# WORCESTER COUNTY
# COMMUNITY HEALTH ASSESSMENT 2017

Worcester County Health Department

*A shore line to good health...*

WORCESTER COUNTY

Dear Community Partners,

The Health Department is pleased to present the 2017 Community Health Assessment of Worcester County. In this publication, Worcester's health status is compared to the state of Maryland and when appropriate to the national Healthy People 2020 goals and Maryland State Health Improvement Process (SHIP) goals. With input from community advisory committees, community surveys, focus groups, and quantitative data sources, the most important health status indicators affecting our community have been selected. Everyone is encouraged to use the data in this report to identify community needs, to design health activities and programs, and/or to join community networking activities. Please reference the document as the Worcester County Health Department: Community Health Assessment, 2017.

The Worcester County Health Department values providing our community with public health leadership and quality services. The health department is accredited by the Public Health Accreditation Board. This is a significant achievement and recognition of the high standards and quality of our core public health services. In addition, our behavioral health and ambulatory care programs are fully accredited by the Joint Commission, an independent nonprofit organization that accredits and certifies more than 17,000 health organizations and programs in the United States.

In fiscal year 2017, we continued to advance public health by implementing continuous quality improvement projects in every program and engaging the community in the Community Health Assessment (CHA) using the Mobilizing for Action through Planning and Partnerships (MAPP) framework.

The health department has two important online resources that build on the data of the CHA and provide the public with additional data and tools to improve personal health and the health of our community. The first resource is our website, worcesterhealth.org, which has information about each program and service offered by the health department and links to additional community, state, and federal resources. The second resource is an online tool called the Network of Care for Healthy Communities and is available at Worcester.md.networkofcare.org. This site has local data and a number of tools for personal and professional use.

It is my hope that the Community Health Assessment will provide important information about the health of our community, which will promote community engagement in activities that will improve health status in Worcester County.

Sincerely,

Deborah Goeller, R.N., M.S.N.
Health Officer
Worcester County Health Department

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# Introduction

This Worcester County Community Health Assessment (CHA) is part of an ongoing community health improvement process and the second completed using the MAPP (Mobilizing for Action through Planning and Partnerships) model. The MAPP tool was developed by the National Association of County and City Health Officials (NACCHO) in collaboration with the Centers for Disease Control and Prevention (CDC).

The first CHA using the MAPP model was conducted in 2011 as part of the health department Public Health Accreditation Board (PHAB) process. Worcester is one of the first two health departments in the state to become accredited.

The ultimate goal of a community health assessment is to develop strategies to address the community's health needs and identified issues. Over the past five years we have made considerable effort to meet the goals of the four priority areas that members of our community identified in the 2012 community health needs assessment.

The assessment describes the health status of Worcester County residents and examines health trends over time. The report includes a range of indicators relevant to the county. Data used in this report came from different sources:

- Maryland Behavioral Risk Factor Surveillance System(MD BRFSS)
- Maryland Vital Statistics Data
- US Census Bureau
- MD Health Services Cost Review Commission (HSCRC)
- Maryland Youth Risk Behavior Survey (YRBS)
- Infectious Disease and Environmental Health Administration (IDEHA)
- State Health Improvement Process(MD-SHIP)
- MD Primary Care Office

Worcester County has a relatively small year round population. This often causes a large fluctuation in estimates from year to year. To increase stability, many of the estimates in this report are presented based on data combined from multiple years. Also, this report does not include estimates for smaller subgroup populations defined by race/ethnicity or other demographic characteristics.

*Table 1* shows *some health indicators* relevant to Worcester County and the *State Health Improvement Process* (SHIP) six vision areas. Where data were available, indicators were compared with state and national levels.

## Table 1. Select Health Indicators

| Health Indicators* | Worcester | MD | MD 2017 Target | HP 2020 Target |
|---|---|---|---|---|
| **General Health** | | | | |
| Adults Who Reported Fair And Poor Health | 21.2% (2012-14) | 14.9% (2012-14) | | |
| Adults With 8+ Days Of Poor Physical Health In Last Month | 19.1% (2012-14) | 12.6% (2012-14) | | |
| Adults With 8+ Days Of Poor Mental Health In Last Month | 11.0% (2012-14) | 13.4% (2012-14) | | |
| **Maternal, Infant and Child Health** | | | | |
| Overall Birth Rate (per 1000 population ) | 9.0 (2014) | 12.3 (2014) | | |
| Teen Birth Rate (per 1000 females ages 15-19) | 17.1 (2012-14) | 19.7 (2012-14) | 17.8 | |
| Overall Infant Deaths (per 1000 live births) | 8.1 (2011-15) | 6.6 (2011-15) | 6.3 | 6.0 |
| Low Birth Weight | 6.3% (2012-14) | 8.6% (2012-14) | 8.0% | 7.8% |
| Preterm Birth | 8.7% (2012-14) | 10.0% (2012-14) | | 11.4% |
| Proportion Of Pregnant Women With Late Or No Prenatal Care | 5.3% (2012-14) | 9.1% (2012-14) | | |
| **Health Care Access & Utilization** | | | | |
| No Health Insurance | 5.6% (2012-14) | 11.7% (2012-14) | | |
| Civilian, Non- Institutionalized 18-64 Yr Olds With Any Type Of Health Insurance | 93.4% (2012-14) | 85.0% (2012-14) | | 100% |
| Could Not See A Doctor Due To Cost | 9.5% (2012-14) | 11.5% (2012-14) | | |
| Uninsured Emergency Department Visits | 7.6% (2014) | 11.4% (2014) | 14.7% | |
| Emergency Department Visits Due To Hypertension (per 100,000 population) | 286.2 (2014) | 252.2 (2014) | 234.0 | |
| Emergency Department Visit Rate Due To Diabetes (per 100,000 population) | 229.9 (2014) | 204.1 (2014) | 186.3 | |
| Emergency Department Visits For Addictions-Related Conditions (per 100,000 population) | 2296.8 (2014) | 1591.3 (2014) | 1400.9 | |

| Health Indicators | Worcester | MD | MD 2017 Target | HP 2020 Target |
|---|---|---|---|---|
| Emergency Department Visits Related To Mental Health Conditions (per 100,000 population) | 7509.3 (2014) | 3442.6 (2014) | 3152.6 | |
| **Preventive Services** | | | | |
| Adults 65+ Who Have Had A Flu Shot (in the past 12 months ) | 64.6% (2012-14) | 64.1% (2012-14) | | |
| Adults 65+ Who Have Ever Had Pneumonia Shot | 69.4% (2012-14) | 68.8% (2012-14) | | 90.0% |
| Age 50+ Who Ever Had A Sigmoidoscopy/Colonoscopy | 73.2% (2012-14) | 72.7% (2012-14) | | |
| Women Age 50+ Who Had Last Mammogram More Than 2yrs/Ever | 19.5% (2012-14) | 17.7% (2012-14) | | |
| Adults Who Visited The Dentist Or Dental Clinic Within the Past Year | 68.0% (2012-14) | 71.4% (2012-14) | | |
| **Health Behaviors** | | | | |
| Current Smokers -18 And Older | 15.2% (2012-14) | 15.7% (2012-14) | 15.5% | 12.0% |
| Current Smokers -High School Students | 14.7% (2014) | 8.7% (2014) | | 16.0% |
| High School Students Who Ever Used Electronic Vapor Products (e-cigarettes, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens) | 43.1% (2014) | 37.6% (2014) | | |
| Middle School Students Who Ever Used Electronic Vapor Products (e-cigarettes, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens) | 18.1% (2014) | 7.6% (2014) | | |
| Binge Drinking Among Adults | 15.1% (2012-14) | 15.4% (2012-14) | | 24.4% |
| Binge Drinking Among High School Students | 20.0% (2014) | 13.1% (2014) | | 22.7% |
| No Leisure Time Physical Activities/Exercise in the Last 30 Days | 27.4% (2012-14) | 23.2% (2012-14) | | 32.6% |
| High School Students Who Attended Physical Education Classes on One or More Days Per Week | 24.5% (2014) | 37.6% (2014) | | |
| Total Serving Fruits /Vegetables Per Day (less than 5 times per day ) | 85.0% (2011-13) | 83.1% (2011-13) | | |
| **Chronic Disease and Conditions** | | | | |
| Percentage Of Adults Who Reported Limited Activities Due to Health Problem In Last Month | 20.7% (2012-14) | 16.9% (2012-14) | | |

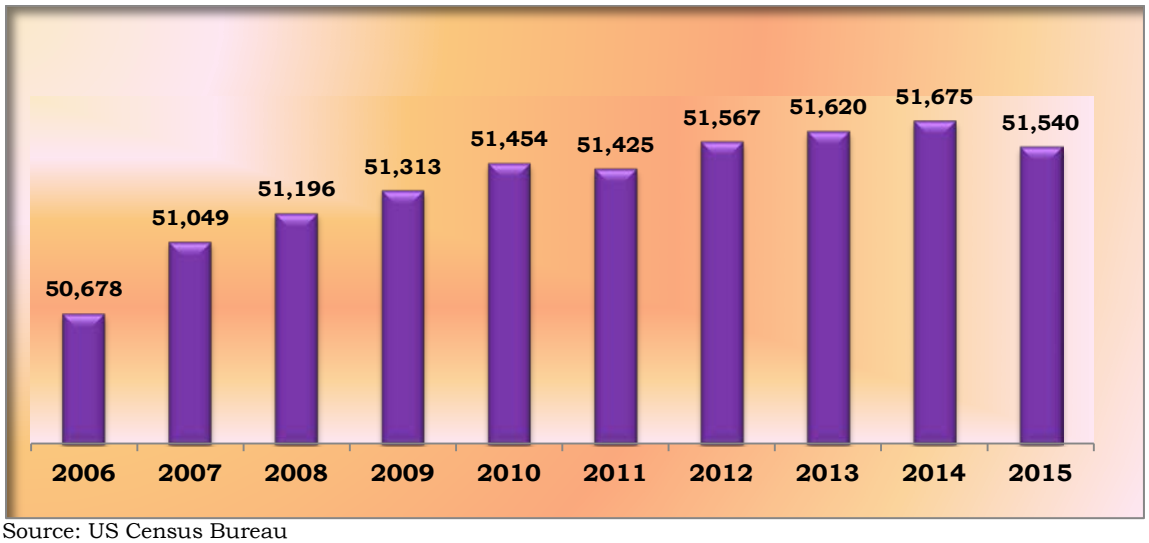
| Health Indicators | Worcester | MD | MD 2017 Target | HP 2020 Target |
|---|---|---|---|---|
| Need Special Equipment Due To Health Problem | 7.9% (2012-14) | 7.3% (2012-14) | | |
| Adults Who Are at a Healthy Weight (18.5-24.9 BMI) | 31.1% (2012-14 | 34.0% (2012-14) | 36.6% | 33.9% |
| Obese -18 And Older (BMI ≥30) | 31.7% (2012-14) | 28.5% (2012-14) | | 30.5% |
| Obese –High School Students | 13.5% (2014) | 11.5% (2014) | 10.7% | |
| High Blood Pressure Among Adults | 36.7% (2011-13) | 32.8% (2011-13) | | |
| Diabetes Among Adults | 16.7% (2012-14) | 10.2% (2012-14) | | |
| Adults With Cardiovascular Disease (angina, heart attack or a stroke) | 16.7% (2012-14) | 7.5% (2012-14) | | |
| Adults With Current Asthma | 6.8% (2012-14) | 9.0% (2012-14) | | |
| Adults With COPD | 5.7% (2012-14) | 5.3% (2012-14) | | |
| Chlamydia Incidence (per 100,000 population) | 361.0 (2013-15) | 457.0 (2013-15) | 431.0 | |
| Gonorrhea Incidence (per 100,000 population) | 119.7 (2013-15) | 114.2 (2013-15) | | |
| Age adjusted All Cancer Sites Incidence (per 100,000 population) | 507.6 (2008-12) | 447.0 (2008-12) | | |
| **Mortality** | | | | |
| Age Adjusted Death Rate For All Causes (per 100,000 population ) | 691.4 (2012-14) | 701.1 (2012-14) | | |
| Age Adjusted Heart Disease Death (per 100,000 population ) | 183.1 (2012-14) | 169.9 (2012-14) | | |
| Age Adjusted Cancer Death (per 100,000 population) | 175.7 (2012-14) | 162.0 (2012-14) | 147.4 | 161.4 |
| Age Adjusted Diabetes Related Death (per 100,000 population) | 14.5 (2012-14) | 19.2 (2012-14) | | |
| Suicide Deaths (per 100,000 population) | 11.6 (2012-14) | 9.6 (2012-14) | 9.0 | 10.2 |

* For Information on data source, please refer to appendix A

# Worcester County Profile

According to the US Census Bureau estimate, in 2015 Worcester County had a population of 51,450, with a slight decline of (0.3 percent) from the previous year. Over the five year period from 2010 census to 2015, Worcester's population increased by 0.2 percent, while the overall state increased by 4.0 percent (Figure 1). The county ranked 17th in the state for total population.

**Figure 1. Worcester County Population, 2006-2015**




Source: US Census Bureau

Worcester County is Maryland's only seaside county and known for recreational activities. In addition to the year-round population, the town of Ocean City, Assateague Island, and the Maryland coastal bays offer many attractions that draw millions of seasonal visitors. In the summer months, it was estimated a year-round average weekend population of 158,670 in Ocean City's resort community and another 100,000 population daily at the Assateague State Park and other campgrounds.

Worcester county population is older and less diverse than the state (Table 2). Non-Hispanic white accounts for 80 percent of the county population compared to 52 percent in the state. In 2015 more than one in four residents were 65 years and older (26%), ranking second highest in the state next to Talbot County. While the overall 2015 population estimate declined by 0.3% from 2014, the proportion of people aged 65 and over increased by 11 percent (Figure 2). According to the Maryland

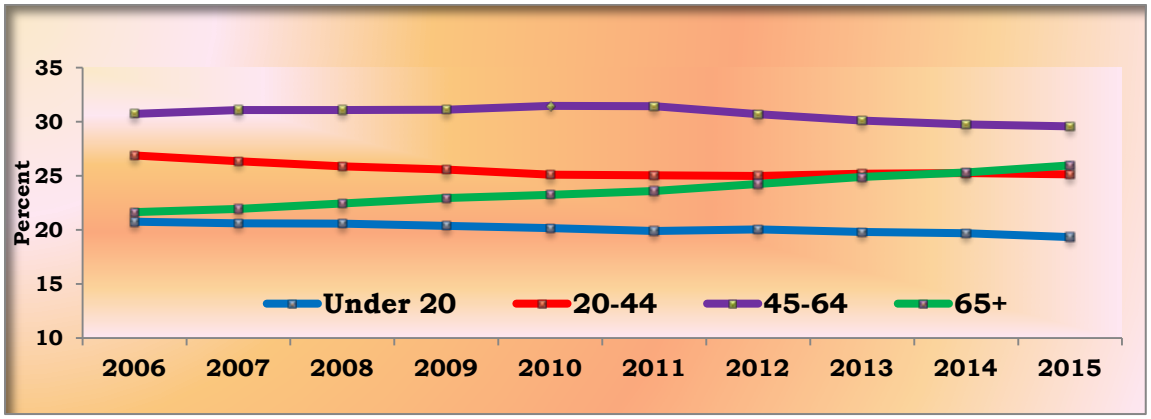
Department of Planning that percentage is projected to increase to 32.2 percent in 2030. The increase is mainly due to in-migration of retirees and little population gain from net natural increase. Worcester also has the second highest median age (49.4) in Maryland.

**Table 2. Demographic and Socioeconomic Characteristics**

| General Characteristics | Worcester | Maryland |
|---|---|---|
| Population | 51,540 | 6,006,401 |
| Median Age (years) | 49.4 | 38.4 |
| Under 5 years | 4.4% | 6.1% |
| Under 18 years | 17.7% | 22.4% |
| 65 years and over | 26.0% | 14.1% |
| Non-Hispanic White | 79.9% | 52.0% |
| Non-Hispanic Black | 13.4% | 29.4% |
| Hispanic or Latino origin | 3.4% | 9.5% |
| Asian | 1.4% | 6.4% |
| Other | 1.9% | 2.6% |
| Poverty & Income | | |
| Median household income | $55,691 | $73,851 |
| All age in poverty | 11.9% | 10.4% |
| Under age 18 in poverty | 20.5% | 13.8 |
| Ages 5-7 in families in poverty | 20.1% | 13.2% |
| Employment | | |
| Total population 16+ in civilian labor force | 58.9% | 67.9% |
| Unemployment (2015) | 10.6% | 5.2% |

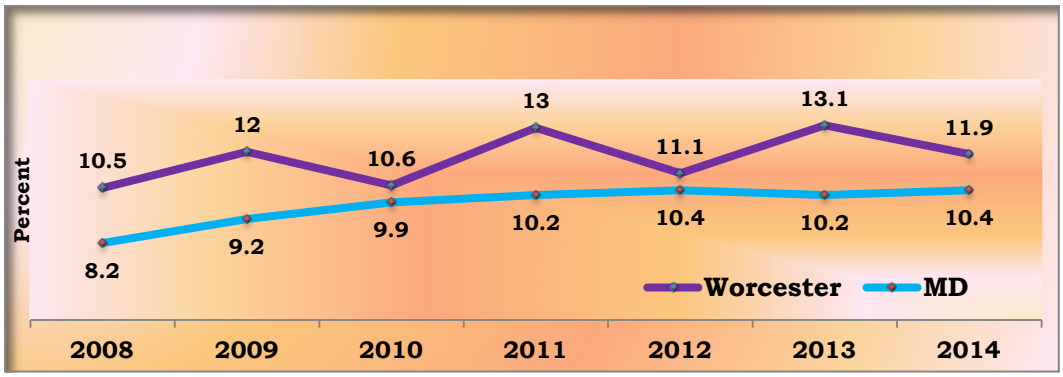
*Source: U.S. Census Bureau 2015, 2014 Small Area Income & Poverty Estimates*

**Figure 2. Worcester County Population By Age Group, 2006-2015**




Source: US Census Bureau

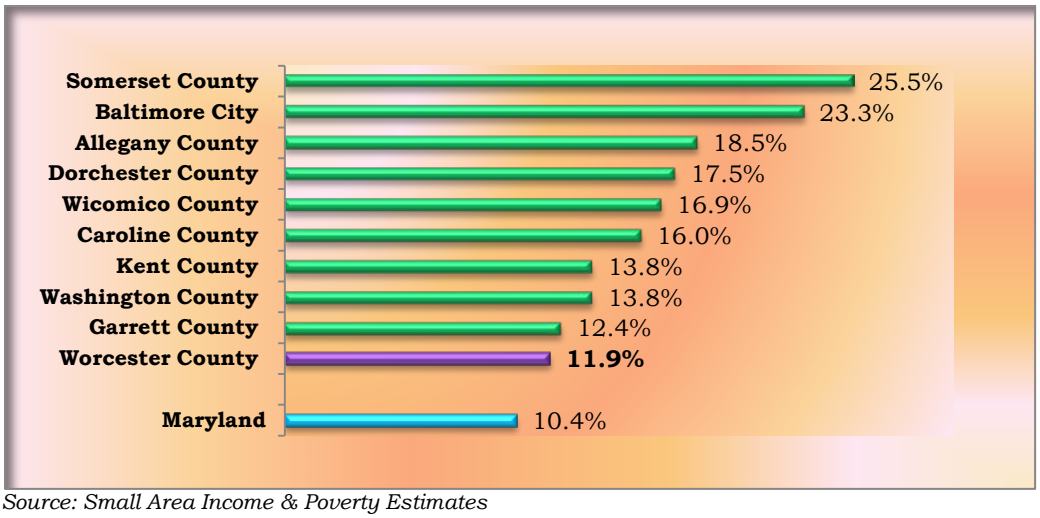
**Figure 3. All Ages in Poverty: Worcester and MD, 2008-2014**




Source: Small Area Income & Poverty Estimates

In 2014, the median income of households in Worcester County, Maryland was $55,691. The poverty rate in 2014 was 11.9 percent (Figure 3). 20.1 percent of school age children (Ages 5-17) lived in poor families compared to 13.2 percent overall in Maryland (Table 2).

**Figure 4. Top Ten Counties with High Poverty Rate, 2014**



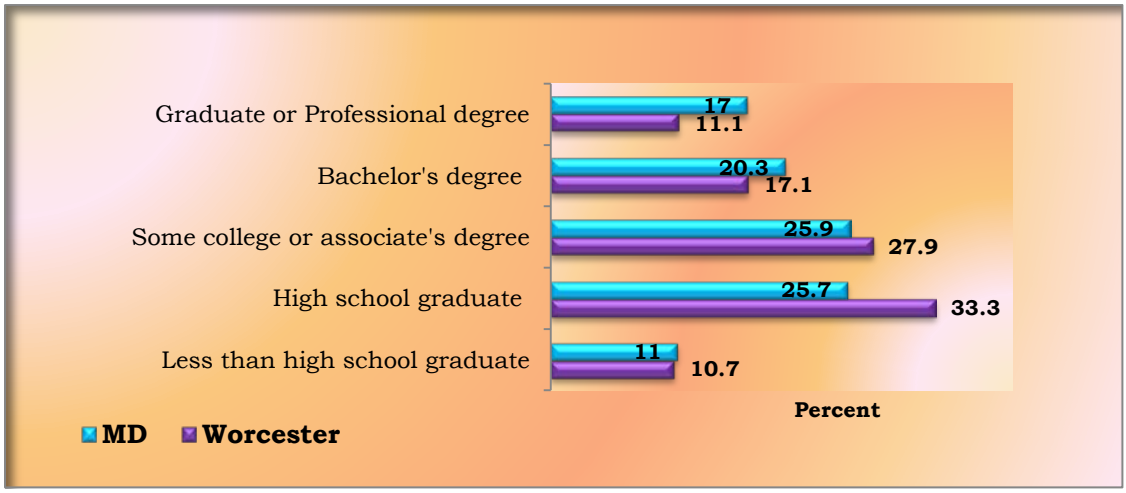

Worcester County ranks tenth with high poverty rate out of 24 Maryland counties.

*Source: Small Area Income & Poverty Estimates*

Approximately 75 percent of Worcester County's total population were 25 years of age or older. Of those, 11.0% had less than a high school degree. Another 33.3% were high school graduates, and nearly 28.0% had some college or an associate degree. Approximately 28.0% had a Bachelor

Degree or higher which is 32% lower than the state rate: 37.3% (Figure 5).

**Figure 5. Educational Attainment for Population 25 Years and Over: Worcester and MD, 2010-2014**




Source: US Census Bureau

The social determinants of health are the conditions in the environments in which people are born, live, learn, work, play, worship and age [that] affect a wide range of health, functioning and quality-of-life outcomes and risks (Healthy People 2020, U.S. Dept. of Health and Human Service).

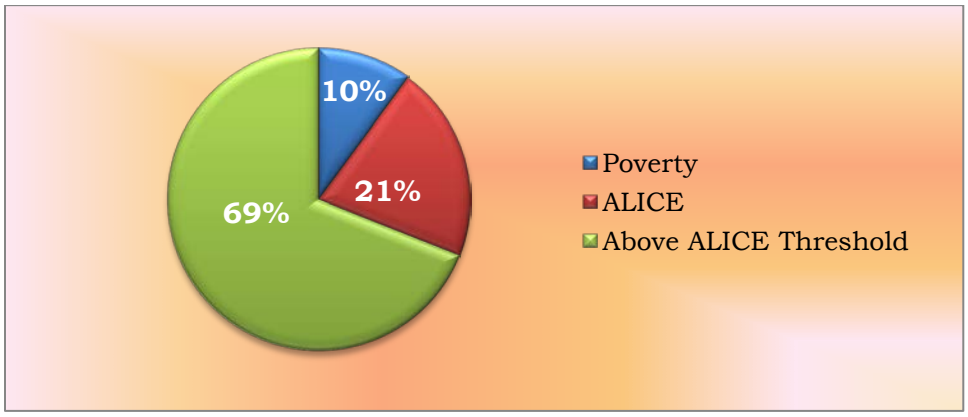
Overall, Worcester County has an older population, higher poverty rate and higher unemployment rate than the state average. According to the ALICE (Asset Limited, Income Constrained, Employed) Report[1] released by United Ways of Maryland, one-third of households in Worcester County either live in poverty or qualify as ALICE (Figure 6).

Within the county the numbers vary widely from town to town. Over half of Pocomoke's households (57%), 47 percent of Snow Hill's households, and 35 percent of Berlin's households are living below the ALICE threshold: households with incomes either below the Federal Poverty Level or below the basic cost of living (Table 3).

[1] https://www.unitedway4us.org/sites/unitedway4us.org/files/16UW-ALICE-Report_MD_1.6.17_Hires1.pdf

ALICE, an acronym for Asset Limited, Income Constrained, Employed, are households that earn more than the U.S. poverty level, but less than the basic cost of living for the county (the ALICE Threshold). Combined, the number of poverty and ALICE households equals the total population struggling to afford basic needs that includes housing, child care, food, transportation, and health care.

**Figure 6: Household Income, Worcester County, 2014**




Source: 2016 United Way ALICE Report for Maryland

**Table 3: Households Living below the ALICE Threshold, Worcester County, 2014**

| Town | Total Households | % ALICE & Poverty |
|---|---|---|
| Pocomoke City | 1,484 | 56% |
| Snow Hill | 912 | 47% |
| Berlin | 1,635 | 35% |
| West Ocean City | 1,820 | 32% |
| Ocean City | 3,359 | 27% |
| Ocean Pines | 4,693 | 19% |

Source: 2016 United Way ALICE Report for Maryland

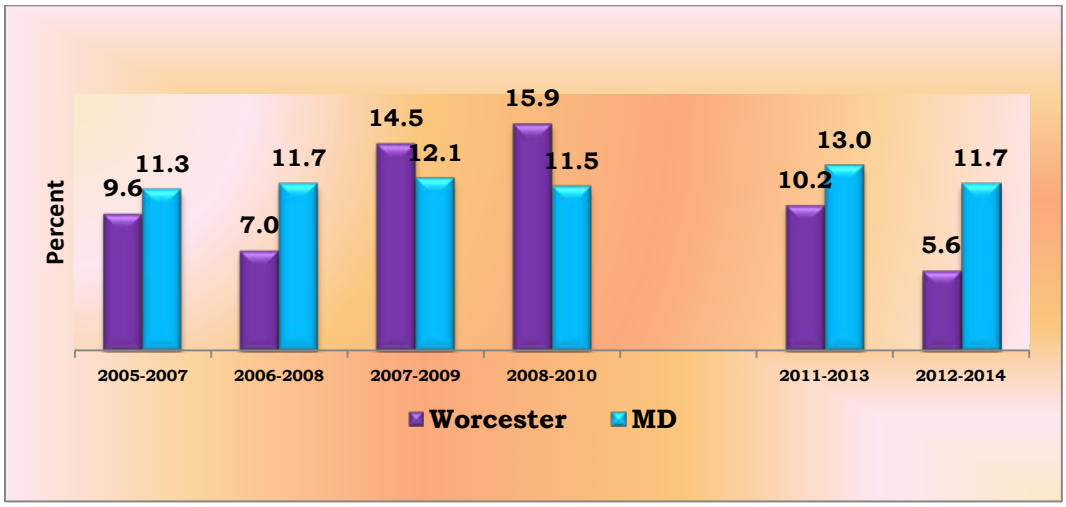
## Access to Care & Coverage

Access to health care means having "the timely use of personal health services to achieve the best health outcomes."[2] It is an important component of safeguarding the health of communities. Attaining good access to care requires three discrete steps:

- Gaining entry into the health care system
- Accessing a health care location where needed services are provided
- Finding a health care provider with whom the patient can communicate and trust[3]

Health insurance status affects access to health care. Study shows that uninsured adults in the United States have less access to recommended care, receive poorer quality of care, and experience worse health outcomes than insured adults do (IOM 2002).

**Figure 7. Percentage of Adults with No Health Insurance: Worcester and MD, 2005-2014**



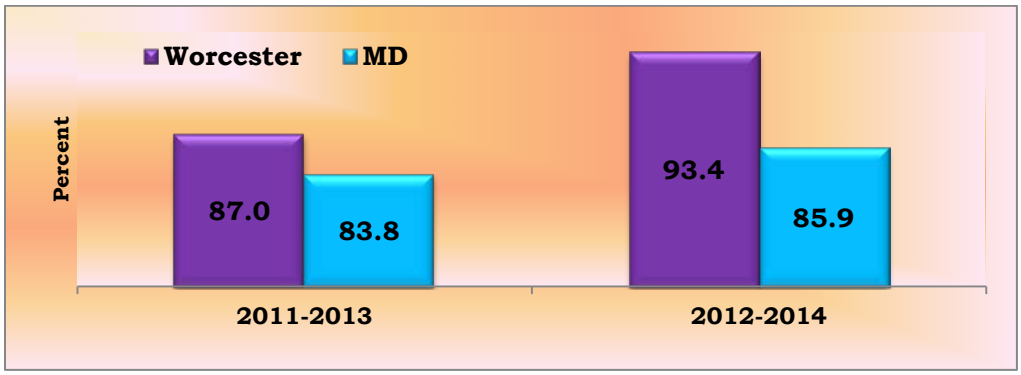

Source: MD BRFSS. Please note: Due to the changes in weighting methodology and the addition of cell phone respondents, results after 2011 cannot be compared with previous years. *Three-year moving average

2 IOM, 1993.

3 Bierman A, Magari ES, Jette AM, et al. Assessing access as a first step toward improving the quality of care for very old adults. J Ambul Care Manage. 1998 Jul;121(3):17-26.

The number of people in Worcester without health insurance significantly declined during 2012-2014. Based on three years moving average of BRFSS data the uninsured adults declined by 45 percent, from 10.2 percent in 2011-2013 to 5.6 percent in 2012-2014 (Figure 6). Also more than 9 in 10 adults aged 18-64 (93.4%) had some type of health insurance coverage, up 7.4 percent from 2011-2013 (87.0%) (Figure 8).

**Figure 8. Percentage of Adults Aged 18-64 Years with any Type of Health Insurance**

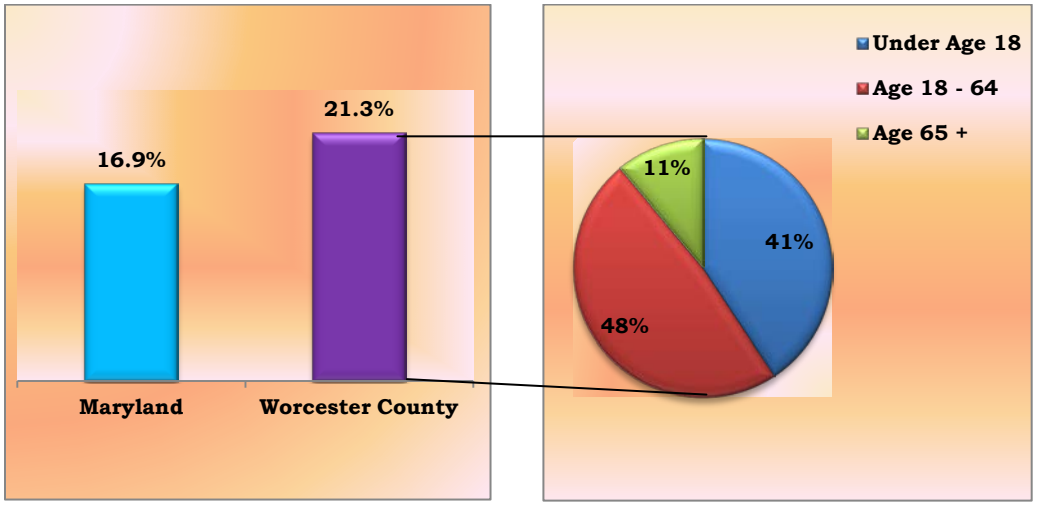



Source: MD BRFSS

Medicaid and Medicare programs play a significant role in providing health care coverage to the county's population. Based on recent figures, 21 percent of the county's population is enrolled in Medicaid; nearly half of those are adults between the ages of 18-64 (Figure 9 & 10).

**Figure 9. Population Receiving Medicaid Worcester and MD**

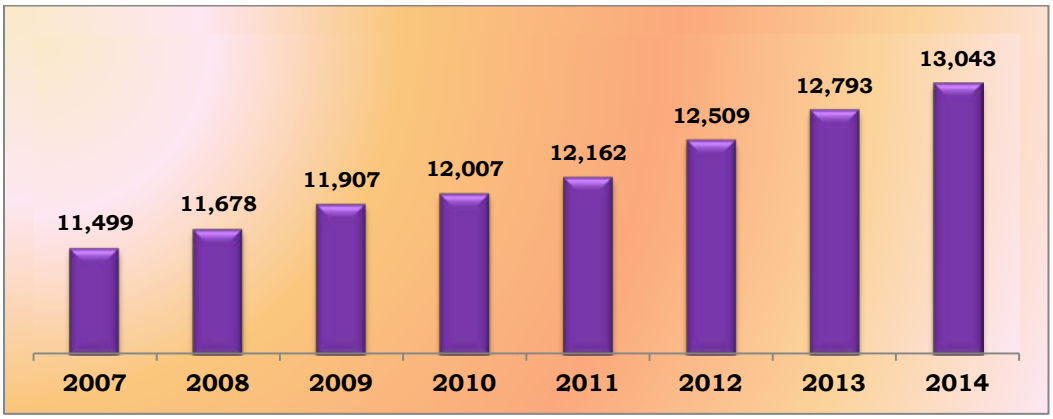
**Figure 10. Population Receiving Medicaid by Age Group, Worcester**




*Data Source: US Census Bureau, American Community Survey. 2010-14. Source geography: Tract*

As the Worcester population grows older, the number of Medicare beneficiaries also has been growing steadily. In 2014, there were 13,043 Medicare beneficiaries who have both Part A and Part B coverage up from 22 percent in 2007 to 25 percent of the county population (Figure 11).

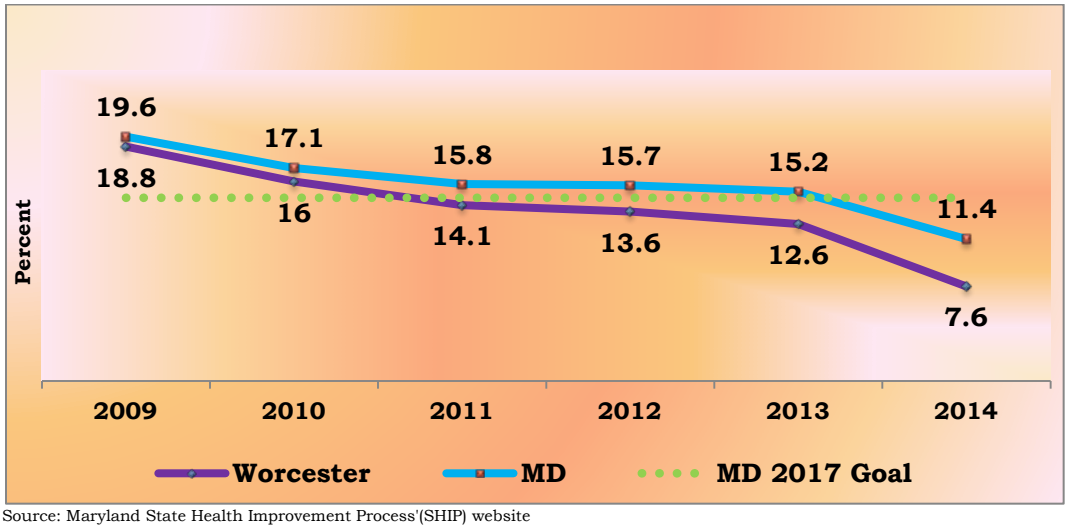
**Figure 11. Number of Medicare Beneficiaries with Part A and Part B, Worcester County**




**Data Source:** CMS Chronic Conditions Data Warehouse (see http://ccwdata.org/index.php) which contains 100 percent of Medicare claims for beneficiaries who are enrolled in the fee-for-service (FFS)

Between 2009 and 2014, the rate of ED visits among uninsured dropped significantly, from 18.8% in 2009 to 7.6% in 2014. In general, Worcester County's uninsured ED visit rates were consistently below the state average from 2009-2014 (Figure 12).

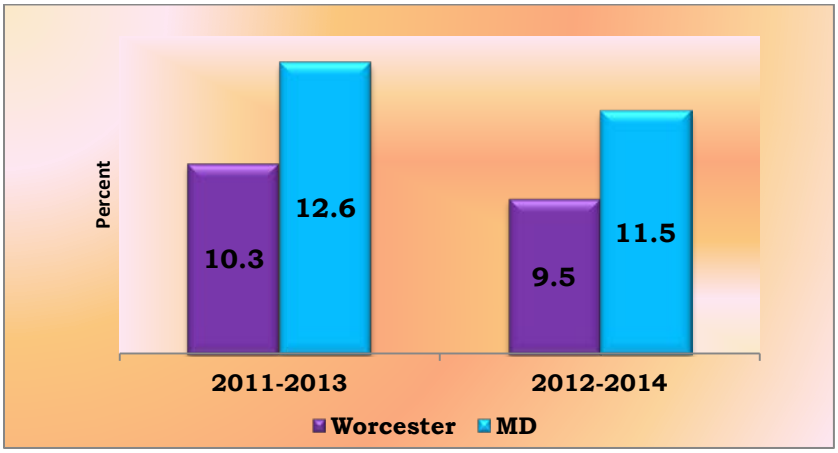
**Figure 12. Uninsured Emergency Department Visits: Worcester and MD, 2009-2014**




Source: Maryland State Health Improvement Process'(SHIP) website

Between 2012-2014, in Worcester County approximately 9.5 percent of adults reported they have not seen a doctor in the past year because of cost (Figure 13). Meanwhile during the same period, utilization of some of the preventive services such as sigmoidoscopy and mammogram among 50 + older age group and flu shots among the elderly is better than the overall state average (Table 4).

**Figure 13. Adults Reporting Not Seeing a Doctor in the Past 12 Months Because of Cost, 2011-2014**




Source: MD BRFSS

**Table 4. Utilization of Selected Preventive Services: Worcester and MD 2012/2014**

| | Worcester | MD |
|---|---|---|
| Age 50+ who ever had a sigmoidoscopy/colonoscopy | 73.2% | 72.7% |
| Women Age 50+ who had last mammogram more than 2yrs/never | 19.5% | 17.7% |
| Adults 65+ who have had a Flu shot | 64.6% | 64.1% |
| Adults 65+ who have ever had Pneumonia shot | 69.4% | 68.8% |
| Adults Who Visited the Dentist or Dental Clinic within the Past Year | 68.8% | 71.4% |

Source: MD BRFSS

The U.S. Department of Health and Human Services (DHHS) Health Resources and Services Administration (HRSA) designate geographic area, population group or facility as a Health Professional Shortage Area (HPSA) or a Medically Underserved Area/Population (MUA/P) using several criteria.

According to the 2016 Maryland Primary Care Office (MD PCO) need assessment, in 2015 Maryland had:

- 32 primary care HPSA designations encompassing 791,181 residents (14 percent of the Maryland population). Garrett and ***Worcester*** *counties had 100 percent of their populations residing in a primary care HPSA.*
- 46 Medically Underserved Areas encompassing more than 974,000 Maryland residents. *Calvert, Caroline, Garrett, Kent, Somerset, and* ***Worcester*** *counties each have 100 percent of their populations residing in MUA designations*

The entire Worcester County is both HPSA and MUA designated. This shortage designation could mean limited access to health care, longer wait times for patients, or overuse of emergency system of care.

As of 2016, the full-time-equivalent (FTE) primary care physician ratio in Worcester County is 1:1,667, less than the state value (1:1,534). Table 5 shows the Worcester County provider/population ratio compared to the neighboring counties and the state.

**Table 5. Primary Care and Mental Health FTEs and Population Ratios, 2016**

| County | Primary Care FTE | Primary Care Provider to Population Ratio | Mental Health FTE | Mental Health Provider to Population Ratio |
|---|---|---|---|---|
| **Worcester** | 30.6 | 1:1,667 | 3.0 | 1:16,833 |
| **Wicomico** | 59.5 | 1:1,666 | 8.2 | 1:12,092 |
| **Somerset** | 5.4 | 1:3,961 | 0.3 | 1:85,944 |
| **Maryland** | 3,771.2 | 1:1,534 | 574.4 | 1:10,086 |

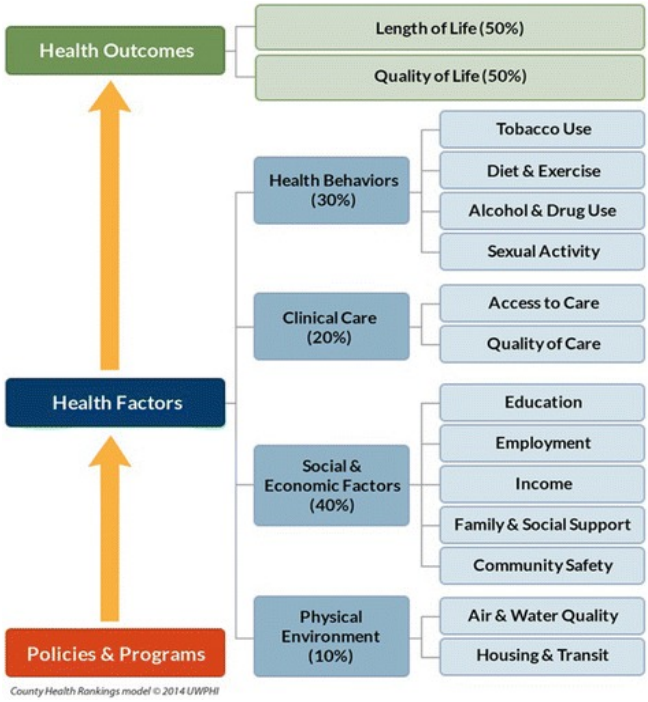
Source: MD DHMH, Primary Care Office, 2016 Primary Care Need assessment. Primary Care FTE: Includes family practice, general practice, internal medicine, obstetric and gynecology and pediatric Mental Health FTE includes psychiatrists.

## County Health Rankings

The *County Health Rankings* measure the health of nearly every county in the nation and ranks counties within each state from the healthiest to the least healthy using a model that summarizes the overall health outcomes of each county, as well as the factors that contribute to health (Remington & Booske, 2011). The health outcomes ranking describe how healthy a county is now and the health factor ranking describe how healthy a county will be in the future.

The *Rankings* are based on a model of population health that emphasizes the many factors that, if improved, can help make communities healthier places to live, learn, work, and play (Figure 14).

**Figure 14. County Health Rankings Model**




Source: www.countyhealthrankings.org

In 2016, Worcester County ranked 12th in overall ***health outcomes*** and 15th in overall ***health factors*** among 24 counties in the state (1st being the healthiest and 24th the least healthy). Counties were also ranked for *health behaviors, clinical care, socio-economic factors, and physical*

*environment*. Among all Maryland counties Worcester ranked in the top (ranked 2nd) for physical environment factor which includes air quality, water quality, and housing and fell at the bottom of ranking for social & economic factors (ranked 21st). Overall, there were only small changes in ranking during the past four years (Table 6).

**Table 6. Worcester County Health Ranking**

| | Category | County Rank (out of 24) | | | |
|---|---|---|---|---|---|
| | | 2013 | 2014 | 2015 | 2016 |
| **Health Outcomes** | **Overall Health Outcome** | **11** | **11** | **11** | **12** |
| | • Length of Life | 13 | 13 | 11 | 14 |
| | • Quality of Life | 8 | 8 | 8 | 11 |
| **Health Factors** | **Overall Health Factors** | **14** | **15** | **14** | **15** |
| | • Health Behaviors | 16 | 15 | 15 | 16 |
| | • Clinical Care | 7 | 7 | 5 | 7 |
| | • Socio & Economic Factors | 20 | 19 | 20 | 21 |
| | • Physical Environment | 3 | 2 | 1 | 2 |

Source: County Health Ranking

## Quality of Life and Mental Health

The CDC has defined Health-related quality of life (HRQOL) as an individual's or a group's perceived physical and mental health over time.

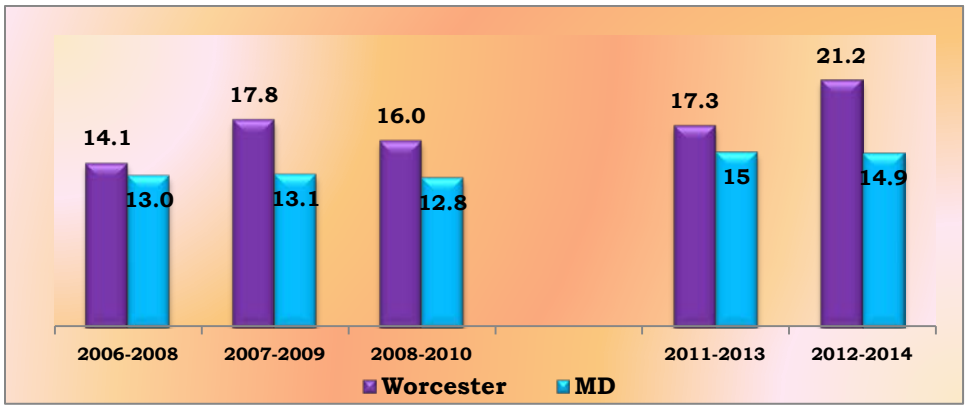
The BRFSS survey gathers information on HRQOL through four questions: 1) self-rated health, 2) number of recent days when physical health was not good, 3) number of recent days when mental health was not good, and 4) number of recent activity limitation days because of poor physical or mental health.

**Table 7. Adults Health Perception**

| General health status | Worcester | MD |
|---|---|---|
| Excellent | 15.9 | 21.1 |
| Very Good | 34.0 | 34.2 |
| Good | 28.9 | 29.7 |
| Fair | 15.8 | 11.9 |
| Poor | 5.4 | 3.0 |

Source: MD BRFSS

**Figure 15. Adults Reporting Fair/Poor Health: Worcester and MD, 2006-2014**




Source: MD BRFSS

In 2012- 2014, half of (49.9%) of the Worcester County adults rated their health status as excellent or very good, lower than the state average- 55.3% (Table 7).

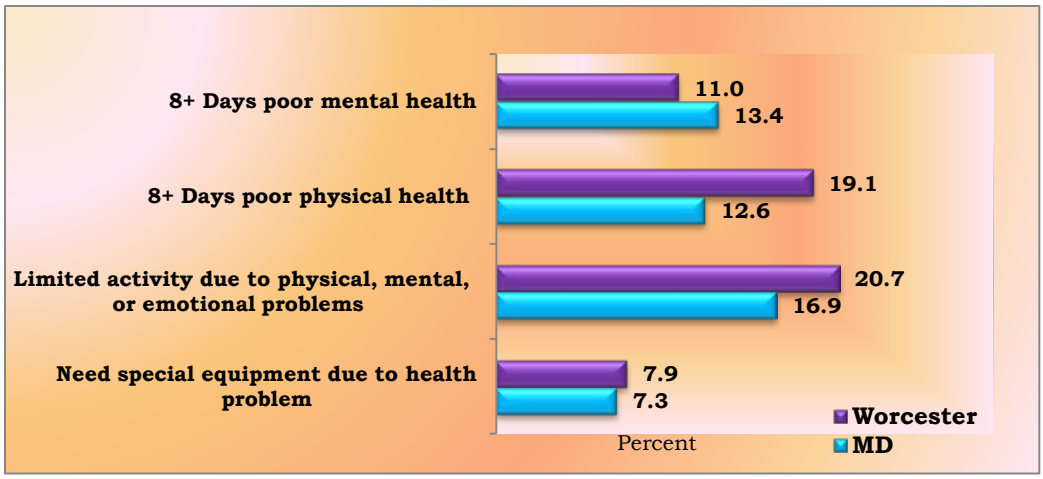
Figure 15 shows three-year moving average trends for self-rated poor or fair health status. During 2006-2014, the percentage of adults reported fair or poor health was persistently higher than the state. Due to BRFSS changes in methodology, data collected in 2011 and later cannot be accurately compared to previous data[4].

In 2012-2014, more Worcester adults (21.2%) rated their health as fair or poor, up from 2011-2013 (17.3%). During the time period, 20.7% of adults reported they were limited in activities and 8% of respondents reported needing special equipment such as a cane, a wheelchair, a special bed, or a special telephone due to health problem.

Nineteen percent (19%) of Worcester respondents reported their physical health was not good on eight or more days in the past 30 days, higher than the state average (12.6%). The proportion of adults who experienced poor physical health was higher than the proportion that experienced poor mental health (11%) (Figure 16).

[4] More information about the changes to the 2011 BRFSS is available here: http://www.cdc.gov/surveillancepractice/reports/brfss/brfss.html

**Figure 16. Percentage of Adults Reporting: 8+Days Unhealthy Days and Limited Activity: Worcester and MD, 2012-2014**




Source: MD BRFSS

Mental and emotional well-being is essential to overall health. Anxiety, mood (e.g., depression) and impulse control disorders are associated with a higher probability of risk behaviors including tobacco, alcohol and other drug use, risky sexual behavior, intimate partner, and family violence, many other chronic and acute conditions and premature death.

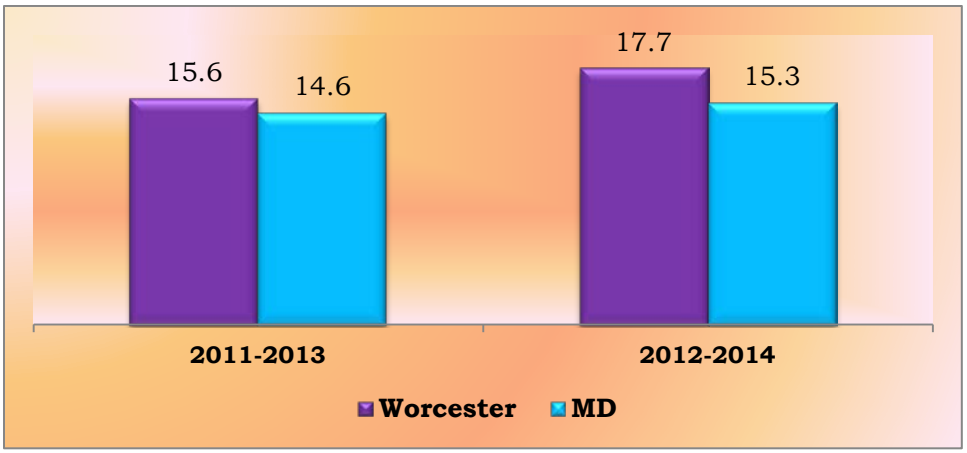
According to the National Survey on Drug Use and Health (NSDUH) estimates of any mental illness (AMI) and serious mental illness (SMI) for adults aged 18 or older, in 2013 one in five adults in US (18.5%) had AMI in the past year. There were an estimated 10.0 million adults aged 18 or older with SMI in the past year. This represented 4.2 percent of all adults in US.

The Behavioral Risk Factor Surveillance System survey questions assess how many people are experiencing mental health issues, including lifetime diagnosis of depression and anxiety.

In Worcester County, during 2012-2014, 17.7 percent of the population aged 18 and older reported they had been told by a doctor that they had a depressive disorder (lifetime diagnosis of depression). The rate is 13 percent higher than the 2011-2013 rates (15.6%) (Figure 17).

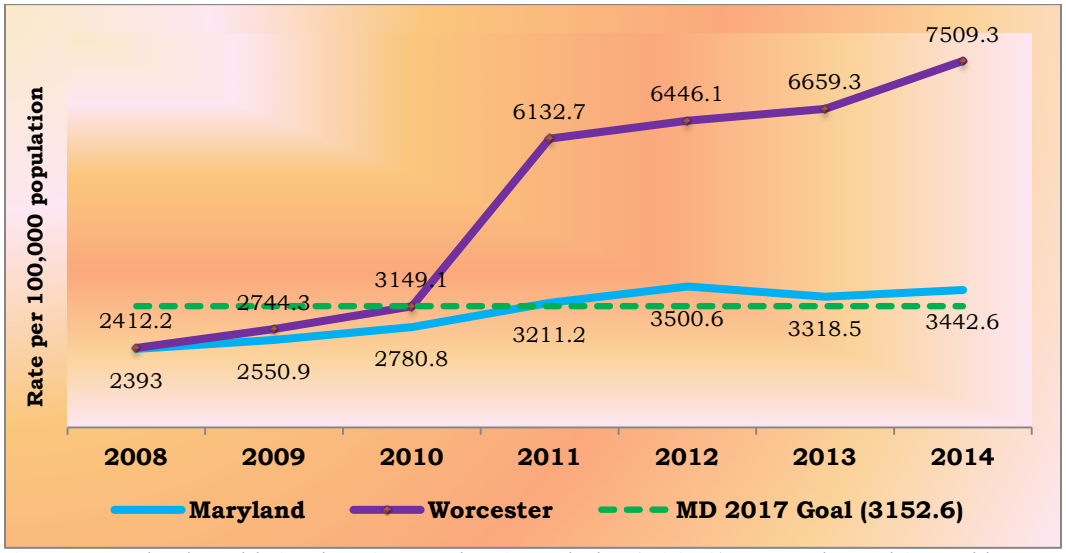
Women reported more lifetime diagnosis of depression than men (19.3 percent of women compared to 11.6 percent of men). The prevalence of lifetime diagnosis of depression was lower among blacks (14.7%) than whites (16.9%) and adults aged 65 or older (12%) than 18-44 age group (19.3%) (Source: MD BRFSS).

**Figure 17. Adults with Lifetime Diagnosis of Depression: Worcester and MD, 2011-2014**




Source: MD BRFSS

**Figure 18: Age-Adjusted Emergency Department Visit Rates Due To Mental Health Conditions: Worcester and MD, 2008-2014**




Source: Maryland Health Services Cost Review Commission (HSCRC), Research Level Statewide Outpatient Data Files. Data retrieved from Maryland's State Health Improvement Process'(SHIP) website

In Worcester, between 2008-2014, the rate for ED visits due to Mental Health conditions increased from 2412.2 per 100,000 population in 2008 to 7509.3 per 100,000 population in 2014 (Figure 18). Mental health diagnoses include adjustment disorders, anxiety disorders, attention deficit disorders, disruptive behavior disorders, mood disorders,

personality disorders, schizophrenia, and other psychotic disorders, suicide and intentional self-inflicted injury and miscellaneous mental disorders.

Suicide is a potentially preventable public health problem with complex underling causes. A combination of individual, community, and societal factors contribute to the risk of suicide. History of depression or other mental illness and stressful life event are some of the many risk factors that can put a person at risk for suicide.

According to the NSDUH estimates, 9.3 million Americans (3.9%) aged 18 or older in 2013 had serious thoughts of suicide in the past year. In 2013, 2.7 million adults aged 18 or older (1.1%) made suicide plans in the past year, and 1.3 million adults (0.6%) attempted suicide in the past year

According to MD Vital Statistics Administration (VSA) report, in 2014, suicide was the 11th leading cause of death among general population and the second leading cause of death among 15-24 age groups in Maryland.

The Youth Risk Behavior Survey (YRBS) asks middle and high school students questions about suicide risk behaviors, including questions about feeling sad or hopeless, thinking about suicide, and attempting suicide.

**Table 8. Suicidal Behaviors Among High Schools Students: Worcester and MD, 2014**

| **Percent of High School Students Who Felt Sad or Hopeless** | | |
|---|---|---|
| | **Worcester** | **MD** |
| **Total** | 26.6 | 26.8 |
| **Male** | 20.3 | 18.7 |
| **Female** | 33.1 | 35.0 |
| | | |
| **Percent of High School Students Who Seriously Considered Attempting Suicide** | | |
| | **Worcester** | **MD** |
| **Total** | 17.4 | 15.9 |
| **Male** | 11.4 | 10.9 |
| **Female** | 23.8 | 20.7 |
| **Percent of High School Students Who Made a Plan About How They Would Attempt Suicide** | | |
| | **Worcester** | **MD** |
| **Total** | 13.9 | 12.7 |
| | | |

Source: YRBS

Based on 2014 YRBS data,17.4% of Worcester high school students seriously considered attempting suicide in the previous 12 months (23.8% of females and 11.4% of males). During the 12 months before the survey, 13.9% of high school students made a plan about how they would attempt suicide (17.6% of females and 10.0% of males). Also, high school females were more likely than males to report feeling sad or hopeless during the past year (33.1% compared to 20.3%) (Table 8).

Approximately one in 6 Worcester middle school students (17.7%) reported thinking about killing themselves in the past year. Female students were more likely than males to have reported thoughts of suicide in the past year. The rates were slightly higher than the state. The percentage of middle school students who reported feeling sad and hopeless in the past year was also higher in Worcester (Table 9).

**Table 9. Suicidal Behaviors Among Middle Schools Students: Worcester and MD, 2014**

| **Percent of Middle School Students Who Felt Sad or Hopeless** | | |
|---|---|---|
| | **Worcester** | **MD** |
| **Total** | 23.4 | 21.3 |
| **Male** | 18.1 | 15.9 |
| **Female** | 28.8 | 26.7 |
| | | |
| **Percent of Middle School Students Who Seriously Thought About Killing Themselves** | | |
| | **Worcester** | **MD** |
| **Total** | 17.7 | 17.6 |
| **Male** | 11.8 | 12.6 |
| **Female** | 23.3 | 22.8 |

Source: YRBS

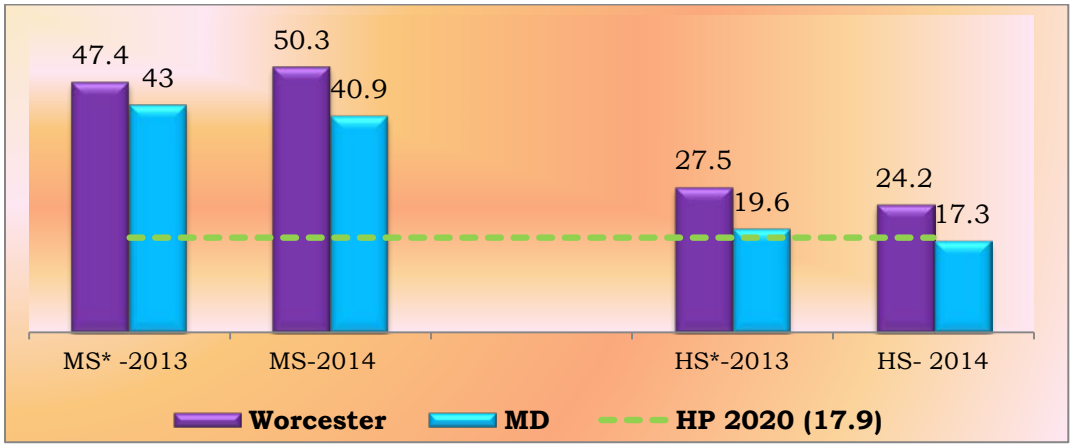
Bullying is unwanted, aggressive behavior among school-aged children that involves a real or perceived power imbalance. Bullying includes actions such as making threats, spreading rumors, attacking someone physically or verbally, and excluding someone from a group on purpose. Bullying can occur in-person or through technology (email, chat rooms, instant messaging, websites and text messaging).

Negative outcomes of bullying (for youth who bully others, youth who are bullied, and youth who both are bullied and bully others) may include:

depression, anxiety, involvement in interpersonal violence, substance abuse, and poor social functioning. Youth who report frequently bullying others and youth who report being frequently bullied are at increased risk for suicide-related behavior (Source: CDC[5]).

In 2014, Worcester County ranked in the top three among 24 Maryland counties with highest percentage of middle and high school students who bullied on school property.

**Figure 19. Percent of High and Middle School Students who Were Bullied on School Property: Worcester and MD, 2013-2014**

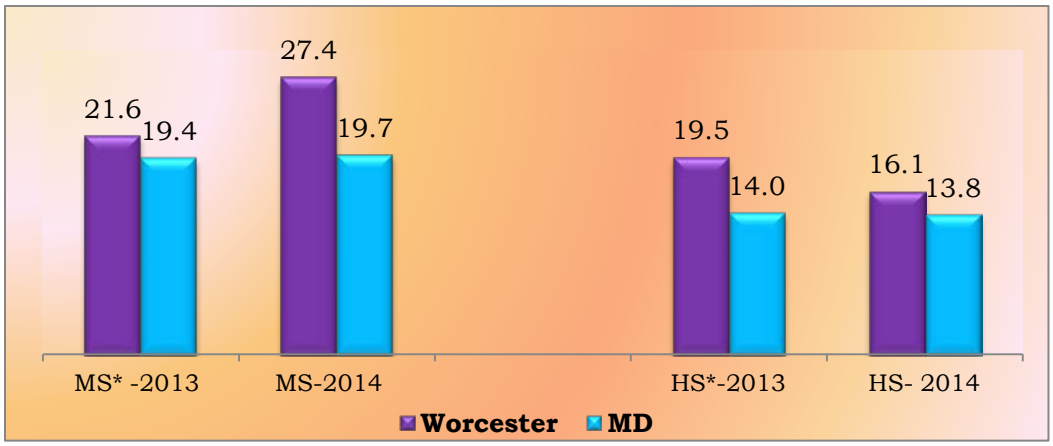



Source: YRBS

Middle school students were more likely to report being bullied in school or electronically than high school students. In Worcester, bullying on school property and electronic bullying among high school students increased from 2013 to 2014. Meanwhile among high school students bullying on school property or bullying electronically among high school students both decreased from 2013 to 2014. Healthy People 2020 objective is to reduce bullying on school property among adolescents to 17.9% (Figure 19 & 20).

5 Gladden RM, Vivolo-Kantor AM, Hamburger ME, Lumpkin CD. Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, Version 1.0. Atlanta, GA; National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and U.S. Department of Education; 2013. Available from http://www.cdc.gov/violenceprevention/pdf/bullying-definitionsfinal-a.pdf.

**Figure 20. Percent of Middle and High School Students who Were Electronically Bullied: Worcester and MD, 2013-2014**




Source: YRBS

## Health Related Risk Behaviors

Health risk behaviors have been shown to have causal links to modifiable risk factors and then to chronic diseases. Heart disease, cancer, cerebrovasuclar disease leading to strokes, and diabetes are the major causes of chronic illness and premature death in the United States.

Unhealthy diet, lack of physical activity, smoking, alcohol, weight (especially obesity), high blood pressure, high blood glucose and high cholesterol raise the risk of heart disease, stroke and diabetes. The greater the number of risk factors, the greater the chance for disability or premature death from these chronic diseases.

### Smoking

Cigarette smoking harms nearly every organ of the body, causes many diseases, and reduces the health of smokers in general.

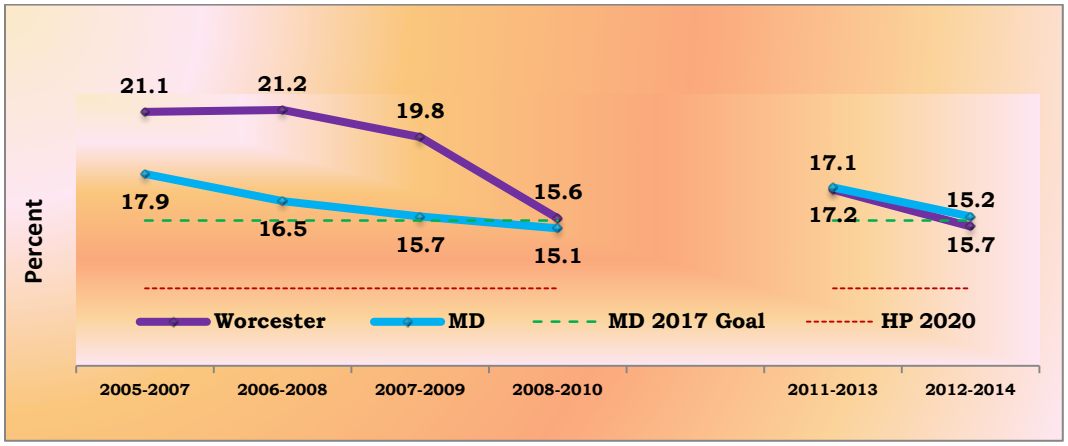
According to the U.S. Surgeon General's report, compared with nonsmokers, smoking is estimated to increase the risk of coronary heart disease by two to four times, stroke by two to four times, men developing lung cancer by 25 times, women developing lung cancer by 25.7 times, and dying from chronic obstructive lung diseases (COPD) by 12 to 13

times. In the United States, smoking causes 87 percent of lung cancer deaths, 32 percent of coronary heart disease deaths, and 79 percent of all cases of chronic obstructive pulmonary disease (COPD)[6].

The percentage of adults 18 years of age and over who are current smokers (who reported having smoked at least 100 cigarettes in their lifetime and who were current smokers on some days or every day) in Worcester County ranged from 21.1% in 2005-2007 to 15.2 in 2012-2014. During the same time period the overall state rates ranged from 17.9% to 15.7%. The Maryland 2017 State Health Improvement Process (SHIP) goal and HP 2020 objective is to reduce the proportion of adults who smoke to 15.5% and 12.0%, respectively (Figure 21).

The rate spike after 2010 (from 15.6% to 17.1%) will likely reflect the change in methodology rather than the true trend. A study found that prevalence of current smoking based on the landline telephone surveys that excluded cell phones was significantly underestimated particularly in younger populations. The three year moving average smoking rates declined from 17.1% in 2011-2013 to 15.2% in 2012-2014, lower than the state rate (15.7%) and met the MD -SHIP 2017 goal (Figure 21).

**Figure 21. Current Cigarette Smoking among Adults: Worcester and MD, 2005-2014**




Source: MD BRFSS, a break in trend lines after 2010 is used to reflect this change in methodology1

[6] U.S. Department of Health and Human Services. The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014

**Smoking Among Adolescents**

Smoking is started and established primarily during adolescence. Nearly 9 out of 10 cigarette smokers first tried smoking by age 18, and 99% first tried smoking by age 26. Each day in the United States, more than 3,200 youth aged 18 years or younger smoke their first cigarette. If smoking continues at the current rate, 5.6 million youth currently younger than 18 will die early from a smoking-related illness. That's about 1 of every 13 Americans aged 17 years or younger alive today[5].

In 2014, the percentage of Worcester County high school students who used any type of tobacco (cigarette, cigars or smokeless tobacco) in the past 30 days declined significantly, from 30.8% to 22.5% (Table 10). The 2014 (22.5%) rate is 32% away from the Maryland 2017 goal. The Maryland 2017 State Health Improvement Process (SHIP) goal and Healthy People (HP) 2020 objective is to reduce the use of tobacco products by adolescents (high school students) to 15.2% and 21%, respectively.

**Table 10. Tobacco Use Among Worcester County High School Students: 2013-2014**

| | Worcester | | Maryland | |
|---|---|---|---|---|
| | 2013 (%) | 2014 (%) | 2013 (%) | 2014 (%) |
| Current cigarette, cigar, or smokeless tobacco use | 30.8 | 22.5 | 16.9 | 16.4 |
| Current cigarette use | 21.3 | 14.7 | 11.9 | 8.7 |
| Smoked a whole cigarette for the first time before age 13 years | 11.9 | 9.5 | 8.0 | 7.1 |
| Current smokeless tobacco use | 12.9 | 9.6 | 7.4 | 5.8 |
| Current electronic vapor product use | - | 27.1 | - | 20.0 |
| Ever used electronic vapor product use | - | 43.1 | - | 37.6 |

Source: YRBS

In 2014, 14.7% high school students had smoked cigarettes on at least one day during the 30 days before the survey compared to 8.7% in the state. Overall, percentages of Worcester high school students who currently use cigarette and smokeless tobacco were higher than the state rates. The percentage of high school students who have reported smoking a whole cigarette before age 13 has decreased by twenty percent between 2013 and 2014. For the first time in 2014, the Maryland YRBS included questions about electronic vapor products, including

e-cigarettes, e-pipes, vape pipes, hookah pens, etc. Over forty percent (43%) of Worcester high school students reported ever using an electronic vapor product and more than one in four (27.1%) reported they used electronic vapor products in the past 30 days (Table 10).

Meanwhile, current cigarette, cigar, and smokeless tobacco use increased among middle school students. Worcester County ranked number one in the state in percentage of middle school students who currently use cigarettes. The percentage of middle school students who have reported smoking a whole cigarette before age 11 has also increased by twenty-four percent.

During 2013-2014, while current cigarette, cigar, and smokeless tobacco use declined among high school students the use among middle school students increased by 13%, from 8.7% to 9.8%. 7 of every 100 middle school students (6.9%) reported current cigarette use, which is the highest in the state. Also, the percentage of middle school students who have reported smoking a whole cigarette before age 11 has increased by 24 percent, from 3.7% to 4.6%. Eighteen percent (18%) of Worcester middle school students reported ever using an electronic vapor product and 11.2% reported they used electronic vapor products in the past 30 days (Table 11).

**Table 11. Tobacco Use Among Worcester County Middle School Students, 2013-2014**

| | Worcester | | Maryland | |
|---|---|---|---|---|
| | 2013 (%) | 2014 (%) | 2013 (%) | 2014 (%) |
| Current cigarette, cigar, or smokeless tobacco use | 8.7 | 9.8 | 7.0 | 5.4 |
| Current cigarette use | 6.5 | 6.9 | 3.9 | 2.5 |
| Smoked a whole cigarette for the first time before age 11 years | 3.7 | 4.6 | 3.8 | 2.2 |
| Current smokeless tobacco use | 3.2 | 3.5 | 3.0 | 1.9 |
| Current electronic vapor product use | - | 11.2 | - | 7.6 |
| Ever used electronic vapor product use | - | 18.1 | - | 15.4 |

Source: YRBS

## Alcohol Consumption

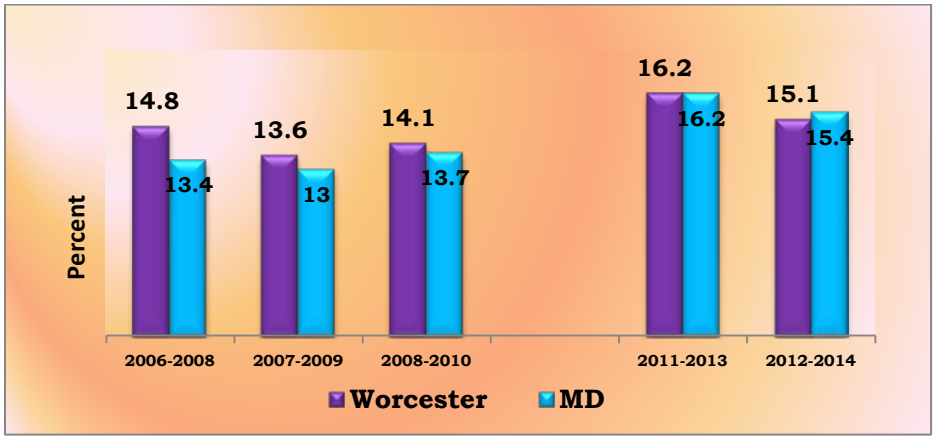
Excessive alcohol use is responsible for about 88,000 deaths and 2.5 million years of potential life lost in the United States each year. Binge drinking is the most common pattern of excessive alcohol use in the US and responsible for more than half the deaths and two-thirds of the years of potential life lost resulting from excessive alcohol use[7].

The National Institute of Alcohol Abuse and Alcoholism defines binge drinking as a pattern of drinking that brings a person's blood alcohol concentration (BAC) to 0.08 grams percent or above. This typically happens when men consume 5 or more drinks, and when women consume 4 or more drinks, in about 2 hours.

From 2006 through 2010, an average of 1,321 alcohol-attributable deaths (AAD) and 40,177 years of potential life lost (YPLL) occurred in Maryland annually. About 59% of all average annual AAD were due to acute conditions[8].

According to the MD 2012-2014 BRFSS data one in seven (15.1%) Worcester adults binge drinks, which is similar to the state rate and below the HP 2020 target (Figure 22). The *Healthy People 2020* target is to reduce the proportion of adults aged 18 years and older engaging in binge drinking during the past 30 days to 24.4%.

**Figure 22. Binge Drinking Among Adults: Worcester and MD, 2006-2014**




Source: MD BRFSS

[7] CDC. Alcohol-attributable deaths and years of potential life lost, United States, 2001. MMWR 2004;5

8 CDC. Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI) [database].

### Alcohol Consumption Among Adolescents

In 2014, underage alcohol consumption also had been declining. Worcester no longer has the highest rates of current alcohol use and binge drinking in the state. Data from 2014 YRBS indicate that a binge drinking rate dropped significantly from 30.8% in 2013 to 20%, but still is higher than the state rate (Figure 23). The data also shows that 34.2% high school students reported use of alcohol in the past 30 days, a decrease from 44.9% and 58.7% have consumed alcohol at some time in their lives down from 72%. Twenty percent of high school students reported early initiation (before age 13) of alcohol use down from 23% in 2013 and 9.9% middle school students reported early initiation (before age 11) , down from 13.3% in 2013 (Figure 24).

**Figure 23. Binge Drinking Among High School Students: Worcester and MD, 2013-2014**

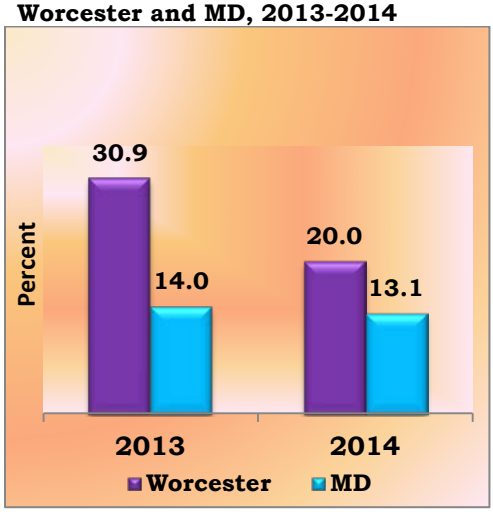
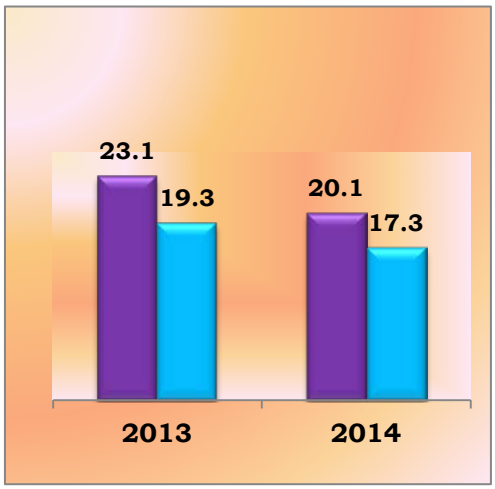



**Figure 24. Initiation of Alcohol Use Before the Age of 13: Worcester and MD 2013-2014**



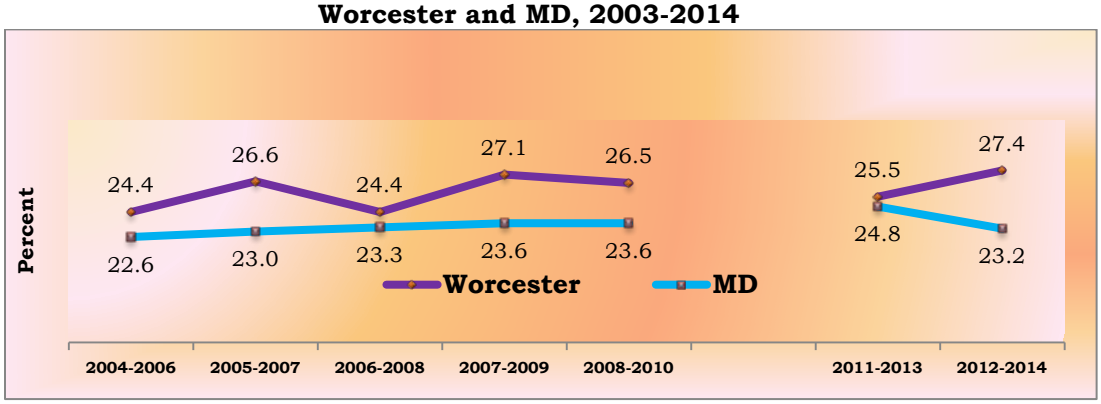

Source: YRBS

## Physical Activity

Regular physical activity can improve the health and quality of life of all ages. Research has shown that regular activity reduces the risk of cardiovascular disease, type 2 diabetes, some forms of cancer, strengthens bones and muscles, and increases the chance of living longer.

During 2012-2014, an estimated 27.4% of Worcester County residents reported no leisure time physical activity within the past month. Percentage of adults who reported no leisure time activity among Worcester adults was slightly higher than the state rate, but both Worcester's and state's rates were below the HP 2020 target (Figure 25). The Healthy People 2020 target for no leisure-time physical activity is set at 32.6%.

**Figure 25. No Leisure-Time Physical Activity Among Adults: Worcester and MD, 2003-2014**




Source: MD BRFSS. *Three-year moving average

**Physical Activity Among Adolescents**

The Physical Activity Guidelines for Americans, issued by the U.S. Department of Health and Human Services, recommend that children and adolescents aged 6-17 years should have 60 minutes (1 hour) or more of physical activity each day.

In 2014, only one in four (24.5%) Worcester high school students attended physical education classes on one or more days during an average school week, a decrease from 29.6% in 2013. In contrast, almost all middle school students (99%) attended physical education classes on one or more days in an average week when they were in school. Also the percentage of high school students who attended physical education classes on all five school days decreased from 20.3% in 2013 to 15.1% in 2014(Table 12). The *Healthy People 2020* target is to increase the proportion of adolescents who participate in daily school physical education to 36.6%.

| Table 12. Percentage of High School Students Participating in Physical Activity and Physical Education, by Sex, 2014 | | | |
|---|---|---|---|
| **Type of Activity** | **Total** | **Females** | **Males** |
| **High School Students who:** | | | |
| Attended Physical Education Classes on 1 or More Days | 24.5 | 16.7 | 31.9 |
| Attended Physical Education Classes on All 5 | 15.1 | 11.1 | 19.1 |
| | | | |
| **Middle School Students who:** | | | |
| Attended Physical Education Classes on 1 or More Days | 98.9 | 99.4 | 98.4 |
| Attended Physical Education Classes on All 5 | 6.0 | 6.3 | 5.8 |
| | | | |

Source: YRBS

## Chronic Health Conditions

### Obesity

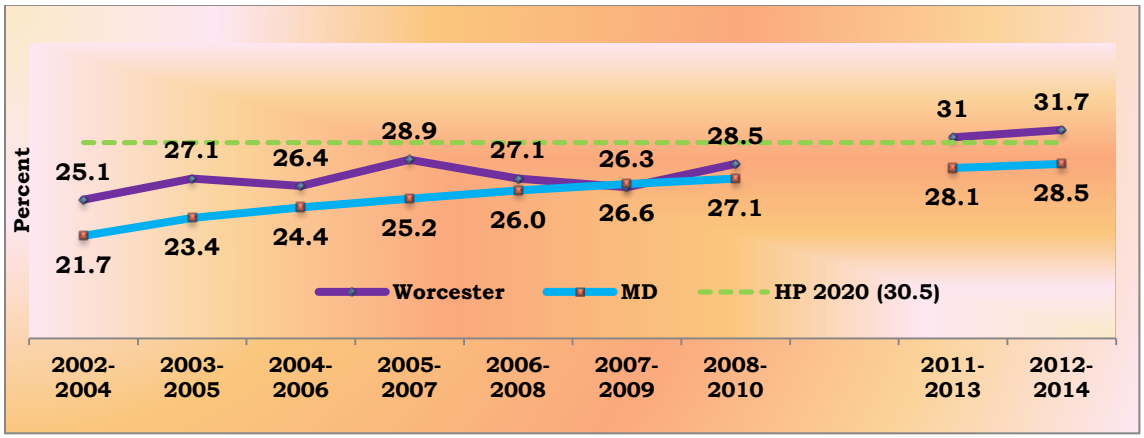
People who are obese have higher rates of death and illness than people of healthy weight. These illnesses include high blood pressure, diabetes, and cardiovascular disease mainly heart disease and stroke which are the leading causes of death in the United States.

The body mass index (BMI) is an internationally recognized standard for classifying overweight and obesity in adults. For adults 20 years old and older, a BMI of 25-29.9 is considered overweight, and 30 or more is obese. For children and teens, BMI is age and sex-specific. After BMI is calculated for children and teens, the BMI number is plotted on the CDC BMI-for-age growth charts (for either girls or boys) to obtain a percentile ranking, a BMI between 85-95$^{th}$ percentile is considered overweight and 95$^{th}$ percentile and more is obese.

Data about weight and height are self-reported. Studies have shown that people tend to over-report their height and under-report their weight, therefore body mass data based on self-report are likely to be underestimates.

The *Healthy People 2020* target is to reduce the proportion of adults who are obese to 30.5 percent. Based on 2012-2014 BRFSS data, approximately 32 percent Worcester adults are obese moving steadily away from the healthy people 2020 goal (Figure 26) and an additional 36 percent are overweight.

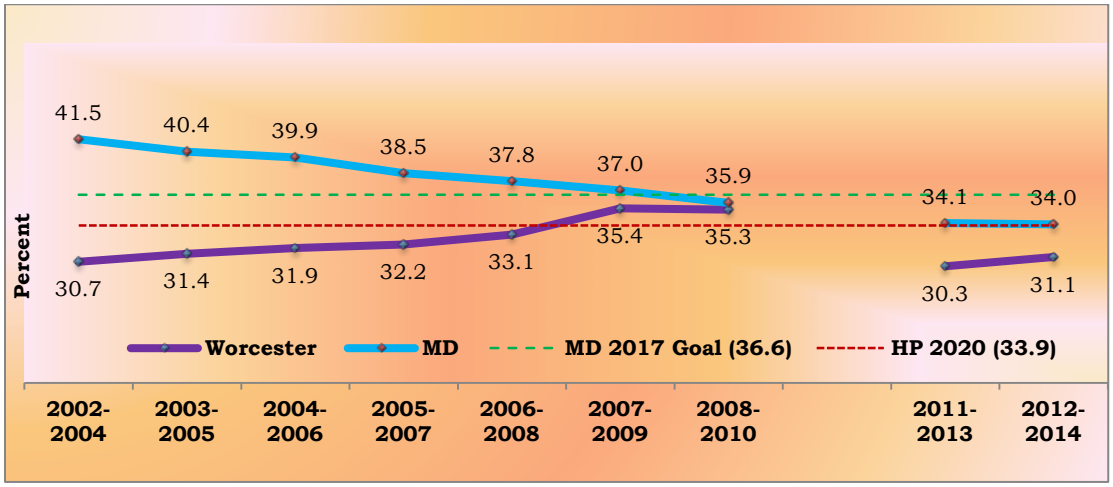
**Figure 26. Percent of Obese Adults: Worcester and MD, 2000-2014**




Source: MD BRFSS. *Three-year moving average

During 2012-2014 Nearly one-third (31.1%) of Worcester adults were at healthy weight compared to the state 34 percent (Figure 27). The *Healthy People 2020* and the MD 2017 target are to increase the proportion of adults who are at a healthy weight to 33.9 and 36.6 percent, respectively.

**Figure 27. Percent of Adults at Healthy Weight: Worcester and MD, 2002-2014**




Source: MD BRFSS * Three-year moving average

## Weight Status Among Adolescents

In addition to the immediate health effect, in the long-term, children and adolescents who are obese are likely to be obese as adults and are therefore more at risk for adult health problems such as heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis[9].

According to the 2014 Youth Risk Behavior Surveillance System (YRBSS), 13.5 percent of high school students were obese, and an additional 16.0 percent were overweight (Figure 28 & 29). The highest obesity rates were seen among black students (22.5%) compared to white students (10.5%) and among male students (17.5%) compared to female students (9.6%).

**Figure 28. Obesity Rates Among High School Students, 2013-2014**

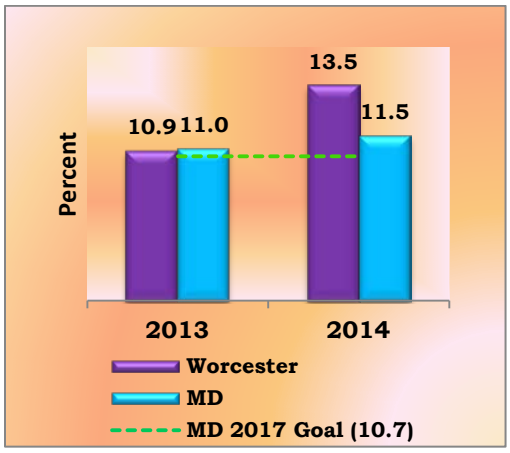
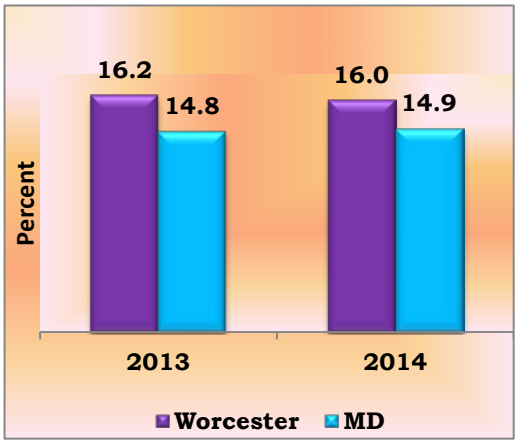



**Figure 29. Overweight Rates Among High School Students, 2013-2014**



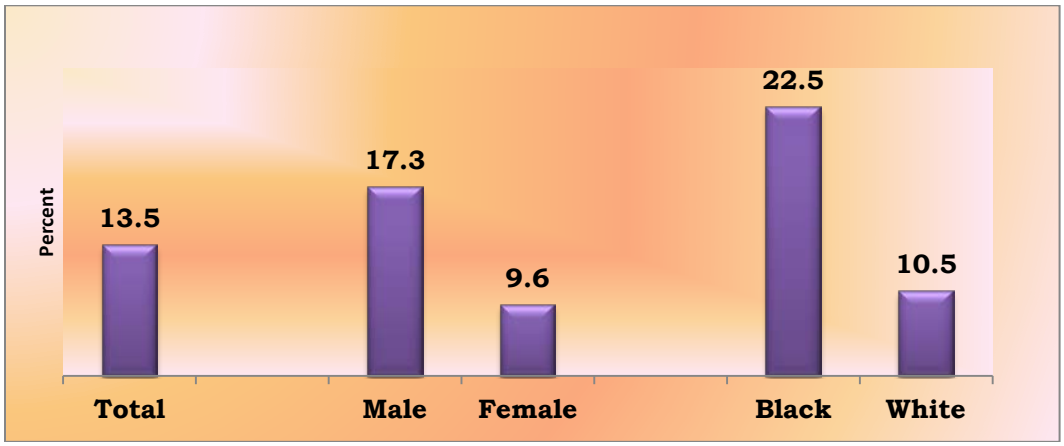

Source: YRBS

The prevalence of obesity among Worcester high school students in 2014 was below the HP 2020 target, but higher than the MD 2017 goal. Although the overall prevalence of obesity among high school students met the goal, the prevalence of obesity among non-Hispanic black

9 Freedman DS, Khan LK, Serdula MK, Dietz WH, Srinivasan SR, Berenson GS. The relation of childhood BMI to adult adiposity: the Bogalusa Heart Study. Pediatrics. 2005;115:22–27.

students (22.5%) remains higher than the HP 2020 goal (Figure 30). The *Healthy People 2020* and the MD 2017 targets are to reduce the proportion of adolescents aged 12 to 19 years who are considered obese to 16.1% and 10.7% respectively.

**Figure 30. Obesity Rates among Worcester High School Students, by Gender and Race, 2014**



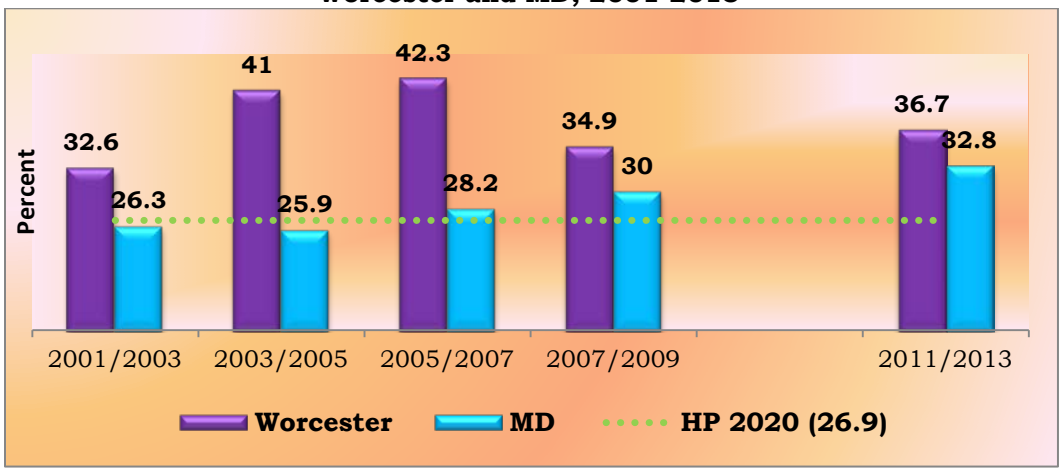

Source: YRBS

## High Blood Pressure

High blood pressure is a major risk factor for heart disease, heart attack, and stroke. The risk increases as the level of blood pressure increases. The *Healthy People 2020* target is to reduce the proportion of adults with hypertension to 26.9 percent.

Overall, the prevalence of hypertension among Worcester county adults was 36.7% for 2011 and 2013, higher than the state rate (32.8%) (Figure 31). Among those with high blood pressure 90 percent of them take medication to lower their blood pressure.

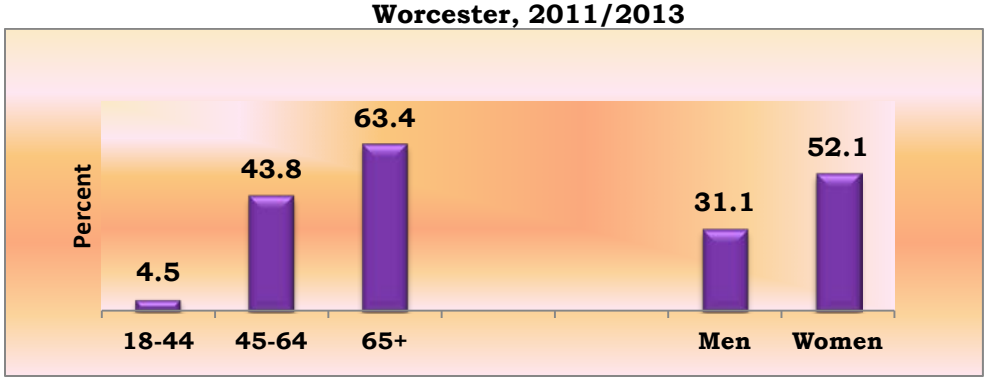
**Figure 31. Prevalence* of High Blood Pressure Among Adults: Worcester and MD, 2001-2013**




Source: MD BRFSS. *Two-year average

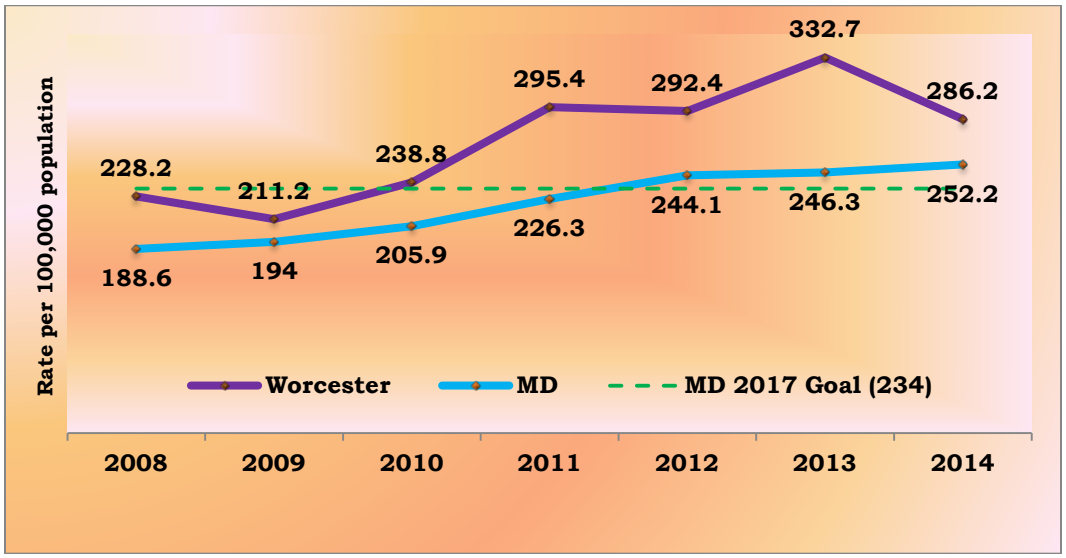
The prevalence of hypertension increased with age and was the highest among older adults. Also a higher percentage of women (52.1%) than men (31.1%) had high blood pressure (Figure 32).

**Figure 32. Prevalence of High Blood Pressure by Age Group and Sex: Worcester, 2011/2013**




Source: MD BRFSS

**Figure 33: Age-Adjusted Emergency Department Visit Rates Due To Hypertension: Worcester and MD, 2008-2014**



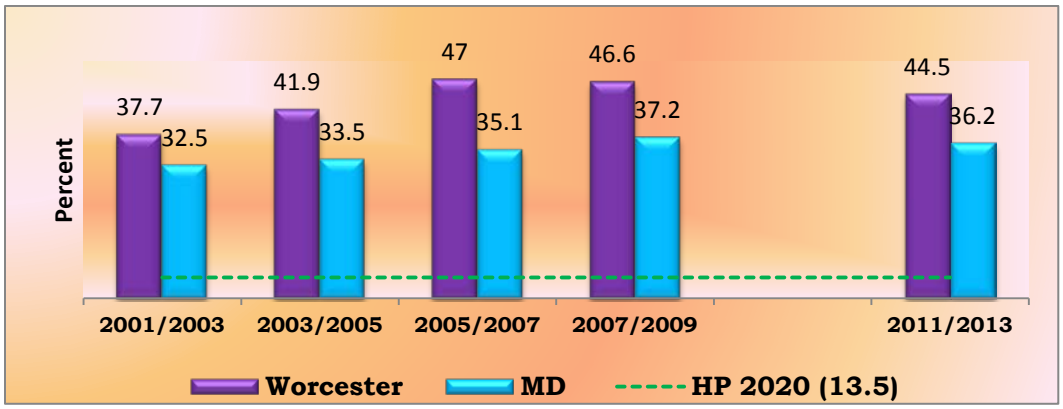

Source: Maryland Health Services Cost Review Commission (HSCRC), Research Level Statewide Outpatient Data Files. Data retrieved from Maryland's State Health Improvement Process'(SHIP) website

In Worcester, between 2008-2013, the rate for ED visits due to Hypertension increased from 228.2 per 100,000 population in 2008 to 332.7 per 100,000 population in 2013. In 2014 the rate dropped to 286.2 per 100,000 population (Figure 33).

## High Blood Cholesterol

High blood cholesterol is a major and modifiable risk factor for coronary heart disease. According to the CDC report, approximately one in every six adults—16.3 percent of the U.S. adult population—has high total cholesterol. The level defined as high total cholesterol is 240 mg/dL and above. The *Healthy People 2020* target is to reduce the proportion of adults with high total blood cholesterol level to 13.5 percent.

**Figure 34. Percentage of Adults with High Cholesterol Level: Worcester and MD, 2001-2013**




Source: BRFSS

In 2011/2013, approximately 45 percent of Worcester County adults 18 and older had high blood cholesterol (Figure 34). About 7 of every 10 people with high cholesterol level also had high blood pressure. High cholesterol and high blood pressure are the two major risk factors for heart disease or stroke.

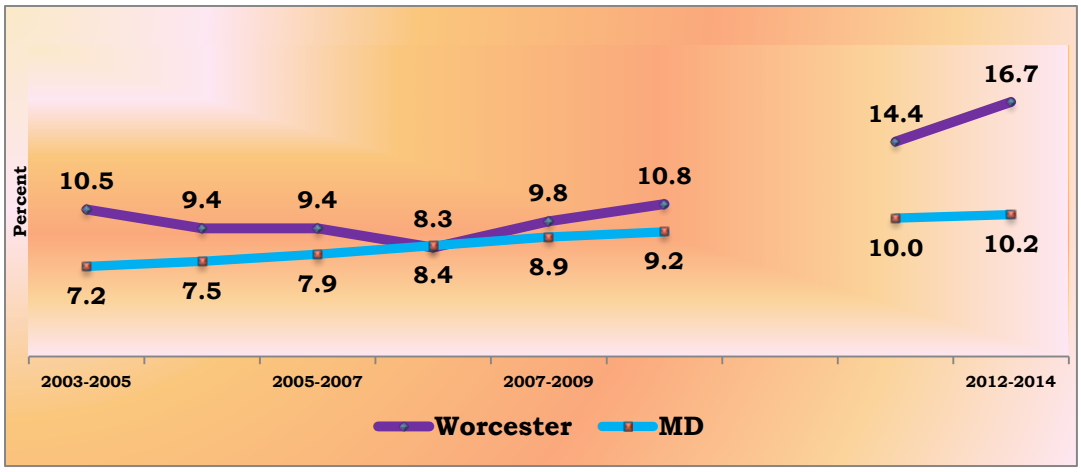
## Diabetes Mellitus (DM)

Diabetes Mellitus (DM) affects an estimated 29.1 million people in the United States. Among adults, about 1.7 million new cases of diabetes are diagnosed each year. If this trend continues, as many as 1 out of every 3 adults in the United States could have diabetes by 2050 (Source: CDC).

Diabetes is the leading cause of kidney failure, non-traumatic lower limb amputation, and new cases of blindness among adults. It is also a major cause of heart disease and stroke and the 7th leading cause of death in United States.

In Worcester, diabetes was the 5th leading cause of death in 2009-2011, and became the 8th leading cause in 2012-2014. The diabetes prevalence rate among Worcester County adults 18 years and older declined between 2003-2005 and 2006- 2008, but in 2007-2009 the rate began to rise.

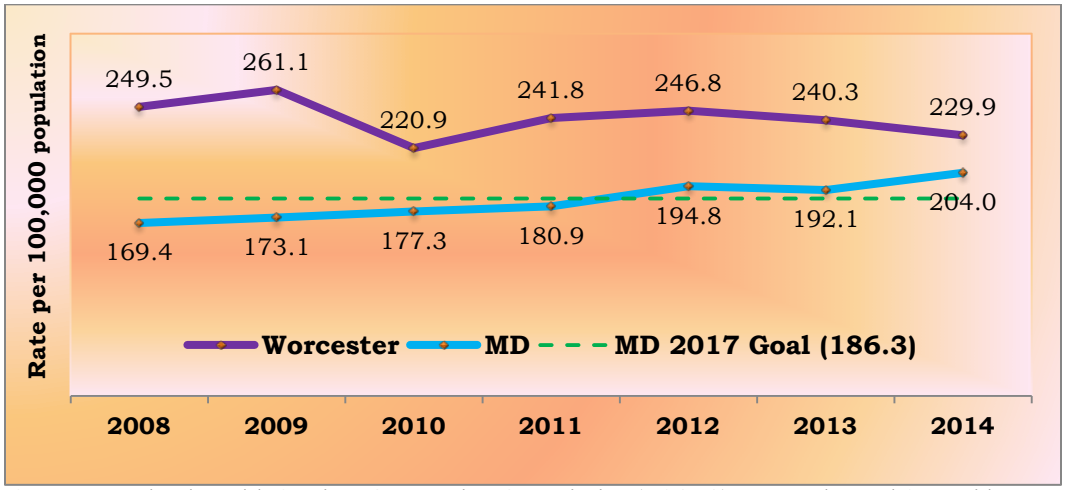
**Figure 35. Prevalence of Diabetes Among Adults: Worcester and MD, 2002-2014**




Source: BRFSS

The prevalence of diabetes among adult increased from 14.4% in 2011-2013 to 16.7% in 2012-2014. This number does not include pre-diabetes or women who were diagnosed while pregnant (gestational diabetes). Again the peak in prevalence after 2010 will likely reflect the new BRFSS methods of measuring risk factors, rather than true trends. A break in trend lines after 2010 is used to reflect this change in BRFSS methodology (Figure 35).

**Figure 36: Age-Adjusted Emergency Department Visit Rates Due To Diabetes: Worcester and MD, 2008-2014**



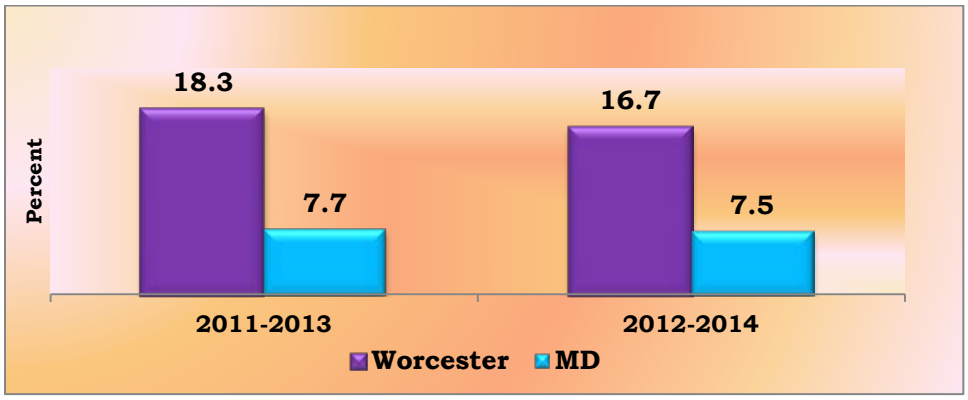

Source: Maryland Health Services Cost Review Commission (HSCRC), Research Level Statewide Outpatient Data Files. Data retrieved from Maryland's State Health Improvement Process'(SHIP) website

Figure 36 shows the emergency department visit rate due to diabetes for Worcester. The age-adjusted emergency department visit rate for Worcester is higher than the overall state rate. In Worcester, the rate for ED visits due to Diabetes decreased from 246.8 per 100,000 population in 2010 to 229.9 per 100,000 population in 2014.

## Heart Disease

Heart disease (which includes heart disease and conditions, stroke, and other cardiovascular diseases) continued to be the number one cause of death in Worcester County. In 2012-2014, 32 percent of all deaths were attributed to heart disease, stroke, and other cardiovascular diseases. That's about one in every three deaths in the county.

**Figure 37. Prevalence of Heart Disease Among Adults: Worcester and MD, 2011-2014**



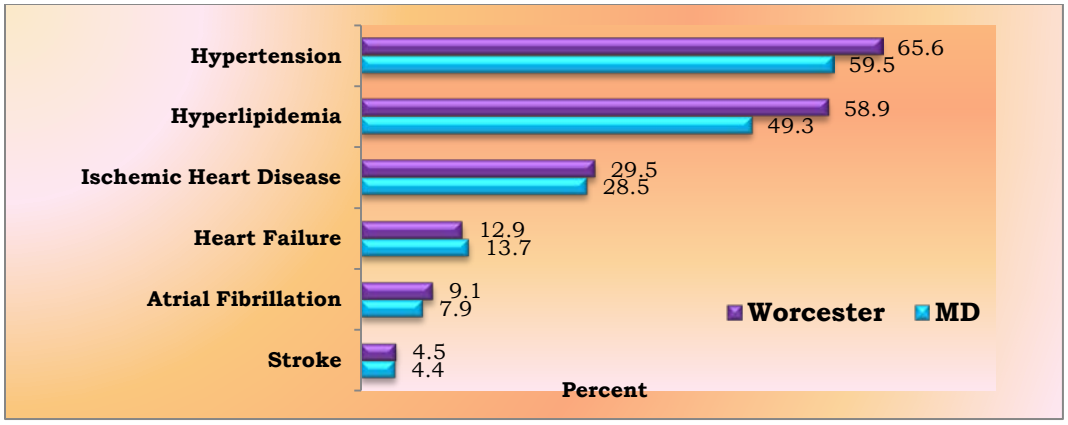

Source: BRFSS

In 2012-2014, 16.7% of adult respondents in Worcester County reported that they have ever been diagnosed with heart disease (includes coronary heart disease, a myocardial infarction, or a stroke). The rate has declined from 2011-2013, but still more than twice the state rate (Figure 37).

As Worcester's aging population has continued to grow, so has the risk for heart diseases. The leading modifiable (controllable) risk factors for heart disease and stroke such as; high blood pressure, high cholesterol, diabetes, physical inactivity, overweight, and obesity are highly prevalent among Worcester county residents in comparison to the overall state

population (Figure 25, 30, 31 & 33). Also compared to the overall state, high blood pressure (65.6%), high cholesterol (58.9%), and ischemic heart disease (29.5%) rates were higher among Worcester county Medicare beneficiaries (Figure 38).

**Figure 38. Chronic Conditions Prevalence Among Medicare FFS Beneficiaries: Worcester and MD, 2012**




Source: CRISP- Tableau dashboards

## Respiratory Diseases

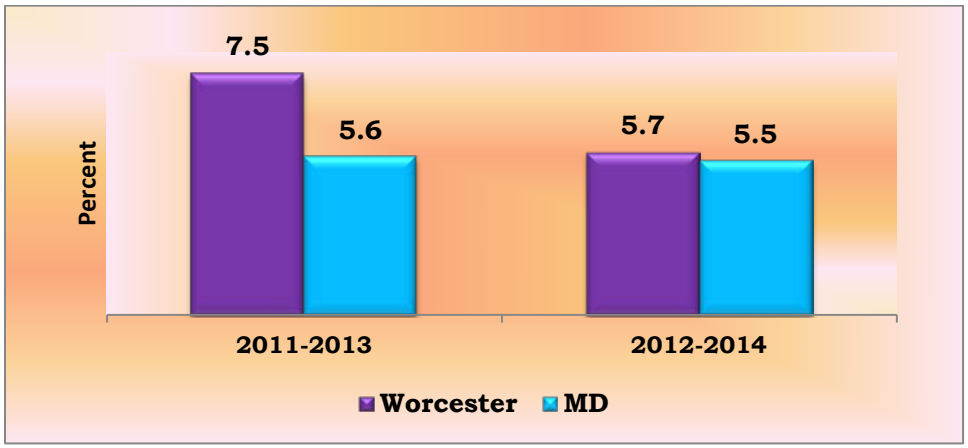
Asthma and chronic obstructive pulmonary disease (COPD) are the most common chronic respiratory diseases which affect the airways and other structures of the lung.

**COPD** refers to a group of diseases that cause airflow blockage and breathing-related problems. It includes emphysema, chronic bronchitis, and in some cases asthma. In the United States, tobacco smoke is a key factor in the development and progression of COPD[10]. Chronic lower respiratory disease, primarily COPD, was the third leading cause of death in the United States in 2014. Almost 15.7 million Americans (6.4%) reported that they have been diagnosed with COPD (Source: CDC).

According to the 2012-2014 BRFSS, in Worcester County, 5.7 percent of adults had been diagnosed with COPD, similar to the state rate of 5.5 percent (Figure 39). Also similar to the state and national, chronic lower respiratory disease was the third leading cause of death in Worcester in 2012-2014.

10 Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 1997–2001. *MMWR*. 2005;54(250):625-628

**Figure 39. Percentage* of Adults with COPD: Worcester and MD, 2011-2014**



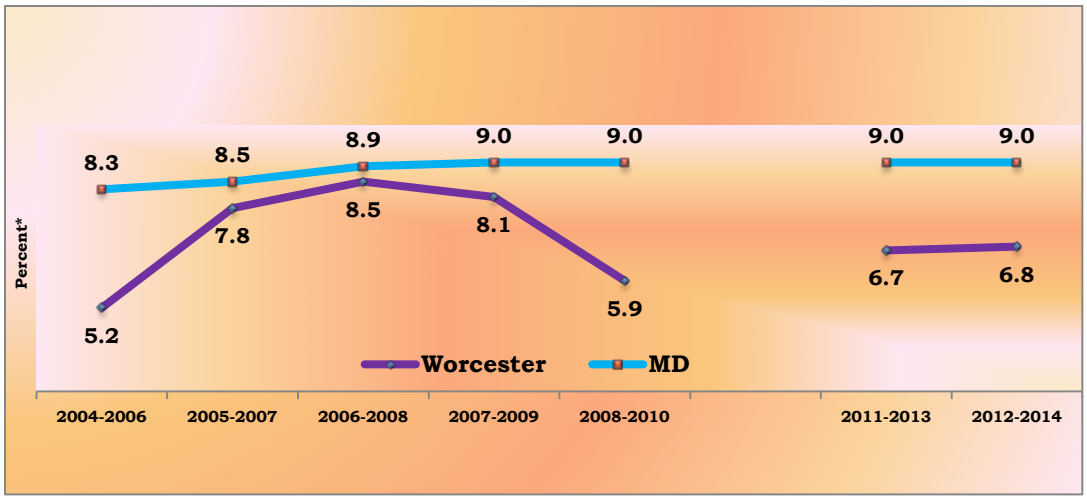

Source: MD BRFSS,* Three-year average

**Asthma** is a common, chronic disorder of the airways characterized by wheezing, breathlessness, chest tightness, and coughing. Airflow is obstructed by factors which narrow airways in the lungs in reaction to certain exposures. The highest rates of asthma occur among children, women, multi-race, black Americans, and American Indians.

In 2014, an estimated 24 million people had asthma: 17.7 million adults aged 18 and over (7.4%), and 6.3 million children aged 0–17 years (8.6%) (Source: CDC NHIS, 2014).

Between 2012 and 2014, 6.8 percent of Worcester County adults reported currently having asthma, lower than the state rate (9.0%). In Worcester the overall trend had been declining between 2006 and 2010 while the state rate remained the same (Figure 40). Although prevalence of current asthma has been increasing after 2010, it is difficult to know how much of the increase is due to a true increase or changes in BRFSS methodology.

**Figure 40. Adults Current Asthma Prevalence: Worcester and MD, 2004-2014**




Source: MD BRFSS, *Three-year moving

## Asthma among Adolescents

In Worcester, 24.5 percent of high school students had been told by a doctor or nurse that they had asthma (i.e., ever had asthma). The prevalence of having ever had asthma was higher among males (26.3%) than females (22.8%) high school students. The prevalence of having ever had asthma was higher among black (31.8%) than white (20.8%) (Table 13).

**Table 13. Lifetime* Asthma Prevalence Among High School Students: YRBS, 2014**

| | Worcester | MD | US |
|---|---|---|---|
| | | | |
| **Total** | 24.5 | 26.3 | 22.8 |
| | | | |
| **Female** | 22.8 | 25.2 | 23.3 |
| **Male** | 26.3 | 27.4 | 22.2 |
| | | | |
| **White** | 20.8 | 23.1 | 22.1 |
| **Black** | 31.8 | 30.6 | 27.8 |

Source: YRBS. * Had Ever Been Told by A Doctor/Nurse that they had Asthma

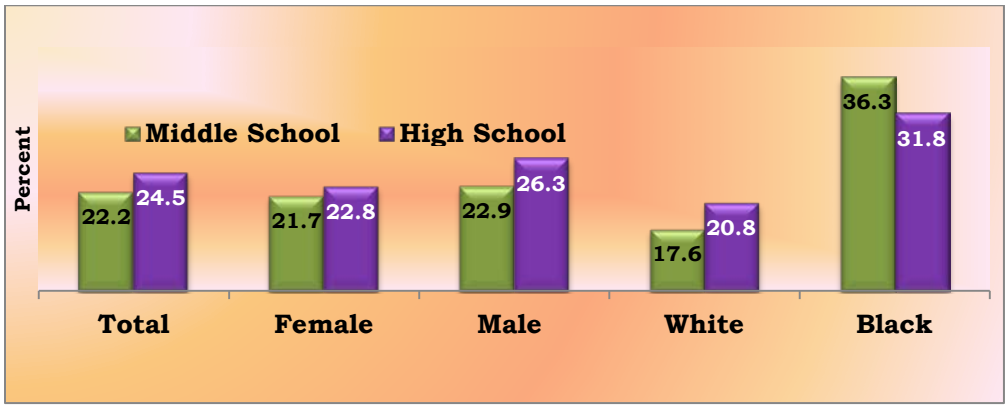
In 2014, 22.2 percent of Worcester middle school students were reported to have ever been diagnosed with asthma in their lifetime (lifetime asthma prevalence) and 17.7% of students had asthma symptoms in the past 12 months (current asthma prevalence) (Table 14). Overall lifetime prevalence of asthma was higher for high school students (24.5%) compared to middle school students (22.2%). Both in high and middle school blacks had a significantly higher current and lifetime asthma prevalence than whites (Figure 41).

**Table 14. Lifetime and Current Asthma Prevalence Among Middle School Students: YRBS 2014**

| Middle School Students | Total | Female | Male | White | Black |
|---|---|---|---|---|---|
| Current Asthma | 17.7 | 20.3 | 15.2 | 16.0 | 24.7 |
| Lifetime Asthma | 22.2 | 21.7 | 22.9 | 17.6 | 36.3 |

Source: YRBS

**Figure 41. Lifetime Asthma Prevalence Among High and Middle School Students: Worcester, 2014**




Source: YRBS

## Cancer

Cancer continues to be the second leading cause of death in Worcester and Maryland. From 2008-2012, a total of 2,061 new cases of cancer among Worcester County residents were reported to the Maryland Cancer Registry. All cancer incidence rates for Worcester were higher than the state rate. In 2008-2012 Worcester's all cancer sites, age-

adjusted cancer incidence rate was 507.9 per 100,000 population, and the state rate was 432.1 per 100,000 population. Also in Worcester, males and blacks had higher age-adjusted incidence rates than females and whites, respectively (Table 15).

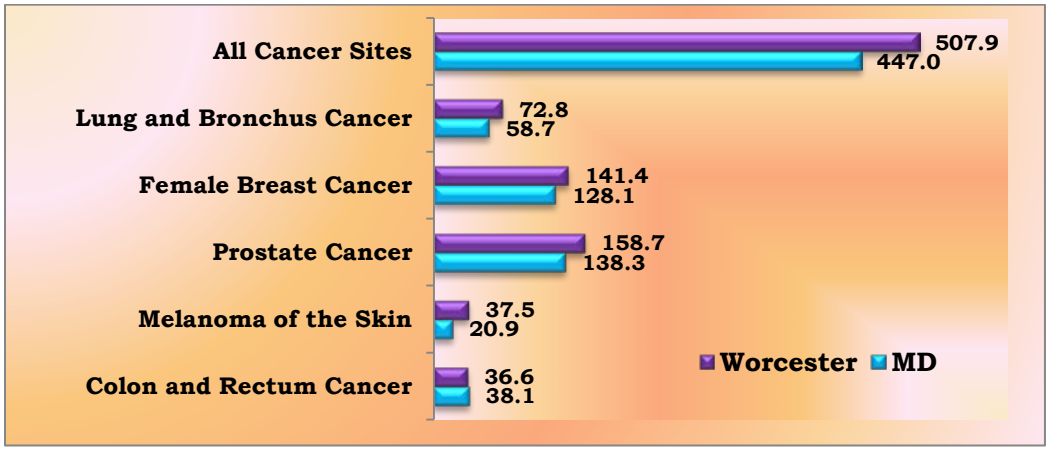
**Table 15. All Cancer Sites Age-Adjusted Incidence Rates by Gender and Race: Worcester, 2008-2012**

| | Total | Male | Female | White | Black | Other |
|---|---|---|---|---|---|---|
| **New Cases(Count)** | 2061 | 1161 | 898 | 1748 | 224 | 41 |
| **Incidence rate (per 100,000 population)** | 507.9 | 594.5 | 439.6 | 486.6 | 495.2 | 1271.1 |

Source: MD DHMH- 2015 Cancer Report

The cancer incidence rates for lung and bronchus, female breast, prostate, and melanoma of the skin were also higher than the state (Figure 42). Worcester had highest incidence of melanoma in the state. The 2008-2012 age-adjusted melanoma incidence rate for Worcester was 37.5 per 100,000 population compared to 20.5 per 100,000 for Maryland.

**Figure 42. Age-Adjusted Cancer Incidence Rates: Worcester and MD, 2008-2012**



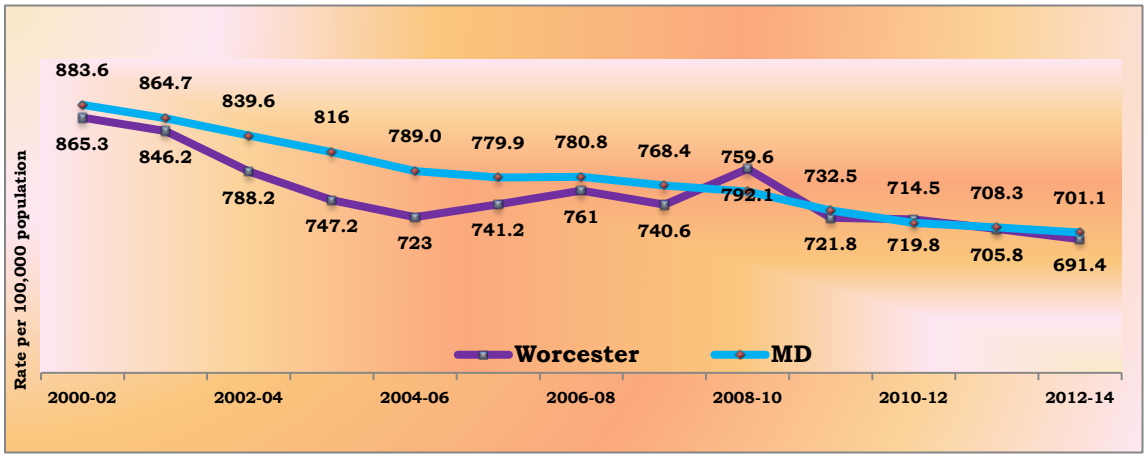

Source: MD DHMH- 2014 Cancer Report

# Mortality

## Overall Death

During 2012-2014, there were a total of 1799 deaths among Worcester residents, 31 more deaths than in 2011-2013. The age-adjusted death rate for 2012- 2014 combined was 691.4 deaths per 100,000 population, 1.4% lower than the state rate of 701.1 deaths per 100,000. Overall, the three year –moving average mortality rate for Worcester fell 20% from high of 865.3 per 100,000 in 2000-2002 to 691.4 in 2012-2014 (Figure 43).

**Figure 43. Age-Adjusted Mortality Rates *for All Causes of Death:* Worcester and MD, 2000-2014**



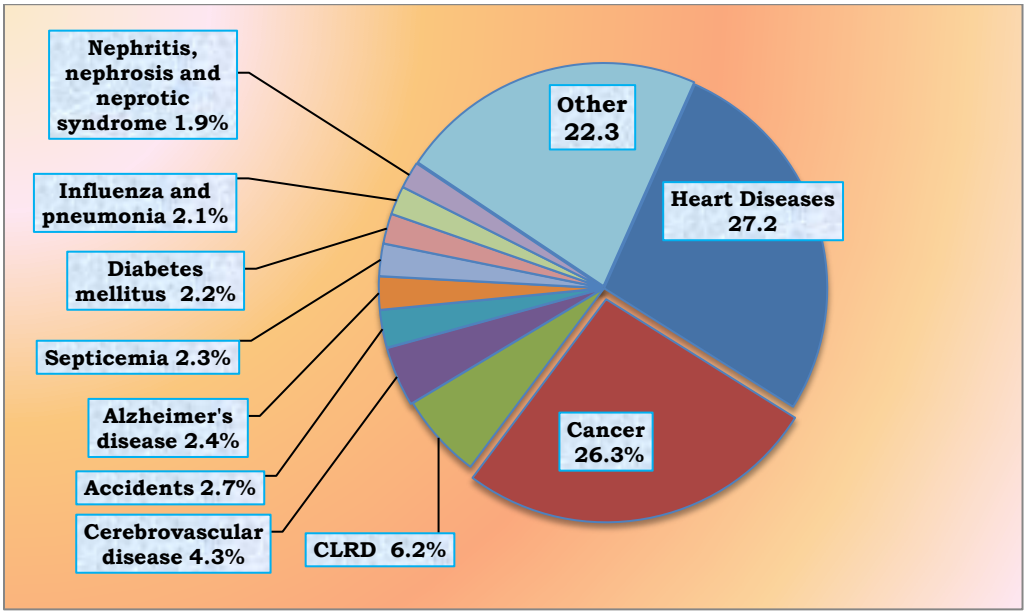

Source: Maryland Vital Statistics Administration

## Leading causes of death

During 2012–2014,Worcester's *10 leading causes of death* were: Heart disease, malignant neoplasms, chronic lower respiratory disease, cerebrovascular disease, accidents, alzheimer's disease, septicemia, diabetes mellitus, influenza, and pneumonia and nephritis, nephrotic syndrome, and nephrosis . Although there was some variation in order, the top 10 leading causes of death in Worcester remains unchanged from 2007-2009.

Seven out of the top 10 causes of death were chronic diseases. In 2012-2014, heart disease, cancer, and chronic lower respiratory disease were the top three leading causes of death and accounted for 60% of total deaths (Figure 44). Chronic lower respiratory disease (CLRD) moved up to become the third leading cause of death and cerebrovascular diseases moved from third to fourth position.

**Figure 44. Percent Distribution of the Ten Leading Causes of Death: Worcester, 2012-2014**




Source: Maryland Vital Statistics Administration

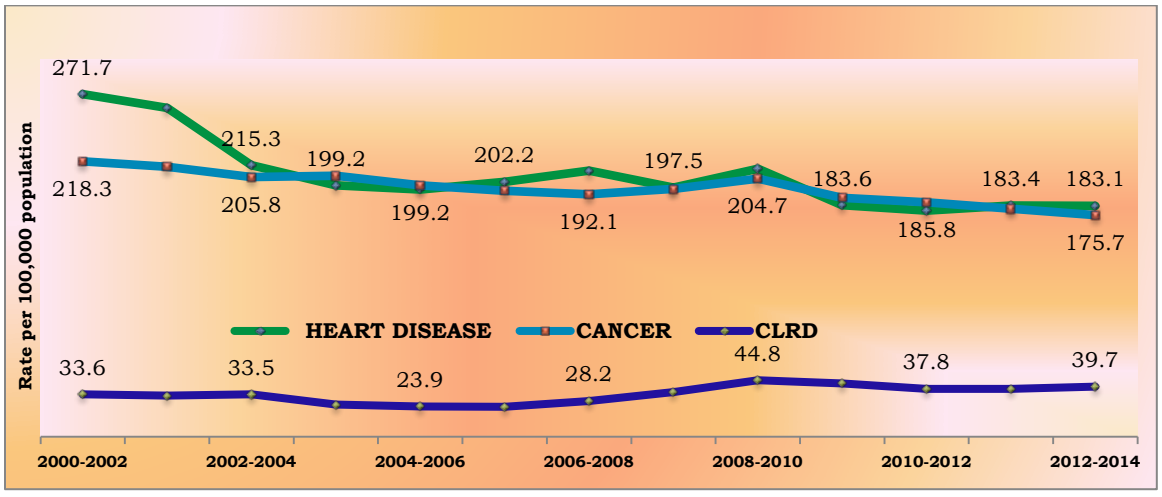
The age-adjusted death rates for Worcester were higher than the state for 6 of the 10 leading causes of death. The largest difference was the mortality rate for chronic lower respiratory disease (39.7 per 100,000 population) which was 27 percent higher than the state rate (31.1 per 100,000 population). Other causes for which the rate was high include heart disease, cancer, and kidney disease (Table 16).

Heart disease is the number one cause of death in Worcester, killing nearly 490 people between 2012-2014. The age-adjusted death rate for the leading cause of death, heart disease, decreased 27 percent, from 271.7 per 100, 000 population in 2000-2002 to 183.1 in 2012-2014. The age-adjusted death rate for cancer, the second leading cause of death, has also shown a downward trend. The rate declined by 19 percent from 218.3 per 100,000 population in 2000-2002 to 175.7 in 2012-2014 (Figure 45).

| Table 16. Age-Adjusted mortality rate for Top Ten Leading Causes of Death: Worcester County, MD 2012-2014 | | | |
|---|---|---|---|
| Rank | **Causes of Death** | **Worcester Age-Adjusted Rate** | **MD Age Adjusted Rate** |
| | All Causes of Deaths | 691.4 | 701.1 |
| **1** | Heart disease | **183.1** | 169.9 |
| **2** | Malignant neoplasms (Cancer) | **175.7** | 162.0 |
| **3** | Chronic lower respiratory disease(CLRD) | **39.7** | 31.1 |
| **4** | Cerebrovascular disease | 29.0 | 36.3 |
| **5** | Accidents | 26.5 | 26.6 |
| **6** | Alzheimer's disease | **15.3** | 14.3 |
| **7** | Septicemia | **15.3** | 14.9 |
| **8** | Diabetes mellitus | 14.5 | 19.2 |
| **9** | Influenza and pneumonia | 13.3 | 16.0 |
| **10** | Nephritis, nephrotic syndrome, and nephrosis (Kidney disease) | **12.7** | 11.3 |
| | | | |

Source: Maryland Vital Statistics Administration

**Figure 45. Age-Adjusted Mortality Rates* for the Top Three Leading Cause of Deaths: Worcester, 2000-2014**




Source: Maryland Vital Statistics Administration. *Three-year moving average

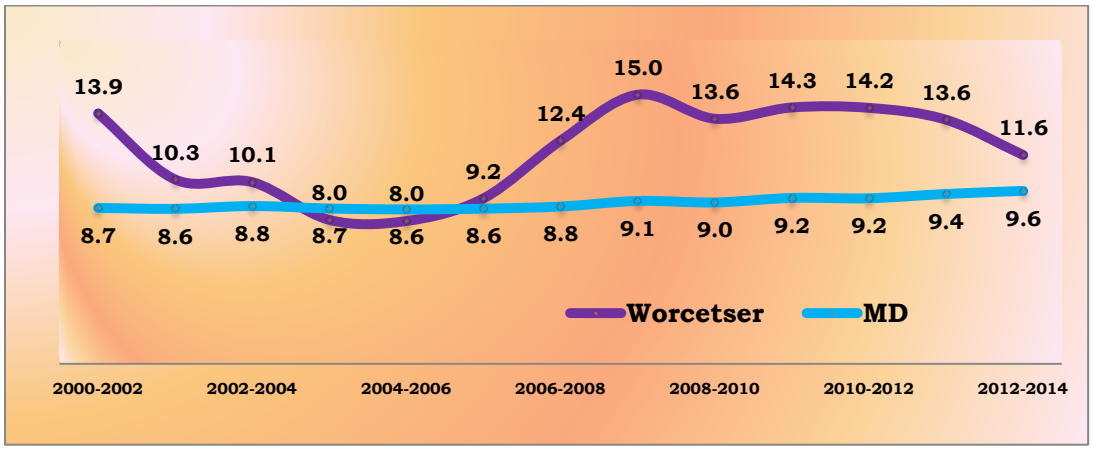
In Worcester, chronic lower respiratory disease was the third leading cause of death in 2012-2014. The age-adjusted mortality rate was 39.7 per 100,000 population, 1.3 times higher than the state rate, but an 11 percent decrease from 2008-2010 rate of 44.8 (Figure 45).

## Suicide

In the United States, suicide rates have increased steadily from 1999 through 2014, with greater annual percent increases after 2006. According to the CDC, in 2014 suicide was the tenth leading cause of death overall in the United States, claiming the lives of more than 42,000 people.

In 2012-2014, suicide was the 11th and 12th cause of death in Worcester and Maryland. In Worcester there was 18 suicides in 2012-2014, a rate of 11.6 per 100,000 population compared to the state 9.6 rate. Although Worcester's suicide rate has been consistently higher than the state rate during the last decade, the rate declined by 19 percent from 2009-2011 (Figure 46).

**Figure 46. Suicide Rates: Worcester and MD, 2000-2014**

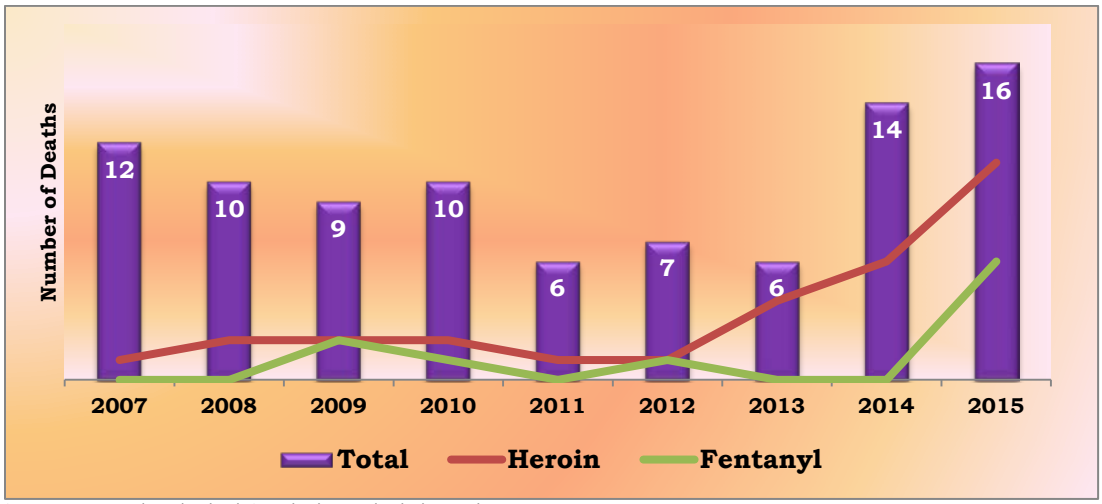



Source: Maryland Vital Statistics Administration

## Drug- and Alcohol-Related Intoxication Deaths

According to the Maryland Department of Health and Mental Hygiene (DHMH), the number of drug-and alcohol-related intoxication deaths occurring in Maryland increased in 2015 for the fifth year in a row, reaching an all-time high of 1259 deaths. This represented a 21% increase over the number of deaths (1041) in 2014. The number of intoxication deaths has nearly doubled in Maryland since 2010. An intoxication death was defined as a death that was the result of recent ingestion or exposure to alcohol or another type of drug, including heroin, cocaine, phencyclidine (PCP), prescription opioids, benzodiazepines, methamphetamines, and other prescribed and unprescribed drugs.

**Figure 47. Drug and Alcohol Intoxication Deaths Occurring in Worcester, 2007-2015**




Source: Maryland Vital Statistics Administration

In Worcester, a total of 90 drug-and alcohol-related intoxication deaths occurred during the nine–year period (2007-2015).The number of deaths in 2015 nearly tripled from 2013 and most of the increase was from opioid-related deaths (Figure 47). Opioid-related deaths include deaths related to heroin, prescription opioids, and nonpharmaceutical fentanyl.

## Premature Deaths

Premature deaths are deaths that occur before a person reaches an expected age and measured in terms of the number of years of potential life lost (YPLL).

**Years of Potential Life Lost to 75 (YPLL-75*),*** measures the relative impact of premature deaths on the community by counting the number of years that a person's life was cut short by a premature death (for persons under 75 years of age). This indicator helps illuminate causes of death to younger individuals whose lives could have been extended by prevention activities. The younger the decedent is, the greater the measured impact.

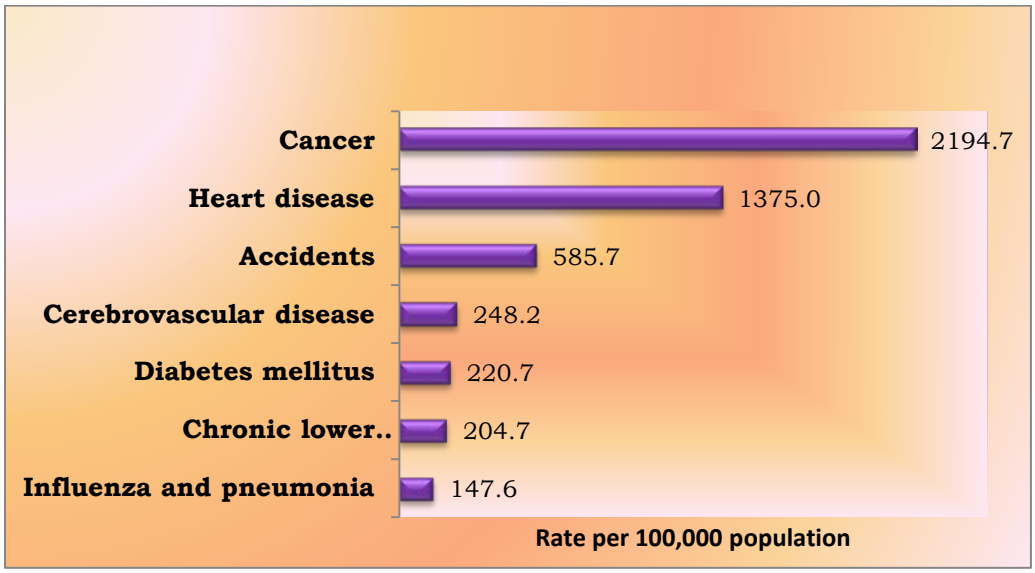
**Table 17. YPLL-75 Crude Rates*, *for All Causes of Deaths:* Worcester , 2009-2014**

| | YPLL rate per 100,000 <75 |
|---|---|
| **2009-2011** | 7684.0 |
| **2010-2012** | 8155.0 |
| **2011-2013** | 7891.9 |
| **2012-2014** | 7667.4 |

Source: Maryland Vital Statistics Administration. *Three-year moving average

Between 2012 and 2014, 38 percent total deaths in Worcester were under 75 years of age. The crude YPLL -75 from all causes combined per 100,000 population for Worcester residents was 7667.4 years, a decline of 6 percent from the 2010-2012 rate of 8155.0 years (Table 17). The top three causes of death affecting the total population YPLL -75 rate were cancer, heart –disease, and accidents (Figure 48).

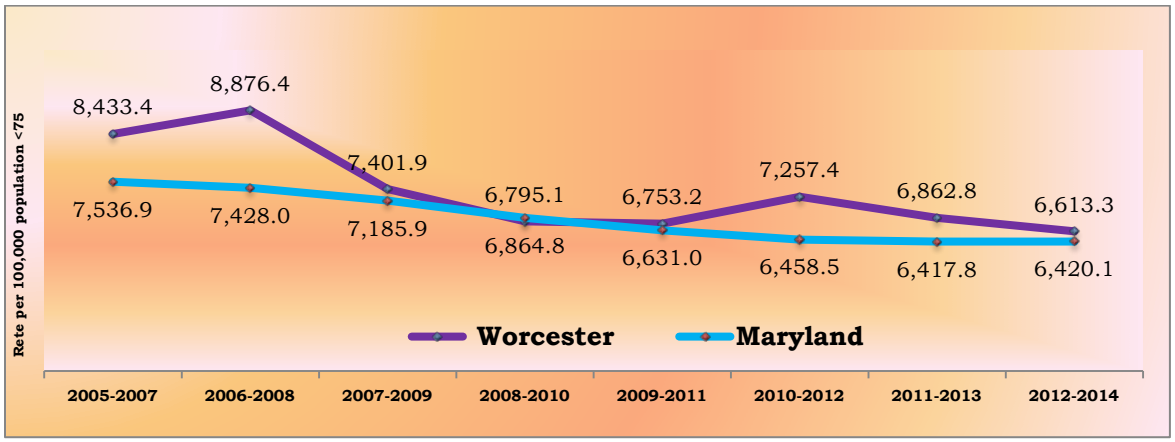
**Figure 48. YPLL-75 for Selected Causes of Death: Worcester, 2012-2014**




Source: Maryland Vital Statistics Administration

From 2005 to 2014, age-adjusted YPLL from all causes combined declined for both Worcester and MD. In 2012-2014, YPLL reached the lowest rate of 6,613.3 years lost among persons aged <75 years per 100,000 population, but it remains higher than the state rate (Figure 49).

**Figure 49. Age-Adjusted YPLL Before Age 75*: Worcester and MD, 2005-2014**




Data Source: NVSSM (CDC/NCHS), www.healthindicators.gov. *Three-year moving average

# Maternal and Child Health

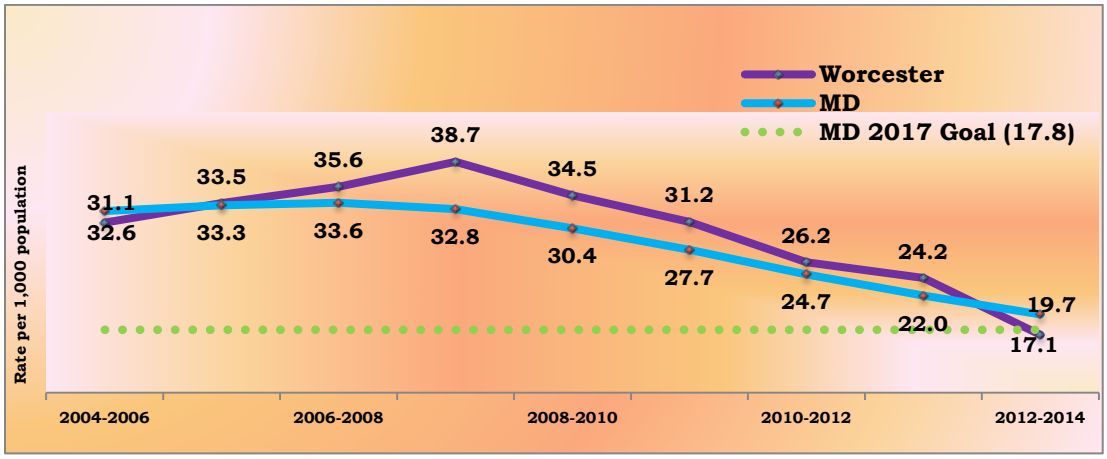
## Teen Birth

Teenage birth rate is defined as the number of births to women aged 15-19 (or teenage subgroup) per 1,000 women aged 15-19 (or teenage subgroup). Births to teenagers are at higher risk of low birthweight, preterm birth, and death in infancy compared with babies born to women in their 20s and older.

In Maryland teen birth rate has fallen by 44% over the past decade. Overall, US teen birth rate has fallen continuously since 1991, reaching historic low in 2014 to 24.2%.

In Worcester, between 2012 and 2014, only five percent of all births were to teen mothers, a drop by 53 percent from 2007-2009 (10.8%). The average three years teen birth rate declined from 38.7 births for every 1,000 teens in 2007-2009 to 17.1 , below the state average (19.7) and the MD 2017 SHIP goal of 17.8 (Figure 50).

**Figure 50. Teen Birth Rate: Worcester and MD, 2004-2014**




Source: Maryland Vital Statistics Administration. *Three-year moving average

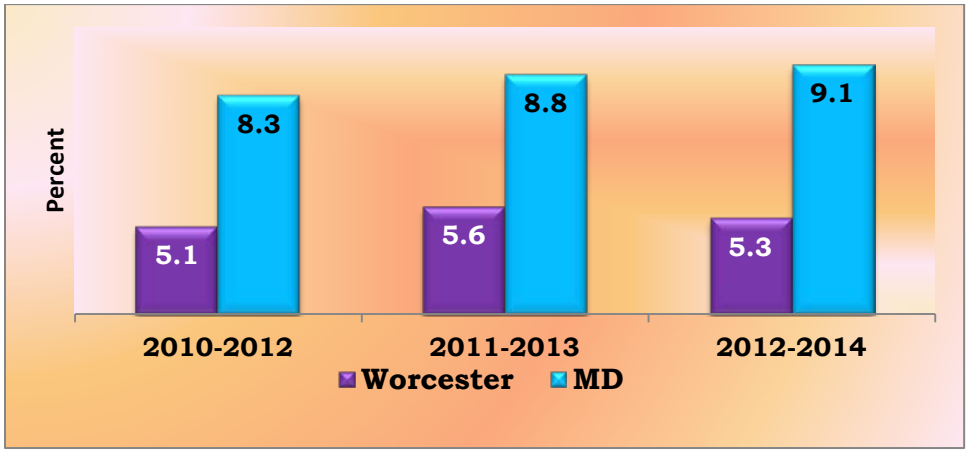
## Prenatal Care

In 2014, almost 8 out of 10 pregnant women (78%) initiated prenatal care during the first trimester of pregnancy compared to 67% overall in Maryland. The Maryland 2017 State Health Improvement Process (SHIP)

goal and HP2020 objective is to increase the proportion of pregnant women who receive prenatal care beginning in first trimester 77.9% and 66.9%, respectively.

Between 2012 and 2014, 5.3 percent of live births were to women who received late (third trimester) or no prenatal care, 42 percent below the state average (Figure 51).

**Figure 51. Percentage of Pregnant Women with Late/No Prenatal Care: Worcester, MD, 2012-2014**



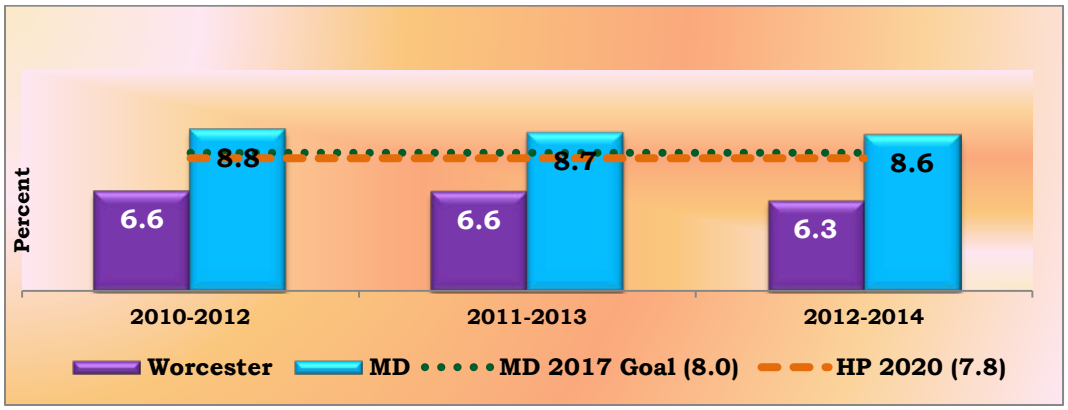

Source: Maryland Vital Statistics Administration

## Low Birthweight & Preterm Birth

Low birthweight (LBW) and preterm birth are very important birth outcome indicators. Infants who are born LBW and preterm have increased rates of morbidity and mortality. The *Healthy People 2020* goal is to reduce the percentage of LBW and preterm birth annually to 7.8 and 11.4 percent respectively.

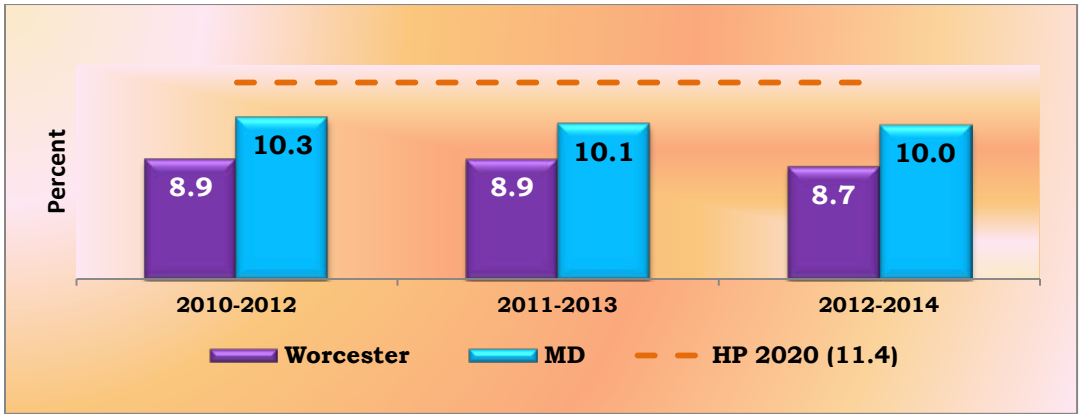
The three year moving average for preterm and low birth weight births both in Worcester and MD remain stable. In Worcester County between 2012 and 2014 time periods, on average 6.3 percent of all infants delivered were low birth weight (less than 2,500 grams or 5.5 pounds), below the MD 2017 and HP 2020 goal (Figure 52 & 53).

**Figure 52. Low Birth Weight Rate: Worcester and MD, 2010-2014**




Source: Maryland Vital Statistics Administration

**Figure 53. Preterm Birth Rate: Worcester and MD, 2010-2014**

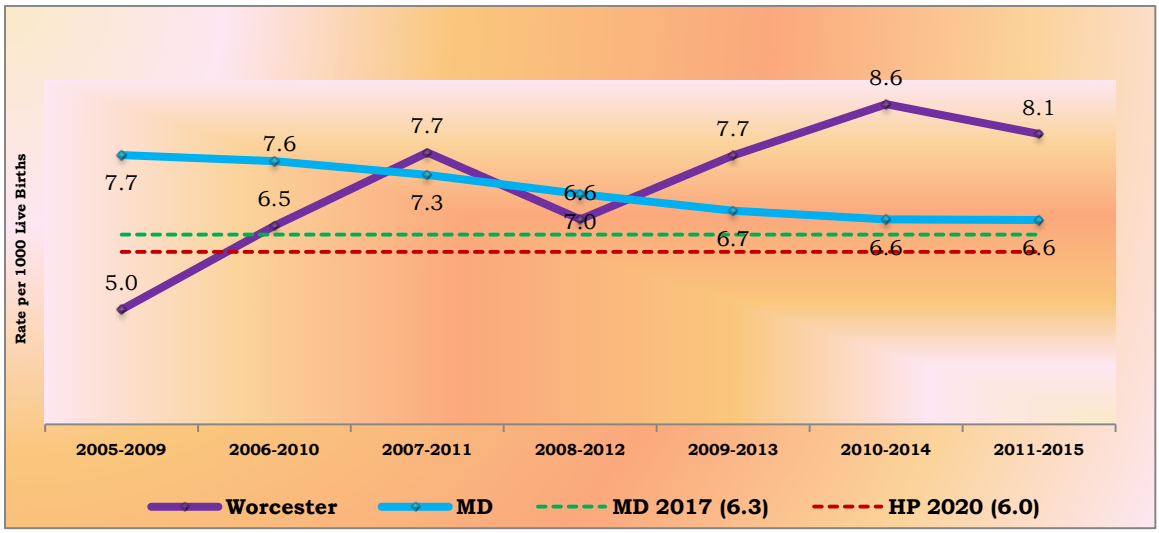



Source: Maryland Vital Statistics Administration

## Infant Mortality

Infant mortality is the death of a live-born infant before his/her first birthday. The risk of death during the first year of life is related to the underlying health of the mother, socioeconomic condition, and availability and use of health care for infants and pregnant women. The infant mortality rate is the number of infant deaths that occur for every 1,000 live births.

**Figure 54. Infant Mortality Rate (Five-Year Moving Average): Worcester and MD, 2005-2015**




Source: Maryland Vital Statistics Administration

In Worcester the infant mortality rate for the most recent five-year period (2011-2015) was 8.1 per 1,000 live births, 24 percent higher than the state rate (6.6 per 1000 births). Overall in Worcester there was a 23 percent increase in 2011-2015 infant mortality rate from 2008-2012 (6.6 per 1000 births), but the increase was not statistically significant (Figure 54). The Maryland 2017 State Health Improvement Process (SHIP) goal and HP2020 objective is to reduce the rate of infant deaths to 6.3 and 6.0 per 1000 live births, respectively.

## Communicable Diseases

There are over 90 known diseases and conditions that are reported to and tracked by the Maryland Department of Health and Mental Hygiene. These include food-borne outbreaks, insect-carried arboviruses, sexually transmitted diseases (STDs), tuberculosis, and many others.

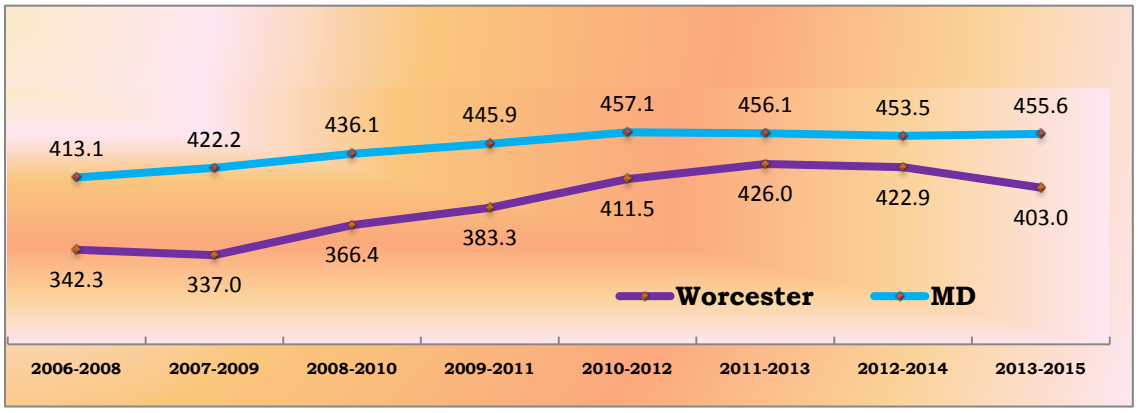
### Chlamydia and Gonorrhea

Chlamydia and gonorrhea are the two most commonly reported notifiable infectious diseases in the state and overall in the United States. There were 27,450 chlamydia cases and 6,858 cases of gonorrhea were reported to the state health department in 2015.

In Worcester County, there were 624 cases of chlamydia reported in 2012-2015. This case count corresponds to a rate of 403.0 cases per 100,000 population, the lowest rate in the past five years. The 2012-2015, chlamydia three-year moving average rate in Worcester decreased by 5 percent from 426.0 to 403.0 cases per 100,000 population. Worcester's rate was also persistently lower than the state rate during the past ten years (Figure 55).

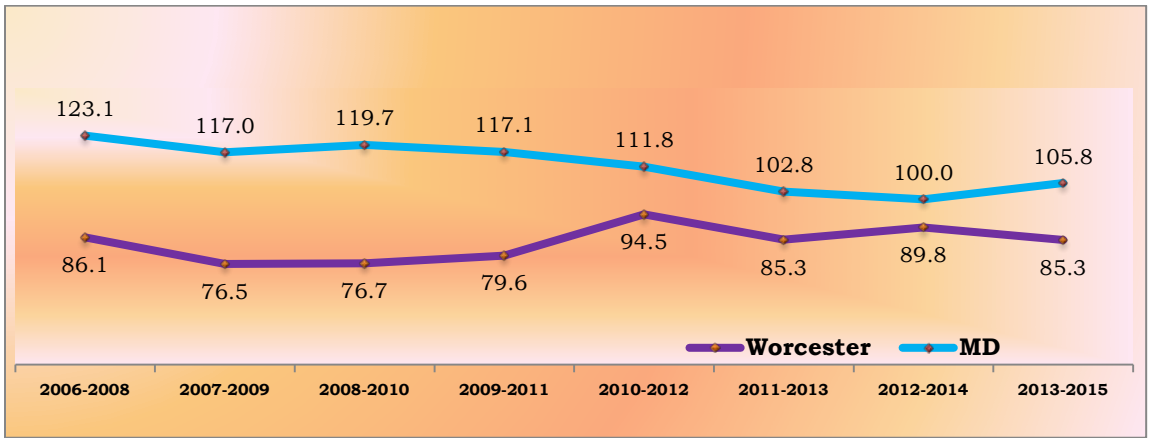
Between 2013 and 2015, 132 cases of gonorrhea were reported in Worcester, yielding a rate of 85.3 cases per 100,000 population. The three-year moving average rate declined 5% from 2012-2013 and nearly 10 percent from 2010-2012 (Figure 56).

**Figure 55. Chlamydia Three-Year Moving Average Rates: Worcester and MD, 2006-2015**




Source: Maryland Department of Health and Mental Hygiene

**Figure 56. Gonorrhea Three-Year Moving Average Rates: Worcester and MD, 2006-2015**




Source: Maryland Department of Health and Mental Hygiene

## Influenza (Flu) and Pneumonia Immunization

Influenza (flu) is a serious contagious disease which can lead to hospitalization and sometimes death.

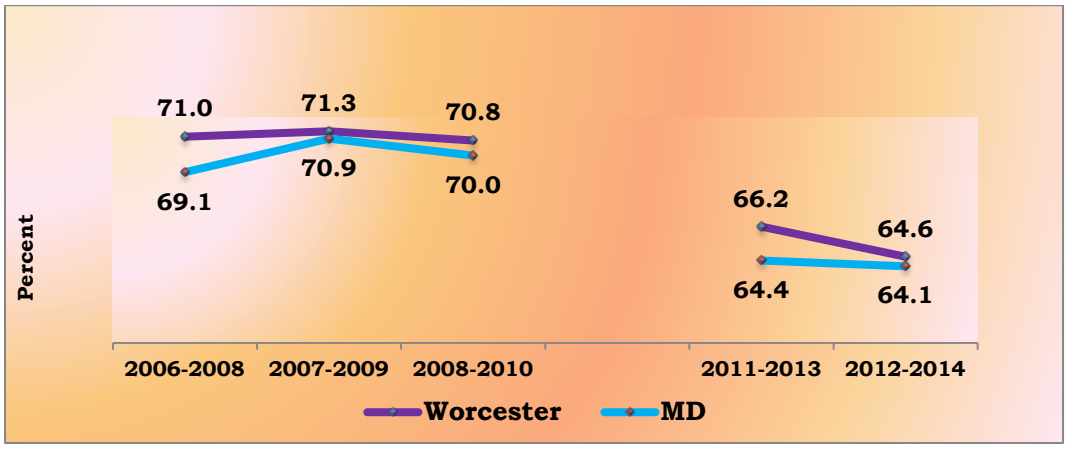
Each year, on average 5 percent to 20 percent of the population gets the flu. Some people, such as older people, young children, pregnant women, and people with certain health conditions, are at high risk for serious flu complications. The best way to prevent seasonal flu is by getting a seasonal flu vaccination each year.

Pneumococcal bacterial pneumonia accounts for an estimated 40,000 deaths annually and is a common complication of flu. Between 2012 and 2014, pneumonia and influenza ranked ninth among the ten leading causes of death in Worcester County.

The *Healthy People 2020* objective is to increase the proportion of adults aged 65 years and older who receive pneumococcal vaccination to 90 percent.

Based on 2012–2014 BRFSS data, 64.6% of Worcester County adults aged 65 and over received a flu shot, down from 66.2 percent in 2011-2013. Overall, between 2006 and 2014, Worcester County had higher flu vaccination rates for people who are 65 and older than the state as whole. Estimates of flu vaccination coverage from 2011 and later are not directly comparable to those of preceding years due to changes in the BRFSS method. The trend line is discontinued after 2008-2010 to reflect this change (Figure 57).

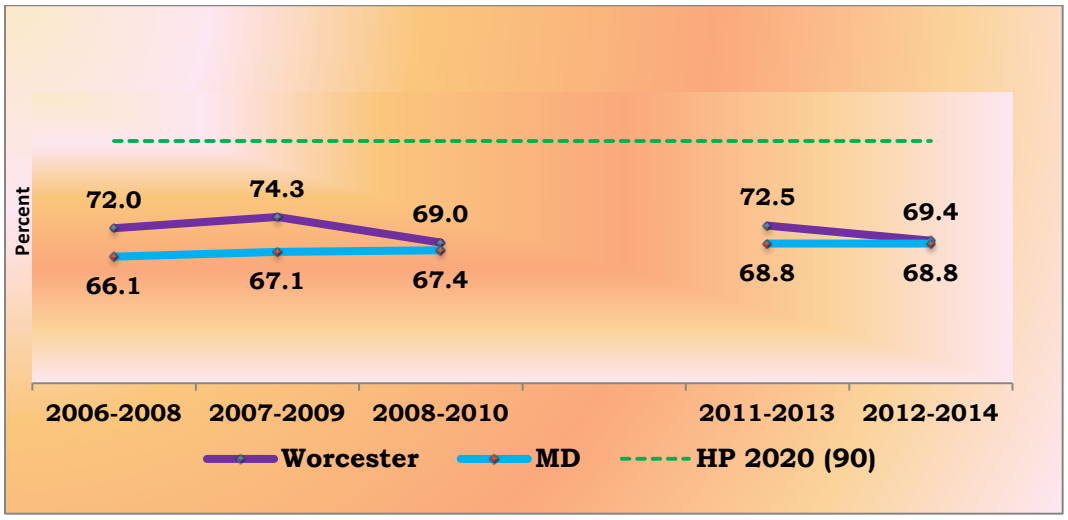
**Figure 57. Flu Vaccination Coverage *Among Adults Aged 65 and Over: Worcester and MD, 2006-2014**




Source: BRFSS, *Three-year moving average

The three-year moving average of adults aged 65 and over who received a pneumococcal vaccination in the past 12 months was down from 72.4 percent in 2011-2013 to 69.4 percent in 2012-2014, but remained higher than the overall state rate (Figure 58).

**Figure 58. Pneumococcal Vaccination Coverage Among Adults 65 and Over: Worcester and MD, 2006-2014**




Source: BRFSS, *Three-year moving average

## Conclusion

This report is part of the overall community health improvement process. It provides information on a wide range of health indicators that helps us understand the community health status in relation to the state and national objectives.

The processes used are based on best practices; involve a broad set of both indicators and members/sectors of the county, and reflect new standards in Public Health. This document will now be used to develop a *Community Health Improvement Plan/Process* (CHIP). The CHIP is also defined in public health standards. Plans include linking indicators and promising practices of Worcester's CHIP with the Maryland State Health Improvement Plan (SHIP).

The public and private health system partners are encouraged to use this report. Please cite original source of the data "as reported in the Worcester Community Health Assessment, 2017". Lastly, please let us know about your experiences with this CHA.

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# Appendix A: Data Sources

| Health Indicators | Data Source |
|---|---|
| **Worcester County Profile** | |
| • Demographic Profile of the county: total population, age breakdown, race/ethnicity, gender, education<br>• Poverty & Income<br>• Employment | US Census: http://www.census.gov/quickfacts<br><br>http://www.census.gov/did/www/saipe/<br><br>Maryland.Gov:http://msa.maryland.gov/msa/mdmanual/01glance/html/mdglance.html |
| **Overall health** | |
| • General health (fair and poor)<br>• Poor physical health<br>• Poor mental health<br>• Limited activities<br>• Lifetime Diagnosis of Depression | Maryland Behavioral Risk Factor Surveillance System (BRFSS)*: http://phpa.dhmh.maryland.gov/ccdpc/Reports/Pages/brfss.aspx |
| **Maternal , infant and child health** | |
| • Teen Birth<br>• Infant Deaths<br>• Low Birth Weight<br>• Preterm Birth<br>• Prenatal Care | Maryland Vital Statistics - Death Files & Birth Files |
| **Health Care Access & Utilization** | |
| • Health insurance coverage<br>• Utilization of Preventive Services<br>• Population Receiving Medicaid<br>• Number of Medicare Beneficiaries<br>• Provider/population ratio<br>• Emergency Department Visits | MD Behavioral Risk Factor Surveillance System<br><br>US Census Bureau, American Community Survey. 2010-14. Source geography: Tract<br><br>Maryland Health Services Cost Review Commission (HSCRC), Research Level Statewide Outpatient Data Files.<br>Maryland's State Health Improvement Process'(SHIP) website |
| **Preventive Services** | |
| • Adults 65+ who have had a Flu shot<br>• Adults 65+ who have ever had Pneumonia shot<br>• Sigmoidoscopy/Colonoscopy<br>• Mammogram | MD Behavioral Risk Factor Surveillance System |
| **Health Behaviors** | |
| • Current smokers -18 and older<br>• Binge drinking<br>• Physical activities<br>• Total serving fruits /vegetables per day<br>• Smoking Among Adolescents<br>• Alcohol Consumption Among Adolescents<br>• Physical Activity Among Adolescents | MD Behavioral Risk Factor Surveillance System<br><br>Maryland Youth Risk Behavior Survey (YRBS)** |
| **Chronic Disease and Conditions** | |
| • Adults who are at a healthy weight, overweight and obese<br>• High blood pressure among adults | MD Behavioral Risk Factor Surveillance System |

| | |
|---|---|
| • High cholesterol among adults<br>• Diabetes among adults<br>• Adults With Asthma<br>• Adults With COPD<br>• Adults With Cardiovascular Disease<br>• Weight Status Among Adolescents<br>• Asthma among Adolescents<br>• Chlamydia Incidence<br>• Gonorrhea Incidence | Maryland Youth Risk Behavior Survey<br><br>Maryland Department of Health and Mental Hygiene |
| **Mortality** | |
| • Mortality rate for Top Ten Leading Causes of Death<br>• **Years of Potential Life Lost to 75 (YPLL-75*)***<br>• Drug- and Alcohol-Related Intoxication Deaths<br>• Cancer Death | Maryland Vital Statistics Administration<br><br>Maryland Department of Health and Mental Hygiene-Cancer report |
| | |

* The Maryland Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing telephone surveillance program designed to collect data on the behaviors and conditions that place Maryland residents at risk for chronic diseases, injuries, and preventable infectious diseases. It is part of the national BRFSS and is conducted under CDC guidance. For more information, visit www.cdc.gov/brfss. In 2011, CDC added a cell phone survey to improve the reach of the BRFSS. A new method for weighting BRFSS data allows for the inclusion of cell phone data and increases the validity of estimates.

The 2011 BRFSS data reflects a change in weighting methodology (raking) and the addition of cell phone only respondents. Shifts in observed prevalence from 2010 to 2011 for BRFSS measures will likely reflect the new methods of measuring risk factors, rather than true trends in risk-factor prevalence.

** The Maryland YRBS is part of the U.S. Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS) developed in 1990 to monitor behaviors affecting morbidity (disease) and mortality (death) among high school youth. The YRBSS tracks several priority health risk behaviors among youth as well as behaviors that support health.

Maryland's participation in the YRBS began in 2005, when the Maryland General mandated the survey be conducted every two years. Since then, the Maryland YRBS was administered in 2007, 2009, 2011, 2013 and 2014. After the 2013 YRBS, survey administration was changed to even-numbered year

In 2013, the Maryland YRBS was combined with the Maryland Youth Tobacco Survey, and the combined survey was administered to both middle school and high school students with an increased sample size.

# Appendix B: Community Themes and Strengths & Forces of Change Assessment

**The Community Themes and Strengths Assessment (CTSA)** is one of four assessments within the Mobilizing for Action through Planning and Partnerships (MAPP) framework (Figure 1).

The CTSA provides a deep understanding of the issues that residents feel are important by answering the questions: "What is important to our community?" "How is quality of life perceived in our community?" and "What assets do we have that can be used to improve community health?"

**Figure 1**: The MAPP (Mobilizing for Action through Planning and Partnerships) Model


Source: National Association of City and County Health Officials (NACCHO)

The Worcester County CTSA is one of the three assessments completed as part of the 2017 Community Health Need Assessment. The assessment was conducted between January 2016 and April 2016. The CSTA used two methods of data collection to *gather community* and stakeholder *input* and opinions: *community survey and focus groups.*

## Community Survey

During spring of 2016 the Worcester County Health Department gathered community input on perception of health and needs through a

community survey (distributed both online and in paper format). The survey instrument was created by a core team of individuals within the Worcester County Health Department. The survey consisted of 33 questions related to personal and community health, and the community's strengths and weaknesses. The survey was a convenience sample and open to "anyone who lived, worked, or played in Worcester County."

A total of 452 community members participated in the survey. Nearly 80% of the respondents lived in Worcester County. The second largest respondents were from neighboring Wicomico County (14%).

The majority of respondents represented by the survey were female (83%), white (84.4%), between the ages of 40 and 64 (56.7%) and, earned a college degree or higher (62%). More than six out of ten survey respondents (64%) indicated that their yearly *household income* was more than over $50,000 (Table 1).

**Table 1: Demographic Characteristics of Survey Respondents**

| | Survey Respondent | Worcester Population |
|---|---|---|
| **Gender:** | | |
| ***Male*** | 16.7% | 48.5% |
| ***Female*** | 83.3% | 51.5% |
| **Race** | | |
| ***White*** | 84.4% | 82.7% |
| ***Black*** | 13.8% | 13.6% |
| **Age Group** | | |
| ***Under 18 years*** | 3.8% | 17.7% |
| ***18-39*** | 26.7% | 21.7% |
| ***40-54*** | 31.3% | 18.9% |
| ***55-64*** | 25.4% | 15.7% |
| ***65 years and over*** | 12.9% | 26.0% |
| **Education Attainment** | | |
| ***Less than high school*** | 6.9% | 10.7% |
| ***High school diploma*** | 26.7% | 33.3% |
| ***College Degree or higher*** | 62.2% | 30.2% |
| **Household Income** | | |
| ***Less than $20,000*** | 13.0% | |
| ***$20,000 - $29,999*** | 6.2% | |
| ***$30,000 - $49,999*** | 18.8% | |
| ***over $50,000*** | 64.0% | |

As mentioned above, since the survey is a convenience sample some of the community's actual demographics and the survey demographics are

not identical in every category; as a result the survey may not reflect the entire community's opinion.

## Community Perception of Health

Almost half of survey respondents rated their overall personal health as 'excellent' or 'very good' another 38 percent rated as 'good'. Meanwhile, 33 percent of respondents rated their community health as 'fair' or 'poor' (Table 1). Overall, three-fourths of the survey respondents rated their health as 'very good' or 'good' (75%) and few reported 'excellent' or 'poor' health (10.7% and 2.7%, respectively).

**Table 2. Perception Of Health**

| | Personal Health | Community Health |
|---|---|---|
| **Excellent** | 11.8% | 1.4% |
| **Very Good** | 36.4% | 12.2% |
| **Good** | 38.4% | 53.3% |
| **Fair** | 10.7% | 29.6% |
| **Poor** | 2.7% | 3.6% |

Overall the survey results showed that 84.5 percent of respondents 'strongly agree' or 'agree' to being satisfied with their living conditions and agreed that Worcester County has good environmental quality (this would include air quality, water quality, pollution levels, etc.). In addition, the majority of survey participants reported they enjoy the county's many parks, rivers, beaches, lakes, and churches.

Survey respondents also identified good jobs and healthy economy, low crime/safe neighborhoods and access to health care & other services as three most important factors that define a 'healthy community' (Table 2).

**Table 3. Factors Defining a Healthy Community**

| | |
|---|---|
| Good jobs and healthy economy | 47.3% |
| Low crime / safe neighborhoods | 42.8% |
| Access to health care & other services | 34.8% |
| Good Schools | 34.2% |
| Healthy behaviors and lifestyles | 31.7% |
| Strong family life | 25.3% |

Over half of respondents chose drug and alcohol use as the most important health issues in their community followed by chronic disease and poor diet/inactivity (Table 3).

| Table 4. Most Important Health Issues | |
|---|---|
| Drug and Alcohol use | 59.2% |
| Chronic Diseases | 43.7% |
| Mental health disorders | 38.4% |
| Poor Diet / Inactivity | 38.1% |
| Lack of access to health care | 18.3% |
| Aging problems | 17.1% |

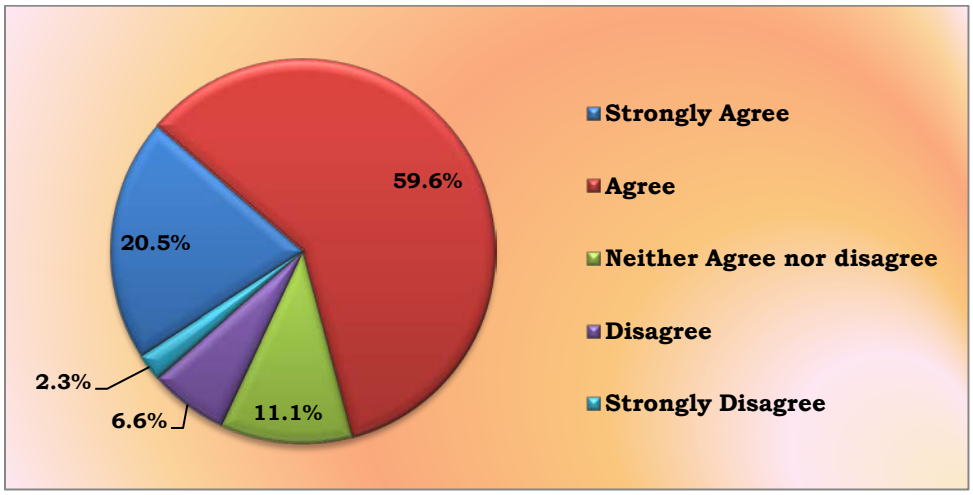
Diabetes, high blood pressure, and arthritis were the chronic conditions most likely to be experienced by the participants or a participant's family member. Related to the prevention of chronic diseases, eating well/nutrition and managing weight were the second and third highest ranked health behaviors that the community would like additional information about.

Youth health in the community was the topic of several different questions. The survey results indicated that tobacco, nutrition, mental health disorders, substance use disorders, and sexual intercourse are all subjects that our youth need more information about. The community also expressed concern that there is a lack of positive activities for teens, and only about half of participants agreed that there are options for our youth to transition from high school to employment or college.

**Community Perception of Healthcare Services**

Approximately 8 out of 10 survey respondents said they 'strongly agree/agree' to being satisfied with the medical care they receive (Figure 2). When asked where they usually go if they are sick or need medical care, the majority of respondents (84.1%) identified a doctor's office as the main source of medical care, 33 percent used urgent care center and 3 percent used the health department. About 13 percent reported using the hospital emergency department as their main source (Table 5).

**Figure 2. Levels of Satisfaction with Health Care Services**

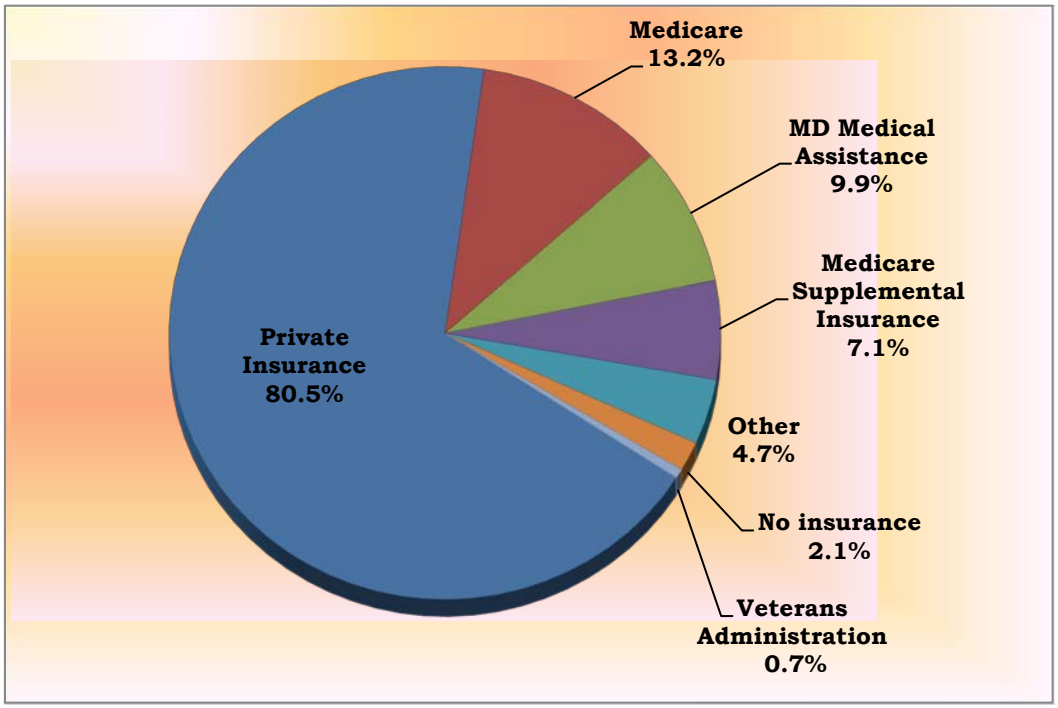



| Table 5. Usual Source of Care When Sick | |
|---|---|
| Doctor's office | 84.1% |
| Urgent care center | 33.0% |
| Hospital/emergency department | 13.6% |
| Health department | 3.3% |

In the community survey, participants were asked about the challenges to getting medical care. More than forty percent of respondents (44%) cited health care cost as the top challenge in their community. Also over 20 percent of respondents cited not having their doctor of choice and healthcare facility in the area as barriers in getting the medical care they need (Table 5). Also 20 percent of respondents reported that they did not seek the medical care they needed in the past 12 months.

| Table 6. Barriers to Medical Care | |
|---|---|
| Cost | 44.2% |
| Location of healthcare/no transportation | 21.7% |
| My doctor of choice is in another city | 21.2% |
| There are not providers for services I need | 16.7% |
| Doctors do not accept my insurance | 11.8% |
| Too much paper work | 11.1% |

**Figure 3: Survey Respondents by Insurance Status**




Note: Percentages do not add up to 100% due to multiple responses.

When asked how they pay for medical care, over 80 percent of respondents reported utilizing private insurance, 20 percent Medicare and Medicare Supplemental Insurance and 10 percent respondents said they use MD Medical Assistance program. Only two percent of respondents said they pay cash.

## Focus Groups

In addition to the Community survey, three focus groups related to the CTSA were held to gather more information about the community's perception of health, including the strengths and challenges in relation to the community's health and what actions the community should take to address its challenges.

Three CTSA focus groups were held between February, 2016 and April, 2016. The participating groups were the Youth Council (8 participants), the Local Health Improvement Coalition (LHIC) (7 participants), and a National Alliance of Mental Illness (NAMI) parent support group (9 participants).

Focus group participants define a healthy community as a community where everyone has access to health care, healthy activities, good school and jobs. Additionally, some participants describe healthy communities as a community that supports diversity and acceptance.

The focus groups were also asked to identify their communities' strengths and challenges and steps their communities should take. Below are some key responses from the groups:

*Strengths*

- Collaboration between counties and organizations
- Many resources available for health, but not always easily known or easy to get to

*Challenges*

- Transitory services (Youth: from high school to adult responsibilities; mental health patients & elderly patients: from inpatient to community)
- Caregiver supports (behavioral health and senior care)
- Mental health stigma

*Steps should be taken:*

- Area needs more funding, providers, and facilities
- Coordinated care, caregiver support, transportation services for the elderly
- Safe, healthy activities for children and youth (childhood clubs and focused activities; after prom)
- Assistance with college research and guidance counselor preparation earlier in high school in the junior year
- Education and prevention efforts: behavioral health community trainings and stigma reduction, public speakers about drinking/texting while driving, sex education for youth and parents

## Forces of Change

Forces of Change Assessment (FOCA) like the CTSA, is part of the Mobilizing for Action through Planning and Partnerships (MAPP) process. FOCA identifies forces, such as trends, factors, or events that can or will influence the health and quality of life of the community.

In March 2016, two focus groups were held to conduct the forces of change assessment. The participating groups were the Local Management Board (LMB) and the attendees at the Public Health Conference in Ocean City. The Local Management Board (LMB) identifies local priorities and provides needed resources and support in relation to the health of families, youth, and children. The Public Health Conference is attended by individuals from a variety of agencies and backgrounds such as the hospital, non-profit organizations, law enforcement, educators, policymakers, and community members.

During the assessment the participants answer the following questions:

- What are the economic trends occurring now that will have an impact on the local public health system or community?
- What political trends have occurred recently or may occur in the future that has or may affect the local public health system or community?
- What characteristics of our community may pose an opportunity or threat?

Below are some of forces of changes identified by the groups:

Economic trends occurring now that will have an impact on the local public health system or community:

- Limited funding for schools
- Majority of jobs are seasonal, low wages, lack of work opportunities for parents and youth
- Youth need more opportunities, role models and supervision to reduce risky behaviors
- Affordable housing
- Challenges with transportation especially for seniors
- Budget cuts, loss of funds, and changes in regulations
- Community's health suffers with poor economics: poverty → depression → drug use and other risky behavior

Political trends have occurred recently or may occur in the future that has or may affect the local public health system or community:

- Struggle for resources and funding: budget cuts, allocation of funds not evenly distributed throughout the county, rural counties not treated equitably compared to urban counterparts,

school funding tied to test scores, class issues and seasonal work issues, changing parameters for food stamps
- Political leadership changes (local and national)
- Increased political awareness of mental health needs, but silos exist/inequality between behavioral health and physical health
- Discrepancies/issues between who sets standards and what schools really need to do to ensure continued education/job readiness
- Could reduce the number of nonviolent inmates by increasing diversionary programs; this would reduce costs and overcrowding
- Good advocacy in Worcester County and Governor Hogan's priorities are positive; political incentives to look at data and survey results from the youth risk behavior surveys.

Characteristics of the community that pose an opportunity or threat:

*Opportunities*
- Collaboration between counties and organizations
- Many resources available, but not always easily known or easy to get to

*Threats*
- Disconnected youth
- Economy and jobs
- Homelessness and affordable housing
- Substance abuse and mental health

The findings of the CTSA and FOCA will be used in conjunction with the results of the Community Health Assessment (CHA) to identify top health priorities and develop a Community Health Improvement Plan (CHIP).

***Acknowledgements:***

*The Worcester County Health Department would like to thank all the members of the "Mobilizing for Action through Planning and Partnerships" core group and steering committee for the commitment of their time and for their valuable contribution throughout the planning process. In addition, we would also like to thank the many residents of Worcester County who volunteered their time to complete the community survey and/or to participate in focus groups and share with us their perspective of living in our community.*

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**Questions?**

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