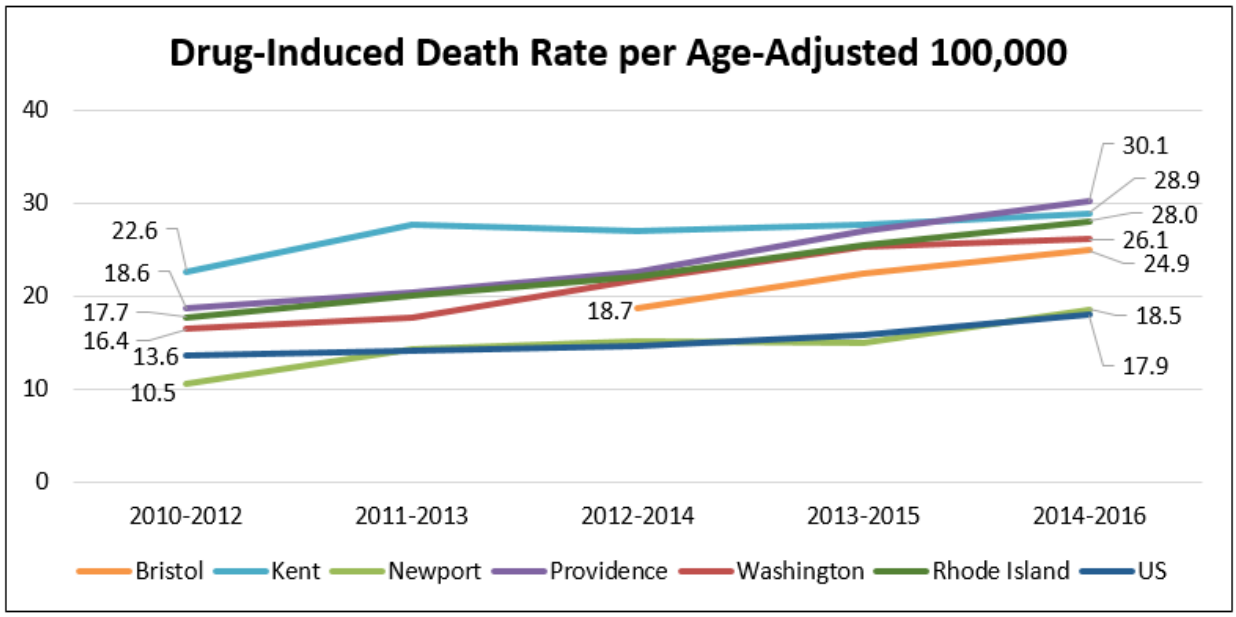
	Excessive Drinking (Adults)	Percent of Driving Deaths due to DUI	Drug-Induced Death Rate per Age-Adjusted 100,000
Bristol County	19.4%	NA	24.9
Kent County	19.9%	43.1%	28.9
Newport County	23.8%	44.0%	18.5
Providence County	17.8%	34.5%	30.1
Washington County	21.4%	50.0%	26.1
Rhode Island	17.4%	39.1%	28.0
United States	18.0%	29.0%	17.9
Healthy People 2020	NA	NA	11.3

Source: Centers for Disease Control and Prevention, 2014–2016 & 2016; National Highway Traffic Safety Administration, 2012–2016; Healthy People 2020

Drug-induced deaths include all deaths for which drugs are the underlying cause of death, including drug overdoses and deaths from medical conditions resulting from chronic drug use.

The drug-induced death rate increased since 2010 across the state and all counties and exceeds national benchmarks

The drug-induced death rate increased across all counties over the past five years. The death rate for Rhode Island and all counties, except Newport, is more than double the Healthy People 2020 goal. The death rates for the state and for all counties exceed the national death rate.

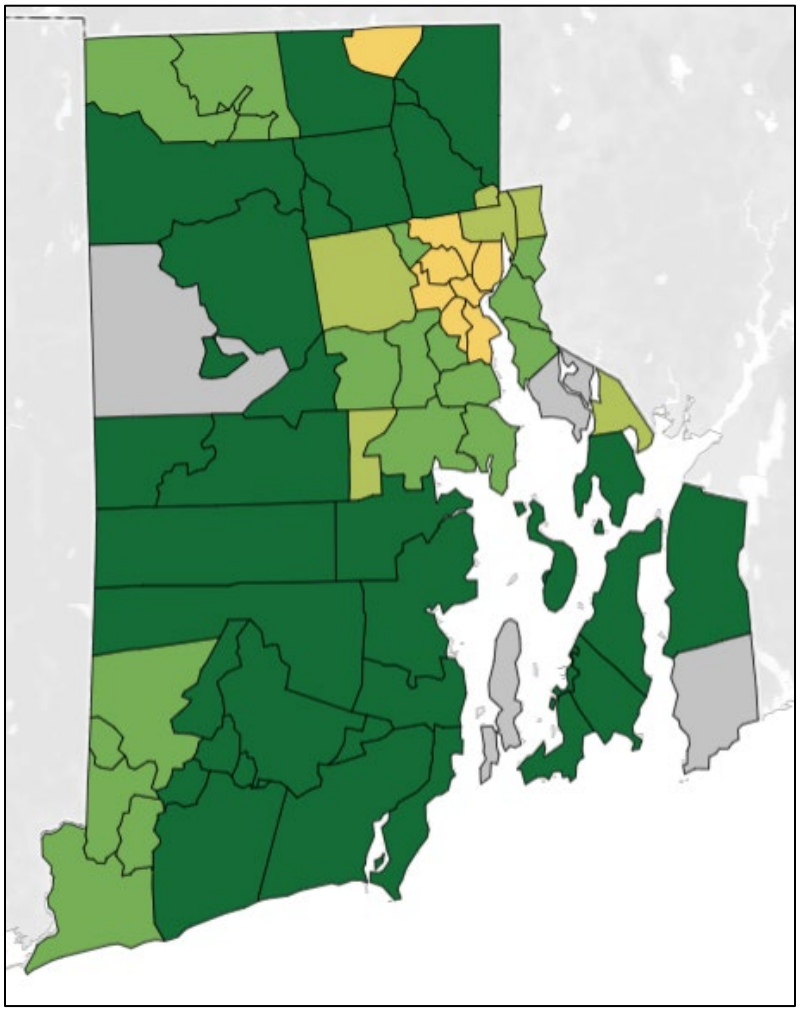


Source: Centers for Disease Control and Prevention, 2010–2012 – 2014–2016
*Data for Bristol County are suppressed for years prior to 2012–2014 due to low death counts.

In response to increasing overdose deaths across the state, Rhode Island implemented a data dashboard, PreventOverdoseRI.org, to track overdose deaths biannually. Per the website, “In 2014, over 240 Rhode Islanders lost their lives to overdose — that’s more than the number of people who died in car accidents, murders, and suicides combined.” In 2018, the number of overdose deaths increased to 314.

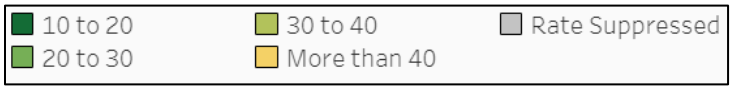
Overdose death data were analyzed as a five-year aggregate to illustrate more reliable counts and rates. The following map depicts overdose deaths per 100,000 population by city/town for 2014 to 2018

Overdose Death Rate per 100,000 by Rhode Island City/Town



Source: Rhode Island Department of Health, 2014-2018

Overdose Death Rate per 100,000 Legend



The following table shows the top cities/towns for overdose deaths for 2014 to 2018. Woonsocket had the highest rate of overdose death during this time span.

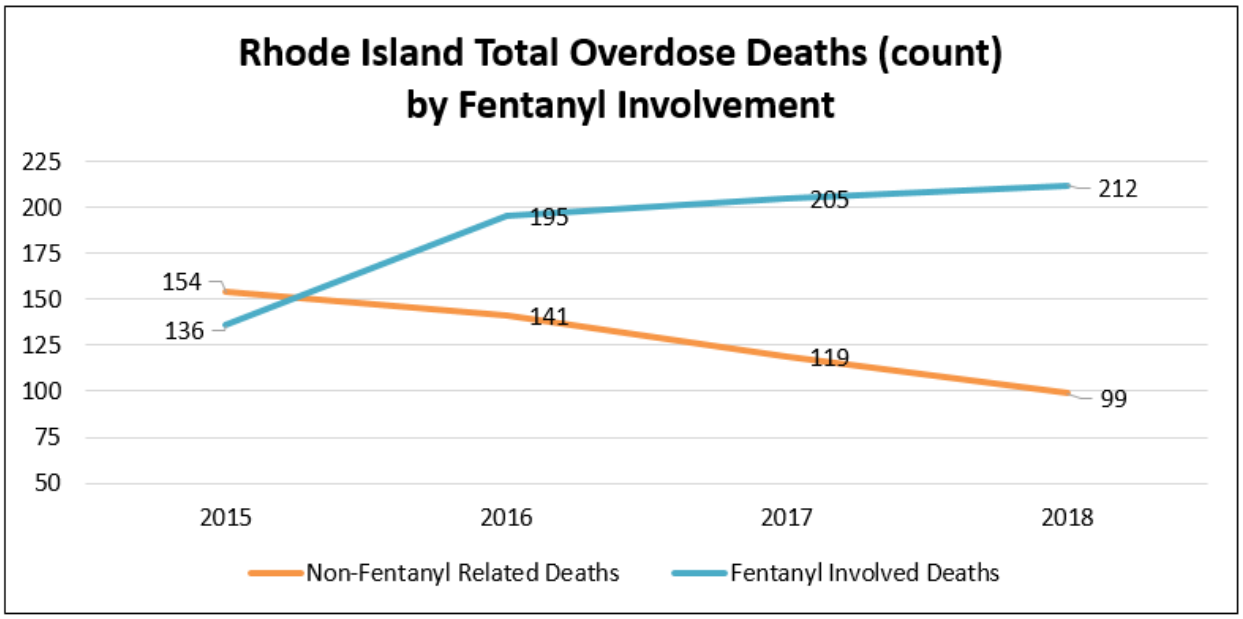
Overdose Death Rate per 100,000 for Rhode Island Cities/Towns with Highest Death Rate, 2014-2018

	Death Rate
Woonsocket	48.6
Providence	44.7
Central Falls	37.2
West Warwick	34.9
Pawtucket	33.2
Johnston	32.0
Warren	32.0
Warwick	27.1
North Providence	26.2
East Providence	25.5
Westerly	24.6
Hopkinton	22.0

Source: Rhode Island Department of Health, 2014-2018

Fentanyl is a significant contributor to death from overdose. With the rise in the presence of fentanyl in illicit drugs, there has been a commensurate rise in the number of overdose deaths from opiates.

Fentanyl-related overdoses are on the rise, accounting for >60% of deaths in 2017

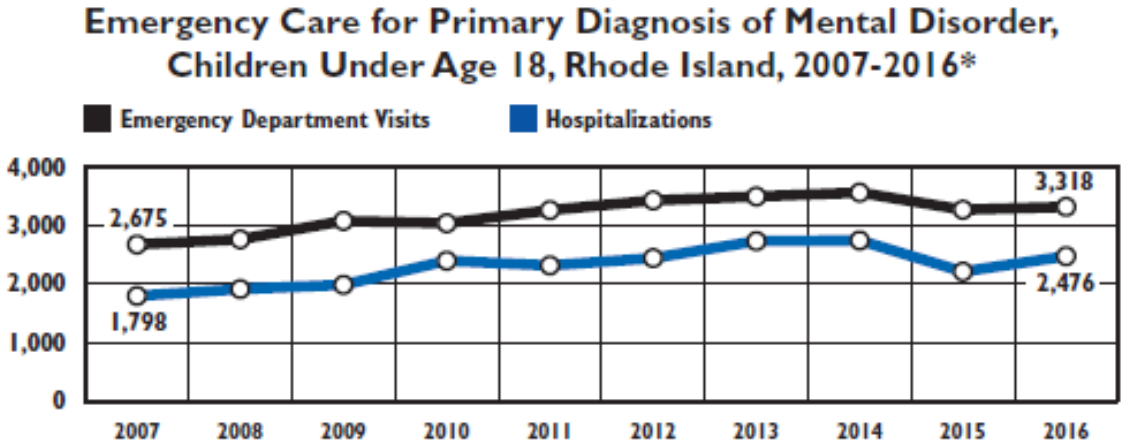


Source: Rhode Island Department of Health, 2015-2018
*From January to March 2019, there were 58 non-fentanyl related deaths and 13 fentanyl-involved deaths in Rhode Island.

Youth Behavioral Health

19% of Rhode Island youth ages 6–17 have a diagnosable mental health problem

According to the Rhode Island Department of Health, 19% of statewide children ages 6 to 17 have a diagnosable mental health problem. At the time of the last CHNA, the Rhode Island Department of Health reported that in 2013, 2,737 youth were hospitalized across five hospitals with a primary diagnosis of mental disorder, an increase of 53% from 2003. The number of hospitalizations among children decreased from 2013 to 2016, but it is on the rise again, as shown in the graph below.



Source: Rhode Island Department of Health, 2007–2016
*Data reflect the number of visits or hospitalizations, not children. Children may have had more than one visit or hospitalization.

More than half of Rhode Island youth ages 3–17 who needed mental health services had trouble obtaining care

Child mental health services are often fragmented and/or unavailable in a timely manner. According to the Rhode Island Department of Health, in 2017, 55% of children ages 3 to 17 who needed mental health services had a problem obtaining care.

"In Federal Fiscal Year (FFY) 2017, 462 Rhode Island children and youth awaited psychiatric inpatient admission for an average of four days on medical floors at Hasbro Children's Hospital. This is up from 212 children and three days in FFY 2016. Also during that time, an average of nine children per day were ready to leave the psychiatric hospital (up from the FFY 2016 average of six kids per day), but were unable due to a lack of step-down availability or there being no other safe placement (including at home)."

Bradley Hospital and Butler Hospital specialize in providing child psychiatric care. The following table shows the number of children under age 19 treated at either hospital by service type for FFY2017. The most common diagnoses among children treated in the inpatient setting were depressive disorders, anxiety disorders, adjustment disorders, bipolar disorders, and schizophrenia.

Children Under Age 19 Treated at Rhode Island Psychiatric Hospitals (FFY2017)

	Bradley Hospital General Psychiatric Services		Bradley Hospital Developmental Disabilities Program*		Butler Hospital Adolescent Psychiatric Services	
	# Treated	Average Length of Stay	# Treated	Average Length of Stay	# Treated	Average Length of Stay
Inpatient	791	21 days	116	38 days	509**	8 days
Residential	41	235 days	34	238 days	NA	NA
Partial Hospitalization	824	20 visits	102	20 visits	166	5 visits

Source: Rhode Island Department of Health, October 1, 2016–September 30, 2017
*The Bradley Hospital Developmental Disabilities Program offers specialized inpatient and residential services to children and adolescents who show signs of serious emotional and behavioral problems in addition to developmental disabilities.
**An additional 81 youth were treated in adult programs.

Young people who consistently feel depressed or sad may be at risk for self-harm and risky behaviors, including committing suicide. The percentage of high school students reporting an attempted suicide decreased three points from 14% in 2013 to 11% in 2017. Between 2012 and 2016, 22 youth under the age of 20 died due to suicide

The percentage of Rhode Island high school students reporting an attempted suicide decreased three points from 14% in 2013 to 11% in 2017.

Teen alcohol and drug use is both a symptom and a risk factor for increased injury, depression, and poor health. The following table depicts substance use among Rhode Island high school students. The percentage of students reporting alcohol use decreased 3 points from 26% in 2013 to 23% in 2017, 7 points lower than the US comparison. Marijuana use decreased 11 points from 34% in 2013 to 23% in 2017, 6 points higher than the US comparison.

Current Substance Use Among Rhode Island High School Students

	Alcohol Use	Marijuana Use	Prescription Drug Misuse
2013 Rhode Island	26%	34%	NA*
2017 Rhode Island	23%	23%	4%
2017 United States	30%	20%	14%

Source: Rhode Island Department of Health, 2013–2014 and 2017
*A change in methodology occurred between 2013 and 2017. A benchmark comparison is not reported.

Neonatal Abstinence Syndrome (NAS)

Babies exposed to opiates or other substances in the womb, may experience withdrawal symptoms shortly after birth. Neonatal abstinence syndrome (NAS) is a group of conditions caused when a baby withdraws from certain drugs he or she has been exposed to in the womb. Although most commonly associated with opioid exposure, other substances can also cause NAS, including antidepressants and benzodiazepines. In addition to the specific difficulties of withdrawal after birth, problems in the baby may include premature birth, seizures, respiratory distress, birth defects, poor growth and other developmental problems. Because the symptoms of NAS often occur after the baby has been discharged from the hospital and symptoms can be hard to identify as NAS, the incidence of NAS is difficult to accurately capture.

The number of babies born with NAS increased from 76 in 2013 to 114 in 2015. Since 2015, the number of babies born with NAS has been variable, but consistently higher than the 2013 count. From 2013 to 2018, an average of 96 babies per 10,000 deliveries were born with NAS.

Neonatal Abstinence Syndrome
per 10,000 Delivery Hospitalizations

	2013–2018 NAS Rate
Rhode Island	96.1

Source: Rhode Island Department of Health, 2013-2018

Maternal and Child Health

Total Births and Teen Pregnancy

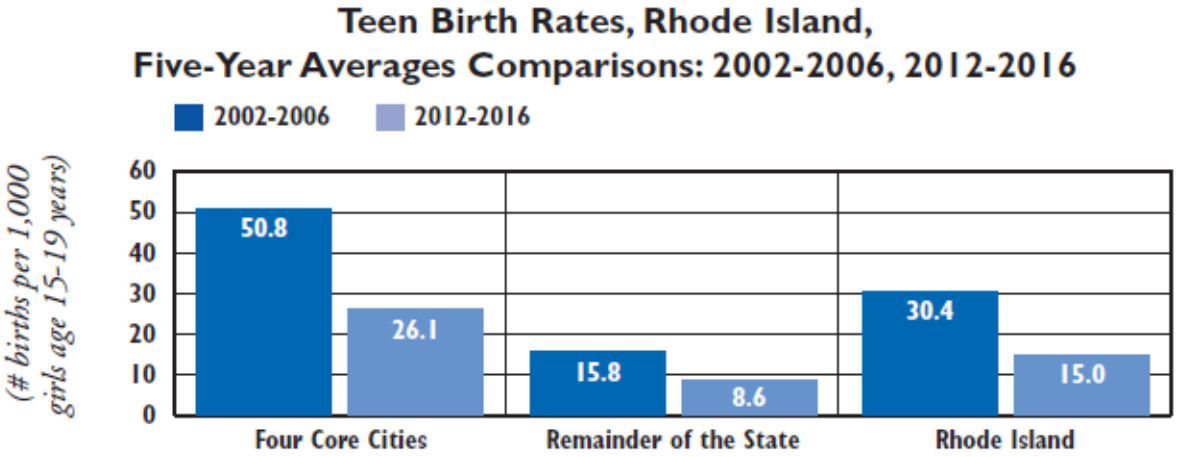
The teen birth rate declined by half across Rhode Island over the past decade, but continues to be highest in the core cities.

A total of 53,756 births occurred in Rhode Island between 2012 and 2016. Nearly 70% of births were to mothers residing in Providence County. Of the total births in Rhode Island, approximately 3,000 were to teen mothers between the ages of 15 and 19. The resulting teen birth rate of 15 per 1,000 is half the reported rate for the prior decade (30.4 per 1,000). However, the teen birth rate within the four core cities continues to exceed the remainder of the state.

Births in Rhode Island per 1,000 Females Ages 15–44

	Total Births		Non-Hispanic White Births		Non-Hispanic Black Births		Latinx Births	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Bristol County	1,690	36.8	1,535	34.0	21	144.8*	59	68.2
Kent County	7,853	53.5	6,830	46.5	124	43.9	466	69.3
Newport County	3,416	45.3	2,676	38.0	179	51.5	389	98.5
Providence County	36,351	53.6	17,219	36.2	3,910	59.2	11,625	81.2
Washington County	4,277	35.2	3,741	32.2	70	37.1	178	40.0
Rhode Island	53,756	50.1	32,143	37.6	4,309	57.9	12,729	80.0

Source: Rhode Island Department of Health, 2012–2016
*This rate is considered statistically unstable; please interpret with caution.



Source: Rhode Island Department of Health, 2002–2006 and 2012–2016

Teen Births (Ages 15–19) by County, 2012–2016

	Birth Count	Birth Rate per 1,000
Bristol County	45	4.5
Kent County	303	12.5
Newport County	112	8.2
Providence County	2,361	19.3
Washington County	159	5.5

Source: Rhode Island Department of Health, 2012–2016

Maternal and Infant Health Outcomes

In aggregate, Rhode Island and all five counties meet the Healthy People 2020 goal of 77.9% of women accessing prenatal care in the first trimester. Women in Providence County experience the most barriers to accessing prenatal care, and have poorer birth outcomes compared to other counties. When statewide data is broken down by race and ethnicity, health disparities among women of color become clearer. For all reported maternal and child health indicators, women and infants of color experience poorer outcomes than their White peers.

All Rhode Island counties meet or nearly meet the HP 2020 goals for first trimester prenatal care, preterm birth, and low birth weight

Engaging in prenatal care early in pregnancy increases the chances that a woman and her baby will have a healthy pregnancy and a healthy birth. Entry into prenatal care after the first trimester can suggest barriers to care such as lack of information, lack of access to healthcare or transportation, or behavioral health barriers.

Delayed prenatal care can contribute to low birth weight and preterm births. Low birth weight is defined as a birth weight of less than 5 pounds, 8 ounces, and is often a result of premature birth, fetal growth restrictions, or birth defects. Preterm birth is defined as birth before 37 weeks of pregnancy, and can contribute to infant death or disability. All Rhode Island counties meet the Healthy People 2020 goal for preterm births, and all counties except Providence meet the goal for low birth weight.

Breastfeeding is recommended to ensure healthy nutritional intake for babies and to promote bonding between mother and child. Washington County is the only county to meet the Healthy People 2020 goal for breastfeeding at the time of birth. Babies born to mothers residing in Providence County are the least likely to be breastfed. Data by race or ethnicity is not available for this measure.

Maternal and Child Health Indicators by County, Race, Ethnicity (Yellow = Health Disparities)

	Delayed Prenatal Care	Preterm Births	Low Birth Weight	Breastfeeding
Bristol County	12.4%	7.5%	5.7%	79.5%
Kent County	12.3%	8.3%	6.8%	75.5%
Newport County	11.6%	8.7%	6.8%	73.2%
Providence County	16.1%	9.4%	8.0%	72.7%
Washington County	8.5%	7.5%	6.2%	83.7%
Rhode Island	14.5%	9.0%	7.5%	77.0%
White	12.4%	6.4%	6.7%	NA
Latina	17.4%	8.1%	8.2%	NA
Black	21.9%	9.2%	11.3%	NA
Asian	26.5%	7.2%	13.1%	NA
Native American	15.6%	8.9%	10.3%	NA
Healthy People 2020	22.1%	9.4%	7.8%	81.9%

Source: Rhode Island Department of Health, 2012–2016

Analyzing maternal and infant health outcomes by town helps to illuminate disparities that can reflect wider health and social disparities among populations. The following tables depict maternal and infant health outcomes for towns across Rhode Island. Cells highlighted in yellow suggest areas for opportunity to improve health equity for these measures.

2012–2016 Bristol County Infant Births by Maternal Characteristics and Town

	Total Births	Births per 1,000 Girls 15–19 years	Delayed Prenatal Care	Breastfeeding at Time of Birth	Preterm Births	Low Birth Weight
Barrington	537	NA (n=6)	10.4%	92%	6.5%	4.7%
Bristol	719	NA (n=48)	12.7%	79%	7.5%	5.6%
Warren	434	13.3^	14.5%	77%	8.8%	7.4%
Rhode Island	53,752	15.0	14.5%	77%	9.0%	7.5%

Source: Rhode Island Department of Health, 2012–2016
^The data are statistically unstable and rates or percentages should be interpreted with caution

2012–2016 Kent County Infant Births by Maternal Characteristics and Town

	Total Births	Births per 1,000 Girls 15–19 years	Delayed Prenatal Care	Breastfeeding at Time of Birth	Preterm Births	Low Birth Weight
Coventry	1,480	7.7	12.0%	78%	7.6%	6.7%
East Greenwich	576	NA (n=9)	10.8%	86%	9.4%	8.0%
Warwick	3,831	10.6	11.7%	78%	8.5%	6.6%
West Greenwich	223	10.8^	11.2%	80%	7.2%^	6.7%^
West Warwick	1,741	26.6	14.6%	70%	8.0%	6.8%
Rhode Island	53,752	15.0	14.5%	77%	9.0%	7.5%

Source: Rhode Island Department of Health, 2012–2016
^The data are statistically unstable and rates or percentages should be interpreted with caution

2012–2016 Newport County Infant Births by Maternal Characteristics and Town

	Total Births	Births per 1,000 Girls 15–19 years	Delayed Prenatal Care	Breastfeeding at Time of Birth	Preterm Births	Low Birth Weight
Jamestown	115	NA (n=2)	9.6%^	96%	NA (n=6)	NA (n=4)
Little Compton	78	NA (n=2)	16.7%	83%	14.1%	NA (n=5)
Middletown	804	10.8^	11.3%	85%	8.0%	6.1%
Newport	1,305	12.1	12.4%	79%	9.4%	8.2%
Portsmouth	583	NA (n=22)	9.4%	88%	7.5%	6.0%
Tiverton	530	6.0^	11.9%	83%	9.1%	6.2%
Rhode Island	53,752	15.0	14.5%	77%	9.0%	7.5%

Source: Rhode Island Department of Health, 2012–2016
^The data are statistically unstable and rates or percentages should be interpreted with caution

2012–2016 Providence County Infant Births by Maternal Characteristics and Town

	Total Births	Births per 1,000 Girls 15–19 years	Delayed Prenatal Care	Breastfeeding at Time of Birth	Preterm Births	Low Birth Weight
Burrillville	645	11.2	12.9%	76%	9.5%	6.0%
Central Falls	1,613	59.5	18.1%	73%	8.9%	8.2%
Cranston	3,927	10.1	13.1%	79%	9.5%	7.6%
Cumberland	1,661	5.8	10.6%	82%	7.1%	5.9%
East Providence	2,347	13.8^	13.2%	76%	8.1%	6.6%
Foster	166	NA (n=5)	11.4%^	89%	9.0%^	NA
Glocester	337	NA (n=11)	11.9%	80%	10.1%	5.6%^
Johnston	1,330	11.9	11.3%	75%	7.8%	7.1%
Lincoln	977	6.9^	11.6%	80%	9.5%	6.8%
North Providence	1,625	17.6	13.2%	75%	9.8%	8.3%
North Smithfield	415	NA (n=10)	11.1%	82%	8.7%	7.5%
Pawtucket	4,885	26.1	18.1%	74%	10.0%	9.0%
Providence	12,511	21.6	18.8%	73%	10.0%	8.8%
Scituate	385	NA (n=10)	14.8%	83%	8.8%	5.5%^
Smithfield	641	NA (n=10)	9.7%	82%	4.8%	3.9%
Woonsocket	2,890	43.7	19.0%	68%	9.4%	8.3%
Rhode Island	53,752	15.0	14.5%	77%	9.0%	7.5%

Source: Rhode Island Department of Health, 2012–2016
^The data are statistically unstable and rates or percentages should be interpreted with caution

2012–2016 Washington County Infant Births by Maternal Characteristics and Town

	Total Births	Births per 1,000 Girls 15–19 years	Delayed Prenatal Care	Breastfeeding at Time of Birth	Preterm Births	Low Birth Weight
North Kingstown	1,081	7.2	9.8%	85%	8.2%	7.0%
Westerly	873	18.6	6.0%	83%	5.5%	5.3%
South Kingstown	854	1.6^	9.1%	87%	7.7%	6.3%
Narragansett	330	NA (n=5)	8.2%	86%	6.7%	6.4%^
Richmond	307	11.2^	7.2%^	86%	9.1%	6.2%^
Hopkinton	288	NA (n=8)	9.7%	85%	8.0%	6.9%^
Exeter	246	10.7^	11.0%	85%	6.5%^	5.3%^
Charlestown	238	20.1^	5.9%^	83%	9.2%^	NA
New Shoreham	58	NA (n=1)	NA	87%	NA	NA
Rhode Island	53,752	15.0	14.5%	77%	9.0%	7.5%

Source: Rhode Island Department of Health, 2012–2016
^The data are statistically unstable and rates or percentages should be interpreted with caution

Adverse Childhood Experiences

Adverse Childhood Experiences (ACEs) have significant negative impact on the mental, physical, and emotional development of children, and contribute to risky health behaviors, poor health outcomes, and premature death. The following tables profile the prevalence of ACEs in Rhode Island, including abuse, neglect, and family dysfunction (incarceration and domestic violence). Prevalence within the four core cities and the top 10 towns or cities for children experiencing ACEs are also shown.

Children of Incarcerated Parents

Children of incarcerated parents are more likely to experience educational challenges and physical and mental health difficulties. The rate of children of incarcerated parents within the four core cities in Rhode Island is nearly double the statewide rate. Woonsocket has the second highest rate overall with more than 250 children impacted.

Children of Incarcerated Parents: Top 10 Cities/Towns in Rhode Island in Descending Order by Rate per 1,000 Children

	Children of Incarcerated Parents per 1,000 Children*
West Warwick	53.3
Woonsocket	25.6
Providence	23.6
Central Falls	21.6
Pawtucket	19.2
Newport	18.6
North Providence	14.7
Cranston	9.9
Foster	9.1
Burrillville	8.4
Four Core Cities	22.7
Rhode Island	12.7

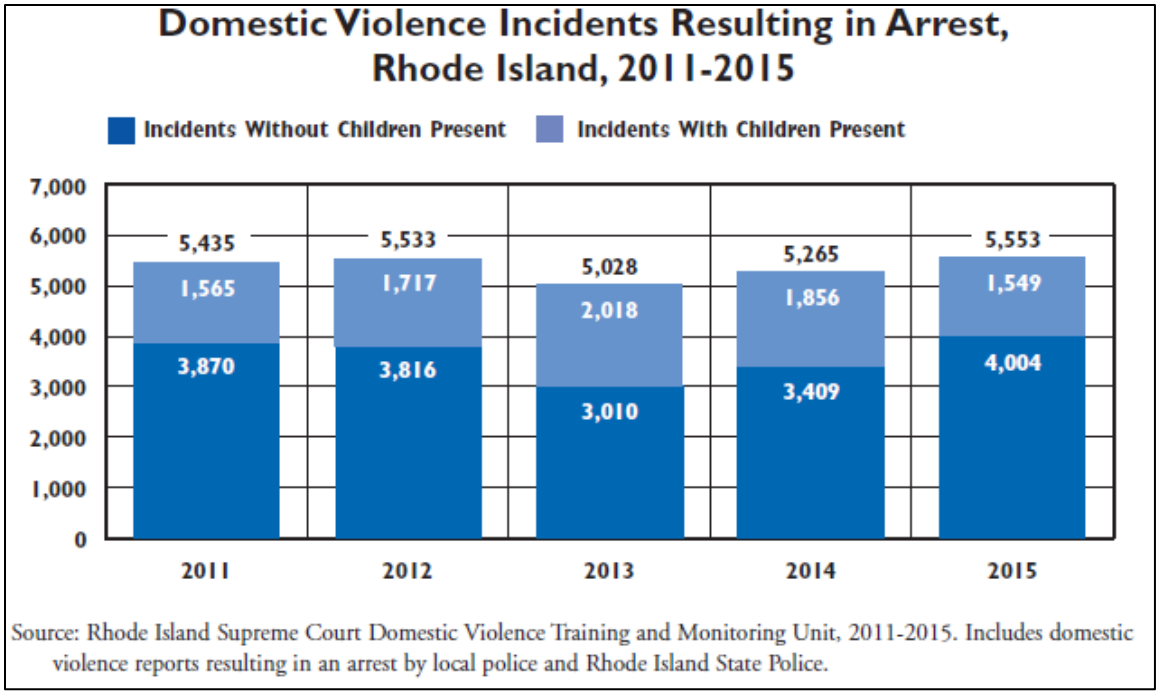
Source: Rhode Island Department of Health, September 30, 2017

*Data are self-reported by the incarcerated parent(s) and may include children over age 18.

Children Witnessing Domestic Violence

According to the 2018 Rhode Island Kids Count Factbook, "Children who are exposed to domestic violence are more likely to be victims of child abuse and neglect than those who are not." In 2015, there were 5,553 domestic violence incidents resulting in arrests in Rhode Island, an increase from 2014 and 2013. Approximately 27% of the incidents in 2015 had a child present; 40% of these incidents originated in the four core cities.

Approximately 27% of domestic violence incidents resulting in arrest had a child present at the event



Source: Rhode Island Supreme Court Domestic Violence Training and Monitoring Unit, 2011-2015. Includes domestic violence reports resulting in an arrest by local police and Rhode Island State Police.

Domestic Violence Incidents Resulting in Arrests: Top 10 Cities/Towns in Rhode Island Shown in Descending Order by Number of Incidents with Children Present

	Total Domestic Violence Incidents	Total Incidents with Children Present	Percent with Children Present
Providence	942	290	31%
Pawtucket	764	204	27%
Warwick	310	89	29%
Cranston	357	86	24%
Woonsocket*	362	86	24%
East Providence	271	83	31%
Westerly	268	71	26%
New Shoreham	207	61	29%
North Providence	187	54	29%
Coventry	125	45	36%
Four Core Cities	2,215	621	28%
Rhode Island	5,553	1,549	28%

Source: Rhode Island Department of Health, 2015
*Data for Woonsocket are provisional.

Child Abuse and Neglect

The Rhode Island Department of Health defines child abuse/neglect as the following:

- Child abuse includes physical, sexual, and emotional abuse.
- Child neglect includes emotional, educational, physical, and medical neglect, as well as a failure to provide for basic needs.

The Department of Health reported that, "In 2017 in Rhode Island, there were 2,404 indicated investigations of child abuse and neglect involving 3,357 children. The rate of child abuse and neglect per 1,000 children under age 18 was more than two times higher in the four core cities than in the remainder of the state. About half (52%) of the victims of child abuse and neglect in 2017 were young children under age six and one-third (34%) were ages three and younger." Across the state, the rate of abuse and neglect among children is highest in Woonsocket.

The rate of child abuse/neglect in the core cities is double the rate in the remainder of the state

Indicated Investigations of Child Abuse and Neglect
Top 10 Cities/Towns in Rhode Island in Descending Order by Rate per 1,000 Children

	Total Indicated Investigations of Child Abuse/Neglect	Indicated Investigations per 1,000 Children	Total Victims of Child Abuse/Neglect	Child Abuse/Neglect Victims per 1,000 Children
Woonsocket	226	22.9	355	35.9
Central Falls	104	18.4	174	30.8
Newport	77	18.9	114	27.9
West Warwick	87	15.1	149	25.9
Pawtucket	285	17.2	400	24.1
Providence	540	13.0	805	19.3
Hopkinton	29	15.7	34	18.4
Westerly	52	10.9	81	16.9
Bristol	45	12.4	57	15.7
Warren	19	9.8	27	13.9
Four Core Cities	1,155	15.7	1,734	23.5
Remainder of State	1,170	7.8	1,526	10.2
Rhode Island	2,404	10.7	3,357	15.0

Source: Rhode Island Department of Health, 2017

The following table shows the number of emergency department visits, hospitalizations, and deaths due to child abuse and/or neglect in Rhode Island. The number of emergency department visits due to child abuse/neglect declined from 2012 to 2016. The number of hospitalizations and deaths has been variable and accounted for 139 total hospitalizations and six child deaths from 2012 to 2016.

Rhode Island Emergency Department Visits, Hospitalizations, and Deaths Due to Child Abuse and/or Neglect

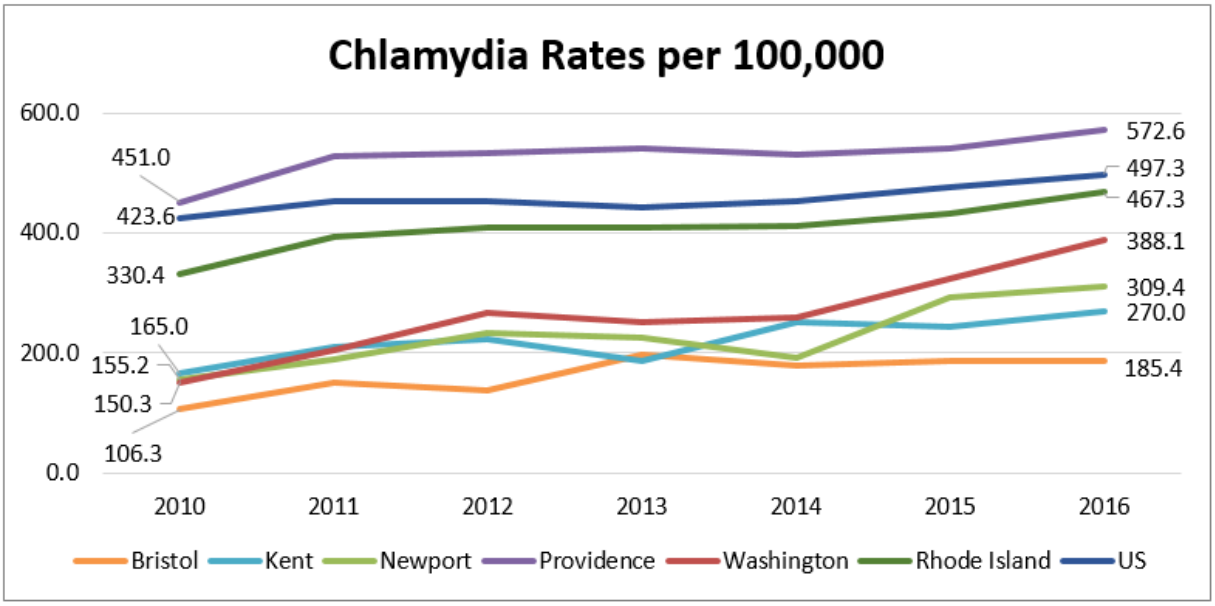
	# of Emergency Department Visits*	# of Hospitalizations*	# of Deaths**
2012	153	25	1
2013	133	34	3
2014	102	44	1
2015	92	28	0
2016	79	8	1
Total	559	139	6

Source: Rhode Island Department of Health, 2012–2016. Data for 2015 and 2016 are provisional.
*The number of Emergency Department visits and the number of hospitalizations include both suspected and confirmed assessments of child abuse and neglect.
**Due to a change in data source, data for child deaths due to child abuse and/or neglect are only comparable with Factbooks since 2013.

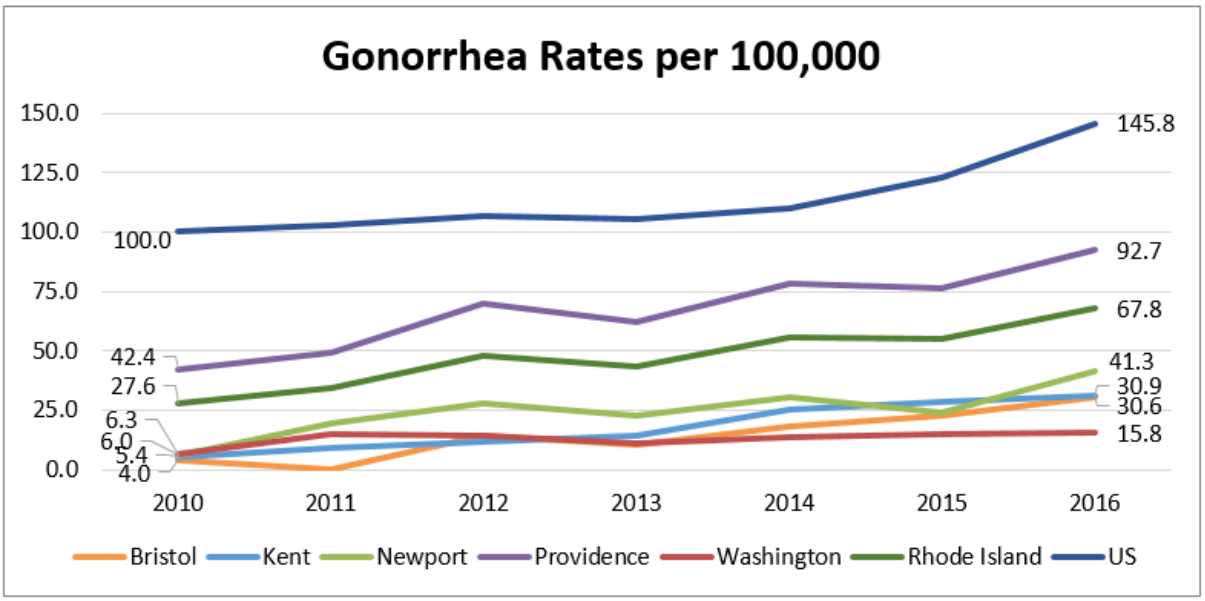
Reportable Diseases

The rate of infection of sexually transmitted infections (STIs) including chlamydia, gonorrhea, and HIV has been increasing across the nation and Rhode Island since 2010. As highly communicable conditions, STIs require reporting to the CDC and state and local health bureaus upon detection. The rate of chlamydia and gonorrhea infections in Rhode Island fall below national rates, but rates in Providence County exceed state and/or national benchmarks. Both STIs have increased across all counties between 2010 and 2016.

Chlamydia and gonorrhea infection rates in Providence County exceed state and/or national benchmarks



Source: Centers for Disease Control and Prevention, 2010-2016



Source: Centers for Disease Control and Prevention, 2010-2016

The following table shows HIV prevalence for all five Rhode Island counties compared to the state and the nation. There are currently 2,357 people living with HIV in Rhode Island. Providence County is the only county with a higher HIV prevalence rate than the state and is similar to the national rate.

2015 HIV Prevalence
(Green = Lower than the State or Nation)

	HIV Prevalence per 100,000	HIV Cases
Bristol County	88.5	38
Kent County	100.2	143
Newport County	148.7	108
Providence County	346.1	1,863
Washington County	63.6	71
Rhode Island	259.5	2,357
United States	362.3	971,524

Source: Centers for Disease Control and Prevention, 2015

Child Lead Screening and Poisoning

The CDC estimates that at least four million households have children living in them that are being exposed to high levels of lead. Lead exposure increases the risk for central nervous system damage, slowed growth and development, and hearing and speech problems.

According to the Rhode Island Department of Health, 729 or 7% of statewide children eligible to enter kindergarten in fall 2019 who were screened for lead poisoning had elevated blood lead levels. The number of children with elevated blood lead levels has steadily declined in all areas of Rhode Island.

10% of screened children in core cities have elevated blood lead levels; Providence County has the oldest housing stock in the state, increasing the likelihood for lead paint exposure

The core cities of Central Falls, Pawtucket, Providence, and Woonsocket are disproportionately impacted by childhood lead poisoning, accounting for 433 of the 729 cases. Ten percent of children living in core cities and screened for lead exposure have elevated blood lead levels.

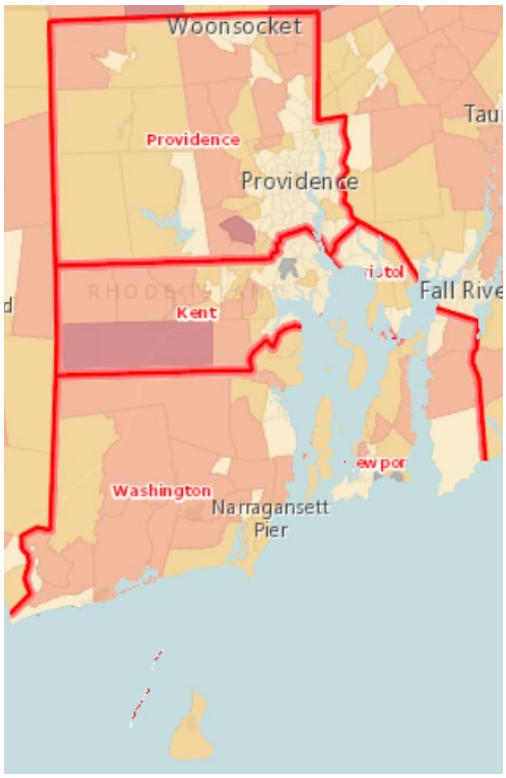
The following table depicts towns with a higher percentage of pre-kindergarten children with confirmed elevated blood lead levels compared to the state. All towns except Warren are located in Providence County.

Lead Poisoning among Children Eligible to Enter Kindergarten in Fall 2019

	Number Tested for Lead Poisoning	Confirmed Elevated Blood Lead Levels	
		Number	Percent
Providence	2,573	292	11.3%
Central Falls	300	32	10.7%
Pawtucket	841	73	8.7%
East Providence	469	40	8.5%
Warren	106	9	8.5%
Rhode Island	10,689	729	6.8%

Source: Rhode Island Department of Health, 2018

Lead paint was frequently used to paint the inside and outside of houses until 1978 when it was banned in the US due to its association with lead poisoning. As a result, homes built before 1978 are at risk of having lead paint inside, a leading exposure pathway for children. Housing stock in Rhode Island is older than that of the US with half of homes across the state built before 1960. Providence County has the oldest housing stock with nearly 60% of homes built before 1960.



Housing Units by Median Year Built and Census Tract, US Census Bureau 2012-16

- Newer than 1985
- 1976 - 1985
- 1966 - 1975
- Older than 1966
- No Data or Data Suppressed
- Report Area

Key Informant Survey Results

Background

A Key Informant Survey was conducted with community stakeholders to solicit information about community health needs. Forty-five individuals responded to the survey, including health and social service providers; community and public health experts; civic, religious, and social leaders; community planners; policy makers and elected officials; and others representing diverse populations including minority, low-income, and other underserved or vulnerable populations.

These "key informants" were asked a series of questions about their perceptions of community health including health drivers, barriers to care, community infrastructure, and recommendations for community health improvement.

Survey Participants

HARI and the CHNA hospitals solicited input from community partners across the state to participate in the survey. The table below shows the breakdown of participation by county. Many participants indicated that they served multiple counties. "Other" areas served as indicated by respondents included Bristol County in Massachusetts, the Blackstone Valley Region, and Pawtucket. A list of the represented community organizations and the key informants' respective role/title is included in Appendix B. Key informant names are withheld for confidentiality.

Counties Served by Key Informants

	Percent of Informants*	Number of Informants
Providence County	77.8%	35
Kent County	57.8%	26
Washington County	51.1%	23
Bristol County	44.4%	20
Newport County	33.3%	15
Other	11.1%	5

*Key informants were able to select multiple counties. Percentages do not add up to 100%.

Participants were asked to indicate if their organizations focused on any specific populations. About one-third of key informants indicated that they served all populations. As demonstrated in the table below, survey participants represent the interests of a broad mix of community stakeholders, including children and youth, families, low income/poor, racial and ethnic minorities, among other underserved populations. "Other" populations as indicated by respondents included domestic violence victims and survivors, individuals with substance use disorders, and individuals experiencing language and cultural barriers.

Populations Served by Key Informants

	Percent of Informants*	Number of Informants
Children/Youth	60.0%	27
Families	60.0%	27
Low Income/Poor	60.0%	27
Women	51.1%	23
Latinx	48.9%	22
Seniors/Elderly	46.7%	21
Men	44.4%	20
Black/African American	37.8%	17
Immigrant/Refugee	37.8%	17
Uninsured/Underinsured	37.8%	17
Disabled	35.6%	16
Homeless	35.6%	16
Not Applicable (Serve All Populations)	31.1%	14
LGBTQ+ Community	28.9%	13
Asian/Pacific Islander	22.2%	10
American Indian/Alaska Native	17.8%	8
Other	8.9%	4

*Key informants were able to select multiple population groups. Percentages do not add up to 100%.

Health Perceptions

Choosing from a list of health issues, key informants were asked to rank order what they perceived as the top three health concerns impacting the population(s) they serve. An option for "other" was also provided. A following question asked participants to similarly rank order what they saw as the top three contributing factors to the health concerns they had indicated in the previous question. The top five responses for each question are depicted in the tables below. The tables are rank ordered by the number of informants that selected the issue within their top three choices.

More than 37% of key informants saw mental health conditions as the No. 1 health concern; 67% chose it among their top three selections

More than one-third of informants saw mental health conditions as the No. 1 health concern in their community and 67% chose it among their top three community health concerns. Correlation between these data demonstrates more consensus around this issue than others on the list. More than 50% of informants selected substance abuse among their top three choices. Overweight/obesity and diabetes rounded out the top three health concerns with about 40% of informants' selecting these issues.

Top Health Concerns Affecting Residents*

Rank	Health Concern	Informants Selecting as the No. 1 Health Concern		Informants Selecting Among Top 3 Health Concern	
		Percent	Count	Percent*	Count
1	Mental health conditions	37.2%	16	67.4%	29
2	Substance abuse	18.6%	8	53.5%	23
3	Overweight/Obesity	4.7%	2	41.9%	18
4	Diabetes	16.3%	7	39.5%	17
5	Other**	4.7%	2	14.0%	6
5	Cancers	0.0%	0	14.0%	6
5	Heart disease and stroke	0.0%	0	14.0%	6

*Key informants were able to select multiple health concerns. Percentages do not add up to 100%.
**Other responses: lead exposure, and affordable, healthy housing.

More than half (54.5%) of key informants saw poverty among the top three contributing factors to health concerns, with 25% selecting it as a the No. 1 contributor. There was less consensus among informants regarding other factors that most contribute to community health concerns. Health habits and ability to afford healthcare received the next highest votes after poverty.

Poverty was identified as the top contributing factor to community health concerns

Top Contributing Factors to Community Health Concerns

Rank	Contributing Factor	Informants Selecting as the No. 1 Contributor		Informants Selecting Among Top 3 Contributor	
		Percent	Count	Percent*	Count
1	Poverty	25.0%	11	54.5%	24
2	Health habits (diet, physical activity)	11.4%	5	29.5%	13
3	Ability to afford healthcare (doctor visits, prescriptions, deductibles, etc.)	13.6%	6	27.3%	12
4	Drug/Alcohol use	2.3%	1	22.7%	10
5	Stress (work, family, school, etc.)	6.8%	3	18.2%	8
5	Other**	4.5%	2	18.2%	8
5	Lack of preventive healthcare (screenings, annual check-ups)	2.2%	1	18.2%	8

*Key informants were able to select multiple contributing factors. Percentages do not add up to 100%.
**Other responses: Social determinants of health, sedentary lifestyles, too much screen time, racism, sexism, mental health outpatient services for children and adolescents not requiring home-based services, and inadequate Medicaid funding for care.

Key Informant Comments

Informants' were invited to provide freeform comments to expand upon their quantitative responses to the previous questions. Verbatim comments are included below.

- *"…Planning efforts involving all stakeholders and communities should be strengthened to decrease duplication of effort, increase efficiencies across the state, maximize use of funding, and centralize systems of care. The current system is fragmented and confusing to patients, clients, community stakeholders, and providers."*
- *"Progress is being made in some of these areas through the local Health Equity Zone (HEZ) and the work of many partners to increase access to healthy foods, exercise, asthma, recreation, etc."*
- *"There is a large disparity between those who can and cannot afford healthcare. Those with Medicaid have increased barriers. However, more and more individuals who have private insurance are also finding it difficult to manage their health due to high premiums, deductibles, and co-pays. People are having to choose between paying rent, buying food, and costs associated with managing their healthcare."*
- *"There is a dearth of community based care for mental health and substance abuse." [in Washington County]*
- *"We need a greater focus on "health" over "healthcare." Specifically, being holistic and addressing trauma in our communities. Health equity and addressing social determinants of health require us to seek solutions across sectors with community engagement and direct investment in elements of social determinants of health."*
- *"Children do not spend enough time with unstructured play outdoors. Most residents do not spend enough time outdoors in nature even though there are many places where they can do this. Stress permeates our culture and people do not learn strategies for managing stress and balancing their lives."*
- *"In the nursing home community, the individuals we care for typically suffer from dementia or other age-related disability. Depression is also a chronic problem, because these individuals have experienced so much loss; the majority of them have outlived their spouse and/or friends. They have lost their independence, their good vision and hearing, their health, etc. It's a very challenging time of life, whether they receive care at home, in assisted living, or in a nursing facility. The state has sufficient nursing facility beds, but those facilities are financially starved due to Medicaid funding shortfalls. This means patients must be in semi-private rooms, and staff are too busy to provide the relaxed and friendly care they deserve. They receive good primary care, but there are SERIOUS shortfalls in dental and behavioral healthcare for nursing home residents."*
- *"Washington County has pockets of poverty that are overshadowed by high income areas."*
- *"There aren't enough providers because the reimbursement rates are so low and [rates] don't take into account the social factors contributing to missed appointments, etc."*

- *"Families are facing multiple stressors. Availability of providers, the ability to pay, availability of alcohol and drugs, lack of adequate housing and transportation, limited educational level, low community connectivity, low understanding of effects of school truancy/absenteeism/academic failure on a child's future, long history of trauma in our communities."*
- *[In Washington County], "We have lost services in the last 10 years. We no longer have a true community mental health agency, but an off-shoot of Lifespan that has NO out-patient clinical services in place for children and adolescents other than in-home services which are needed by very few children. The insurance companies do not provide adequate reimbursement to providers, so many do not take insurance. The State of Rhode Island joined our community mental health services with Kent County and we no longer have a fulltime child and adolescent psychiatrist available. Ten years ago we had a full [complement] of children's services, including a partial hospital program. Now we overload the emergency rooms with patients....[they are] sent home with NO services and the problems continue!"*
- *"The social and environmental determinants of health are the ground in which all of the health concerns occur. Hospitals should devote significant investment in the communities that are most affected by these determinants. Simply providing care when there are problems misses the point. The hospitals should support strategies, such as the Health Equity Zones, that are doing work in the community where 80-90% of health occurs. Healthcare is obviously critically important, but prevention is actually where we need to focus more of our resources. That is where we are going to address asthma, obesity, mental health concerns, diabetes, and other illnesses that are exacerbated and disproportionately affected by lack of employment, poor housing, etc., and fed by systemic racism."*
- *"The lack of specific ethnic data in certain categories, which may contribute to inaccurate generalization about health issues affect among Southeast Asians (SEA) in this state. A combination of cultural factors, including the violence and trauma-laden refugee experience following the Vietnam War, contributes to a higher risk of chronic illnesses and associated risk factors among SEA. A lack of ethnic-specific data collection and reporting on SEAs in Rhode Island makes it difficult to provide a clear snapshot of the health status of the SEA community. Areas such as mental health lack SEA specific data although the SEA refugee population has been historically afflicted with trauma and violence. However, data collected nationally and in other states show that the SEA community is disproportionately affected by cancer and hepatitis B and faces unique risks in term of heart disease. The majority of SEA health issues are associated with various barriers to healthcare access; low rates of preventative care to detect, monitor, and treat chronic and infectious diseases; and generally poor knowledge of important health issues."*
- *"Our community (East Bay) is very diverse economically and that makes it difficult to say that the region is served in any one way. Economics is the No.1 factor when it comes to the ability to meet the challenges of health concerns. That is not necessarily the same as*

poverty—it is the crunch of the working poor and lower level middle class. These families face increased stress that is a result of their economic situation that impacts food choices (e.g. fast food versus fresh food) that are not related to education or availability."

Healthcare Access

Key informants were asked to rate their agreement to statements pertaining to access to care using a scale of (1) "strongly disagree" to (5) "strongly agree."

Access to Healthcare Statements in Descending Order by Mean Score

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	**Mean Score**
	(1)	(2)	(3)	(4)	(5)	
Residents have a regular primary care provider/doctor/practitioner that they go to for healthcare.	2.2%	20.0%	37.8%	33.3%	6.7%	**3.22**
Providers in the community are culturally sensitive to race, ethnicity, cultural preferences, etc. of patients.	2.2%	35.6%	33.3%	22.2%	6.7%	**2.96**
There are a sufficient number of providers that accept Medicaid/ Medical Assistance in the community.	11.1%	35.6%	35.6%	17.8%	0.0%	**2.60**
Residents have available transportation (public, personal, or other service) for medical appointments and other services.	8.9%	53.3%	22.2%	11.1%	4.4%	**2.49**
Residents have access to a consistent source of affordable healthy foods.	11.1%	57.8%	13.3%	13.3%	4.4%	**2.42**
There are a sufficient number of bilingual providers in the community.	15.6%	57.8%	20.0%	6.7%	0.0%	**2.18**

Access to adequate and timely health services is a key contributor to the health of a community. As shown in the table above, key informants were divided on a number of issues affecting residents' access to care. Key informants were most affirmative with regard to residents' access to a regular primary care provider. Survey respondents were most divided on the cultural sensitivity of providers with 38% disagreeing, 33% neutral, and 29% agreeing to the statement.

Key informants mostly disagreed or were neutral with regard to the number of Medicaid providers available in their communities. Only 18% "agreed" or "strongly agreed" that there were a sufficient number of providers that accept Medicaid. Most informants disagreed that residents had access to services {transportation (62%); healthy foods (69%) and bilingual providers (73%)}.

Provider Availability

Key informants were asked to rate their agreement to statements pertaining to the availability and accessibility of primary and specialty care providers using a scale of (1) “strongly disagree” to (5) “strongly agree.”

Healthcare Provider Availability and Accessibility

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	**Mean Score**
Primary Care Services						
Residents receive care when they need it.	4.5%	27.3%	29.5%	31.8%	6.8%	**3.09**
There are a sufficient number of providers in the community.	14.0%	39.5%	11.6%	27.9%	7.0%	**2.74**
Specialty Care Services						
Residents receive care when they need it.	11.4%	38.6%	31.8%	18.2%	0.0%	**2.57**
There are a sufficient number of providers in the community.	20.9%	20.9%	27.9%	25.6%	4.7%	**2.72**
Dental Care Services						
Residents receive care when they need it.	11.4%	43.2%	27.3%	18.2%	0.0%	**2.52**
There are a sufficient number of providers in the community.	23.3%	20.9%	23.3%	30.2%	2.3%	**2.67**
Vision Care Services						
Residents receive care when they need it.	7.0%	30.2%	39.5%	23.3%	0.0%	**2.79**
There are a sufficient number of providers in the community.	4.8%	23.8%	40.5%	26.2%	4.8%	**3.02**
Mental Healthcare Services						
Residents receive care when they need it.	34.1%	38.6%	13.6%	13.6%	0.0%	**2.07**
There are a sufficient number of providers in the community.	34.9%	34.9%	18.6%	11.6%	0.0%	**2.07**
Substance Abuse Services						
Residents receive care when they need it.	20.5%	50.0%	11.4%	13.6%	4.5%	**2.32**
There are a sufficient number of providers in the community.	30.2%	39.5%	16.3%	11.6%	2.3%	**2.16**

Key informants were neutral or divided on many of the measures related to availability and accessibility of healthcare services. Most key informants took a neutral position on whether residents receive care when they need it, but the majority disagreed that there were a sufficient number of primary care providers in the community. With regard to specialty care, informants mostly disagreed that residents receive care when they need it, and mostly disagreed or were neutral that there were sufficient specialty providers in the community.

Key informants felt that residents do not receive dental care when they need it, and generally disagreed or were neutral as to sufficient providers available. Responses were similar with regard to vision care, with most informants indicating that residents do not receive care when they need it, while indicating neutral opinions on the availability of providers.

70% of key informants thought residents did not receive behavioral health services when they need it, and that there are not enough providers

The strongest consensus was with regard to mental healthcare and substance abuse services. Approximately 70% of informants “disagreed” or “strongly disagreed” that residents receive mental healthcare or substance abuse care when they need it and that there was not a sufficient number of these providers in the community.

Choosing from a list of specified reasons, key informants were asked to rank order what they perceived as the top three reasons that individuals who have health insurance do not receive regular care. An option for “other” was also provided. The top five responses are depicted in the table below and rank ordered by the number of informants that selected the reason among their top three choices.

Top Reasons Individuals with Health Insurance Do Not Receive Regular Care

Rank	Reason	Informants Selecting as the No. 1 Reason		Informants Selecting Among Top 3 Reasons	
		Percent	Count	Percent*	Count
1	Unable to afford care (copays, deductibles, prescriptions, etc.)	36.6%	15	61.0%	25
2	Challenges of navigating the healthcare system	12.2%	5	43.9%	18
3	Lack of transportation to access healthcare services	12.2%	5	34.1%	14
4	Awareness/Emphasis of preventive health measures	7.3%	3	29.3%	12
5	Providers not accepting insurance/new patients	4.9%	2	29.3%	12

*Key informants were able to select multiple reasons. Percentages do not add up to 100%.

“Unable to afford care” was selected as the No. 1 reason that insured individuals do not receive regular care with 37% selecting it as the No. 1 reason and 61% of respondents selecting it within their top three reasons. Higher consensus

37% of key informants identified “unable to afford care” as the top reason insured individuals do not receive regular care

among this issue suggests that cost of care, not insurance access, is a larger barrier for residents to receive care.

“Challenges of navigating the healthcare system” was ranked second, above lack of transportation, awareness of preventive health measures, and providers accepting insurance or new patients. This ordering suggests that improving ease of accessing care could increase the frequency that residents access preventive care.

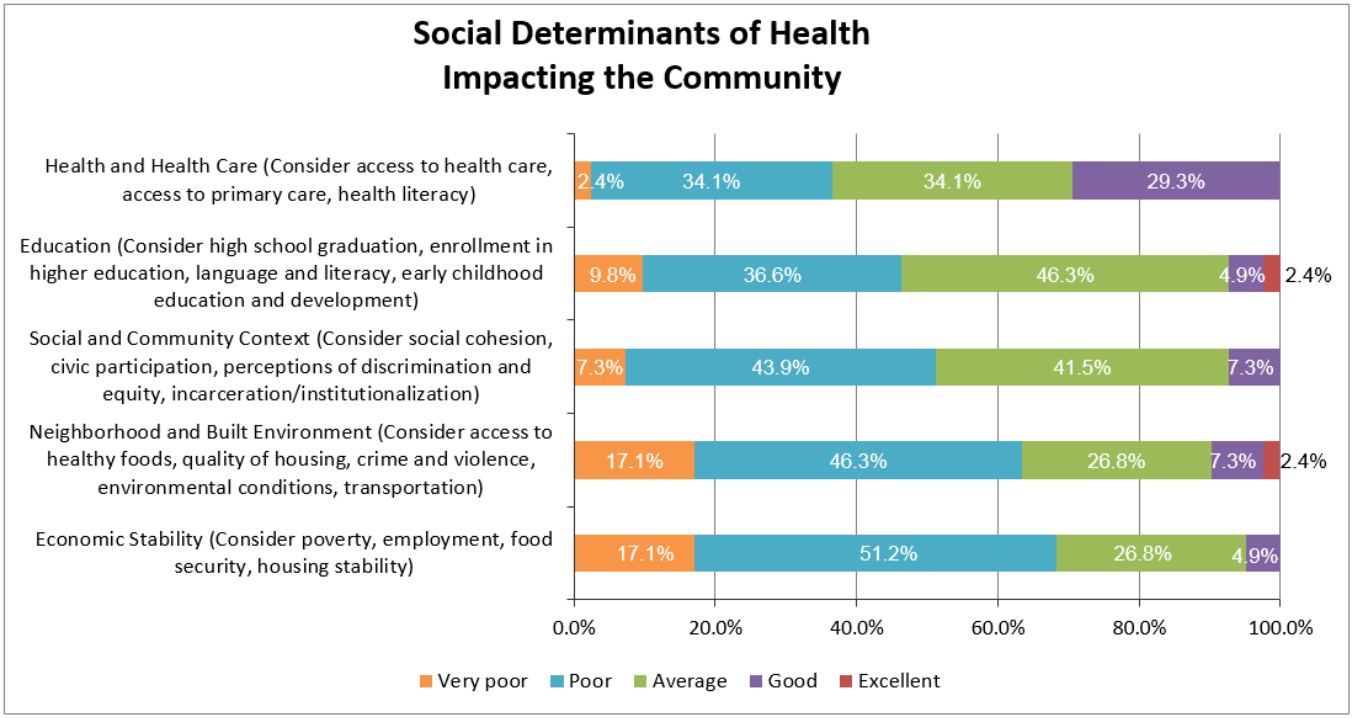
Social Determinants of Health

Healthy People 2020 defines social determinants of health as conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, function, and quality of life outcomes and risks. Informants were asked to rate social determinants of health across five different dimensions: economic stability; education; health and healthcare; neighborhood and built environment; and social and community context using a scale of (1) “very poor” to (5) “excellent.”

The mean scores for each dimension are listed in the table below in rank order, followed by a graph showing the scoring frequency. Mean scores fell between 2.20 for “economic stability” and 2.90 for “health and healthcare,” with most respondents rating the listed social determinants as “poor” or “average.” Health and healthcare received the highest frequency of “good” scoring.

Social Determinants of Health Rating in Descending Order by Mean Score

Ranking	Social Determinant of Health	Mean Score
1	Health and Healthcare	2.90
2	Education	2.54
3	Social and Community Context	2.49
4	Neighborhood and Built Environment	2.32
5	Economic Stability	2.20



Survey participants were asked to provide insight into their scoring of the social determinants of health dimensions using a freeform response. Verbatim comments are listed below. As demonstrated by the comments, many key informants acknowledged a strong link between socioeconomic factors and health status.

- *"Overall, Washington County looks good on most measures, except mental health where we stand out, i.e. suicide, binge drinking, motor vehicle accidents caused by impaired drinking, etc. Health disparities occur in small poverty pockets under the radar. Lack of transportation and social isolation in our rural suburban landscape affect residents' ability to have access to medical care, healthy foods, exercise, etc."*
- *"Even though there may be access to healthcare, fresh foods, and services in a given community, whether a family can take advantage of those depends on their unique situation. In some ways, families who have economic instability who live in places where there are lots of options are just as challenged as families who live in areas with no options."*
- *"Our organization has seen an increase in homelessness, food insecurity, and lack of transportation. Mental health challenges impact ability to work and manage day to day life."*
- *"My community suffers from a lack of available mental healthcare at all income levels; lack of transportation for low income residents; pockets of deep poverty hidden in a generally well off community; and a cultural acceptance of unhealthy eating habits and overweight. School meals are of a particular concern. They follow RIDE "guidelines" but in practice offer children a lot of prepackaged foods that look like less healthy products for sale in grocery stores. Companies are advertising unhealthy foods to children and*

families through school meals. The look alike products available in the grocery stores are high in sugar, sodium, and unhealthy fats and low in whole grains. They do not teach children and families about healthy eating habits."

- *"Isolation is the number one cause of depression in the elderly. Without access to transportation, social engagement, and in-home care, we will see a higher use of ER and hospital visits in part because of their depression and loneliness."*
- *"Addressing SDOH requires both a collective impact approach and hospitals as anchors leveraging their resources to engage in economic security, direct housing investments, and trauma-informed community development."*

Community Resources

Key informants were asked what resources are missing in the community that could help residents optimize their health. Respondents could choose as many options as they thought applied. Nearly 75% of informants chose "mental health services and transportation options as the top missing resources within the community. Approximately 68% included multi-cultural or bilingual healthcare providers and 65% checked substance abuse services. Sixty percent of informants selected healthy food options as a missing resource within the community. Just over half of the informants indicated a need for housing or additional health and wellness education.

Top 10 Missing Resources within the Community to Optimize Health

Ranking	Resource	Percent of Informants	Number of Informants
1	Mental health services	72.5%	29
1	Transportation options	72.5%	29
3	Multi-cultural or bilingual healthcare providers	67.5%	27
4	Substance abuse services	65.0%	26
5	Healthy food options	60.0%	24
6	Health and wellness education and programs	52.5%	21
6	Housing	52.5%	21
8	Outlets for physical activity (parks, rec centers, gyms, walking trails, etc.)	40.0%	16
9	Child care providers	35.0%	14
9	Dental care	35.0%	14

Specific comments from key informants related to missing resources in the community are included below. Transportation, housing, heath equity, cultural competency, and promotion of community health workers and other evidence-based programs are discussed.

- *"What are the barriers that keep people from spending more time in parks and other outdoor places? Perhaps it is knowledge that these places are there. Perhaps it is the lack of time. Perhaps there needs to be more organized groups that people can join for walking?"*

- *"Resources present in the community should not be considered available/adequate unless they are affordable to the lowest-income residents and can be accessed without fear due to immigration status (or other similar factors)."*
- *"Spanish is NOT the only bi-lingual challenge. And, with language comes cultural norms that are often not appreciated or respected by providers. One cannot trust a provider who makes the patient feel stupid or 'less than' because of lack of knowledge or exposure to the American system and way of life."*
- *"Bring more community health workers as key members of the health team, establishing the connections between community and clinic. Invest in evidence-based healthy life style programs available in the communities where the patients live."*
- *"In many areas of the state, transportation is the key factor. Most places do not have consistent transportation options. Hours of operation for healthcare is also challenging some times."*
- *"Affordable housing is a problem across the state and pressures are especially high in Washington County with economic pressures for student and tourist housing. Transportation is a significant issue with minimal public transportation available. Although the minority/multi-cultural/non-English speaking population is small, services for them are fairly nonexistent. Mental health services are hard to navigate and the full continuum of mental healthcare is not available in Washington County, i.e. no intensive outpatient programs, crisis care, etc. Families with children with behavioral health challenges have few supports available to them."*

When asked how local and regional healthcare providers can better engage community members to achieve optimal health outcomes, respondents made recommendations for community collaboration; increased focus on prevention; and improved healthcare access. Specific recommendations from informants included:

- Advocate for healthy meals, increased physical activity, and improved health education for students
- Collaborate with and invest in the local Health Equity Zones
- Employ community health workers to assist and support patients
- Encourage coordination of care among providers
- Engage with community non-profits to maximize efforts and collaboration
- Improve healthcare access (evening hours with childcare provided, specialty care providers)
- Partner with local community development and housing agencies
- Promote cultural sensitivity by employing a multi-racial/multi-cultural staff
- Provide prevention and wellness programs for community members

Evaluation of Community Health Impact from 2016 CHNA Implementation Plan for Community Health Improvement

In 2016, Care New England hospitals completed a Community Health Needs Assessment and developed an Implementation Plan for community health improvement to address identified health priorities. Health priorities included behavioral health, chronic disease – diabetes, and maternal and child health.

The 2016 Implementation Plan outlined specific goals, objectives, and strategies to address priority health areas. The plan leveraged resources across the health system and the community, drawing on existing partnerships. The following section highlights outcomes from the implemented action items undertaken by Butler Hospital, Kent Hospital, and Women & Infants Hospital.

Behavioral Health

Care New England Goals:

- Prevent opioid use addiction and opioid addiction in conjunction with other substances.
- Decrease morbidity and mortality from opioid use and opioid use with other substances.

Objectives:

- Increase awareness and knowledge among the public and health care professionals about opioid addiction, signs and symptoms of substance abuse, prevention, and existing addiction and recovery services.
- Increase the number of people who are identified with opioid addiction or are at-risk for opioid addiction and require treatment services.
- Increase the number of people who learn about the CNE Center of Excellence Addiction and Recovery Treatment Model and who seek out and are able to access treatment services.
- Improve staff cultural competence in delivering preventive and treatment services to those with opioid addiction or are at-risk for opioid addiction and in communicating with family members, significant others, friends, and the public about opioid addiction prevention and treatment, and related services and programs.
- Help reduce stigma associated with opioid addiction and other substance use disorders.

Strategies Completed:

- Butler Hospital produced an educational video on opioid addiction and medication assisted treatment. The video was widely shared on social media outlets and was used for educational purposes by other community organizations, including the Rhode Island Department of Health.
- In 2018, Butler Hospital launched the *Get Psyched!* community event series. *Get Psyched!* is a free, stigma-busting, educational services about mental health and

addiction disorder. Through a series of presentations and discussions open to professionals and the community, Butler Hospital's psychiatrists, neurologists, clinicians, and research investigators shared information, answered questions, and demystified what it means to have an addiction or mental disorder.

- The Providence Center, an affiliate of Care New England, participated actively in the Central Falls-Pawtucket Health Equity Zone, and the Health Equity Zones serving Providence, Washington County, and West Warwick, to address behavioral health needs among underserved and vulnerable populations.
- The Butler Hospital Chief of Addiction Services served on the Governor's Overdose Prevention and Intervention Task Force, along with two members of The Providence Center's Anchor Recovery program.
- Butler Hospital physicians regularly served on discussion panels and as guest speakers at community events focused on addressing the opioid crisis.
- The Providence Center staff regularly participated in Rhode Island's State Innovation Model (SIM) program, a federally funded program with the goal of transforming healthcare delivery and funding. SIM aims to improve the primary care and behavioral health infrastructure, engage patients in positive health behaviors and self-advocacy, and expand the ability of providers and policy makers to use and share data.
- The Providence Center launched a number of collaborative programs that serve vulnerable populations and are not financially self-sustaining. The programs included:
    - **Anchor Recovery**: The program provides peer-based recovery supports to those with substance use disorders.
        - AnchorED: Trained recovery coaches are dispatched 24 hours a day, year-round to all Rhode Island hospitals when they admit someone who has experienced an opioid overdose. Care New England hospital EDs were served 24/7 by recovery coaches. Butler Hospital also imbedded recovery coaches within outpatient programs for addiction disorders and in the Patient Assessment Services ED. Kent Hospital includes recovery coaches as part of its inter-disciplinary clinical team.
        - AnchorMORE (Mobile Outreach Recovery Efforts): Teams of recovery coaches reach out across the state to offer recovery supports and distribute naloxone to vulnerable populations, including homeless or those using substances in public places.
        - Jim Gillen Teen Anchor Recovery Center: Peer-based recovery supports for high-school aged youth.
    - **Safe Stations Providence:** A partnership with the Providence Fire Department to establish an onsite, open-door policy for individuals seeking assistance with addiction issues, and to connect them with treatment and recovery supports.
- Care New England hospitals engaged clinical social workers to conduct 30-day follow-up calls to patients who were discharged from the inpatient unit with a naloxone kit. Social workers assessed risk for future overdose and connected individuals with existing services as needed.
- Butler Hospital launched a Recovery Stabilization Program, an intensive outpatient program offering medication assisted treatment for opioid addiction. The program was designated as a Center of Excellence by the State of Rhode Island.

- In 2017, Kent and Women & Infants Hospitals achieved certification as part of the *Levels of Care for Rhode Island Emergency Departments and Hospitals for Treating Overdose and Opioid Use Disorder* program. The program is an initiative of the Governor's Overdose Prevention and Intervention Task Force to standardize humane, evidence-based care of patients with opioid use disorder. Kent Hospital was certified as a Level 1 provider, a designation for organizations that have made a commitment to establishing themselves as a Center of Excellence, or another comparable arrangement, and have the capacity to address appropriately the healthcare needs of the most complex patients with opioid use disorder and overdose.
- The centralized Care New England Behavioral Health Call Center phone number (1-844-401-0111) was incorporated into all behavioral health services communication tools.
- Butler Hospital offered an online mental health screening tool on its website with multiple links to available educational and support services.
- Butler Hospital provided meeting space free of charge to community-based organizations and individual sponsors, including eight addiction recovery support groups that met weekly.

Chronic Disease – Diabetes

Care New England Goals:

- Reduce the number of new cases of diabetes.
- Decrease morbidity and mortality from type 2 diabetes and diabetes-related conditions.

Objectives:

- Increase the public's awareness and knowledge of risk factors for prediabetes and diabetes.
- Increase the proportion of pre-diabetic people at risk for diabetes who have been screened and diagnosed.
- Increase the proportion of persons with diabetes whose condition has been diagnosed.
- Reduce disparities in screening, diagnosing, and treatment of diabetes.
- Promote healthy behaviors, including those related to diet and nutrition, to aide in reducing the risk factors for the development of diabetes among at-risk populations in underserved populations residing in CNE hospital service areas.
- Support persons at high risk for diabetes with modifying health behaviors, including healthy eating.
- Improve cultural competence among clinicians and staff in delivering preventive and treatment services to those at risk of acquiring type 2 diabetes or have type 2 diabetes and their families.

Strategies Completed:

- The Care New England Wellness Center provided the Diabetes Outpatient Education (DOE) program for individuals managing diabetes. The program has been awarded recognition by the American Diabetes Association in accordance with the National Standards for Diabetes Self-Management Education Programs and is a state-certified DOE site.
    - The program meets for two hours once a week over a five week period and includes an individual appointment with a nurse practitioner and registered dietitian. After completing the series, there is a three-month follow-up appointment. The program includes:
        - Pre-screening and individual goal setting
        - What is diabetes? education
        - Diet planning
        - Alcohol and eating out
        - High and low blood sugar
        - Monitoring blood sugar and ketones
        - Insulin and other anti-diabetic drugs
        - Insulin injection
        - Risk factors and complications
        - Foot care and hygiene
        - Exercise
        - Taking control of diabetes through your lifestyle
        - Stress and psychological factors in diabetes
- Various community diabetes outreach and prevention activities were supported by four Certified Diabetes Outpatient Educators employed by Integra Community Care Network, Care New England's ACO partnership.
- The "Doctor is In" wellness series was provided by Care New England physicians to the Spanish population at Progreso Latino. Programs were offered quarterly. Topics included menopause, vertigo, insomnia, and aging gracefully.
- Kent Hospital and Women & Infants Hospital provided glucose testing at health fairs and in collaboration with the "Doctor is In" series.
- Kent Hospital offered the national TOPS (Take Off Pounds Sensibly) weight loss program and support group weekly.
- Integra Community Care Network tracked diabetes management indicators among at-risk patient populations receiving care services through the ACO. Improvement was achieved in diabetes A1c control in both the NextGen (Medicare) and Blue Cross commercial populations.
- Although Memorial Hospital has closed, Family Medicine and Primary Care providers remained available in Pawtucket. Care New England continued to participate with the Pawtucket/Central Falls HEZ with regard to diabetes prevention.

Maternal and Child Health

Care New England Goals:

- Increase healthy pregnancies and improve birth outcomes for at-risk mothers and babies.
- Reduce the disparity in prenatal care, preterm births, low birthweight, and infant mortality among at-risk black/African American families.

Objectives:

- Increase the proportion of pregnant women who receive prenatal care during the first trimester of pregnancy and reduce barriers to accessing prenatal care services for at-risk women throughout pregnancy.
- Improve postpartum outcomes for mothers and babies, including infant mortality.
- Increase breastfeeding initiation and duration across all populations and work toward reducing barriers to breastfeeding.
- Improve the overall health of pregnant women.

Strategies Completed:

- Numerous classes and support programs were provided by Women & Infants Hospital, including:
    - A weekly lunch-and-learn prenatal education program offered to employees.
    - Private prenatal education and e-classes provided to patients with special considerations (teens, inpatients with emotional/learning issues).
    - Student nurse prenatal education, allowing student nurses to observe prenatal education classes at Women & Infants Hospital. This program was offered three times per week in partnership with Rhode Island College, University of Rhode Island, Community College of Rhode Island, and Bristol Community College.
    - Breastfeeding classes, available to the community in both English and Spanish.
    - One-on-one lactations consultations, offered at Women & Infants and Kent Hospitals. Consultations were provided by International Board Certified Lactation Consultants (IBCLC). Kent Hospital provided a weekly mothers support group in collaboration with IBCLC.
    - Topics for other classes included childbirth preparation, grand parenting, NICU family CPR, sibling preparation, and financial workshops.
- Uber Health was implemented in April 2018 for patients unable to afford transportation. Uber Health is a HIPAA compliant technology solution that has helped tens of thousands of patients and caregivers nationally get to and from care. Providers can also use Uber Health to help get crucial staff to work.
- Women & Infants Hospital supplied funding for a Providence Community Health Center RN to see patients at Women & Infants Hospital and to address appointment and discharge readiness needs.

- Screenings for tobacco, alcohol, and substance abuse were implemented for mothers upon admission assessment. Quit works-RI tobacco referrals were offered starting in summer 2018. Social work consults/referrals were performed for positive alcohol and substance abuse screenings.
- Women & Infants Hospital provided new parents with a toll-free telephone support system, Warm Line. This popular service, staffed by professional nurses, offers helpful information regarding new babies, breastfeeding, and postpartum issues. Lactation consultants provided follow-up services to patients who expressed concern or difficulty with breastfeeding.
- Women & Infants Hospital leads or co-leads a variety of community programs, including:
    - **Prematurity Task Force** (PTF): A multidisciplinary, multi-stakeholder task force addressing issues related to premature birth in Rhode Island. The Rhode Island PTF has been recognized as a national model and is led by Women & Infants in partnership with the March of Dimes and the Rhode Island Department of Health.
    - **Maternal Mortality Review**: Dedicated to the enhancement of maternal mortality review in Rhode Island. The program is led by Women & Infants Hospital in collaboration with the Rhode Island Department of Health, and is inclusive of all birth hospitals in Rhode Island as well as other related organizations.
    - **Rhode Island Free Clinic:** Provides women's health services to some of Rhode Island's most vulnerable women using trainees (residents and medical students) with preceptors from the Women & Infants Department of Obstetrics and Gynecology.
    - **Clinica Esperanza:** Provides women's health services to women from diverse communities using trainees (residents) with preceptors from the Women & Infants Department of Obstetrics and Gynecology.
- The Women & Infants Hospital Obstetrics and Gynecology Care Center (OGCC) provided access to quality care to underserved women in our community, including the full range of women's health and reproductive services. Behavioral health and social work services were integrated into the care provided.
- The Women & Infants Hospital OGCC provided financial counselling to assist pregnant women and women seeking gynecologic and well-woman services acquire insurance coverage.
- Women & Infants Hospital provided support for Federally Qualified Health Centers through consultation and oversight of obstetrics and gynecology care at Thundermist Health Center and Blackstone Valley Community Health Center.
- A team from Women & Infants Hospital led a Clinical Care Working Group to address issues related to continuity of care, promoting a culture of inclusion and humility, and creating an environment that supports low intervention births, inter-professional collaboration, and patient and family centered care.

2019 CHNA Priority Areas

To work toward health equity, it is imperative to prioritize resources and activities toward the most pressing health and crosscutting needs within communities. In determining the issues on which to focus efforts over the next three-year cycle, Care New England solicited input from community partners and stakeholders and sought to align efforts with existing initiatives headed by the Rhode Island Department of Health, the HEZs, and other community partnerships.

The CHNA findings confirmed that residents who experience greater socioeconomic disparities are at increased risk for poorer health outcomes. Care New England is dedicated to promoting *health equity*—the attainment of the highest level of health for all people. To that end, we will focus community health improvement efforts on increasing access to and the advancement of treatment for mental health and substance use disorders; addressing cyclical poverty, trauma, and health disparities that that lead to poorer outcomes and shortened life expectancy, and delivering the best birth outcomes for all mothers and babies and improving the well-being of families.

Care New England Community Health Priorities for 2019-2022

- **Behavioral Health:** increase access to and the advancement of treatment for mental health and substance use disorders
- **Chronic Disease:** address cyclical poverty, trauma, and health disparities that lead to poorer outcomes and shortened life expectancy
- **Maternal and Child Health:** deliver the best birth outcomes for all mothers and babies and improve the well-being of families

Board Approval

In support of the health system's continued investment in meeting the health needs of residents across the communities we serves, the Care New England Board of Directors reviewed and approved the 2019 CHNA Final Report. A copy of the 2019 CHNA can be found on the Care New England website.

Appendix A: Public Health Secondary Data References

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Appendix B: Key Informant Survey Participants

A Key Informant Survey was conducted with 45 community representatives. The organizations represented by key informants and their respective role/title are listed below as required by IRS code 501(r) for the conduct of a Community Health Needs Assessment. Individual names are withheld for confidentiality.

Key Informant Organization	Key Informant Title/Role
Alpert Medical School and Kent Hospital	Clinical Professor of Family Medicine
Bayside Family YMCA	Operations Director
Blackstone Valley Community Health Care	Community Health Team Manager
Blackstone Valley Prevention Coalition	Regional Director
Brown University	Field Coordinator
Care New England	Senior Vice President, Planning and Finance
Care New England Primary Care and Specialty Services, Kent Hospital	Project Manager/Administrator
Catholic Social Services of Rhode Island	Secretary Catholic Charities & Social Ministry
Center for Southeast Asians	Executive Director
Childhood Lead Action Project	Executive Director
Community Care Alliance	Program Manager
Comprehensive Community Action, Inc.	CEO
Elmhurst Rehab & Healthcare Center	Vice President of Business Development
Elmwood and South Providence Neighborhood Crime Watch	Chair
Farm Fresh Rhode Island	Program Director- Community Access
Our Lady of Fatima Hospital	Associate Director/Advanced Education in General Dentistry Program
PACE Organization of Rhode Island	CEO
Pawtucket Child Opportunity Zone (COZ) (Pawtucket School Department)	Director
Rhode Island Coalition Against Domestic Violence	Empowerment Evaluator
Rhode Island Department of Health	Executive Director of Health
Rhode Island Department of Health	Health Equity Institute Director
Rhode Island Foundation	CEO
Rhode Island General Assembly	Senator
Rhode Island Health Care Association	President & CEO
Rhode Island Housing Resources Commission	Coordinator, Office of Community Development
Rhode Island Land Trust Council	Executive Director
Rhode Island Parent Information Network, Inc.	Director of Health Initiatives
Rhode Island Primary Care Physicians Corporation	President & CEO
Rhode Island Primary Care Physicians Corporation	CEO
Rhode Island Public Health Institute	Executive Director
Rhode Island Quality Institute	Founding President & CEO
South County Health	Volunteer
South County Health	Director, Orthopedic Service Line
South County Health - Healthy Bodies, Healthy Minds	Outreach Coordinator
South County Health - Healthy Bodies, Healthy Minds	Director
The Providence Center	Supervisor
The Providence Center	President & COO
The Providence Center	Vice President
Thundermist Health Center	Senior Director, Health Equity Initiatives
Town of Barrington, Rhode Island	Administrator, Spencer Trust
Tri County Community Action Agency	COO
United Way of Rhode Island	Ambassador
Warwick Police Department	Chief of Police
West Elmwood Housing	Executive Director
Women & Infants Hospital	President & COO