

Live Well Gratiot
Community Health Assessment

Profile of Gratiot County, MI
2012



LIVEWELL
GRATIOT

Prepared by the Mid-Michigan District Health Department



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This report is also available at www.mmdhd.org

2012 Community Health Assessment, Gratiot County Profile,

Live Well Gratiot initiative

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Executive Summary

Introduction:

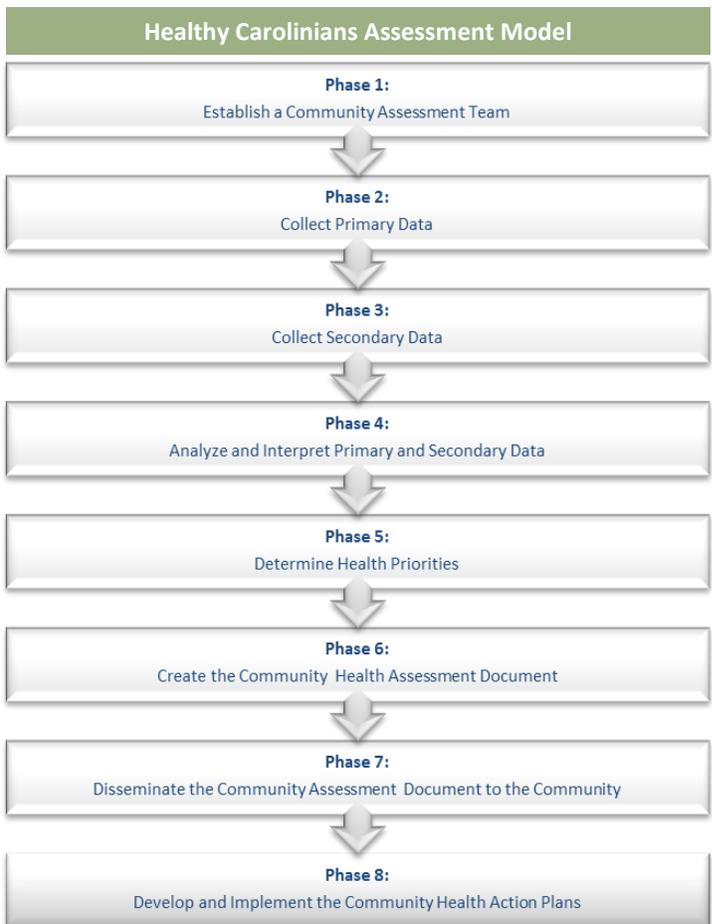
In the fall of 2011, in response to new legislation associated with the Affordable Care Act which requires non-profit hospitals to conduct a community health needs assessment, the Mid-Michigan District Health Department (MMDHD) approached MidMichigan Medical Center—Gratiot (MMMC-G) to suggest they work in partnership to undertake a comprehensive community health assessment (CHA) and health improvement process. The health department offered to facilitate the process and invite additional Gratiot County stakeholders to participate in the health assessment. The hospital system provided accommodations for all committee meetings, supported the initiative financially, and provided staff to attend committee meetings. Financial support was also received from Gratiot County Community Foundation to offset some of the costs of conducting the assessment, particularly those associated with conducting a community survey to gather input. Previous to this initiative, the most recent health needs assessment encompassing Gratiot County took place in 2003.

Overview:

The *Healthy Carolinians* Community Health Assessment Guide Book was selected as the framework to guide the Gratiot County initiative, as it offered a successful model for county-level collaboration that other communities could adapt to their own needs. Based on the recommendations of this guidebook, a community health assessment team was established that consisted of a steering committee, advisory committee, and project facilitator. A steering committee (comprised of staff from Alma College, Community Mental Health, County Administration, Gratiot Technical Education Center, Gratiot-Isabella RESD, MidMichigan Medical Center-Gratiot, Mid-Michigan District Health Department, and United Way) was established in January 2012 to provide oversight and lead the CHA process. The steering committee met nearly monthly during 2012 to oversee the work plan, review progress, and complete activities. An advisory committee (consisting of members from nearly 40 community organizations) was also established to assure community input and advocacy for the initiative. The advisory committee members met six times during 2012, with emphasis being placed on providing input near the beginning and end of the assessment process.

Early in the process, members of the assessment team discussed the purpose of the assessment process and chose upon a name, logo and vision statement to lend an identity to the county-wide initiative. The selected initiative name became Live Well Gratiot.

Following the Healthy Carolinians model, primary and secondary data were identified, collected and analyzed from April through August of 2012. Primary data included the development and distribution of community and health care provider surveys. The community survey was mailed in May 2012 to 1,500 randomly selected households within Gratiot County, with 379 returned by mail for analysis. An additional 62 surveys were completed and returned from clients of local service agencies for a total of 441 surveys used for analysis. County-specific secondary data from a variety of sources was also collected and analyzed (see page 4 for details).



Executive Summary

A variety of indicators are addressed in this health assessment report (available online at www.mmdhd.org) and organized into the following categories: demographics, access to care, general health status, maternal and child health, health-related behaviors, mortality and morbidity, and emergent health-related issues (as perceived by community members). Several key findings and broad themes emerge from a review of the comprehensive data:

Demographics / Population Distribution

The Gratiot County population grew at a slow rate from 1990-2010, increasing just over 8% from 39,059 to 42,476 total residents. A portion of this population growth can be accounted for by an increase in the institutionalized population, primarily accounted for by the correctional facility population. More specifically, during the twenty year period 1990-2010, the youth segment (less than age 20 yrs.) of the population fell by 11.3%, the young working adult segment (age 20-44 yrs.) fell by 0.9%, **while the older working adult segment (45-64 yrs.) grew by 54.8%, and senior population (age 65+ yrs.) grew by 17.0%**. A similar pattern occurred for Michigan overall during this period, where the youth population fell by 15.9%, the young working adult segment fell by 3.9%, the older working adult segment grew by 58.4%, and the senior segment grew by 22.7%. As of 2010, Gratiot County had a slightly higher percentage of senior adults (age 65+ years) than Michigan: 14.8% vs. 13.8%, respectively. Older age adults are more intensive consumers of health care services, suggesting that an increasing population of older residents within Gratiot County could imply growing health service needs. This data also suggests that young working families and their children may be choosing to leave Gratiot County (and Michigan) for better opportunities elsewhere, which could continue to heighten this shift to an older population in the future.

Access to Care and Utilization of Health Services

Although Gratiot County is primarily rural in nature, it is fortunate to have a long-standing health system (MidMichigan Medical Center-Gratiot) centrally located within its borders and a network of primary care facilities in its largest communities. However, the ability of many residents to utilize health care is trending in the wrong direction as a result of increasing poverty, unemployment, the number of uninsured and under-insured, and the challenge for many individuals to pay for healthcare services (such as higher co-payments and deductibles). **A higher proportion of Gratiot County adults age 18-64 yrs. are without health insurance than Michigan adults of similar age (21.6% vs. 16.2%), and a higher proportion of Gratiot County adults than Michigan adults report that they have no personal health care provider (16.4% vs. 13.4%)**. These socio-economic factors play a substantial role in health care access and act as barriers for community members when they need medical attention, which can impact the overall health status of the county. It should also be noted that some members of the community who have been able to access care, often cannot afford treatments recommended by their physicians - **18.9% of Gratiot County adults reported there was a time during the past year when they needed a prescription filled, but could not do so because of the cost. Additionally, 15.4% of Gratiot County adults reported that they delayed seeking health care and 13.1% delayed seeking dental care, primarily due to cost**. These findings highlight the value of safety-net and public services, including free or low-income clinics and other low-cost services. For children, who are more likely to have health care coverage than adults, socio-economic factors still play a role in accessing care — for families with children, the primary reason given for a child not seeing a doctor when the parent thought the child needed to, was cost or lack of transportation.

Executive Summary

General Health Status

The self-reported health status of Gratiot County residents has fared worse than that of Michigan residents. **A higher proportion of Gratiot County adults report their general health status to be fair or poor than do Michigan adults (20.4% vs. 15.0%).** This suggests that many Gratiot residents are coping with debilitating medical conditions, of whom some may be foregoing recommended medical care. **Also, a higher proportion of Gratiot County adults experienced mental health issues for at least 14 days during a given month than did Michigan adults (14.4% vs. 11.2%).** This included stress, depression and problems with emotions. This suggests there may be insufficient awareness, referrals, or opportunities for mental health treatment within the community in general and this risk-group in particular.

Maternal & Child Health

Infant Mortality is considered one of the more critical indicators related to the overall well-being of society. Gratiot County has generally experienced a lower infant mortality rate than Michigan infants for much of the past decade; however, the local trend has been one of increasing mortality rate that is now similar to the overall Michigan rate of approximately 8 infant deaths per 1,000 live births. Gratiot County has experienced a downward trend in teen pregnancies the past decade, as have Michigan teens; however, **Gratiot County continues to have a lower teen pregnancy rate over the period than Michigan teens.** Gratiot County women giving birth generally have been found to have a greater frequency of maternal risk factors than do Michigan women, most notably smoking while pregnant and less than adequate prenatal care. These maternal risk factors highlight the need for continued efforts focusing on prenatal care, which have long term implications for the health and well-being of the child. Although no trend data is available for Gratiot adolescents, recent middle/high school student survey results of self-reported substance use indicates tobacco, alcohol and marijuana use are of concern. **Another area of concern is self-reported weight status (BMI), in which survey data indicates about 19% of high school adolescents are obese in Gratiot County as compared to 12% of Michigan adolescents.** These examples highlight the need for support services to educate young mothers & adolescents in the areas of prevention and healthy lifestyle behaviors.

Health Related Behaviors

Health-related behaviors associated with the adult population in Gratiot County are similar in prevalence to that of Michigan adults, except for significantly higher smoking rates and inadequate consumption of the recommended daily amount of fresh fruits and vegetables. **A higher proportion of Gratiot County adults are current smokers than Michigan adults (27.1% vs. 19.6%).** In addition, birth certificate records indicate that 27% of Gratiot County women smoked cigarettes during pregnancy. This can lead to poor health outcomes for both the mother and infant. **A higher proportion of Gratiot County adults did not consume the recommended servings of fruits and vegetables than Michigan adults (91.1% vs. 77.8%).** This poor aspect of the diet, as well as the finding that nearly 24% of adults do not participate in any physical activity, are likely to be contributing factors to the fact that approximately 64% of Gratiot County adults are currently considered overweight or obese. These behaviors can increase the likelihood of developing chronic conditions such as hypertension, heart disease, chronic lung disease, stroke, and diabetes. Although the prevalence of binge drinking (17.0%) and heavy drinking (6.3%) by Gratiot County adults is similar to that of Michigan adults; the impact on automobile crashes/fatalities is worth noting.

Executive Summary

Health Related Behaviors (continued)

Adolescent use of substances like alcohol, tobacco, marijuana and other drugs are now able to be tracked through the Michigan Profile for Healthy Youth (MiPHY) survey; some of these results are discussed in the full report concerning adolescent health behaviors.

Mortality & Morbidity

Five common health conditions account for two-thirds of all deaths statewide and for Gratiot County – heart disease, cancer, stroke, chronic lung disease, and unintentional injuries. For the period 2007-09, Gratiot County had a lower mortality rate than Michigan for only two (heart disease, diabetes) of the ten leading causes of death. Trends of significance where Gratiot differs from Michigan over the past decade include **consistently higher mortality rates for stroke, unintentional injuries, kidney disease, and suicide**. Ambulatory Care Sensitive Hospitalizations (theoretically preventable hospitalizations if timely and appropriate ambulatory care is provided) are lower within Gratiot County than for the State, which may suggest better outpatient management of chronic health conditions, although demographic characteristics also play an important role. There are no clear county-level trends in cancer incidence (new cases of cancer) for the most common types of cancer. Survey data indicates that **Gratiot County has a lower proportion of adult residents receiving screening mammography and sigmoidoscopy or colonoscopy than Michigan adults, for the recommended age groups considered to be at higher risk**. Nationally, (all-cause) cancer mortality has been on the decline since the 1990's; Gratiot County has also seen a decline in mortality, although the trend is not as clear or pronounced.

Methodology

The Live Well Gratiot Initiative utilized a data collection process that combined both primary (original) sources and a variety of secondary (existing) data sources in describing the population health status of Gratiot County. When possible, local results for Gratiot County were compared with the state of Michigan during comparable time periods. This report is often limited to describing results representative of the entire county of Gratiot, as results for smaller geographic locales within the county or certain vulnerable populations were not readily available.

The following secondary data sources were used in the compilation of demographic and health-related information presented in this report:

Data Source	Population Represented	Notes	Reference Source
U.S. Census Bureau, Population and Demographic Estimates	All residents of United States	American Community Survey 2005-09 and 2010 Decennial Census	Accessible online: www.census.gov American Fact Finder
U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE)	All residents of United States, (adults, children)	Interactive website portal	Accessible online: http://www.census.gov/did/www/saie/
U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE)	All residents of United States, (adults only, children only)	Interactive website portal	Accessible online: http://www.census.gov/did/www/sahie/
Michigan Department Community Health, Michigan Resident Death Files	All deaths among Michigan residents (adult, child, infant)	Death certificate registry processed by MDCH	Accessible online: http://www.michigan.gov/mdch/0,4612,7-132-2944_4669_4686---,00.html
Michigan Department Community Health, Michigan Resident Birth Files	All births among Michigan residents	Birth certificate registry processed by MDCH	Accessible online: http://www.michigan.gov/mdch/0,4612,7-132-2944_4669_4681---,00.html
Michigan Department Community Health, Michigan Resident Cancer Incidence Files	All new cases of invasive cancer among Michigan residents	Data collected by Michigan Cancer Surveillance Program and processed by MDCH (for cancer mortality – refer to Michigan Resident Death File)	Accessible online: http://www.michigan.gov/mdch/0,4612,7-132-2944_5323---,00.html
Michigan Department Community Health, Michigan Inpatient Database	All residents of Michigan	Hospitalization and medical procedure data housed by MHA and processed by MDCH	Accessible online: http://www.michigan.gov/mdch/0,4612,7-132-2944_5324---,00.html

Data Source

Data Source	Population Represented	Notes	Reference Source
Michigan Behavioral Risk Factor Survey (BRFS), 2009	Michigan adults age 18+ years	Annual telephone survey, 2009: n=9,259	Accessible online: http://michigan.gov/mdch/0,1607,7-132-2945_5104_5279_39424---,00.html
Gratiot County Behavioral Risk Factor Survey (BRFS), 2008-10	Gratiot County adults 18+ years	Telephone survey implemented over 3-year period, n=397	Survey conducted by Public Sector Consultants (Lansing); Results available from Mid-Michigan District Health Department (Stanton)
Kids Count in Michigan	Michigan Children under 18 years of age	Data source varies by indicator	Accessible online: http://datacenter.kidscount.org/data/bystate/StateLanding.aspx?state=MI Single year results also available via annual Data Books, accessed online: http://www.milhs.org/kids-count/mi-data-book-2010
Michigan Profile for Healthy Youth, SY2011-12, Michigan Dept. Education	Michigan 7th, 9th, 11th grade students	County-level data availability based on school district participation	Accessible online: http://www.michigan.gov/mde/0,1607,7-140-28753_38684_29233_44681---,00.html
Michigan Department of Management and Budget, Labor Market Information	Michigan labor force	Labor force size and employment statistics	Accessible online: http://milmi.org/?PAGEID=70
Michigan State Police, Criminal Justice Information Center, Drunk Driving Audit	Drivers on Michigan roadways	Traffic crash data involving alcohol or drugs	Accessible online: http://www.michigan.gov/msp/0,1607,7-123-1645_3501_4626-27728--,00.html

Data Source

In addition to the analysis of quantitative historical data cited in the sources above, in the summer of 2012, two surveys were implemented by Live Well Gratiot to obtain additional information not readily accessible from previously existing sources, as well as gauge the relative importance of health-related issues in Gratiot County. The first of these surveys was a Community Health Survey distributed to community members across the county. The second, parallel, survey was a Provider Opinion survey distributed to health care providers in the county.

The Community Health Survey was distributed to 1,500 randomly selected households within Gratiot County, geographically representative of the zip code population distribution within the county. A total of 441 surveys were used in the analysis. The survey data was then weighted to adjust for differences in age, sex, race, and educational attainment between the survey respondents and the overall population of Gratiot County. Results from the survey referenced in this report describe information based on the weighted sample to better represent Gratiot County.

Summary of Health Indicators

Health Indicator Results for Gratiot County and Michigan. (Representative years vary by indicator – see notes column).

Indicator	Gratiot County	Michigan	Notes
Total population, 2010	42,476	9,883,640	U.S. Decennial Census Estimates 2010
Percent of population age 65+ years	14.8%	13.8%	U.S. Decennial Census Estimates 2010
Percentage of people in poverty	18.3%	16.7%	U.S. Census, Small Area Income & Poverty Estimates 2010
Percentage of children in poverty	25.6%	23.4%	U.S. Census Small Area Income & Poverty Estimates 2010
Percentage of adults reporting fair or poor physical health status	20.4%	15.0%	BRFS, Gratiot: 2008-10, Michigan: 2009
Total age-adjusted mortality rate	841.3 deaths per 100,000	786.5 deaths per 100,000	MDCH, Mi. Resident Death File, 2010
Percentage of adults age 18-64 without health care coverage	21.6%	16.2%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of adults who reported no personal health care provider	16.4%	13.4%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of adults who delayed health care in past 12 months	15.4%	13.9%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of ambulatory care sensitive hospitalizations	20.9%	20.5%	MDCH, Mi. Resident Inpatient File, 2009
Infant mortality rate	8.0 deaths per 1,000 births	7.3 deaths per 1,000 births	MDCH, Mi. Resident Birth File, 2008 -10 avg.
Percentage of births to teen mothers	9.5%	9.5%	MDCH, Mi. Resident Birth File, 2010
Percentage of births with 1 st trimester prenatal care	67.1%	74.3%	MDCH, Mi. Resident Birth File, 2010
Percentage of births with adequate prenatal care	64.5%	68.0%	MDCH, Mi. Resident Birth File, 2009 (Kessner Index)
Percentage of births covered by Medicaid	59.4%	44.0%	MDCH, Mi. Resident Birth File, 2009
Percentage of births with maternal smoking	27.4%	17.8%	MDCH, Resident Birth File, 2010
Percentage of births with low birth weight (<2,500 grams)	7.9%	8.4%	MDCH, Mi. Resident Birth File, 2009
Percentage of births premature (<37 wks.)	8.9%	9.8%	MDCH, Mi. Resident Birth File, 2009
Percentage of infants (19-35 months) fully immunized	83%	66%	MCIR, Immunization Profile Report, 2010
Percentage of adults self-reported as obese	32.7%	30.9%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of adults reporting they are current smoker	27.1%	19.8%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of adults reporting binge drinking in the past month	17.0%	16.9%	BRFS, Gratiot: 2008-10, Michigan: 2009

Indicator	Gratiot County	Michigan	Notes
Percentage of adults reporting no leisure time physical activity	23.8%	24.1%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of adults consuming inadequate fruit and vegetables	91.1%	77.8%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of adults age 50+ who have ever had colonoscopy / sigmoidoscopy	60.8%	70.9%	BRFS, Gratiot: 2008-10, Michigan: 2009
Percentage of women age 40+ who have ever had a mammogram	87.3%	94.2%	BRFS, Gratiot: 2008-10, Michigan: 2009
Total cancer incidence rate, age adjusted, 2003-07 avg.	485.0 cases per 100,000	485.6 cases per 100,000	MDCH, Mi. Resident Cancer Incident File, 2005-09
Total cancer mortality rate, age adjusted 2007-09 avg.	176.4 deaths per 100,000	184.8 deaths per 100,000	MDCH, Mi. Resident Death File, 2007-09
Percentage of adults who have ever been told they have diabetes	11.8%	9.4%	BRFS, Gratiot: 2008-10, Michigan: 2009

Demographics

To understand the health of a community, it is important to know the traits of the people living therein. Demographic characteristics such as age, sex, race, and ethnicity provide valuable information in understanding the potential assets and needs of a community, as well as inform us about trends that should be considered in the planning of new programs and activities.

Population

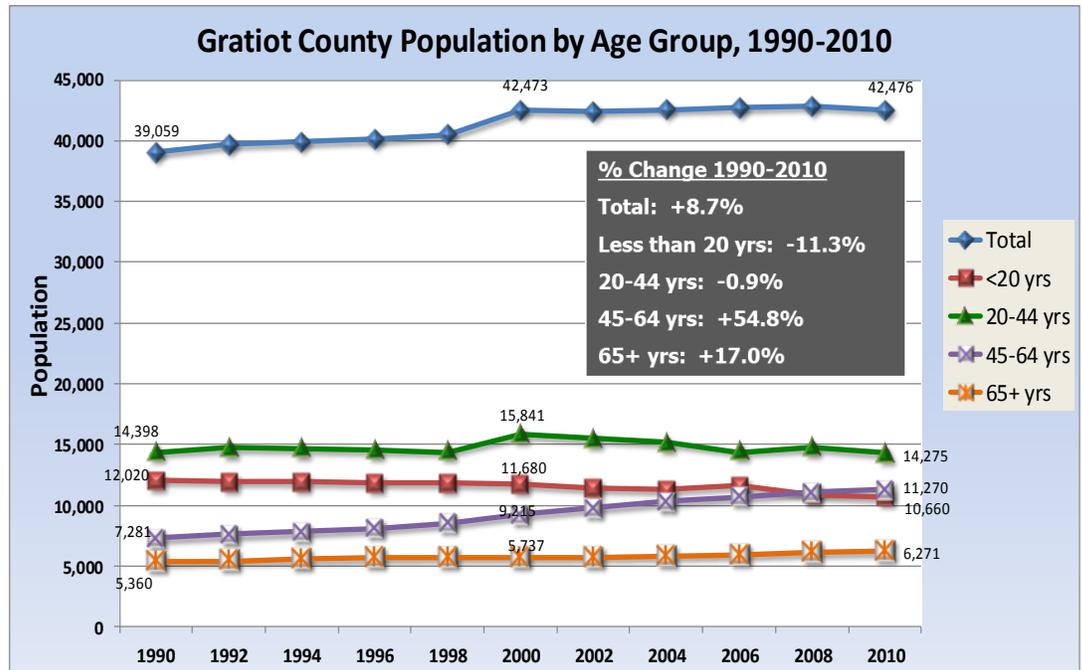
- Gratiot County (population 42,476) was the 41st most populous county in Michigan in 2010, representing only 0.43% of Michigan's total population.

- The population of Gratiot County remained stable over the 10-year period 2000-10. During this same period, Michigan experienced a 0.6% decrease in population, while the United States population grew by 9.7%.

- When looking at neighboring counties contiguous with Gratiot, it's evident that population change was of similar scale in 5 counties (Ionia: +3.8%, Midland: +0.9%, Montcalm: +3.4%, Saginaw: -4.7%, Shiawassee: -1.4%), while 2 counties experienced more rapid growth (Clinton: +16.5%, Isabella: +11.0%).

Age

- Over the two most recent decades (1990-2010), Gratiot County has experienced a decrease in population of youth and young adults, and an increase in population of older working adults and seniors. This has been the general pattern for the whole of Michigan during the past decade.



Source: U.S. Census Bureau, Population and Demographic Estimates

2010 Decennial Census: Gratiot County Townships (Excludes Alma, Ithaca, and St. Louis)

Seville Pop: 2,173 Median Age: 43.6 <18 yrs: 468 (21.5%) 18-64 yrs: 1,339 (61.6%) 65+ yrs: 366 (16.8%)	Pine River Pop: 2,279 Median Age: 45.7 <18 yrs: 479 (21%) 18-64 yrs: 1,371 (60.2%) 65+ yrs: 429 (18.8%)	Bethany Pop: 1,407 Median Age: 42.6 <18 yrs: 341 (24.2%) 18-64 yrs: 837 (59.5%) 65+ yrs: 229 (16.3%)	Wheeler Pop: 2,786 Median Age: 40.1 <18 yrs: 721 (25.9%) 18-64 yrs: 1,644 (59%) 65+ yrs: 421 (15.1%)
Sumner Pop: 1,930 Median Age: 41.1 <18 yrs: 496 (25.7%) 18-64 yrs: 1,164 (60.3%) 65+ yrs: 270 (14%)	Arcada Pop: 1,681 Median Age: 44.7 <18 yrs: 394 (23.4%) 18-64 yrs: 980 (58.3%) 65+ yrs: 307 (18.3%)	Emerson Pop: 952 Median Age: 41.3 <18 yrs: 240 (25.2%) 18-64 yrs: 564 (59.2%) 65+ yrs: 148 (15.5%)	Lafayette Pop: 591 Median Age: 42.4 <18 yrs: 140 (23.7%) 18-64 yrs: 348 (58.9%) 65+ yrs: 103 (17.4%)
New Haven Pop: 1,004 Median Age: 41.2 <18 yrs: 248 (24.7%) 18-64 yrs: 600 (59.8%) 65+ yrs: 156 (15.5%)	Newark Pop: 1,093 Median Age: 42.6 <18 yrs: 246 (22.5%) 18-64 yrs: 661 (60.5%) 65+ yrs: 186 (17%)	North Star Pop: 888 Median Age: 42.5 <18 yrs: 198 (22.3%) 18-64 yrs: 531 (59.8%) 65+ yrs: 159 (17.9%)	Hamilton Pop: 465 Median Age: 43.1 <18 yrs: 101 (21.7%) 18-64 yrs: 289 (62.2%) 65+ yrs: 75 (16.1%)
North Shade Pop: 665 Median Age: 37.1 <18 yrs: 189 (28.4%) 18-64 yrs: 382 (57.4%) 65+ yrs: 94 (14.1%)	Fulton Pop: 2,521 Median Age: 42.1 <18 yrs: 584 (23.2%) 18-64 yrs: 1,555 (61.7%) 65+ yrs: 382 (15.2%)	Washington Pop: 870 Median Age: 41.0 <18 yrs: 207 (23.8%) 18-64 yrs: 531 (61%) 65+ yrs: 132 (15.2%)	Elba Pop: 1,396 Median Age: 40.8 <18 yrs: 353 (25.3%) 18-64 yrs: 795 (56.9%) 65+ yrs: 248 (17.8%)

St. Louis
 Pop: 3,659*
 Median Age: 36.1
 <18 yrs: 1,013 (13.5%)
 18-64 yrs: 5,806 (77.6%)
 65+ yrs: 663 (8.9%)

Alma
 Pop: 9,383
 Median Age: 30.8
 <18 yrs: 2,004 (21.4%)
 18-64 yrs: 5,917 (63.1%)
 65+ yrs: 1,462 (15.6%)

Ithaca
 Pop: 2,910
 Median Age: 39.2
 <18 yrs: 695 (23.9%)
 18-64 yrs: 1,774 (61%)
 65+ yrs: 441 (15.2%)

Source: U.S. Census Bureau, Population and Demographic Estimates

Demographics

Racial Composition

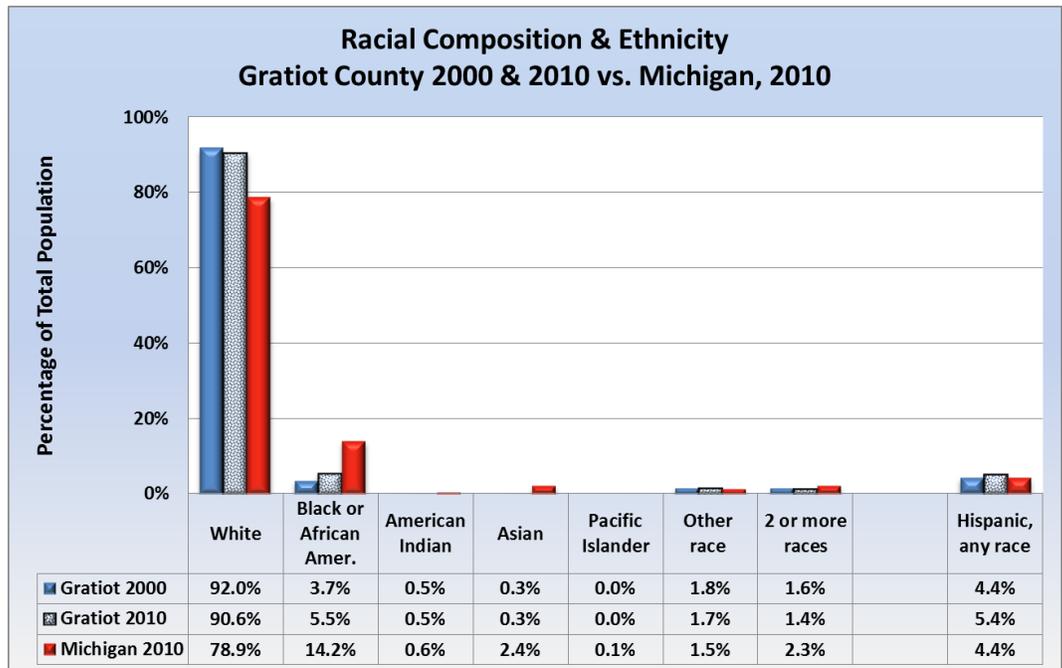
- Gratiot County is less racially diverse than Michigan, but similar in composition to other rural counties of central and northern Michigan. In 2010, 90.6% of Gratiot County residents were classified as White, 5.5% Black/African American, 0.5% American Indian, 0.3% Asian, 1.4% of two or more races, and 1.7% classified as a race not already specified.

- Gratiot County did experience a change in racial and ethnic composition from 2000 to 2010, as can be seen in the figure to the right.
- A portion of this change can be accounted for by an increase in the correctional facility population that grew from 3,066 incarcerated residents in 2000 to 3,742 residents in 2010.

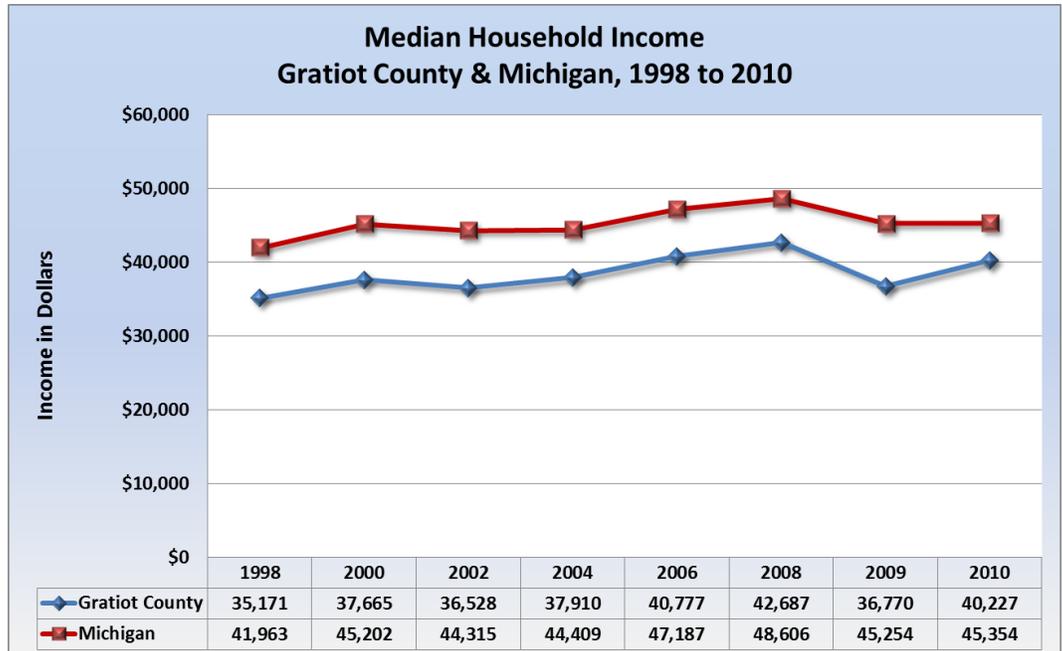
Income

- Despite growth in Gratiot County household income during the early part of the past decade (2000-10), much of the gain was lost by 2009; peaking at \$42,687 in 2008 and falling back to \$36,770 in 2009. This corresponds with the beginning of the national economic recession.

- As the figure shows, Gratiot County has lagged behind the Michigan median household income (in absolute dollar amount) for any given year during the past decade. Per capita income has followed a similar trend in which the growth and absolute dollar amount has been lower for Gratiot County than for Michigan.



Source: U.S. Census Bureau, Population and Demographic Estimates



Source: U.S. Census Bureau, Population and Demographic Estimates

Demographics

• Employment Status

- Looking back over the recent decade, the Gratiot County jobless (unemployment) rate grew from a low of 4.5% in 2000 (MI at 3.7%) to peak at 13.6% in 2009 (MI at 13.4%), mirroring the job loss Michigan also experienced over this period.

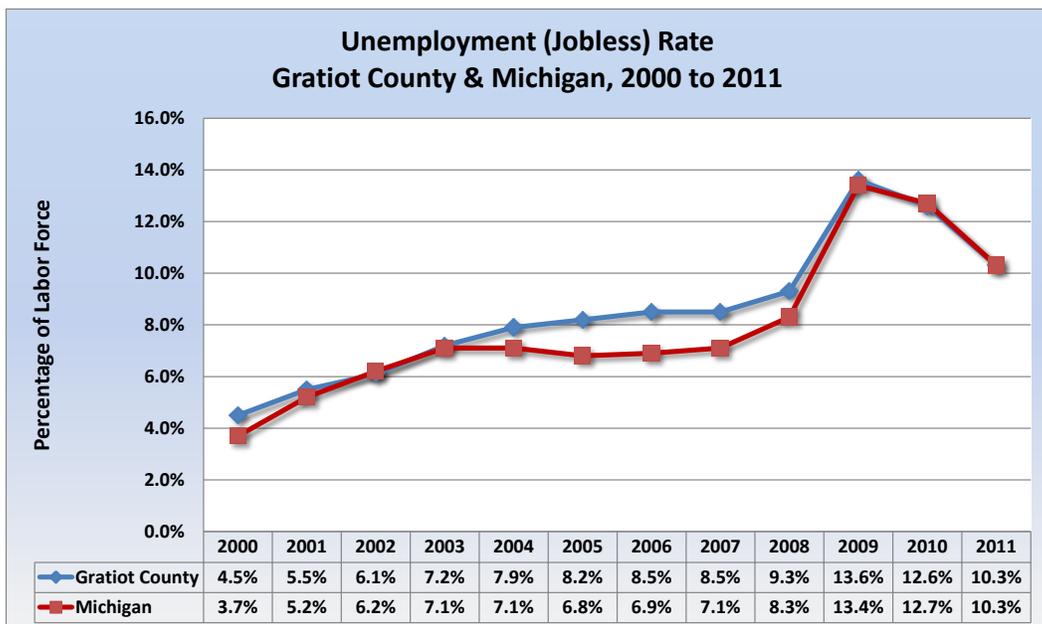
- The 2011 annualized labor market data indicated the Gratiot County labor force to be 18,731 individuals, of which 1,936 residents were without employment.

- With a larger percentage of residents out of work and/or relying on part-time employment during the latter half of the decade, it's likely that fewer families had employer-based health insurance or the household income to purchase individual health insurance.

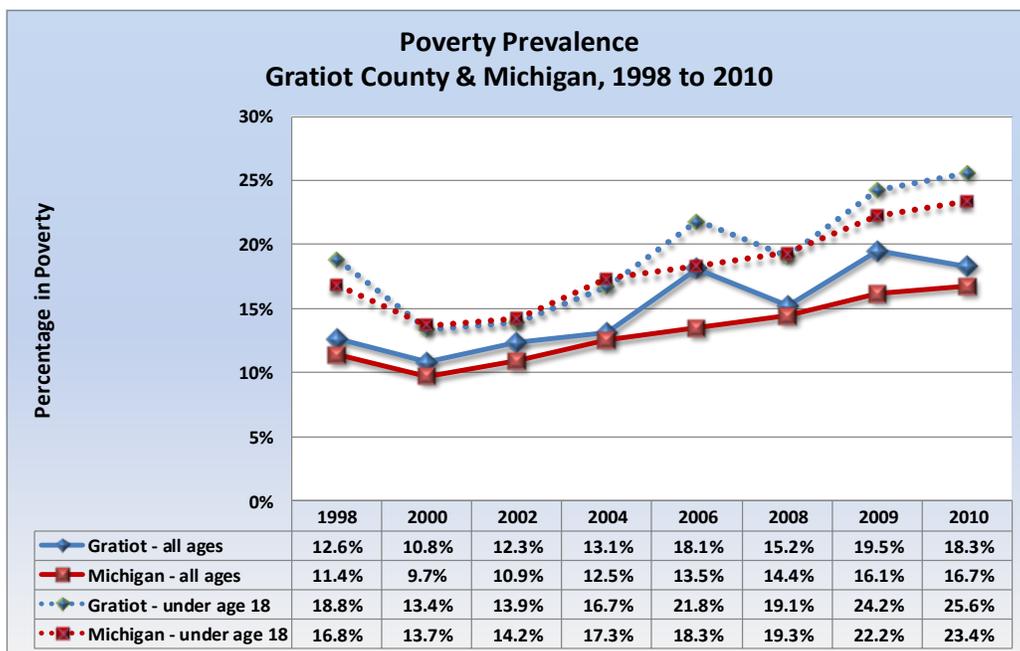
• Poverty

- The federal poverty threshold is often considered a reliable measure as to whether individuals or families have incomes great enough to support their basic needs. Those individuals or households with incomes falling below the threshold (relative to family size) are considered to represent the "poor" in terms of socioeconomic status.

- Since 2000, Gratiot County has experienced a considerable increase in both adult and child poverty that coincides with the rise in unemployment locally. As of 2010, child poverty in Gratiot County had climbed to 25.6% (MI at 23.4%), an increase of approximately 90% during the period 2000 to 2010. All-age poverty followed a similar pattern as child poverty, as can be seen in the figure to the right.



Source: U.S. Census Bureau, Population and Demographic Estimates



Source: U.S. Census Bureau, Population and Demographic Estimates

Demographics

Households

- The U.S. Census Bureau defines a household as “all people who occupy a housing unit as their usual place of residence”. As the table to the right indicates, 70% of Gratiot County households are occupied by families; however only 30% are comprised of families that have children under age 18 yrs living in the home. The majority (55.7%) of Gratiot households are occupied by married couples; however about 14% are headed by single parents, and the remaining 30% are occupied by single or unrelated individuals.

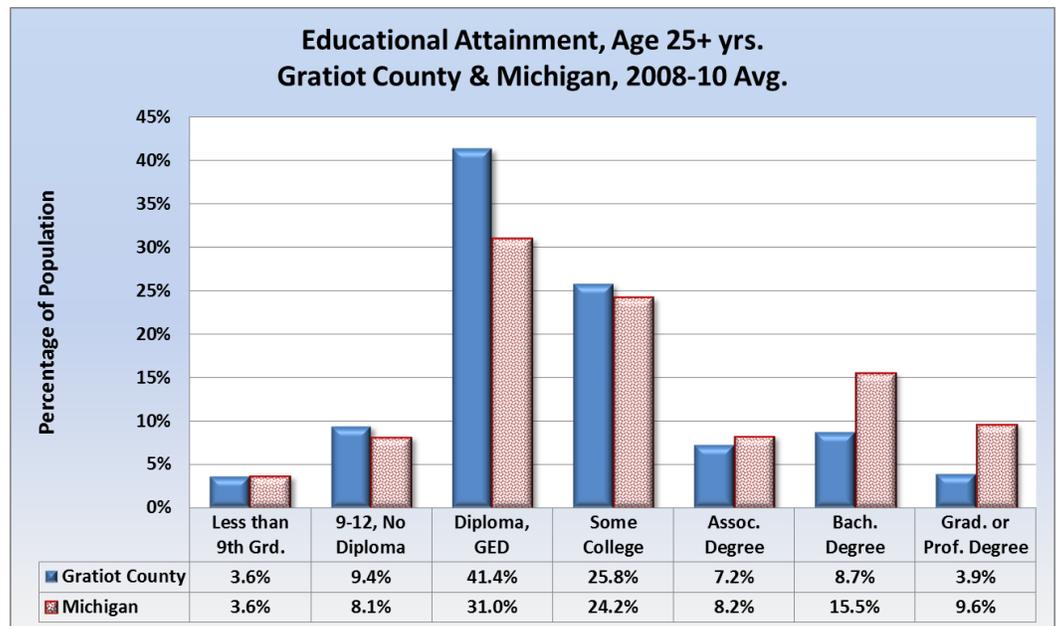
Households (five-year average, 2007-11)				
	Gratiot County		Michigan	
	#	%	#	%
Total Households	14,717	100.0%	3,825,182	100.0%
A. Family households	10,306	70.0%	2,534,769	66.3%
- with children <18 yrs	4,484	30.5%	1,120,336	29.3%
- Married-couple	8,197	55.7%	1,889,030	49.4%
- Male Householder, no wife	587	4.0%	163,620	4.3%
- with children <18 yrs	343	2.3%	82,517	2.2%
- Female Householder, no husband	1,522	10.3%	482,119	12.6%
- with children <18 yrs	1,130	7.7%	281,985	7.4%
B. Non-Family households	4,411	30.0%	1,290,413	33.7%
- Living alone	3,824	26.0%	1,084,855	28.4%
- Age 65 yrs and older	1,660	11.3%	388,128	10.1%

Source: U.S. Census Bureau, American Community Survey, 2007-11 estimates.

Education

- Educational attainment is recognized as an important social determinant in both health care access and population health outcomes. The correlation between higher educational attainment and improved health outcomes is not completely understood (Cowell AJ, 2006). Contributory factors thought to play a role in this relationship include: income status, access to jobs and health insurance, sense of personal control of circumstances, health literacy, and health-related behaviors.

- Results from the 2008-10 American Community Survey indicate that Gratiot County fares worse than Michigan concerning the proportion of adults age 25 years and older with a post-secondary degree; specifically, those with a bachelor's or post-graduate education (Gratiot County 12.6%, Michigan 25.1%).



Source: U.S. Census Bureau, Population and Demographic Estimates

Gratiot County	Some College	Associate Degree	Bachelor's Degree	Graduate or Professional Degree
1990	18.4%	5.4%	7.3%	3.6%
2000	22.6%	5.8%	8.8%	4.1%
2008-10 avg.	25.8%	7.2%	8.7%	3.9%

Source: U.S. Census Bureau, Population and Demographic Estimates

General Health Status

Self-rated general health status is considered to be a reliable assessment of one's perceived overall health, which considers the many aspects of well-being. It can be useful in determining unmet health needs, disparities among sub-populations, and the general prevalence of chronic disease.

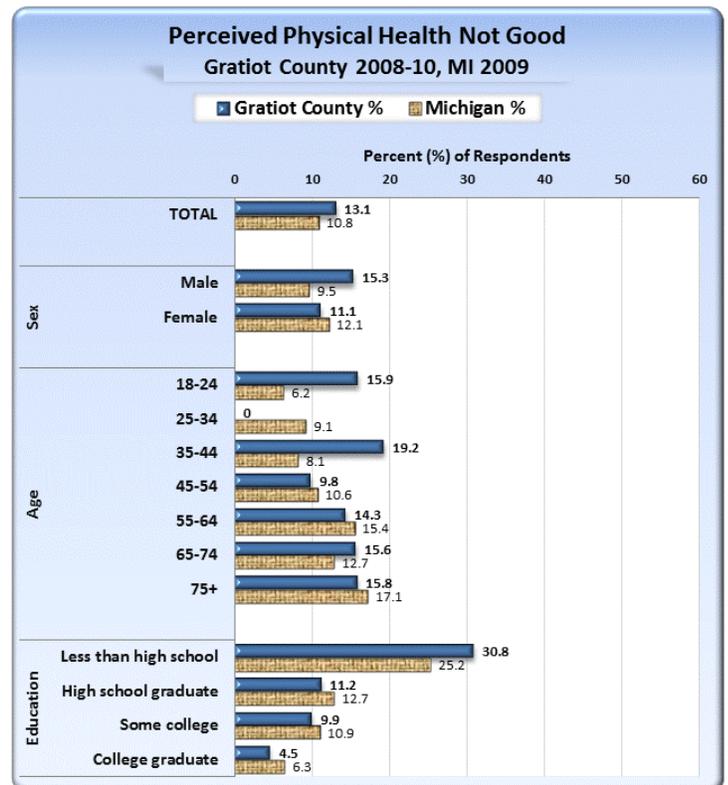
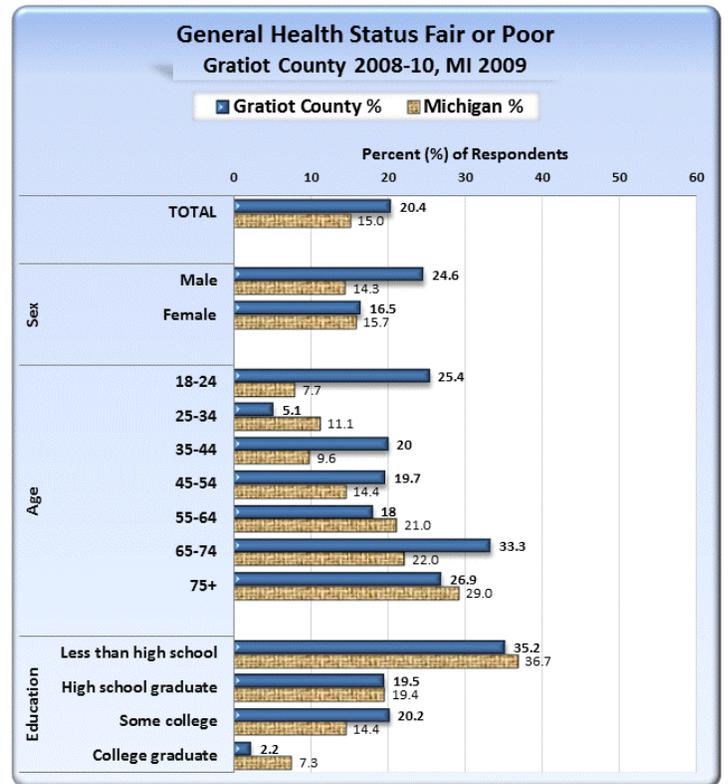
General Health Status

- Over the past decade, the proportion of Michigan adults who reported their general health status to be 'fair' or 'poor' (versus 'good' or 'excellent') has been relatively constant at about 15%. Trend data during the past decade for Gratiot County is not available, but local Behavioral Risk Factor Survey (BRFS) data for the three-year period 2008-10 indicates a higher proportion (20.4%) of Gratiot County adults report their health status to be fair or poor, as compared to Michigan adults (15.0%). Results from the 2012 Live Well Gratiot Community Survey indicate that 25% of adults considered their general health status to be fair or poor. National and State BRFS statistics indicate the prevalence of self-rated fair or poor health is higher amongst older adults, females, minorities, and those of lower socioeconomic status (measured by income or educational attainment). As can be seen in the figure to the right, Michigan adults are more likely to report poor health status as they get older. However, self-reported poor health status decreases as educational attainment increases. These characteristics generally hold true for Gratiot County adults.

Physical Health

- As a means of measuring health-related quality of life, the Behavioral Risk Factor Survey (BRFS) asks adults to rate their perceived physical health. A higher proportion of Gratiot County adults than Michigan adults (13.1% vs. 10.8%) reported that their physical health was 'not good' (equivalent to physical illness or injury for at least 14 days during the month). The figure to the right indicates that, generally, poor physical health increases as age increases, and that poor physical health is much more common amongst adults with lower educational attainment. At the county level, younger adults and males were more likely to rate their physical health as not good than adults throughout Michigan.

Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

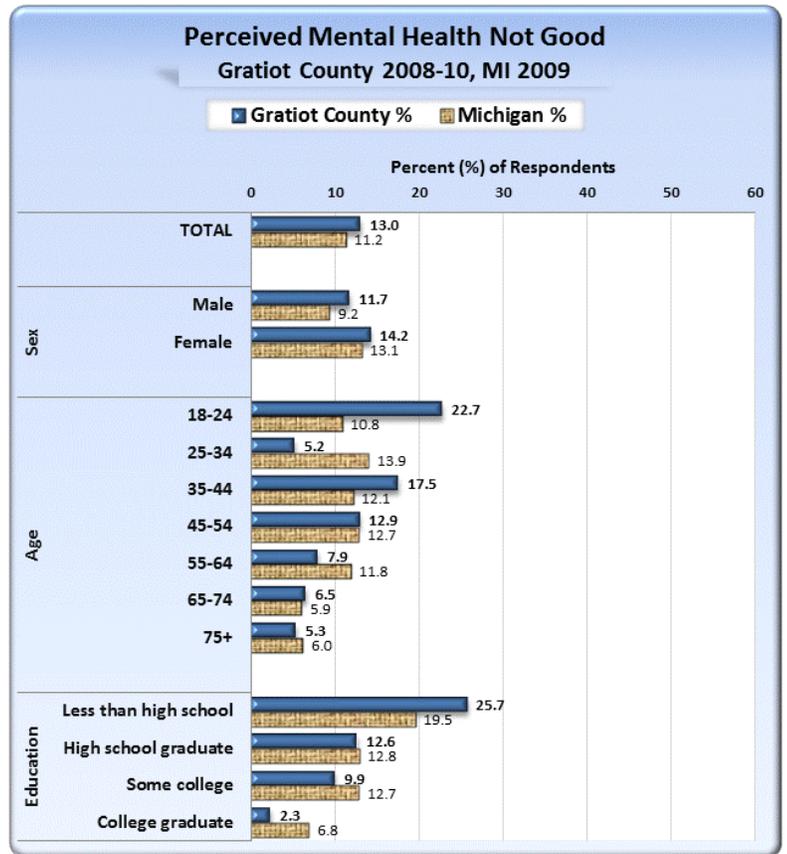


General Health Status

General Health Status

Mental Health

- Similar to the previous segment in which adults self-rated their physical health, the Behavioral Risk Factor Survey (BRFS) also asks adults to rate their perceived mental health over time. A higher proportion of Gratiot County than Michigan adults (13.0% vs. 11.2%) reported that their mental health was not good (equivalent to mental health symptoms for at least 14 days during a given month). This included issues with stress, depression, and problems with emotions. Clinical Investigators have found that younger adults tend to experience a higher number of days of poor mental health than physical health, while the opposite is more frequently noted for older adults (CDC, Health-related Quality of Life, 2010). The figure to the right suggests this characteristic of decreasing poor mental health status with age holds true for adults of both Gratiot County and Michigan. The results also indicate that self-rated poor mental health tends to decrease with increasing educational attainment for both Gratiot and Michigan adults. As with Michigan males, Gratiot County adult males were less likely to report poor mental health than females.



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Access to Care

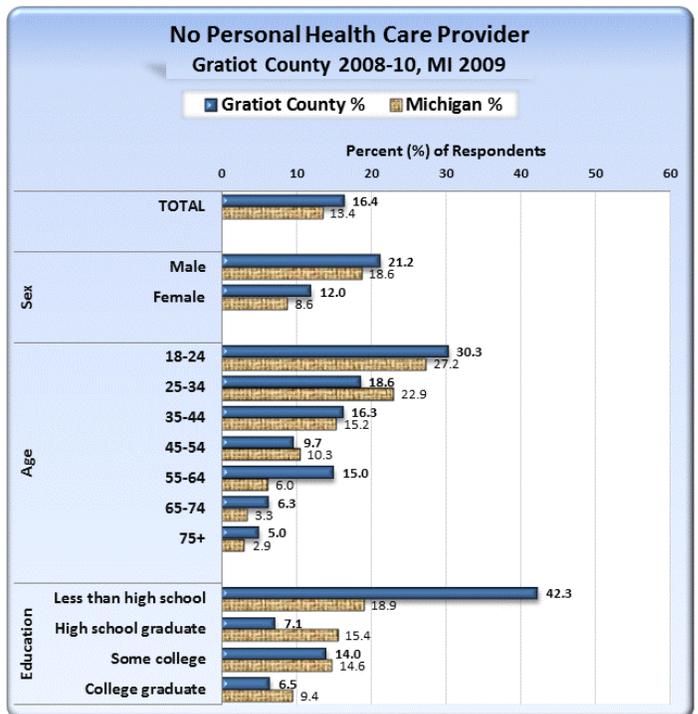
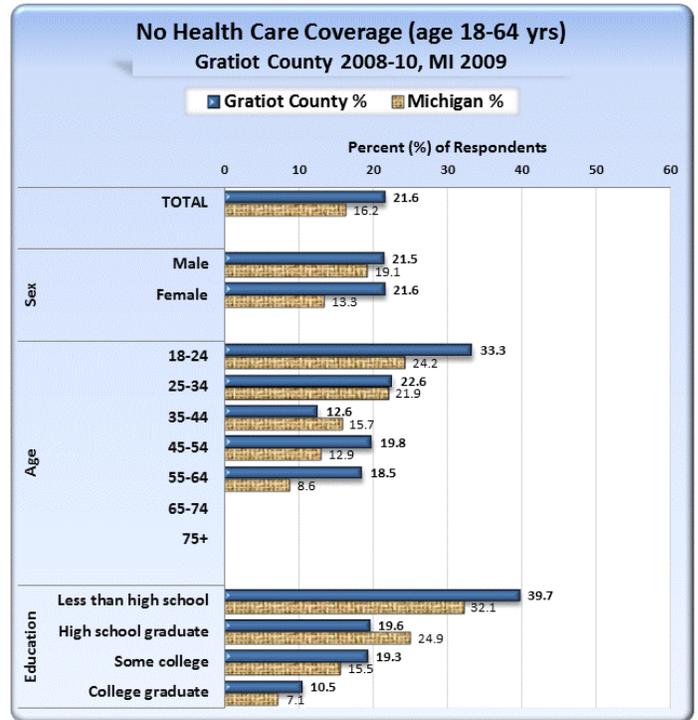
Access to health care is a broad concept that tries to capture accessibility to needed primary care, health care specialists, and emergency treatment. While having health insurance is a crucial step toward accessing the different aspects of the health care system, health insurance by itself does not ensure access. It is also necessary to have comprehensive coverage, providers that accept the individual's health insurance, relatively close proximity of providers to patients, and primary care providers in the community.

Health Insurance Coverage

- Adults who do not have health care coverage are less likely to access health care services and more likely to delay getting medical attention, whether it is the utilization of preventive or treatment services (Hoffman and Paradise, 2008). The U.S. Census Current Population Survey (CPS) tracks health care coverage – trend data indicates the number of non-elderly adults in the United States has increased over the past decade from approximately 39 million in 2000 to 49 million in 2010. The Behavioral Risk Factor Survey (BRFS) also collects self-reported health care coverage data as a part of its core questionnaire. According to BRFS data, a higher proportion of Gratiot County adults age 18-64 years than Michigan adults (21.6% vs. 16.2%) are without health care coverage. The figure to the right also indicates that males, younger adults, and those with lower educational attainment are more likely to be without health care coverage. According to the U.S. Census (Small Area Health Insurance Estimates Program), a similar proportion of Gratiot County and Michigan youth (<18 yrs.) are without health care coverage (4.7% vs. 4.5%). The 2012 Live Well Gratiot Community Survey indicates that about 14% of working age adults 18-64 years are without health insurance – the most common reasons being: could not afford (42%), part-time employee with no benefits (7%), unemployed (17%), lost Medicaid eligibility (14%), and employer stopped offering health insurance benefits (3%).

Personal Health Care Provider

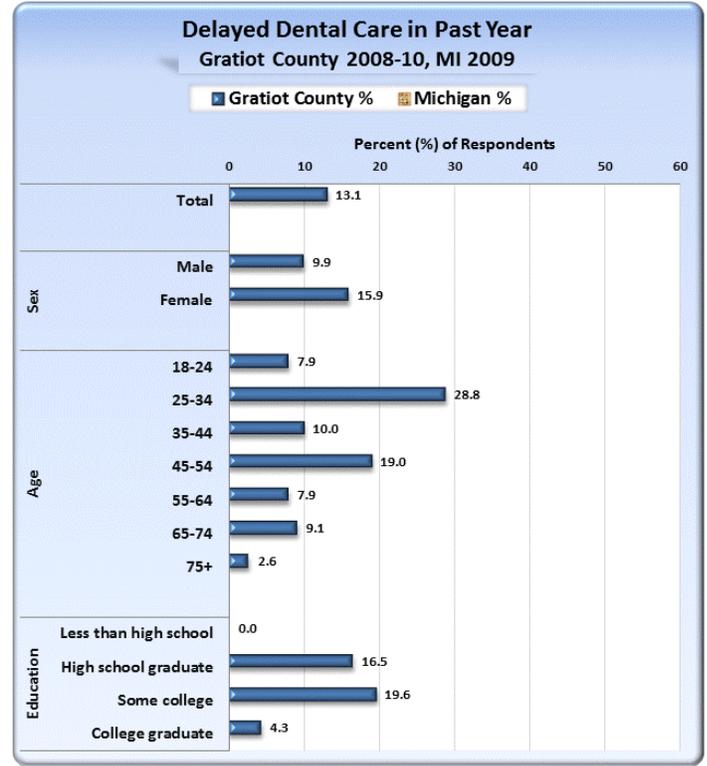
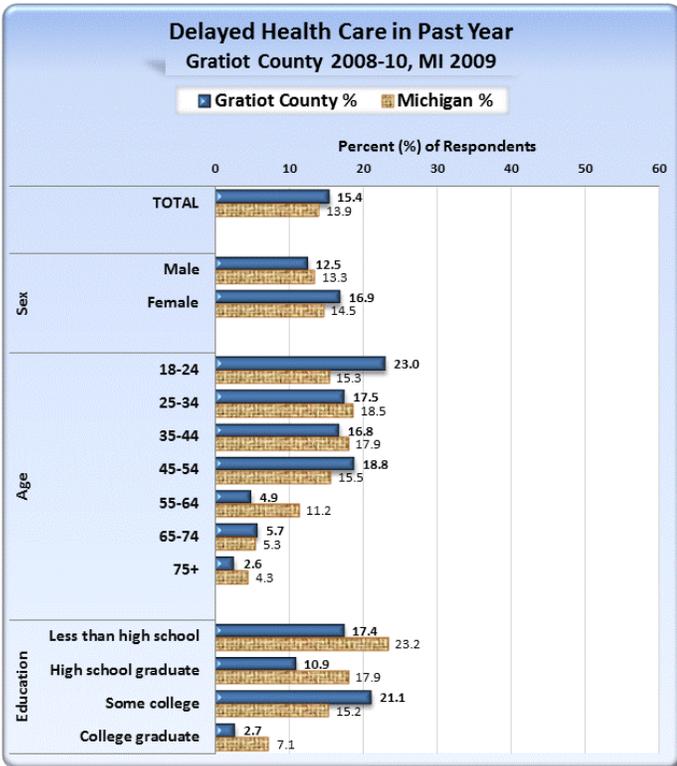
- Another important indicator of health care access is the establishment of a "medical home" where a person can access a health care provider on a routine basis, particularly primary care services. According to BRFS survey results, a higher proportion (16.4%) of Gratiot County adults report that they have no personal doctor or health care provider than Michigan adults (13.4%). As the figure to the right shows, males, younger adults, and those with less education are more likely to not have a personal doctor, both locally and for Michigan. Michigan 2009 BRFS results have also shown that individuals without health care coverage are over five times as likely to not have a personal doctor, and five times as likely to have needed health care in the past 12 months but unable to access it due to cost. The 2012 Live Well Gratiot Community Survey indicates that approximately 4% of adults used emergency department services for most of their health care needs.



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Access to Care

Access to Care

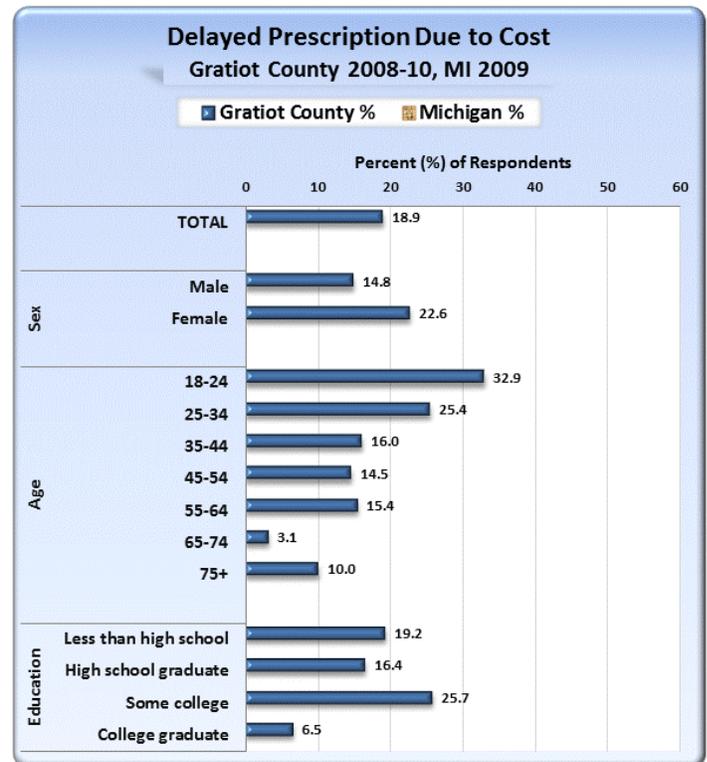


• Delayed Access to Care

- An additional indicator of access to care is the timely utilization of health care services. A higher proportion of Gratiot County adults than Michigan adults (15.4% vs. 13.9%) reported there was a time in the past year when they needed to see a doctor but could not (BRFS). The 2012 Live Well Gratiot Community Survey indicated that 25% of adults had delayed seeking needed health care – the most frequent reasons being: could not afford (59%), no transportation (6%), could not get appointment (12%), and insurance not accepted (6%).

- Good oral health is important in maintaining good physical health; however, 13.1% of Gratiot County adults reported there was a time in the past year when they needed to see a dentist but could not (BRFS). (Results not available for Michigan). The 2012 Live Well Gratiot Community Survey results indicated that only 56% of adults had received an oral exam or dental cleaning in the past year.

- Even for those Gratiot County adults who needed medical care and sought it out, 18.9% reported there was a time during the past year when they needed a prescription filled, but could not do so because of the cost. (results not available for Michigan 2009). As the figures to the right show, female adults were more likely to delay care than males for these three indicators.



Access to Care

Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

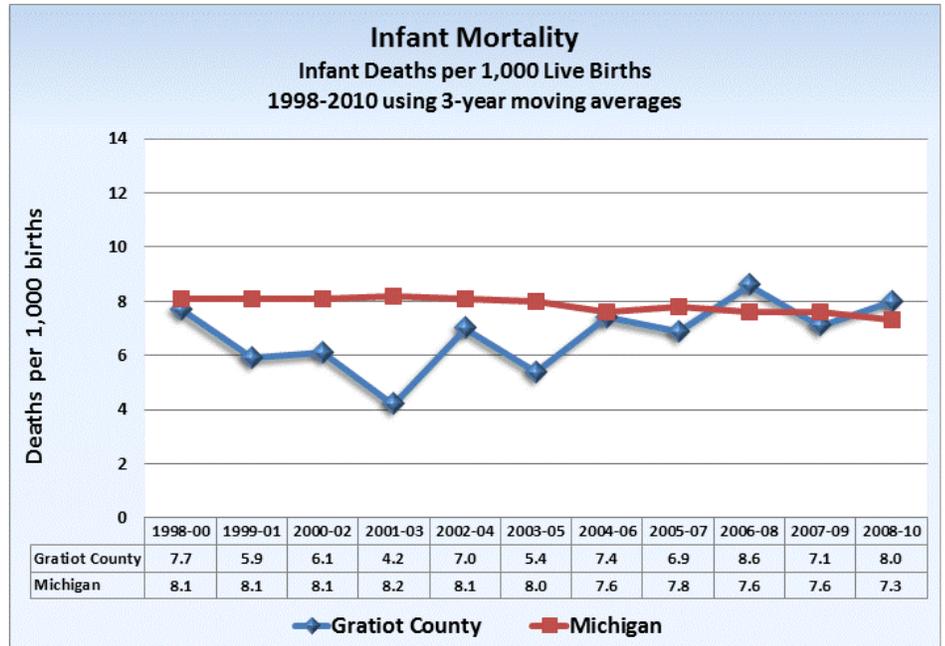
Maternal & Child Health

Maternal and child health indicators are strong measures of the overall health and well-being of the community. The health of mothers, infants, and children is important, both as an indicator of population health and as a predictor of the next generation's health. Traditional maternal and child health indicators (such as infant mortality, teen pregnancy, and level of prenatal care) provide valuable information and are discussed in this section. There is growing recognition that the general health status of women even before pregnancy has an impact on birth outcomes.

• Infant Mortality

- Infant mortality is often used as a key index in measuring the general health of a community since many of the risk factors reflect on community issues, such as access to care, poverty, health-related behaviors, and education.

- Using three-year moving averages to measure infant mortality in the figure to the right, it's evident that the Gratiot County infant mortality rate during the past decade has trended upward toward a rate similar to that for Michigan infants. It's also evident that the Michigan infant mortality rate has remained fairly stable at approximately 8 infant deaths per 1,000 live births over the period outlined. There continues to be large racial disparities in infant mortality rates in Michigan and the United States.



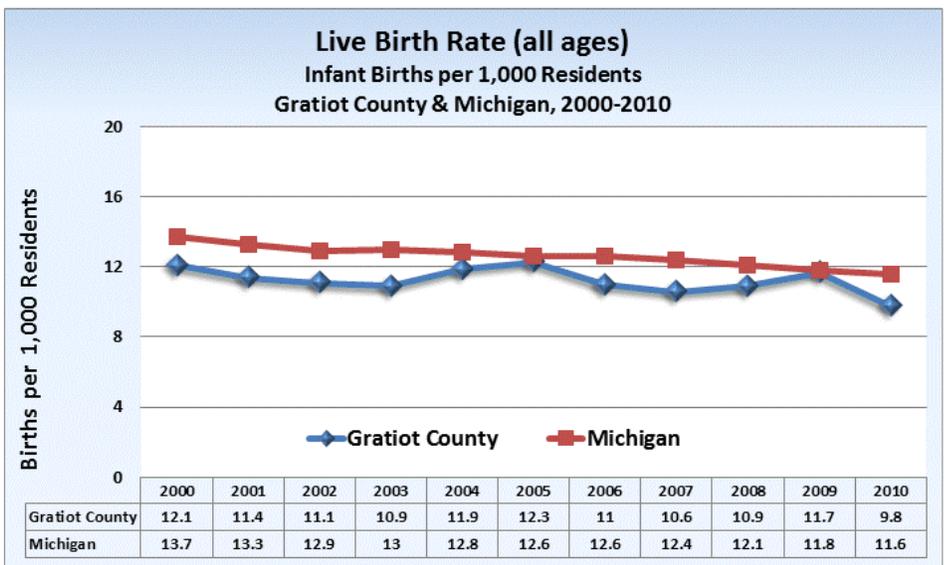
Number of Infant Deaths, Gratiot County, 2000-09

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
5	1	3	2	5	1	5	4	3	3

• Birth Rate

- The overall (all age) maternal birth rate has slowly declined over the past decade for both Gratiot County and Michigan. During this period Gratiot County has maintained a slightly lower annualized birth rate than Michigan, as seen in the figure to the right. An average of 486 births to Gratiot County female residents occurred over the period 2000 to 2009.

- Teen births represented 10.6% of the total Gratiot County births over the period 2000 to 2009; an average that is equivalent to 51 Gratiot County teen births annually over this period.



Number of Births, Gratiot County, 2000-09

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
534	481	472	464	500	520	468	457	468	493

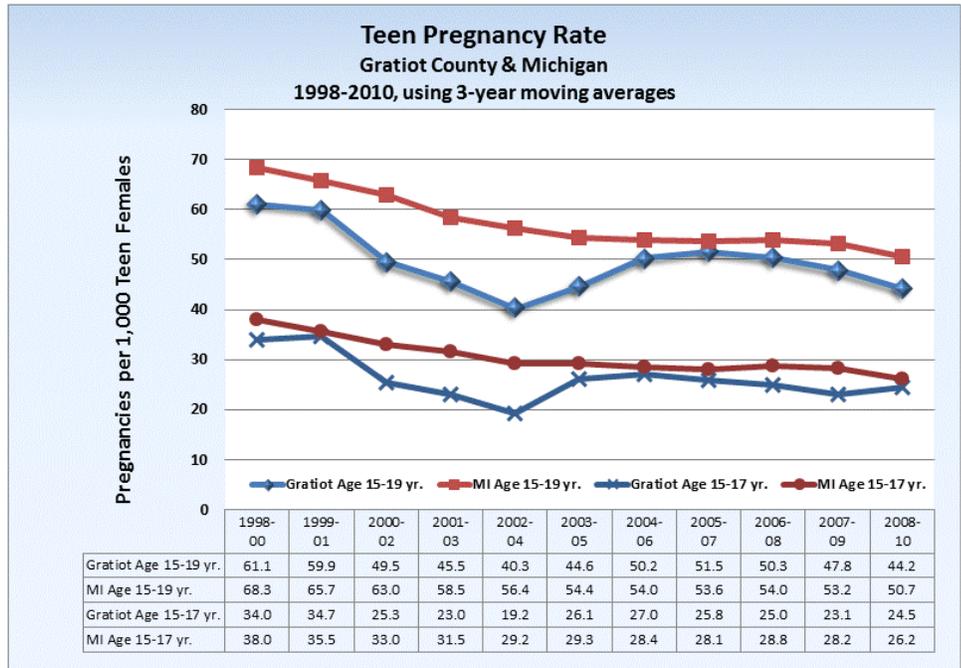
Source: Michigan Resident Birth File. Division for Vital Records & Health Statistics, Michigan Department of Community Health.

Maternal & Child Health

• Teen Pregnancy

- Teen pregnancy is an important health indicator as it reflects health behaviors unique to teens, as well as societal norms and expectations. The impact of teen pregnancy is felt by the teen parent, the child, and the community, as teen parents are more likely to experience long-term economic disadvantage.

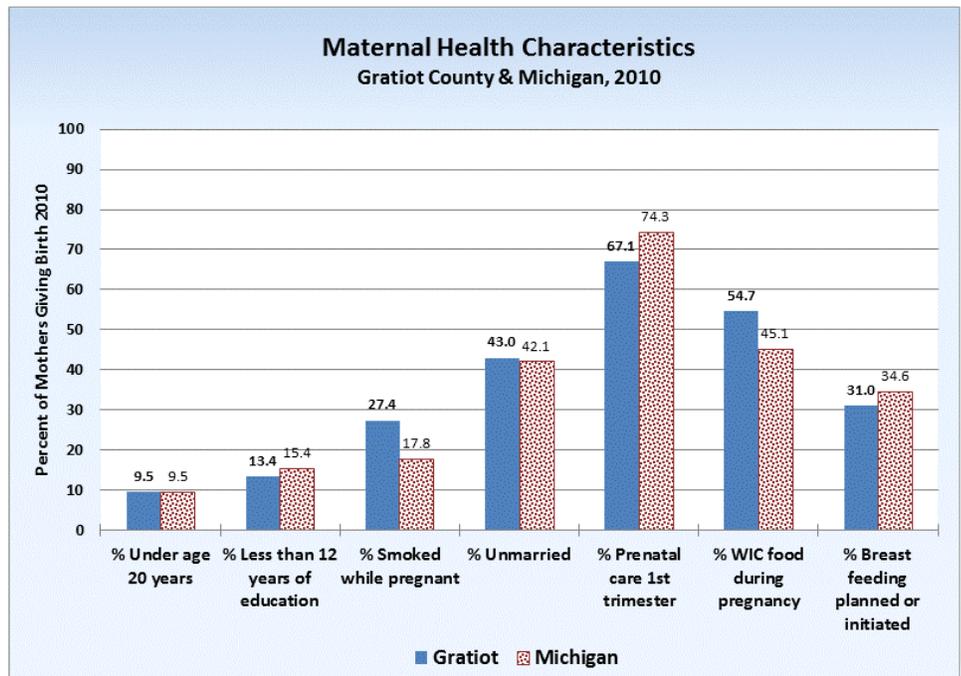
- As the figure to the right indicates, a downward trend in the teen pregnancy rate occurred for Gratiot County and Michigan during the past decade. In addition to the decline in the teen pregnancy rate over time, Gratiot County has experienced a lower annualized teen pregnancy rate during this period than Michigan. This is true for female teens age 15-19 years and the subset of teens age 15-17 years. As mentioned in the previous section, approximately 11% of Gratiot County births are to teens.



Source: Michigan Resident Birth File. Division for Vital Records & Health Statistics, Michigan Department of Community Health.

• Maternal Health Characteristics

- Communities benefit when newborns begin their lives in a safe, stable, and healthy environment that offers opportunities for optimal growth and development. Children who begin their lives in less healthy environments or in poor health may have a difficult time catching up to their peers. A healthy start in life begins prior to birth and includes appropriate prenatal care and avoiding risky behaviors by the mother-to-be. The chart to the right summarizes several measures of maternal health for Gratiot County for the year 2010. Longer-term results are shown on the following page. For the year 2010, as this figure depicts, one can see that Gratiot County fared less well than Michigan concerning the percentage of new mothers who smoked while pregnant, were unmarried at the time of birth, received prenatal care early in the pregnancy, and planned to breast feed infant.



Source: Michigan Resident Birth File. Division for Vital Records & Health Statistics, Michigan Department of Community Health.

Maternal & Child Health

Maternal and Birth Characteristics, Gratiot County, 2000 - 2009								
Year	% of Birth Mothers...						% of Newborns...	
	Under age 20 yrs	Less than 12 yr educ.	Unmarried	Medicaid enrolled	Smoked while Preg.	Prenatal care 1st Tri.	Low Birth Weight	Pre-term
2000	9.6	15.4	33.7	30.5	19.1	90.3	7.5	8.6
2001	12.5	15.8	34.3	38.0	21.6	82.7	6.7	9.1
2002	7.6	13.8	33.3	36.0	18.2	86.2	5.7	9.7
2003	10.1	14.7	38.6	43.8	24.1	84.1	8.2	11.9
2004	10.4	15.2	37.0	41.6	19.8	86.4	8.4	10.2
2005	11.0	15.6	41.5	50.8	20.4	82.9	6.2	9.2
2006	12.4	15.4	41.5	51.5	22.6	83.3	6.0	7.7
2007	11.6	12.3	42.5	49.2	22.5	70.2	9.0	7.9
2008	10.5	11.5	40.6	49.8	31.4	55.6	6.0	9.2
2009	11.6	11.2	42.0	59.4	33.5	51.9	8.7	9.5

Source: Michigan Resident Birth File. Division for Vital Records & Health Statistics, Michigan Department of Community Health.

* A change in the Michigan birth certificate question structure regarding smoking history likely influences the maternal smoking prevalence from the year 2008 forward; this data may not be comparable to previous years.

• Maternal Health Characteristics

- As the table above indicates, key maternal and birth characteristics tracked through birth certificate data include age, education, marriage status, Medicaid status, smoking status, and prenatal care of the expectant mother; as well as weight and gestational age of the newborn.
- One evident trend for Gratiot County over the period 2000-09 is the increasing percentage of mothers enrolled in Medicaid at the time of delivery – this could reflect the local economic environment and/or an increased effort to provide health care coverage during pregnancy.
- Timely prenatal care was common and fairly consistent the first half of the decade, but the percentage of women receiving timely prenatal care during their first trimester of pregnancy has declined noticeably during the latter part of the decade (2007-09).
- The recent spike in smoking status for 2008-09 most likely represents a change in the Michigan birth certificate (the wording of smoking-related questions changed in 2008) for this risk behavior and therefore makes comparison to previous years challenging. However, county to state comparison for the year 2010 (as shown in the figure on the previous page) indicates Gratiot County smoking prevalence during pregnancy to be higher than the rate for Michigan (27.4% vs. 17.8%).

Maternal & Child Health

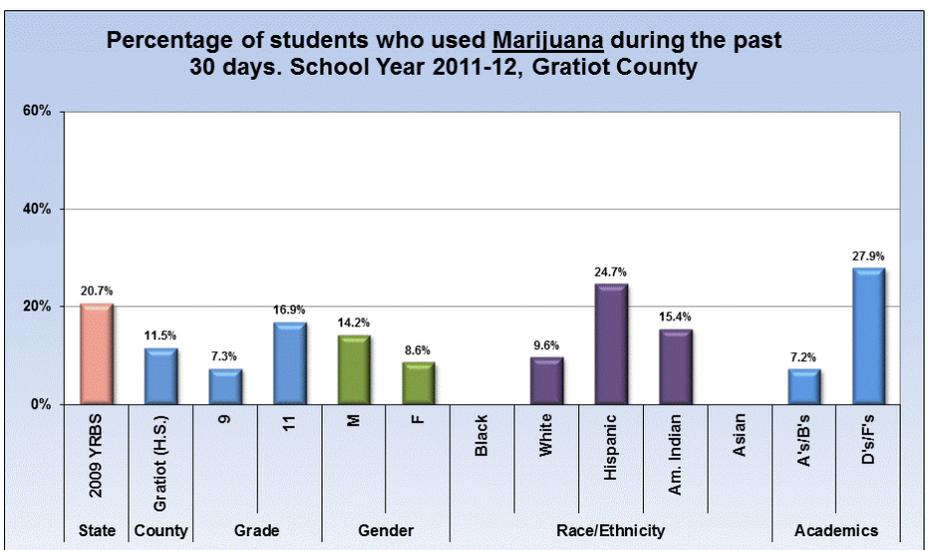
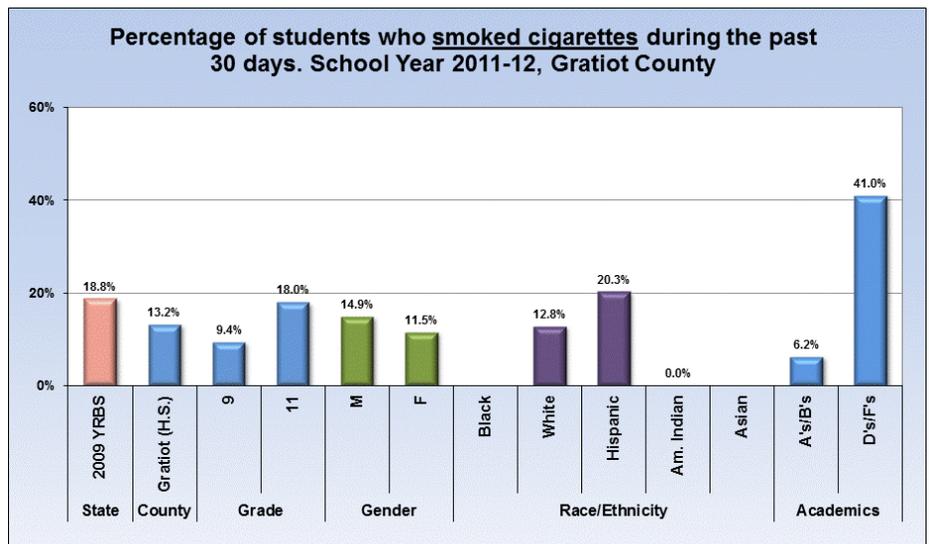
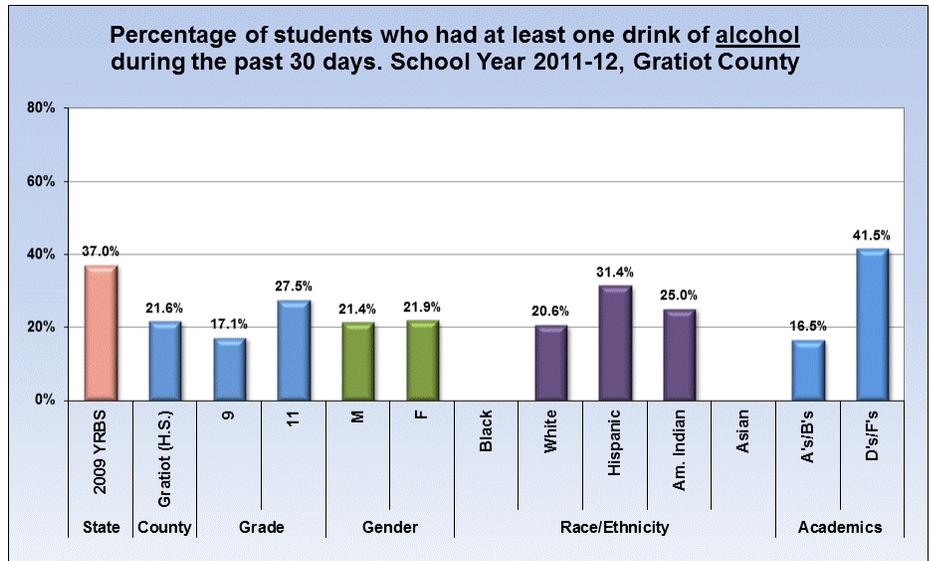
Adolescent Risk Behaviors

- Although no Michigan Profile for Healthy Youth (MiPHY) trend data is available for Gratiot County adolescents, a good representation of the adolescent population (grades 7, 9, 11) is available from data in the school-based surveys conducted during the 2011-12 school year. The following five figures provide self-reported results for key health risk behaviors. For a general comparison, survey data representing Michigan adolescents (grades 9-12) gathered via the Youth Risk Behaviors Survey (YRBS) is provided in the figures for comparison with the Gratiot County survey results comprised of only 9th and 11th grade responses (7th grade excluded).

- A lower percentage of Gratiot County adolescents report recently consuming alcohol than Michigan adolescents. Recent use of alcohol increased with grade level for Gratiot County, and was consumed nearly equally by males and females. Students performing poorly academically were more than twice as likely to have recently consumed alcohol.

- A lower percentage of Gratiot County adolescents report recently smoking cigarettes than Michigan adolescents. Cigarette smoking increased with grade level for Gratiot County, and was consumed more frequently by males than females. Students performing poorly academically were more than six times as likely to have recently smoked cigarettes. Estimates of smoking prevalence by race are available but somewhat unreliable due to the rather small sample size of minority adolescents participating in the survey.

- A lower percentage of Gratiot County adolescents report recently using marijuana than Michigan adolescents. Recent use of marijuana increased with grade level for Gratiot County, and students performing poorly academically were more than three times as likely to have recently used marijuana.



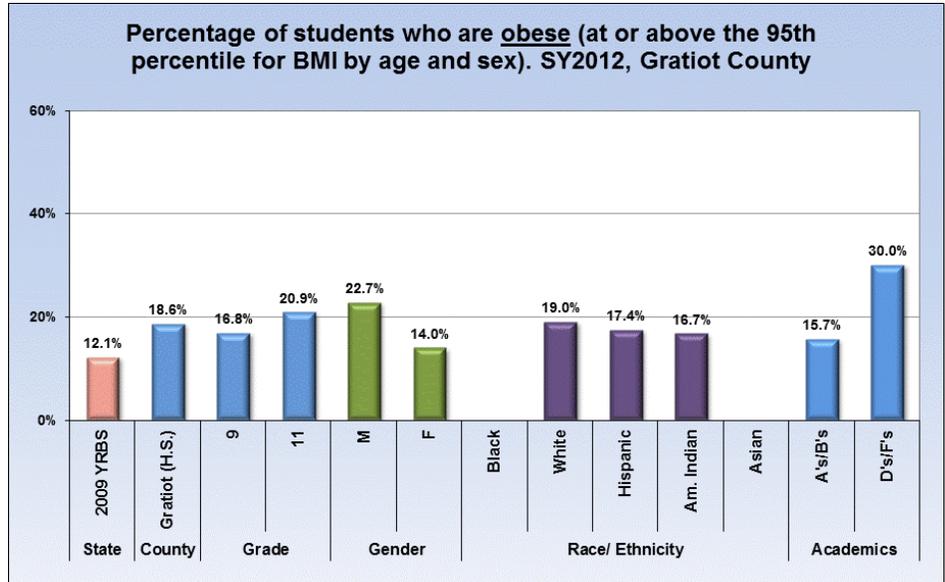
Source: Michigan Profile for Healthy Youth. Michigan Department of Education.

Maternal & Child Health

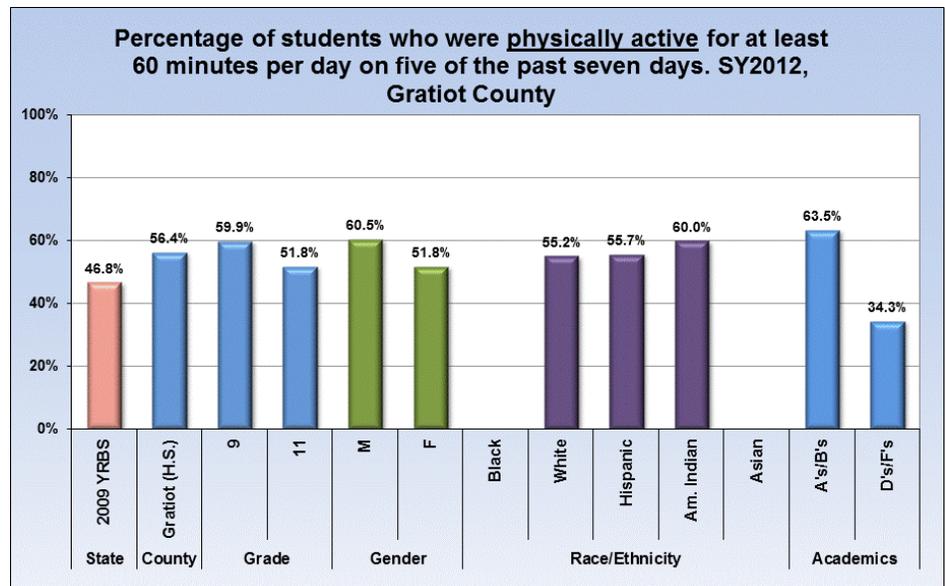
Adolescent Risk Behaviors

- Students self-reported their height and weight in the survey and these measurements were used to calculate a body mass index (BMI). A higher percentage of Gratiot County adolescents are classified as obese (based on self-reported height and weight) than Michigan adolescents. Obesity prevalence was increased with grade level for Gratiot County, and males were more likely than females to be classified as obese. Students performing poorly academically were nearly twice as likely to be classified as obese than students performing well.

- A higher percentage of Gratiot County adolescents than Michigan adolescents reported that they regularly participated in physical activity (60 minutes per day on at least five of the previous seven days). The percentage of adolescents regularly participating in physical activity decreased from 9th to 11th grade. Males were more likely than females to report obtaining the recommended level of physical activity. Students performing well academically were nearly twice as likely to report being physically active at the recommended level of duration than students performing poorly.



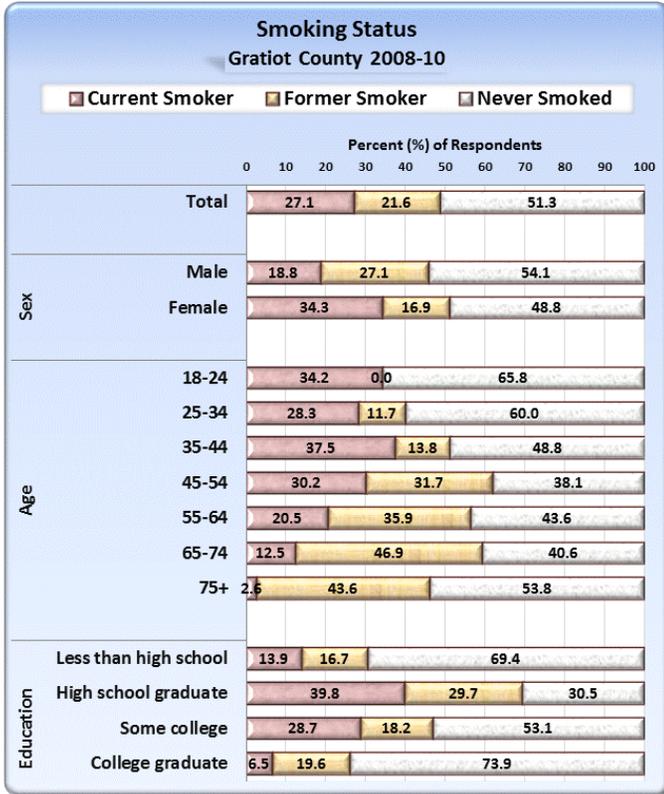
Source: Michigan Profile for Healthy Youth. Michigan Department of Education.



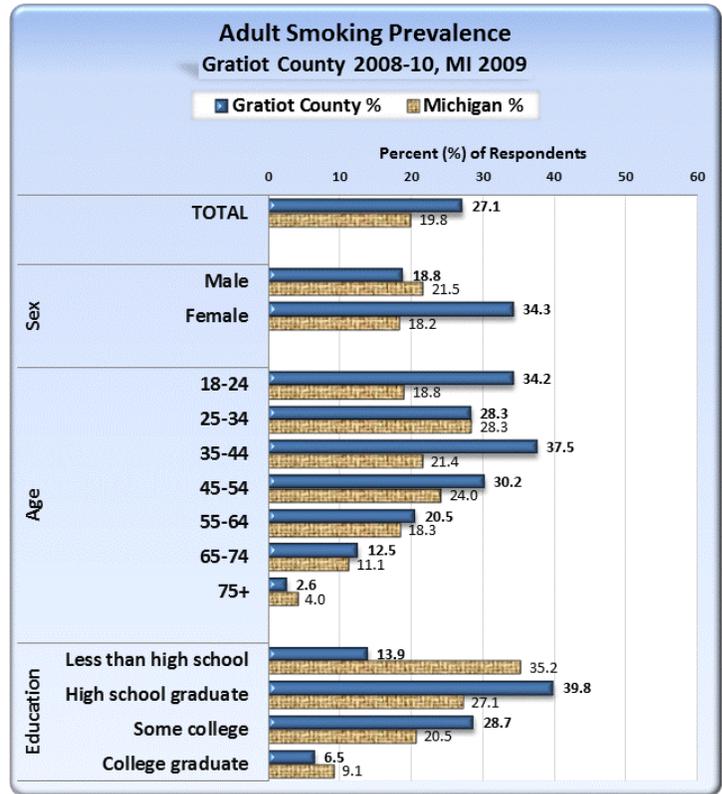
Source: Michigan Profile for Healthy Youth. Michigan Department of Education.

Adult Behavioral Risk Factors

The factors assessed below have the potential to positively or adversely affect the short and long-term health of Gratiot County residents. Tobacco use increases the risk of various cancers and alcohol abuse can cause chronic liver disease, while positive factors such as adequate fruit and vegetable intake and physical activity can decrease the risk of heart disease and obesity. By providing a summary report of these measures, interventions may be identified to curb negative behaviors and decrease the risk of injury, illness, and chronic disease later in life.



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010



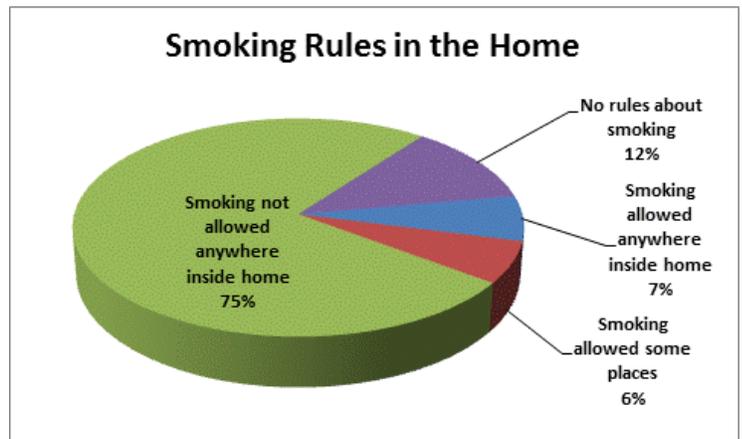
Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Adult Behavioral

Tobacco Consumption

- The Michigan adult smoking prevalence has slowly declined over the past decade (2000-09) to reach its lowest rate of 19.8% in 2009. Local Behavioral Risk Factor Survey (BRFS) data over the three-year period 2008-10 indicates a higher proportion (27.1%) of Gratiot County adults report being current smokers than Michigan adults (19.8%). The local BRFS results are supported by results from the 2012 Live Well Gratiot Community Survey in which 26% of adults reported smoking cigarettes. In general, smoking rates decrease with advancing age and higher educational attainment, and are lower for females than males. Gratiot County differed in this respect in that a higher frequency of females reported smoking.

- The diagram to the right displays smoking rules in the home for Gratiot County residents. The establishment of household non-smoking rules can have an impact on health, whether a homeowner currently smokes or not, due to the negative effects second-hand smoke can have on health. As shown in this chart, 75% of households in Gratiot County currently do not allow smoking anywhere inside the home.



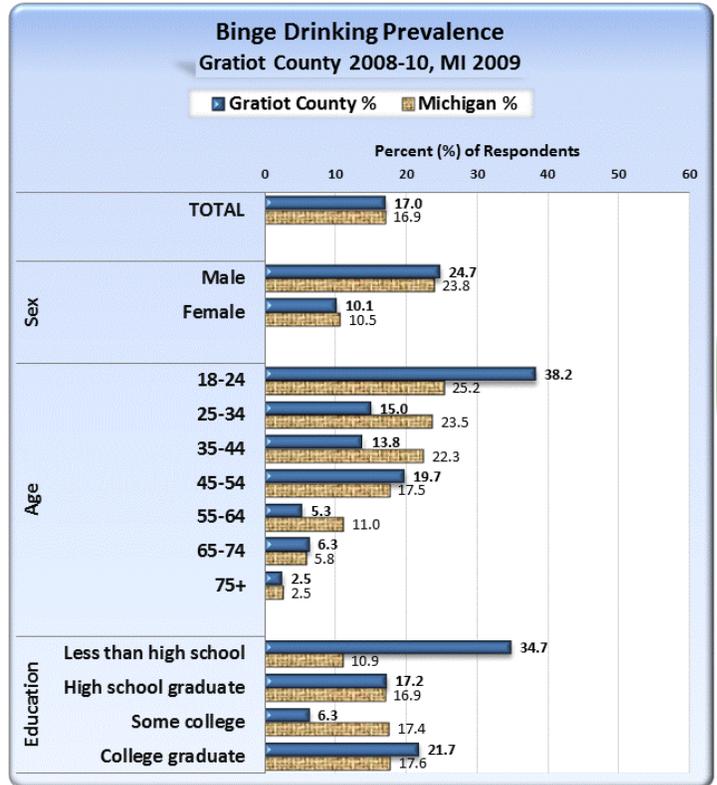
Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Adult Behavioral Risk Factors

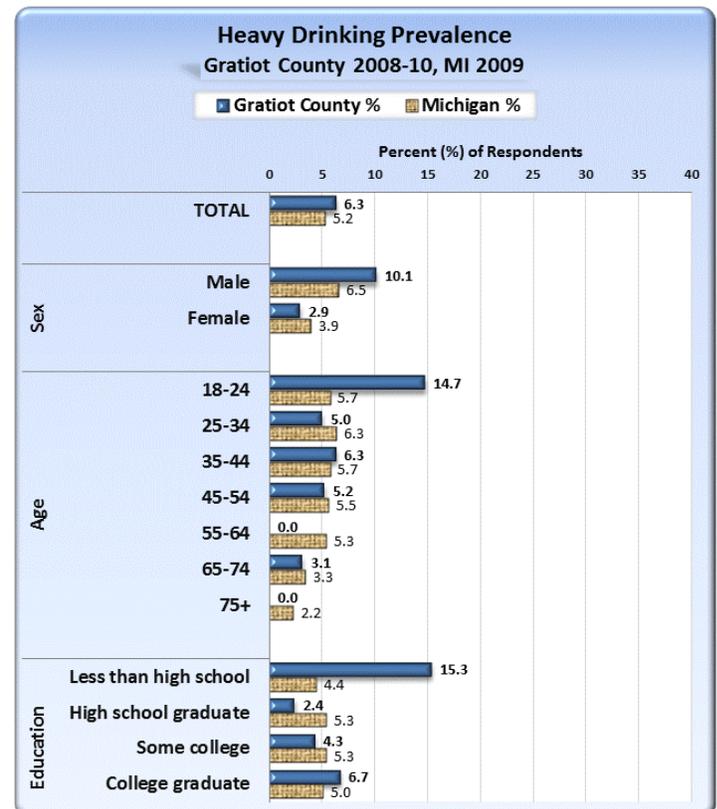
Alcohol Consumption

- Like smoking, excessive alcohol consumption or alcohol addiction can adversely affect health and is associated with preventable health conditions, including chronic liver disease, stroke, and certain cancers. It also can increase the risk for serious injury such as falls and motor vehicle accidents, violence and suicide (CDC, 2010). Local Behavioral Risk Factor Survey (BRFS) data over the period 2008-10 indicates a similar percentage of Gratiot County and Michigan adults reported at least one occasion of binge drinking in the past month (17.0% vs. 16.9%), whereas a slightly higher percentage of Gratiot County adults than Michigan adults were heavy drinkers (6.3% vs. 5.2%). Gratiot County generally followed a similar pattern in which binge and heavy drinking tend to decrease with age and that males, more so than females, are likely to consume excessively.

- The chart below depicts vehicle crashes in Gratiot County, and the percentage of crashes where the vehicle operator “had been drinking (HBD)”, as well as the severity of those crashes (fatal/injury) from 2007-2011. Vehicles in this chart include both automobiles and recreational vehicles. Over this five-year period, an estimated 226 Gratiot County vehicle crashes involved alcohol (approximately 2%-3% of all vehicular crashes).



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010



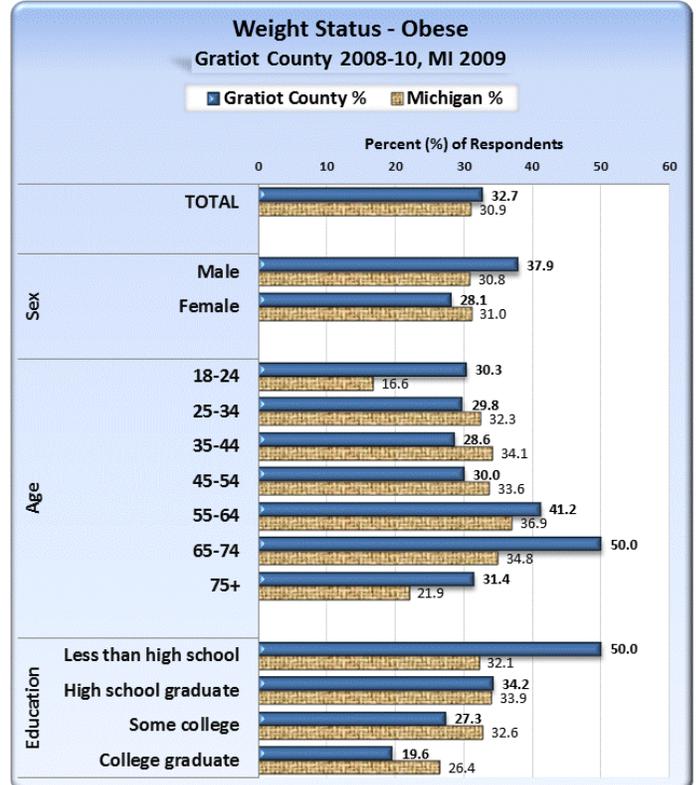
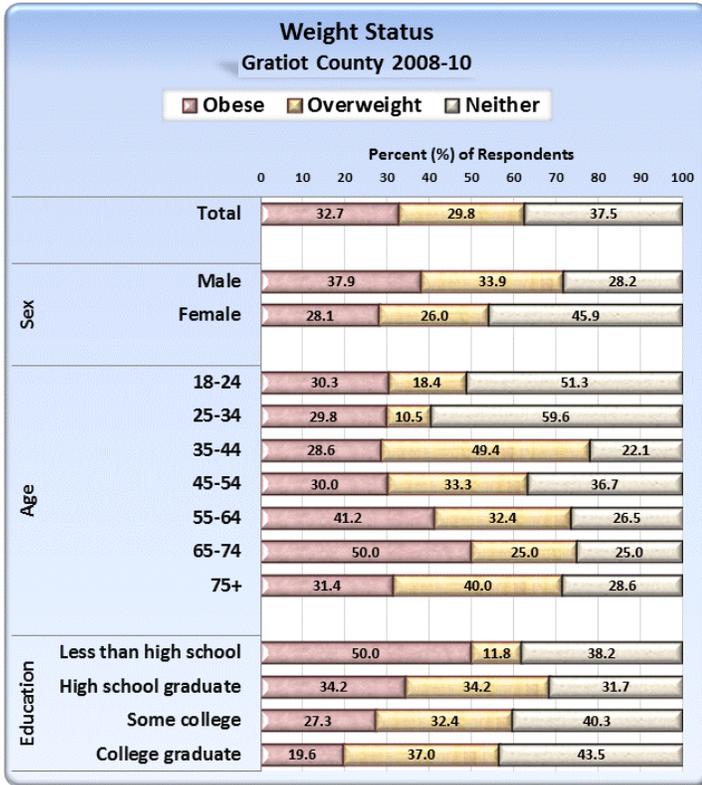
Source: Behavioral Risk Factor Surveillance, Gratiot County.

Gratiot County Reported Vehicle Crashes 2007-2011					
	2007	2008	2009	2010	2011
All Crashes	1,833	1,819	1,933	1,737	1,719
HBD crashes	45	53	51	40	37
% HBD	2.5%	2.9%	2.6%	2.3%	2.2%
All Fatal Crashes	4	6	6	6	8
HBD Fatal Crashes	3	0	1	0	2
% HBD	75.0%	0.0%	16.7%	0.0%	25.0%
Total A Injury	43	23	31	26	18
HBD A Injury	6	7	7	4	1
% HBD	14.0%	30.4%	22.6%	15.4%	5.6%
Total B Injury	70	60	63	44	66
HBD B Injury	8	8	7	11	12
%HBD	11.4%	13.3%	11.1%	25.0%	18.2%

Note: HBD = Had Been Drinking; Type A injury = Incapacitating; Type B injury = non-incapacitating

Source: Michigan Office of Highway Safety Planning. 2011 Michigan Traffic Crash Facts, County Profiles.

Adult Behavioral Risk Factors



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

• Weight

- the prevalence of adult obesity in Michigan has climbed from 22.5% in 2000 to its highest rate of 30.9% in 2009 (BRFS). A higher proportion of Gratiot County adults are classified as being obese than Michigan adults (32.7% vs. 30.9%), while a smaller proportion of Gratiot than Michigan adults are classified as being overweight (29.8% vs. 35.7%). When combining these two weight classifications (overweight & obese), a total of 62.5% of Gratiot County adults are either overweight or obese, compared with 66.6% of Michigan adults. Unlike some of the other health indicators reviewed here, there are fewer clear patterns among subpopulations of adults – for instance, Michigan BRFS data suggests males and females are equally likely to be obese (30.8% vs. 31.0%), and education does not strongly influence the likelihood of being obese. Two patterns that are evident is that adult obesity tends to increase sharply during the third decade of life, remain stable until about age 75 years; and that obesity is more prevalent for minority races and the Hispanic population.

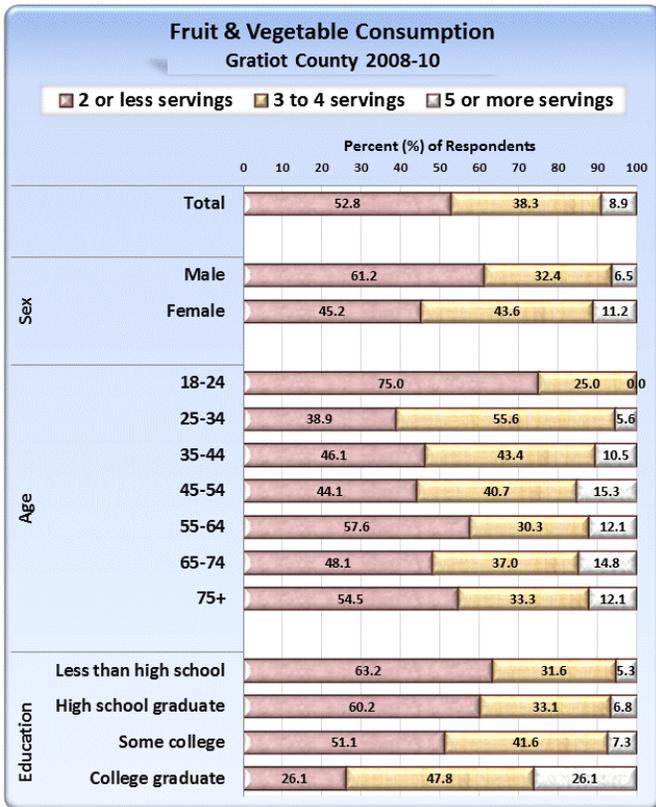
- As for the use of the terms obese and overweight, they are both labels to define ranges of weight that are considered unhealthy for a particular height. These terms apply to both children and adults, and are commonly determined by calculating one's body mass index (BMI). Body mass index is a measure of a person's weight in relation to his or her height; specifically an individual's weight (in kilograms) divided by the square of his or her height (in meters), kg/m² (CDC). These BMI results are presented differently between children and adults, with children using growth charts and percentiles to represent their BMI information. The tables below show this relationship and classification ranges more clearly.

Adult BMI Classification (kg/m ²)	
Underweight	< 18.5
Healthy Weight	18.5 - 24.9
Overweight	25.0 - 29.9
Obese	≥ 30

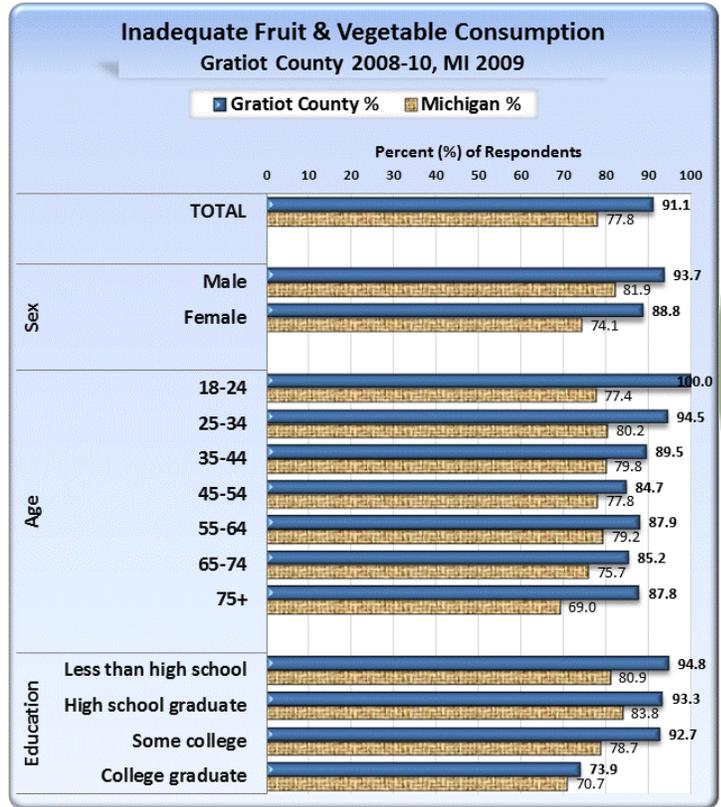
Child/Adolescent BMI Classification	
Underweight	< 5th percentile
Healthy Weight	5th to 85th percentile
Overweight	85th to 94th percentile
Obese	≥95th percentile

*[Age 2-19 years]

Adult Behavioral Risk Factors



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Adult Behavioral

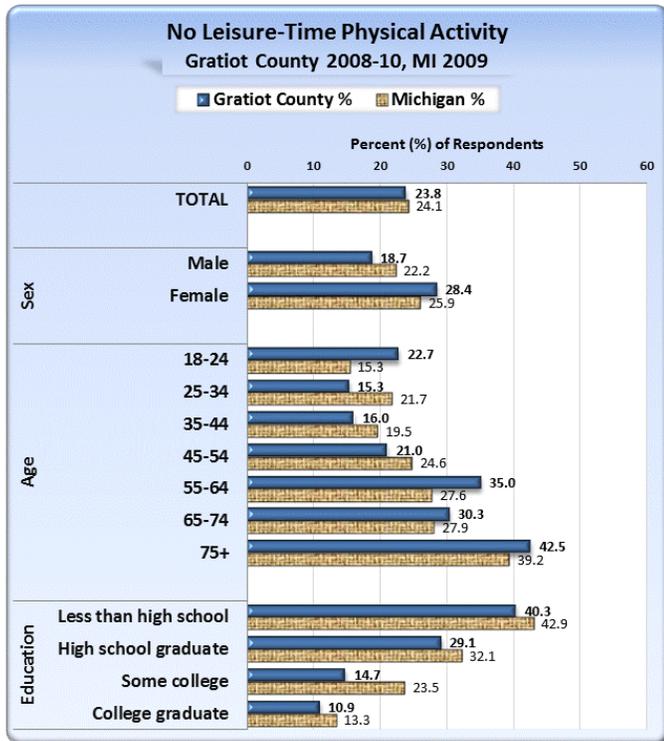
• Diet

- Research demonstrates that a diet rich in fruits and vegetables promotes good health such that those who frequently consume greater amounts of these substances are at reduced risk for certain chronic disease (CDC, Fruit & Vegetable Benefits, 2009). Local Behavioral Risk Factor Survey (BRFS) data for the period 2008-10 indicates that a higher proportion (91.1%) of Gratiot County adults consumed less than the recommended servings of fruits and vegetables than Michigan adults (77.8%). National and Michigan BRFS statistics indicate the prevalence of inadequate fruit and vegetable consumption has remained relatively unchanged over the past decade (no trend data is available for Gratiot County). Results from the 2012 Live Well Gratiot Community Survey indicate that only 9% of adults ‘always’ eat five or more servings of fruits/vegetables daily—corroborating the results referenced above.

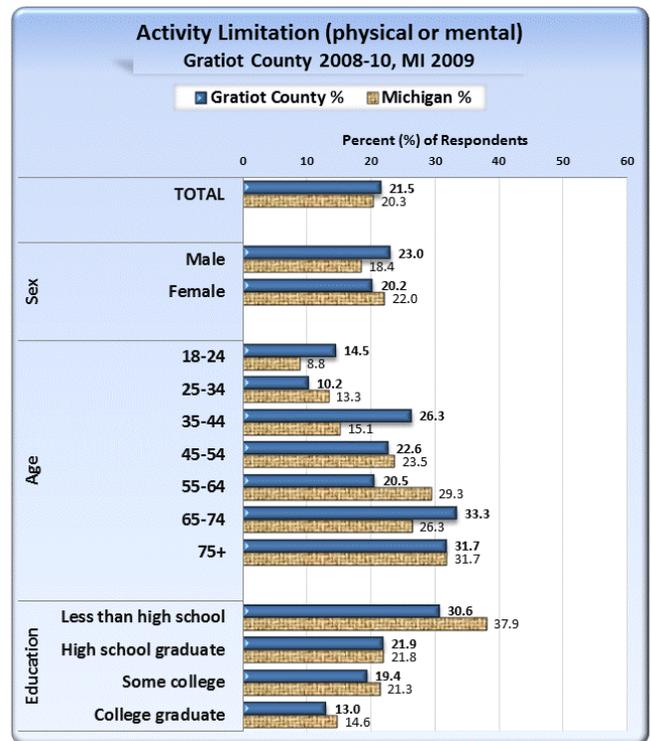
- The 2012 Live Well Gratiot Community Survey indicates that 30% of adults ‘always’ or ‘often’ eat fast food more than once a week, as compared to 70% who indicate they ‘rarely’ or “never” eat fast food more than once a week. As the availability of “fast food” outlets grow in communities, it increases the likelihood that more processed foods with potentially lower nutritional content will be consumed. Greater access to healthier food options (like fresh fruits and vegetables) at an affordable cost, such as products sold at local farmer’s markets or grocery stores, provide a means for residents to make healthier eating decisions.

- Nutritional related data gathered from the 2011-12 Michigan Profile for Healthy Youth (MiPHY) survey indicates that 28.7% of Gratiot County high school students (9th & 11th grade) consumed five or more servings of fruits and vegetables daily, compared with 19.6% of Michigan high school students. The United States Department of Health and Human Services recommends youth age 9-18 years of age consume 3 cups of low-fat or fat-free milk daily. MiPHY survey results indicate that 22.8% of Gratiot County high school students met this recommendation, compared with 13.3% of Michigan high school students. On the other hand, 35.4% of Gratiot County high school students indicated they consumed one or more glasses/cans/bottles of soda (pop) daily, compared with 27.6% of Michigan high school students.

Adult Behavioral Risk Factors



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

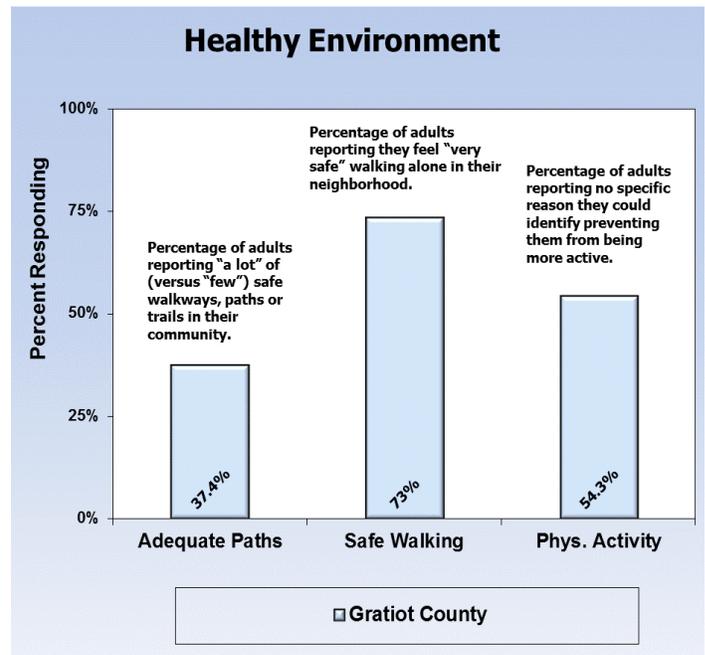
Adult Behavioral

Physical Activity

- Regular physical activity helps to control weight and maintain healthy bone and muscle strength, as well as reduce the risk of certain preventable health conditions like cardiovascular disease, diabetes, osteoporosis, and certain cancers. Local BRFs results indicate that a similar proportion of Gratiot County and Michigan adults are sedentary (23.8% vs. 24.1%). Sedentary in this case represents adults who do not participate in any leisure-time physical activity, which includes activities like walking, jogging, calisthenics, golf, and gardening. BRFs data indicates that sedentary status increases with age, decreases with higher educational attainment and income, and is more likely for females than males.

Healthy Environment for Physical Activity

- Communities can increase opportunities for physical activity by offering environments where all residents can safely participate. Gratiot County adults were asked about access to safe places for physical activity – approximately 37% indicated there were adequate safe walkways, paths or trails in their community, while approximately 73% of adults indicated they felt ‘very safe’ walking alone in their neighborhood (2008-10 BRFs). When asked if there was any particular reason for not being more physically active, approximately 54% of Gratiot County adults indicated they could not identify a specific reason. These results are depicted in the figure to the right.



Source: Behavioral Risk Factor Surveillance, Gratiot County.

Chronic Disease, Morbidity, and Mortality

Chronic diseases (such as heart disease, stroke, cancer, diabetes, emphysema, and arthritis) are among the most common, costly, and preventable of all health problems in the United States. A consistent component in determining the health status for a particular locale is the report of mortality rates and the leading causes of death in the community. Mortality rates offer a way to compare the relative burden of various causes of death. The following section will focus on the most common causes of morbidity (illness) and mortality (death) as ranked at the state and national level. Trend data is provided when available locally.

• Leading Causes of Death

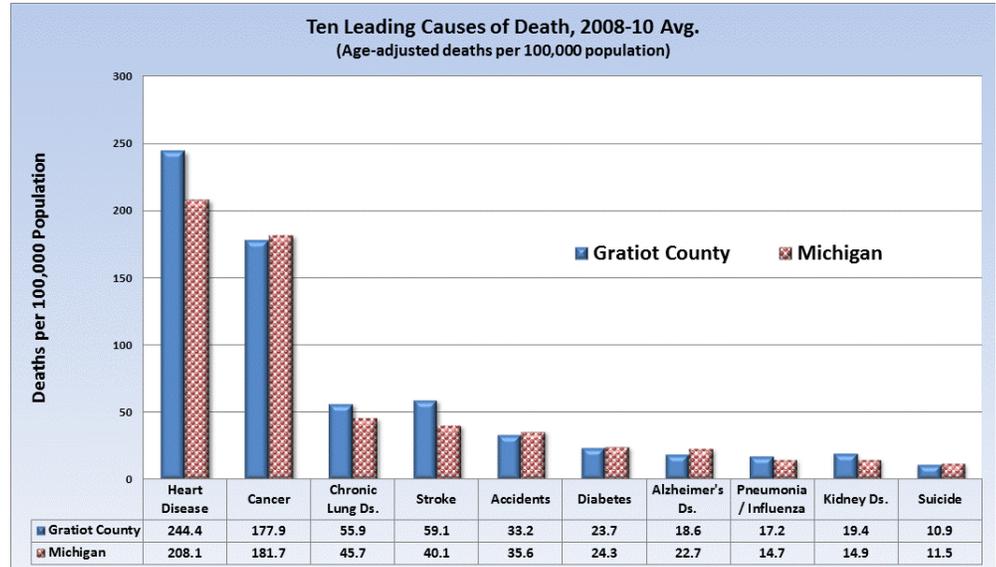
- Advances in the reduction of deaths in the United States have been attributed to several factors. These include advancements through medical research and medical technology, greater understanding of the risks of certain behaviors, and public and environmental policies to advance health.

- The figure to the right lists the mortality rates for the ten leading causes of death in Michigan and Gratiot County during the three-year period 2008-10. Gratiot County had a lower mortality rate than Michigan for five of the ten leading causes of death (cancer, accidents, diabetes, Alzheimer's disease, and suicide).

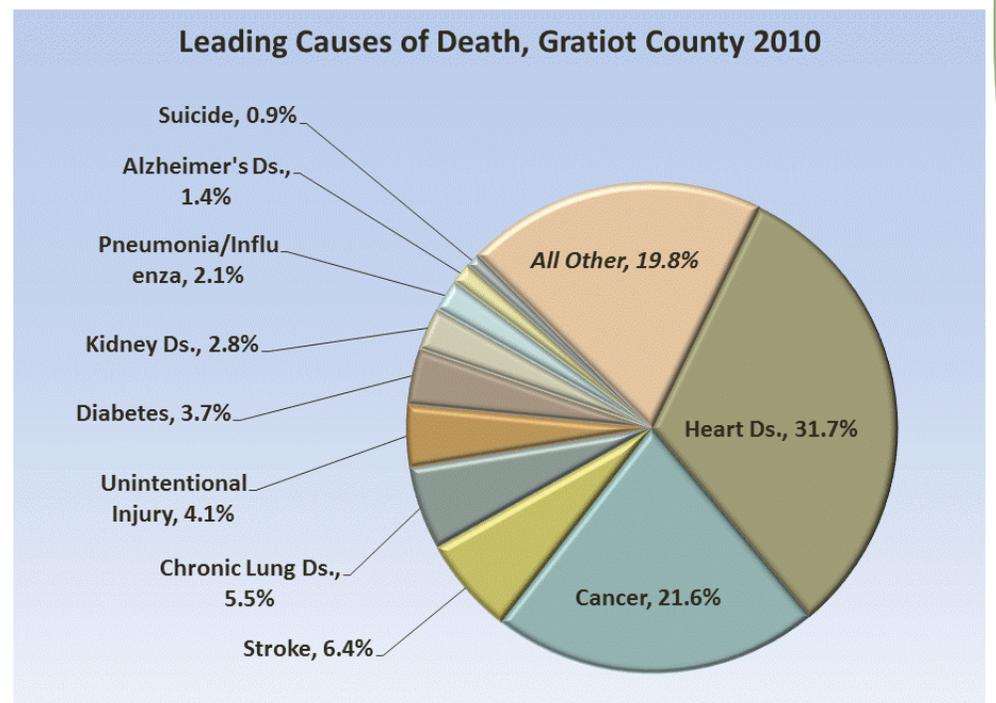
- It's quite evident that heart disease and cancer are the two most frequent causes of death, dwarfing the other eight conditions in magnitude. For Gratiot County, heart disease accounted for nearly 240 deaths annually per 100,000 persons.

- The pie chart to the right shows the respective contribution of each of the leading causes of death for Gratiot County in 2010. One can see that heart disease and cancer account for over 50% of deaths, and that the ten leading causes of death listed account for nearly 80% of all deaths during the year 2010.

- Many of the leading causes of death are recognized as chronic health conditions that frequently develop over long periods of time and can potentially be addressed through policy, programmatic, and preventive actions.



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics,

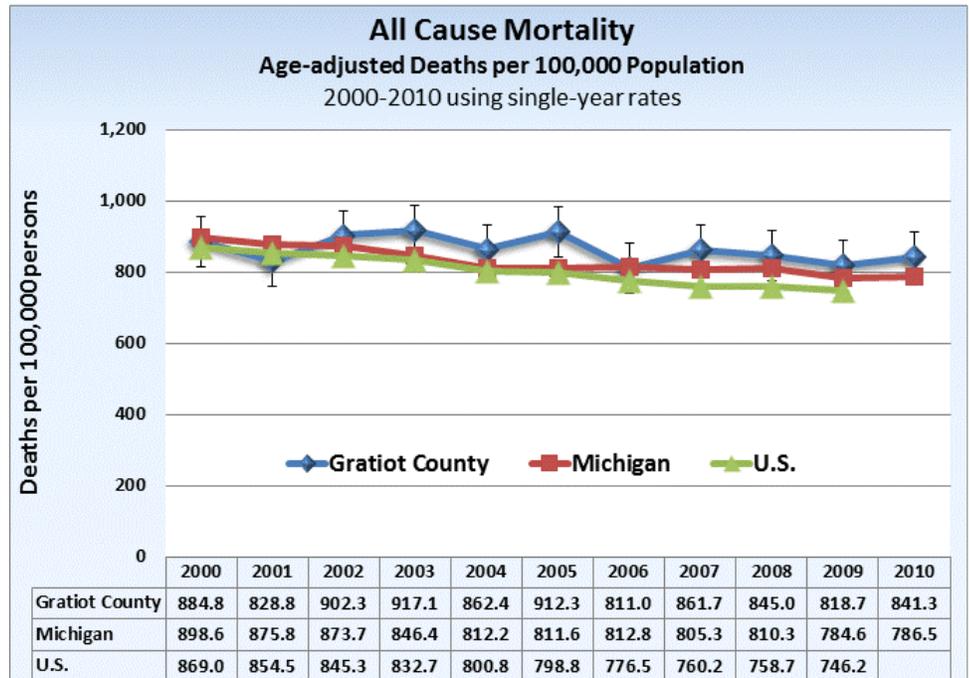
CD, Morbidity, Mortality

Chronic Disease, Morbidity, and Mortality

• Mortality

- The age-adjusted mortality rate over the period 2000-10 indicates that Gratiot County all-cause mortality rate is greater than the Michigan and U.S. rates, although all have trended downward during this period. Analysis of the 95% confidence intervals for each geographic region over this period indicates that Gratiot County all-cause mortality is not significantly higher than Michigan or the United States during this ten-year period.

- In 2010, Gratiot County recorded an all-cause mortality rate of 841 deaths per 100,000 persons – down from 885 per 100,000 in the year 2000. This all cause mortality rate includes all potential causes of death listed by the International Classification of Diseases. The following figures focus on those conditions listed as the leading causes of death.

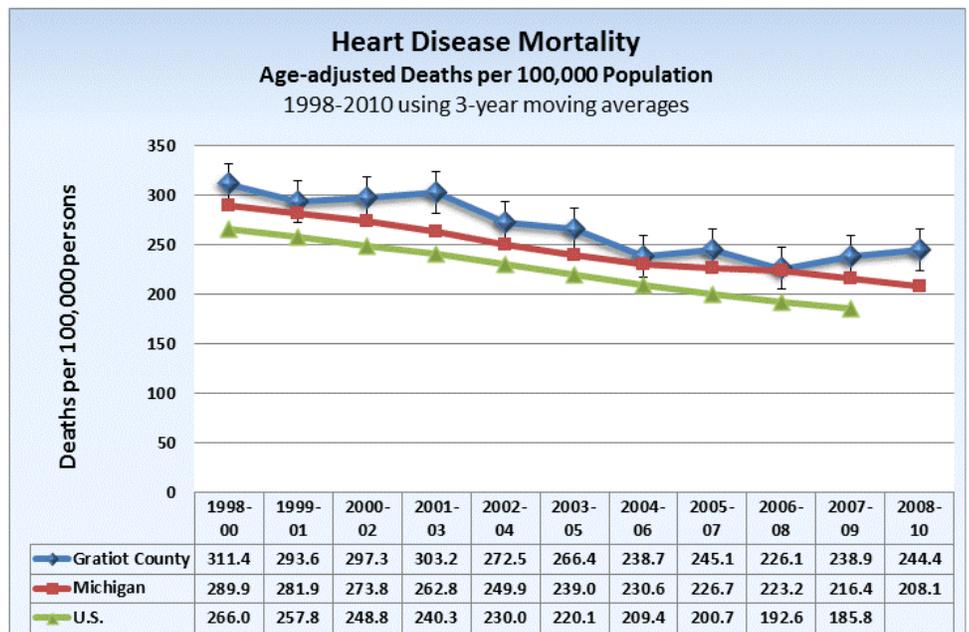


Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health

• Heart Disease

- Heart disease is the leading cause of death in Gratiot County, as is the case for both Michigan and the United States. Currently, no local BRFS survey data addresses the prevalence of heart disease amongst residents of Gratiot County; however, Michigan 2009 BRFS statistics indicate that approximately 4.5% of adults in Michigan have ever been told by a doctor that they had a heart attack, while 4.4% have ever been told they have coronary heart disease.

- The figure to the right indicates that heart disease mortality has declined over the period 1998-2010 for Gratiot County, Michigan, and U.S. residents. The figure also indicates that Gratiot County has a higher mortality rate than both Michigan and United States over this period.

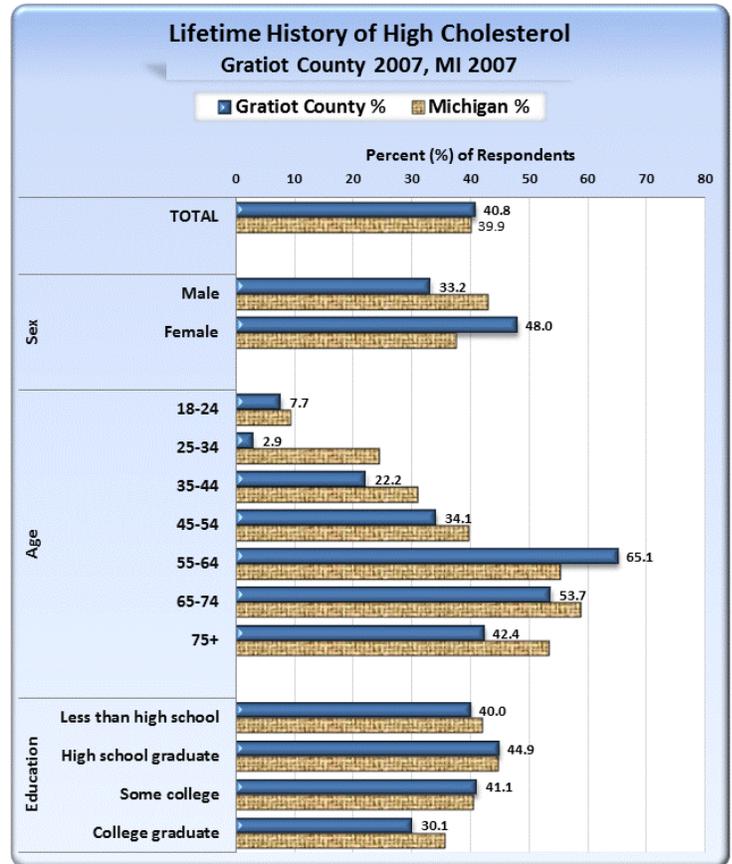


Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health

Chronic Disease, Morbidity, and Mortality

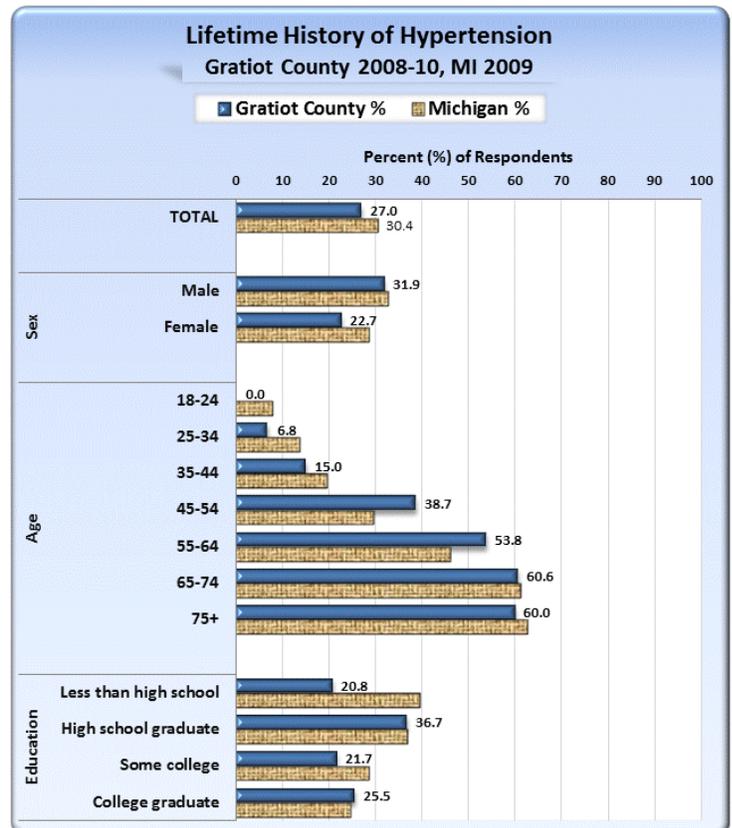
• Cholesterol

- High blood cholesterol is a risk factor for coronary heart disease in the United States. One of the ways of monitoring the risk of developing coronary heart disease is to measure blood cholesterol levels in adults. Local BRFS (survey) results indicate that a similar proportion of Gratiot County and Michigan adults have ever been told by a health care provider that they have high cholesterol (40.8% vs. 39.9%). The figure to the right shows that, for Michigan, men are more likely than women to have high cholesterol, and the likelihood of having high cholesterol increases with age and decreases slightly with higher educational attainment. These findings generally held true for Gratiot County adults, except that women were more likely than men to have reported a history of high cholesterol. Results from the 2012 Live Well Gratiot Community Survey indicates that 78% of adults had their blood cholesterol measured within the preceding five years, compared with 80% of Michigan adults (MI BRFS 2009). The national Healthy People 2020 plan for improving American's health has as its goal to increase to 82% the percentage of adults who've had their cholesterol checked in the preceding five years.



• Hypertension (High Blood Pressure)

- High blood pressure is a risk factor for developing cardiovascular disease, stroke, and kidney disease in the United States. Local BRFS (survey) results indicate that a lower proportion of Gratiot County adults have ever been told by a health care provider that they have high blood pressure than Michigan adults (27.0% vs. 30.4%). The figure to the right indicates that men are more likely than women to have high blood pressure, and the likelihood of having high blood pressure increases with age and decreases for those with greater educational attainment. Results from the 2012 Live Well Gratiot Community Survey indicate that 84% of adults had their blood pressure measured within the past year. The national Healthy People 2020 plan for improving American's health has as its goal to increase to 92% the percentage of adults who've had their blood pressure checked in the preceding two years.



Source: Behavioral Risk Factor Surveillance, Gratiot County.

Chronic Disease, Morbidity, and Mortality

- **Cancer (all forms)**

Prevalence

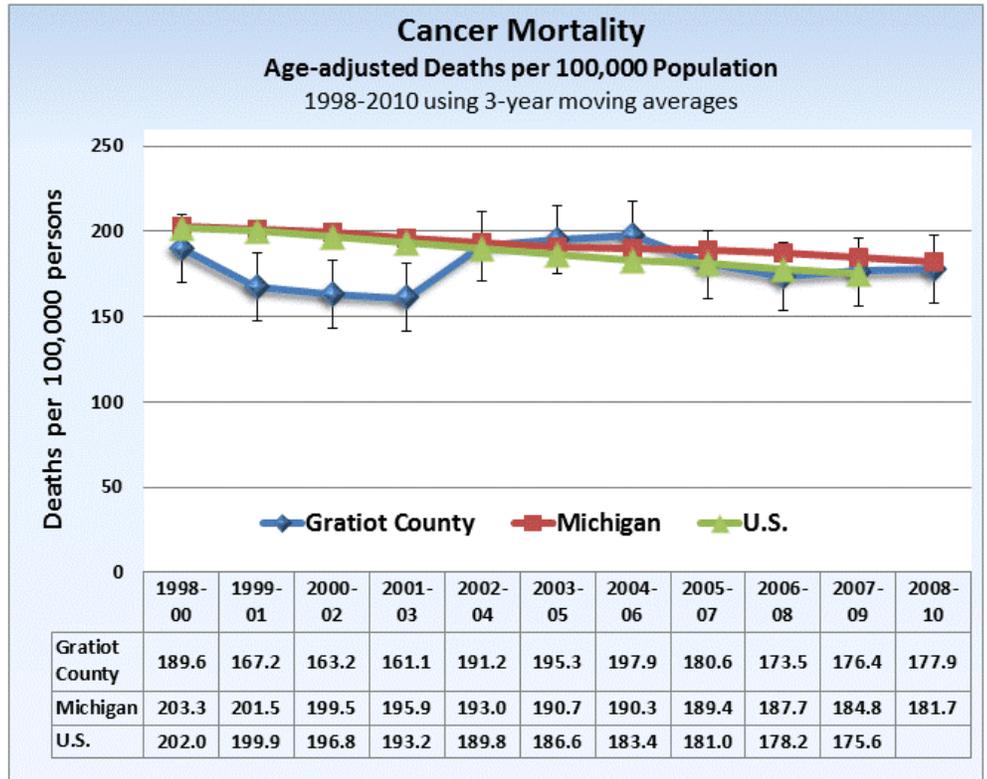
- As shown earlier in this segment of the report, cancer is the second leading cause of death in Gratiot County, Michigan, and the United States. Currently, no local BRFSS survey questions address the prevalence (existing cases) of cancer; however, Michigan 2009 BRFSS data indicates that approximately 9.9% of adults in the state have ever been told by a doctor that they had cancer.

Mortality

- The figure to the right shows the overall cancer mortality rate during the preceding decade for Gratiot County, Michigan, and United States. The data indicates that cancer mortality has declined over the period 1998-2010 for Michigan and the United States and that the rate for the two regions has remained similar. The trend for Gratiot County is less clear, as rates have fluctuated over the period, but in recent years has been in line with the mortality rate for both Michigan and the United States.

- Nationally, overall (all-cause) cancer mortality has been declining since 1992. These declines in mortality include cancer-specific sites such as breast, lung, prostate, and colon. However, cancer mortality is on the rise nationally for certain organ sites, such as the liver, pancreas, and uterus.

- The National Cancer Institute reports that, as of 2007, cancers of the breast, prostate, lung, and colon accounted for more than half of all cancer deaths in the United States.



Source: *Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health*

Chronic Disease, Morbidity, and Mortality

- Cancer (all forms)

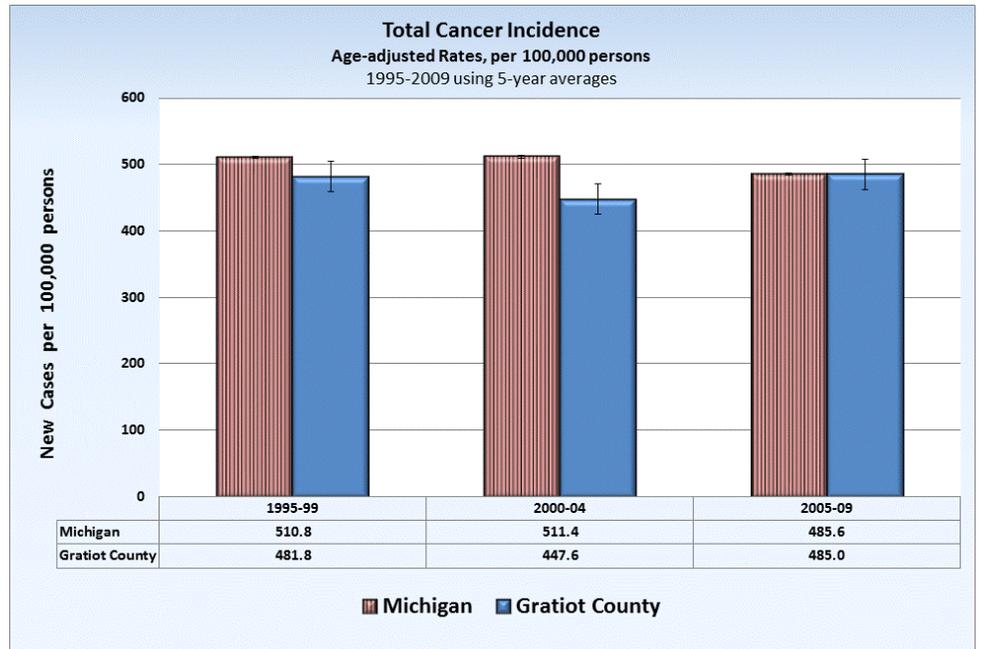
Incidence

- Cancer as a general term encompasses many different types of neoplastic disease and is used here to represent all types of invasive cancer. As noted in an earlier segment, cancer is the second leading cause of death in Gratiot County, Michigan, and the United States.

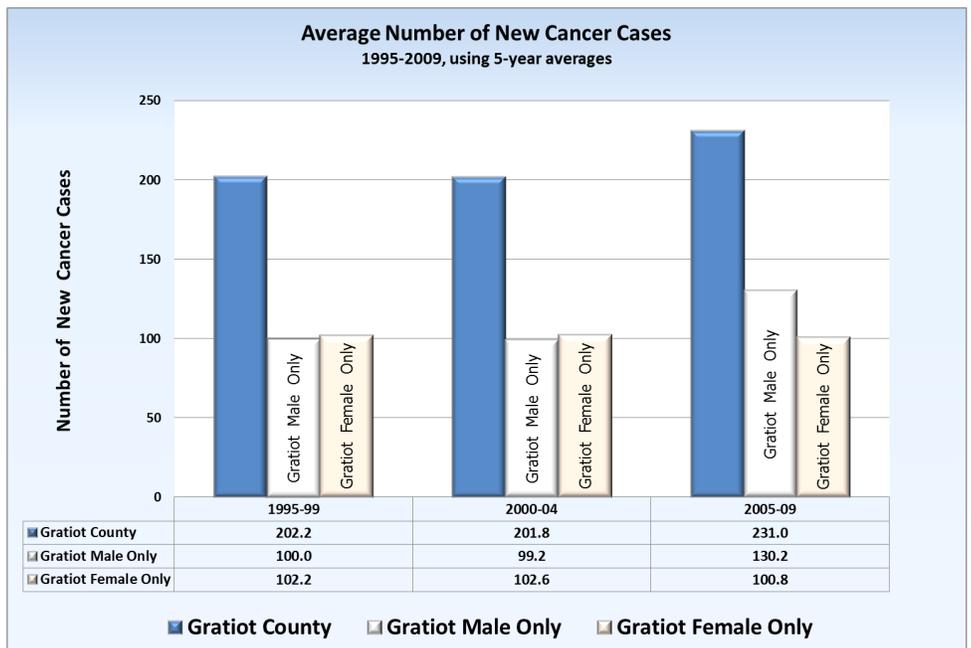
- Data from the Michigan Resident Cancer Incident Files provides information about the incidence (new cases) of invasive cancer. The figure to the right represents the age-adjusted total cancer incidence for Michigan and Gratiot County. Using 5-year average rates over the period 1995-2009, it's evident that the Michigan cancer incidence remained steady for the periods 1995-99 and 2000-04, and then experienced a decrease for the period 2005-09. Gratiot County experienced a fluctuation in the rate of new cancer cases over this period, and fared better than Michigan for the first two periods (1995-99 & 2000-04), before seeing a rise during the most recent reporting period of 2005-09.

- Gratiot County averaged 231 new cases of cancer annually over the period 2005-09; an increase over the two preceding periods (1995-99 & 2000-04). The figure to the right demonstrates that new cases of cancer were nearly evenly distributed between males and females for the first two periods outlined, but increased slightly for males during the most recent period (2005-09).

- Currently, no local BRFS survey questions address the prevalence (existing cases) of cancer; however, Michigan 2009 BRFS results indicate that approximately 9.9% of adults in the state have ever been told by a doctor that they had cancer.



Source: Michigan Resident Cancer Incident File, Michigan Department of Community Health



Source: Michigan Resident Cancer Incident File, Michigan Department of Community Health

CD, Morbidity, Mortality

Chronic Disease, Morbidity, and Mortality

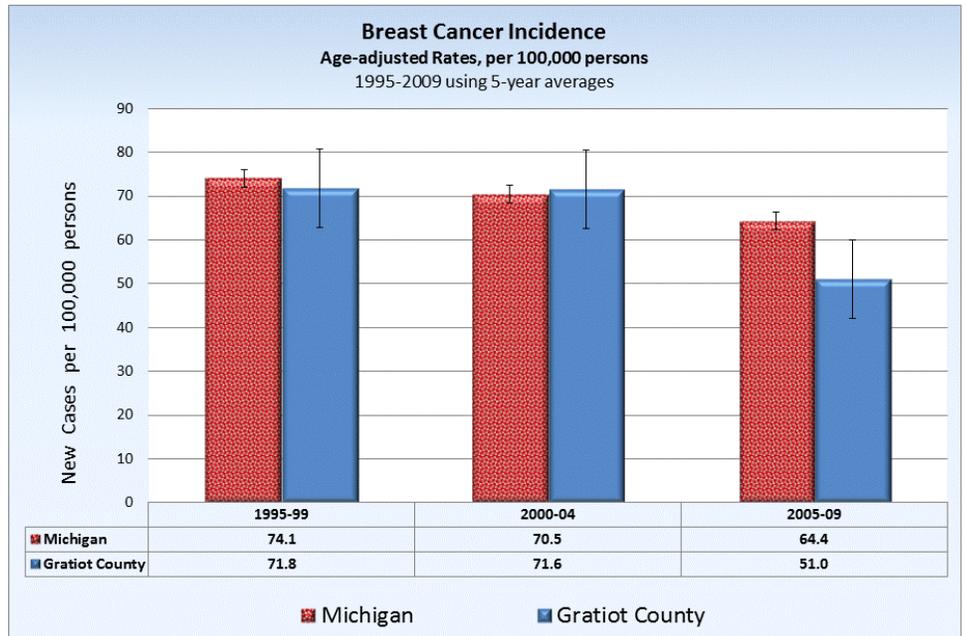
Breast Cancer

- Overall breast cancer incidence, including cases for both men and women, is shown in the figure to the right for Michigan and Gratiot County. Over the period 1995-2009, breast cancer incidence declined for both Gratiot County and Michigan, most notably in the most recent five-year period (2005-09). In absolute numbers, approximately 24 new cases of breast cancer were diagnosed annually in Gratiot County during the period 2005-09. Although not shown in this report, breast cancer mortality has declined nationally 2.2% per year over the period 2005-09.

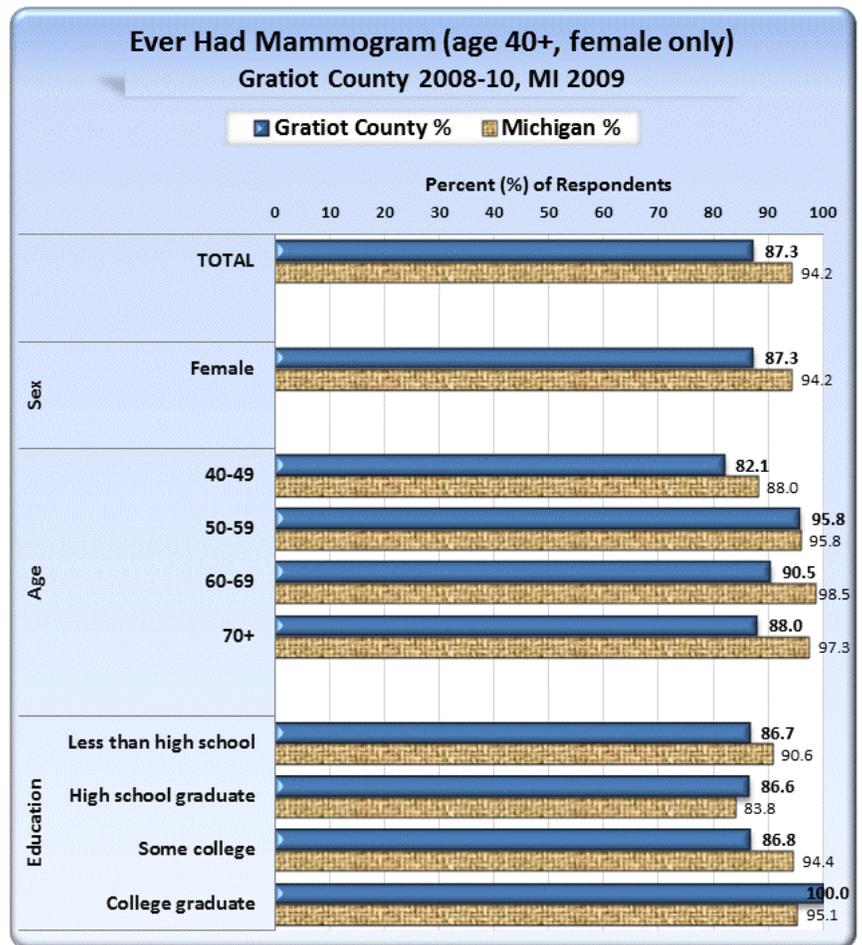
- Early detection of breast cancer is possible through the use of screening tools such as clinical breast exams and mammography. Local Behavioral Risk Factor Survey (BRFS) results indicate a lower proportion Gratiot County females age 40+ years have ever had a mammogram than Michigan females (87.3% vs. 94.2%). The figure to the right also indicates that women with higher educational attainment are more likely to have ever had a mammogram.

- Recommendations for early detection include: (*National Breast Cancer Foundation, Inc.*)

- Beginning at age 20: Performing breast self-exams
- Age 20 to 39: Scheduling clinical breast exams every three years.
- By the age of 40: Baseline mammogram and annual clinical breast exams.
- Ages 40 and older: Mammogram every one to two years depending on previous findings, consult with doctor.



Source: Michigan Resident Cancer Incident File, Michigan Department of Community Health.



Source: Behavioral Risk Factor Surveillance, Gratiot County.

CD, Morbidity, Mortality

Chronic Disease, Morbidity, and Mortality

Colorectal Cancer

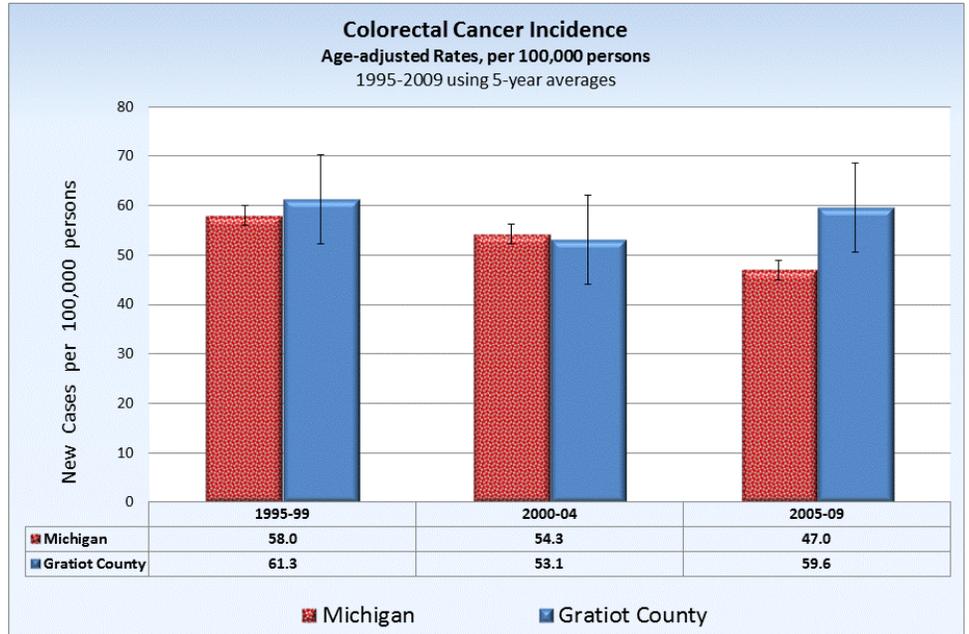
- Colorectal cancer incidence (new cases of cancer) is shown in the figure to the right for the period 1995-2009. Michigan has experienced a decline in colorectal cancer incidence over the fifteen-year period outlined. Gratiot County incidence initially declined, but returned to a similar level of 60 cases per 100,000 persons by the period 2005-09. In absolute numbers, approximately 28 new cases of colorectal cancer were diagnosed annually in Gratiot County over the period 2005-09.

- Although not shown in this report, colorectal cancer mortality in the U.S. declined 3.1% per year over the period 2005-09. Over this period, approximately 6 colorectal cancer deaths occurred annually in Gratiot County.

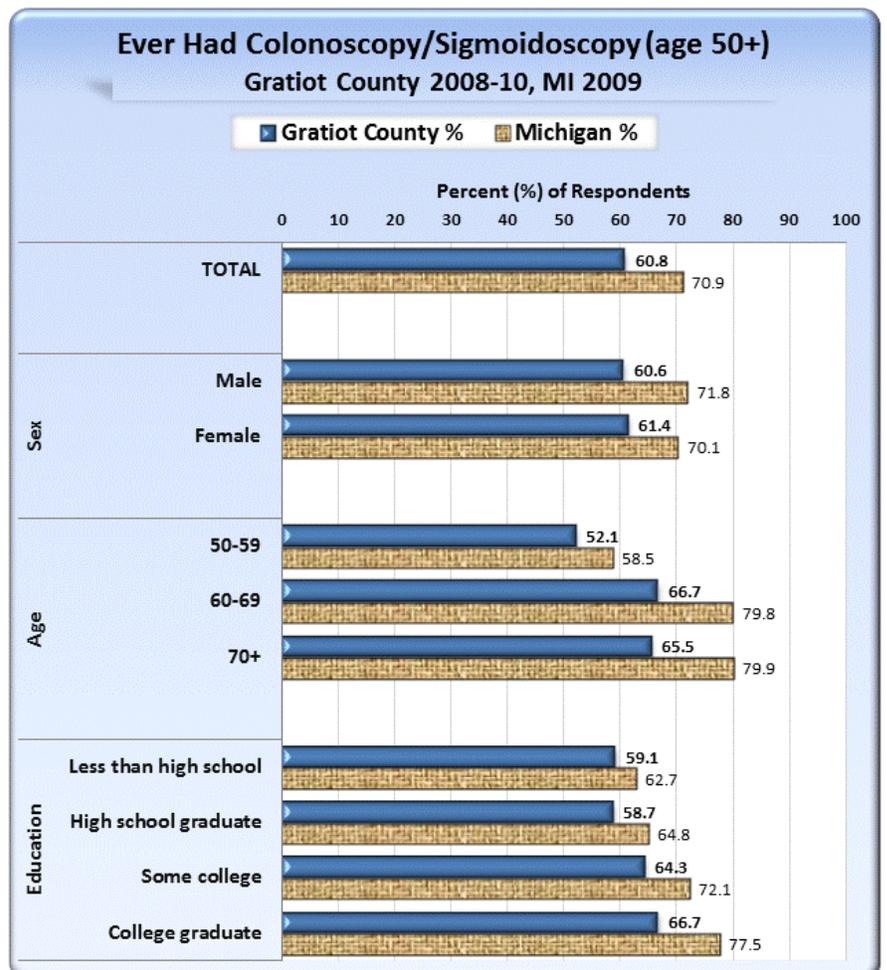
- Early detection of colorectal cancer is possible through the use of screening tools such as fecal occult blood tests, sigmoidoscopy, and colonoscopy. Local Behavioral Risk Factor Survey (BRFS) results indicate a lower proportion of Gratiot County adults age 50+ years have ever had a sigmoidoscopy or colonoscopy than Michigan adults (60.8% vs. 70.9%). The figure to the right also indicates that differences in screening by gender are minimal, and that adults with higher educational attainment are more likely to have ever had a sigmoidoscopy or colonoscopy.

- Recommendations for early detection include: (*Centers for Disease Control and Prevention*)

- For men and women age 50-75 years, the following tests are recommended (after age 75 please consult with doctor):
- High-Sensitivity FOBT (stool test) once a year.
- Sigmoidoscopy every 5 years.
- Colonoscopy every 10 years.



Source: Michigan Resident Cancer Incident File, Michigan Department of Community Health



Source: Behavioral Risk Factor Surveillance, Gratiot County.

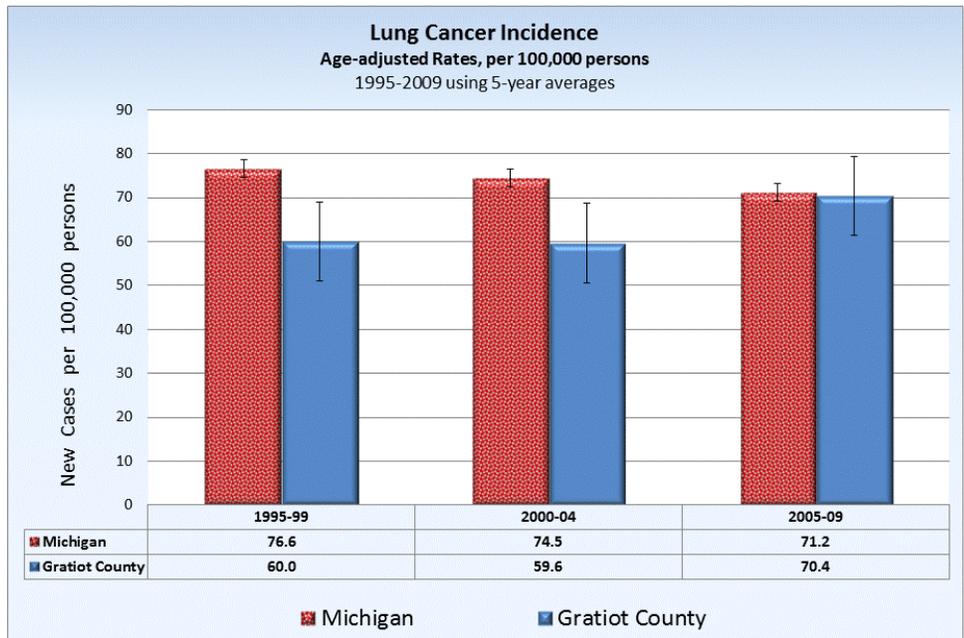
Chronic Disease, Morbidity, and Mortality

• Lung & Bronchus Cancer

- Lung and bronchus cancer incidence is shown in the figure to the right for the period 1995-2009. A slight decline in incidence is evident for Michigan over this period from 77 new cases annually to 71 cases per 100,000 persons. Over this same period, Gratiot County experienced an increase in lung cancer incidence, although analysis of 95% confidence intervals suggests the rate increase was not statistically significantly different between periods.. Males had a higher incidence of lung cancer than females over the period outlined. In absolute numbers, during the five-year period 2005-09, approximately 19 new cases of lung cancer were diagnosed annually in Gratiot County males, compared with 15 new cases annually for females.

- Despite lung cancer mortality declining approximately 1.6% per year over the period 2005-09, it remains the leading cause of cancer-related deaths in the United States.

- Screening recommendations for the early detection of lung cancer are not universally defined or accepted at this time. Adults over the age of 50 years with a history of 20+ years of smoking or currently smoke cigarettes are at greater risk for developing lung cancer, and should speak with their doctor about the best options for the early detection of lung cancer.



Source: Michigan Resident Cancer Incident File, Michigan Department of Community Health

Chronic Disease, Morbidity, and Mortality

Stroke

- A stroke occurs when a blood clot blocks an artery or a blood vessel breaks, interrupting blood flow to the brain. The severity of a stroke can range from minor problems such as weakness in an arm or leg or can be more severe and cause paralysis on one side of the body, or even death.

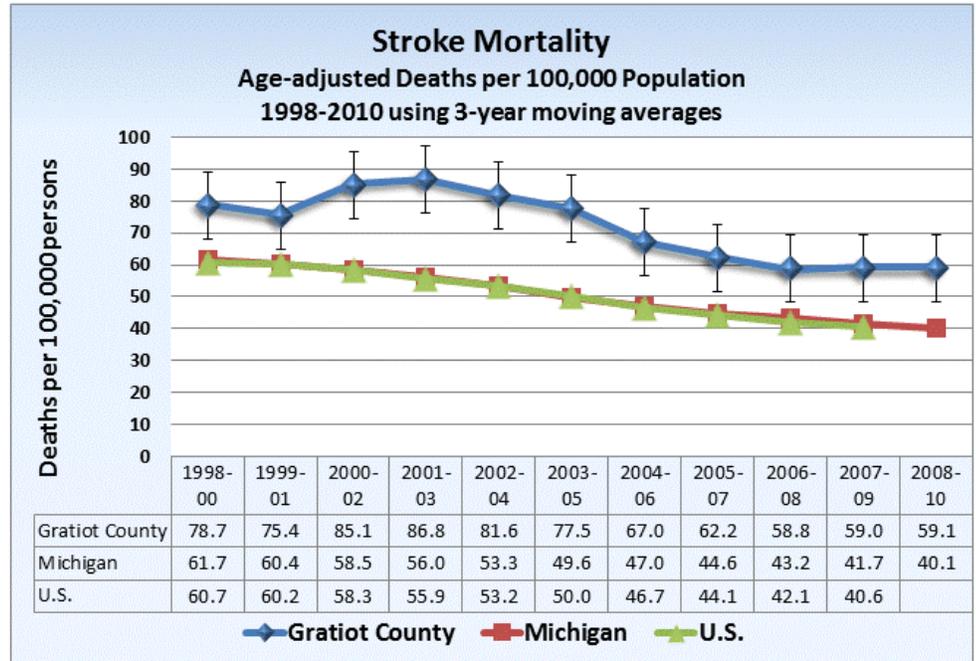
- As the figure to the right indicates, the rate of stroke mortality has decreased over the period 1998-2010 for Michigan and United States, and more recently for Gratiot County. However, Gratiot County has consistently experienced a higher relative mortality rate than both Michigan and the United States over this period.

- Several modifiable risk factors are associated with stroke, including (but not limited to) smoking, uncontrolled high blood pressure, untreated high cholesterol, and obesity.

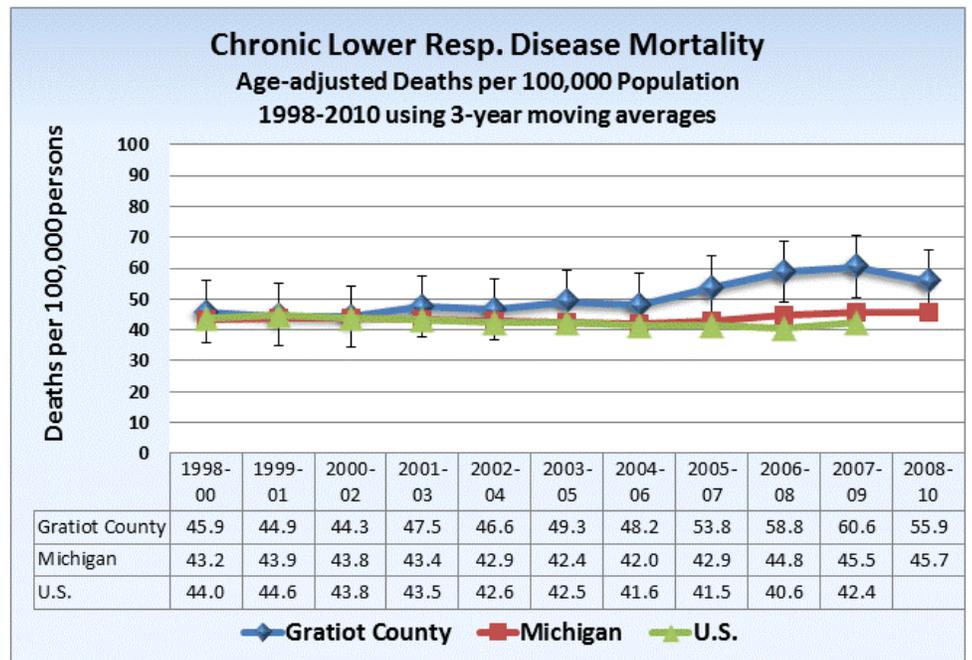
Chronic Lower Respiratory Disease

- Chronic obstructive pulmonary diseases of the lower respiratory tract (primarily emphysema and chronic bronchitis) and chronic inflammatory disease (asthma) are grouped together here under the term chronic lower respiratory disease. Cigarette smoking is a major contributor to the development or progression of these chronic respiratory illnesses.

- the rate of chronic lower respiratory disease mortality has been increasing for Gratiot County over the period 1998-2010, as can be seen in the figure to the right. The mortality rate was stable for much of the period outlined for both Michigan and the U.S., but a recent uptick in mortality can be seen for Michigan during the latter half of the decade.



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics,



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics,

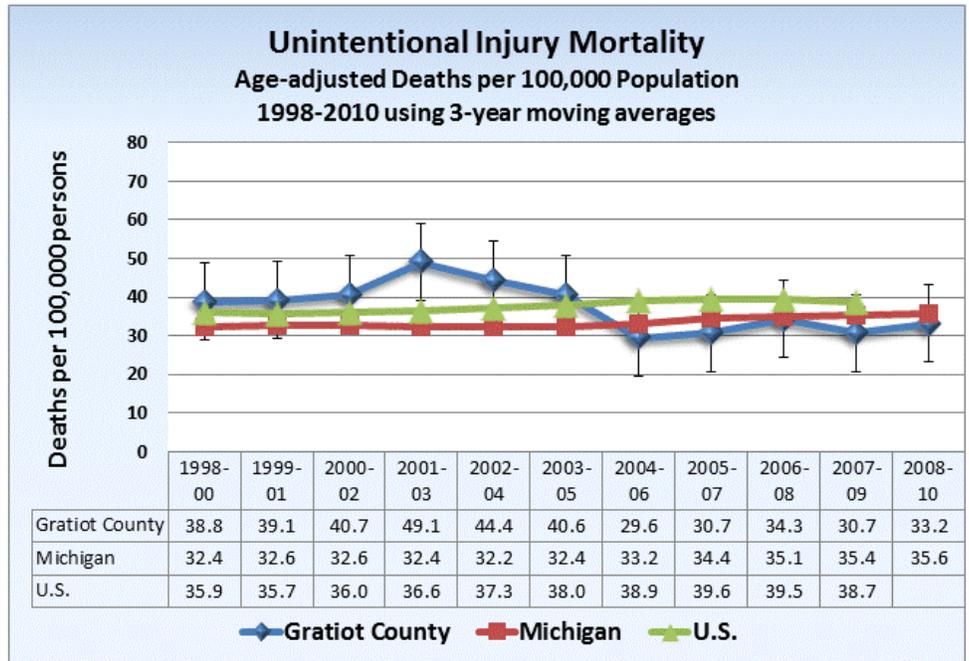
Chronic Disease, Morbidity, and Mortality

Unintentional Injury

- Unintentional injuries are those that occur by accident and are not purposefully self-inflicted. This includes unintentional falls, poisonings, motor vehicle accidents, fire/burns, drowning, and suffocation. As shown earlier in this section, unintentional injury is one of the leading causes of mortality, both nationally and locally.

- Unintentional injury mortality for Gratiot County has fluctuated over the period 1998-2010, reaching a peak rate during the three-year period 2001-03 then falling to its lowest level during the 3-year period 2004-06 where it then stabilized. Over this same period, unintentional injury mortality has slightly increased for Michigan and the United States.

- Of the 123 Gratiot County fatal injuries during 2005-10, 72 (59%) were classified as unintentional injuries (accidents). The remainder being self-inflicted (suicide), homicide, or of undetermined cause.
- Among the unintentional injury fatalities for the period 2005-2010:
 - falls accounted for 10 deaths
 - poisoning accounted for 9 deaths
 - transport-related injuries accounted for 41 deaths
 - fire accounted for 3 deaths
 - suffocation accounted for 9 deaths
 - drowning accounted for 0 deaths
- Intentional Injury: Suicide accounted for 26 deaths over the period 2005-10, while homicide accounted for 2 deaths in Gratiot County.



All Fatal Injuries (including unintentional, suicide, homicide)

Gratiot County, Injury-related deaths 2005 to 2010

Cause	2005	2006	2007	2008	2009	2010
ALL CAUSES	12	24	22	20	21	24
Unintentional						
- fall	1	2	2	2	1	2
- poisoning	0	1	1	3	2	2
- transport	5	9	7	6	6	8
- Fire	2	0	0	1	0	0
- suffocation	1	1	1	2	2	2
- drowning	0	0	0	0	0	0
Suicide						
- firearm	1	4	2	2	4	4
- poisoning	0	0	1	2	1	0
- hanging/suff.	0	1	3	0	1	0
Homicide						
- firearm	1	1	0	0	0	0
all other	1	5	5	2	4	6

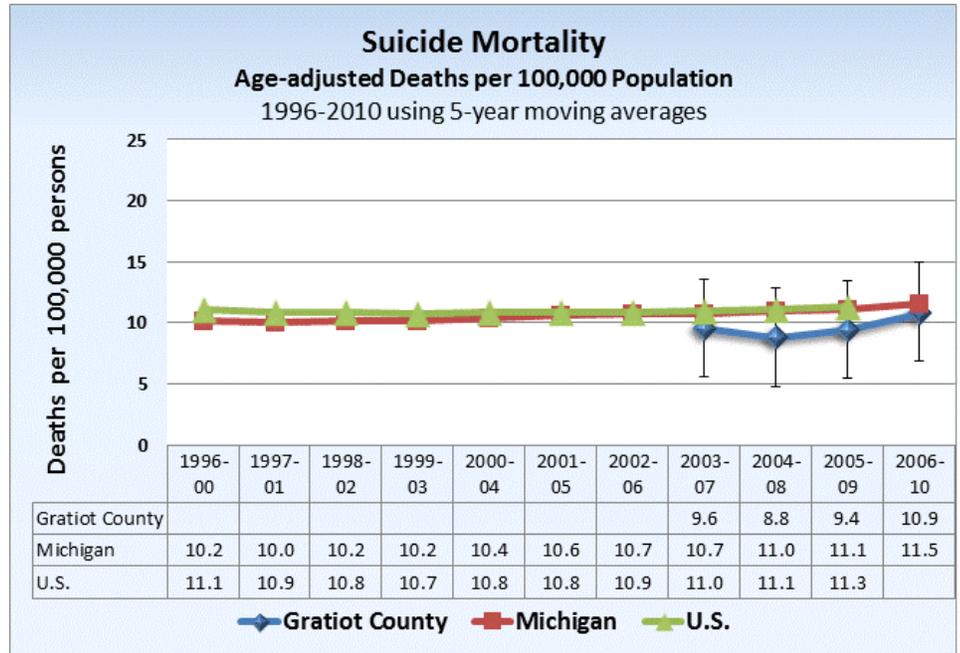
Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health

Chronic Disease, Morbidity, and Mortality

• Suicide

- Suicide was the tenth leading cause of death in Michigan and Gratiot County in 2010. However, its influence on overall mortality varies greatly by age group—for instance among adolescents and young adults age 15-24 years, suicide is the third leading cause of death.

- The figure to the right indicates suicide mortality rates for Gratiot County, Michigan and the United States. One can see that Michigan and U.S. rates mirror one another over this period and have increased slightly over time for Michigan. (Due to the relatively small number of cases annually, reliable mortality rates for Gratiot County are only available for the period 2003-07 to 2006-10). For the years data is available, Gratiot County did experience a lower mortality rate than both Michigan and the U.S.



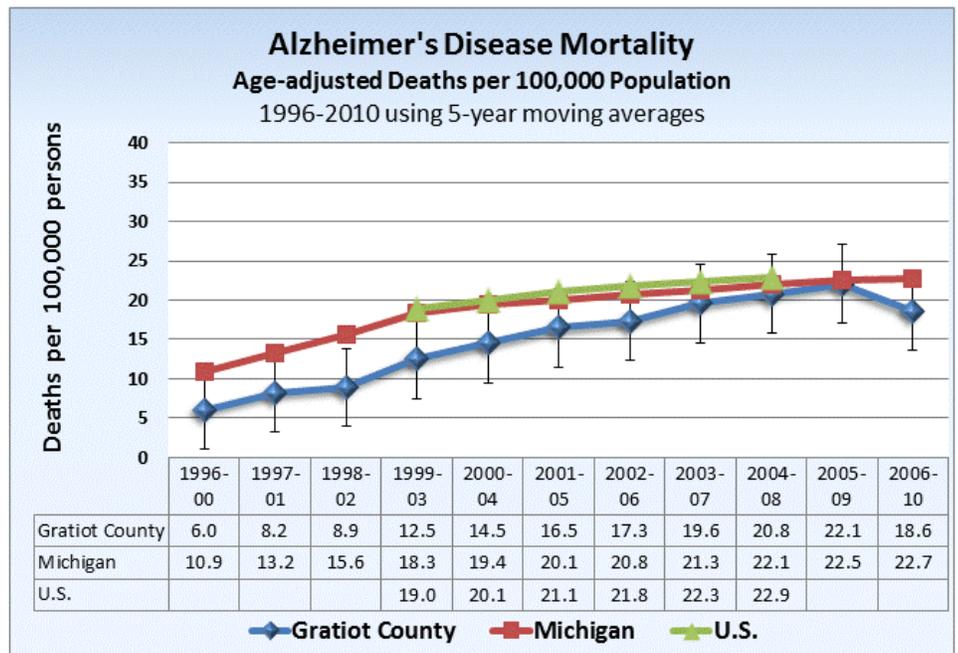
Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics,

• Alzheimer's Disease

- Alzheimer's disease is a type of dementia that causes problems with memory, thinking, and behavior. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks.

- Gratiot County Alzheimer's disease mortality rates have noticeably increased over the past decade. This trend is also evident for Michigan and the U.S., although the reasons for this increase are not entirely clear (it could be, in part, due to increased recognition, screening, and diagnosis of the disease within the population).

- As this chronic disease primarily affects older adults, it's anticipated that this trend will possibly continue as the "baby boomer" generation ages.



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health

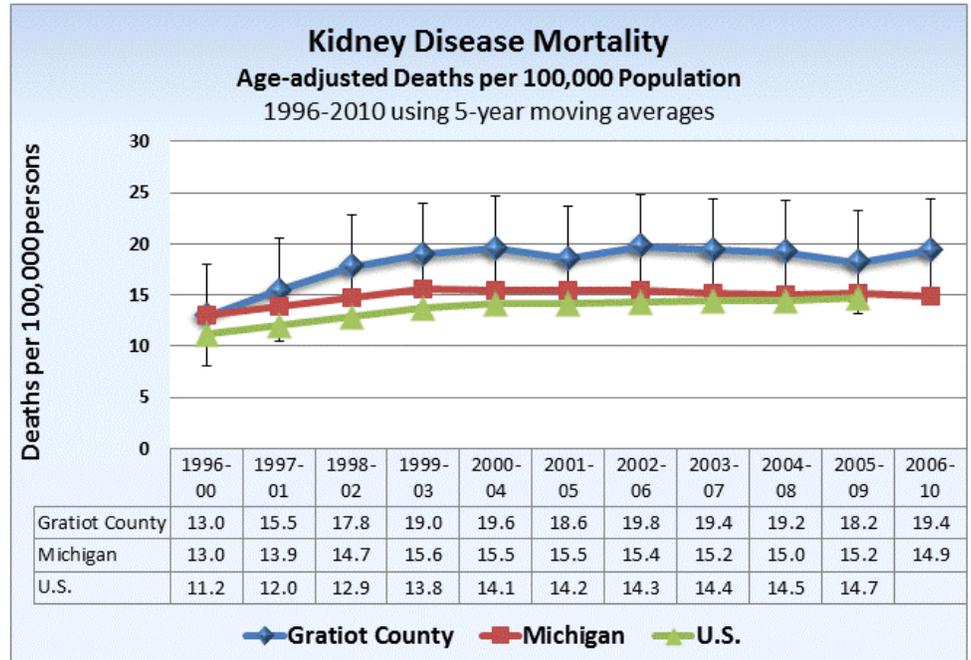
CD, Morbidity, Mortality

Chronic Disease, Morbidity, and Mortality

• Kidney Disease

- A primary function of the kidneys is to filter waste products from the blood and maintain electrolyte balance. Kidney disease frequently occurs when one suffers from gradual and usually permanent loss of kidney function over time.

- Gratiot County has experienced a consistently higher kidney disease mortality rate over the period 1996-2010 than that of Michigan and the U.S. The mortality rate increased for all three geographic regions during the period 1996-2004, and then stabilized throughout the remainder of the decade for Gratiot County and Michigan. Nationally, the upward trend continued throughout the decade.



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics,

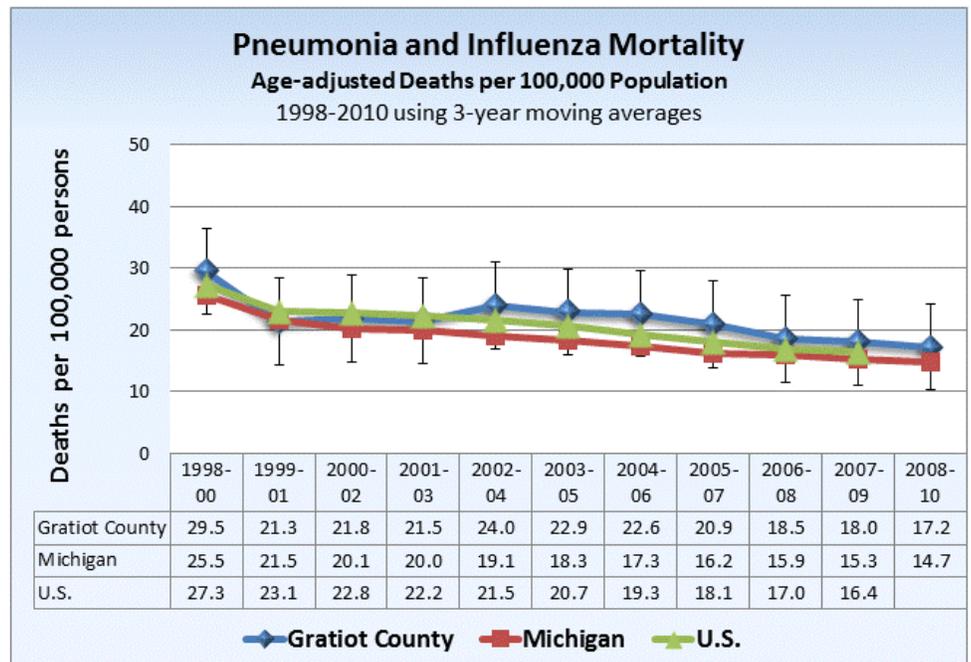
• Pneumonia & Influenza

- Pneumonia is an inflammation of the lung tissue caused by infection with bacteria, viruses, or other organisms. It is often a complication of a pre-existing condition or infection, and triggered when a patient's defense system is weakened. Influenza is a potentially severe form of seasonal viral respiratory infection. The elderly and the very young are most at risk for infection. (American Lung Association)

- A rather consistent trend of decreasing mortality is seen for Gratiot County, Michigan and the United States over the period 1998-2010.

- Those primarily affected adversely by pneumonia and influenza, causing death, are generally 75 years of age or older.

- Influenza is largely preventable through vaccination. Pneumonia vaccine is also recommended for young children, seniors citizens and those with underlying health problems.



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health

Chronic Disease, Morbidity, and Mortality

Diabetes

- Diabetes is a group of diseases characterized by high blood glucose levels that result from defects in the body's ability to produce and/or use insulin. Insulin is a hormone that is needed to convert sugar, starches and other food into energy needed for everyday life. (*American Diabetes Association*)

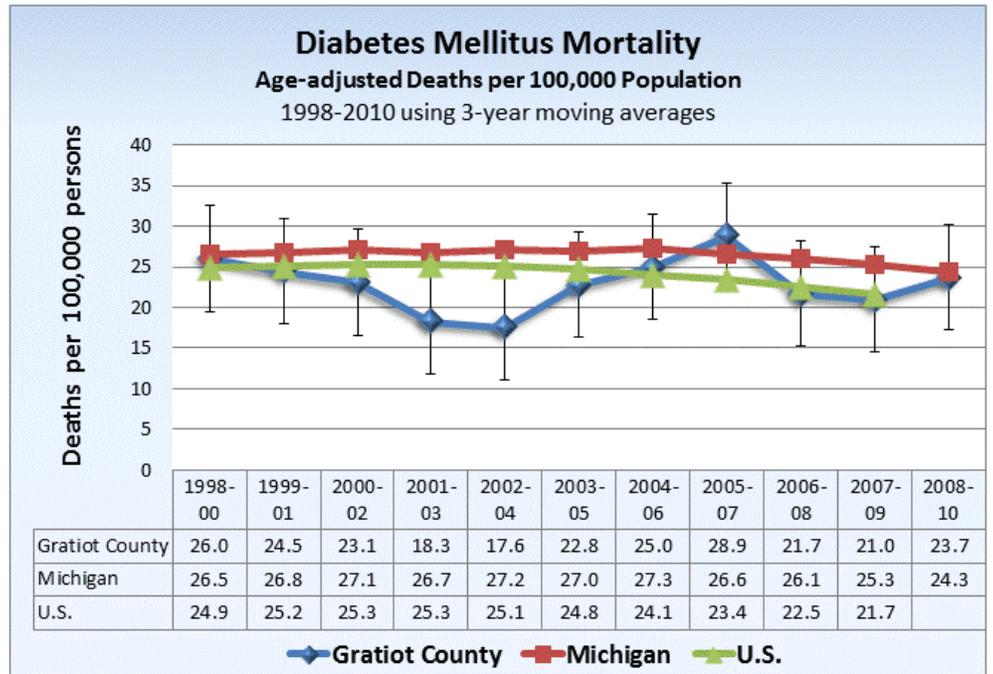
- The forms of diabetes related to the charts to the right are Type I and Type II diabetes (gestational diabetes excluded).

- Type I diabetes is usually diagnosed in children and young adults, and was previously known as juvenile diabetes. In Type I diabetes the body does not produce insulin.

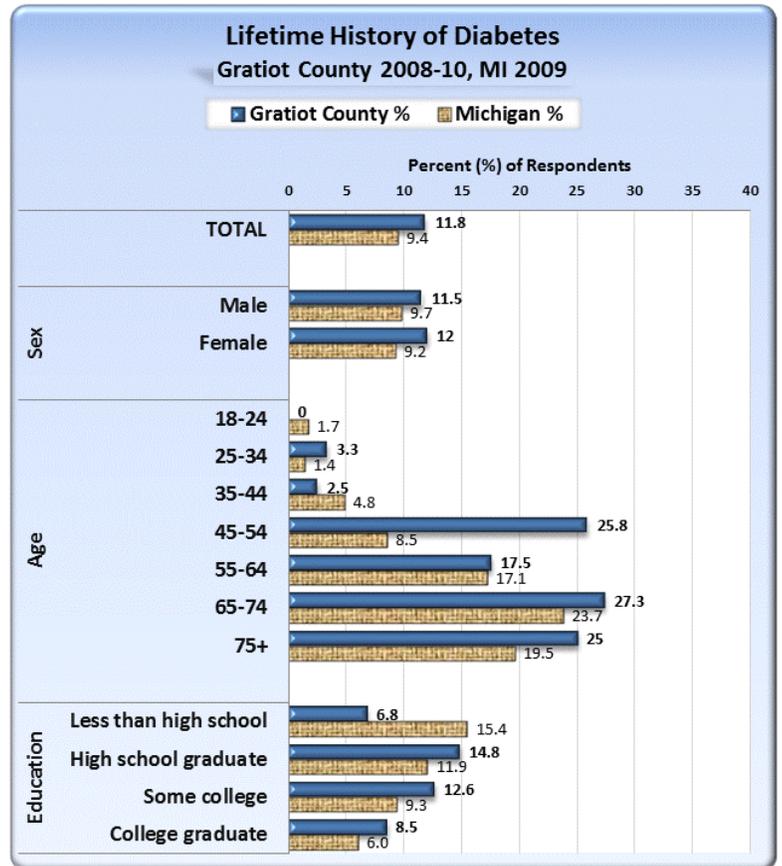
- Type II diabetes is the most common type of diabetes. In Type II diabetes either the body does not produce enough insulin or the cells ignore the insulin.

- Diabetes was the sixth leading cause of death in Gratiot County during the year 2010. No clear trend in diabetes mortality is evident for Gratiot County for the period 1998-2010. Over this same period, diabetes mortality has trended downward for Michigan and United States. See figure above.

- Local BRFs (survey) results indicate that a higher proportion of Gratiot County adults than Michigan adults have ever been told by a health care provider they have diabetes (11.8% vs. 9.4%). BRFs results in the figure to the right suggest males and females are equally likely to have ever been told they have diabetes; while the likelihood of ever having diabetes increases with age and decreases with higher educational attainment.



Source: Michigan Resident Death Files, Division for Vital Records & Health Statistics,



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

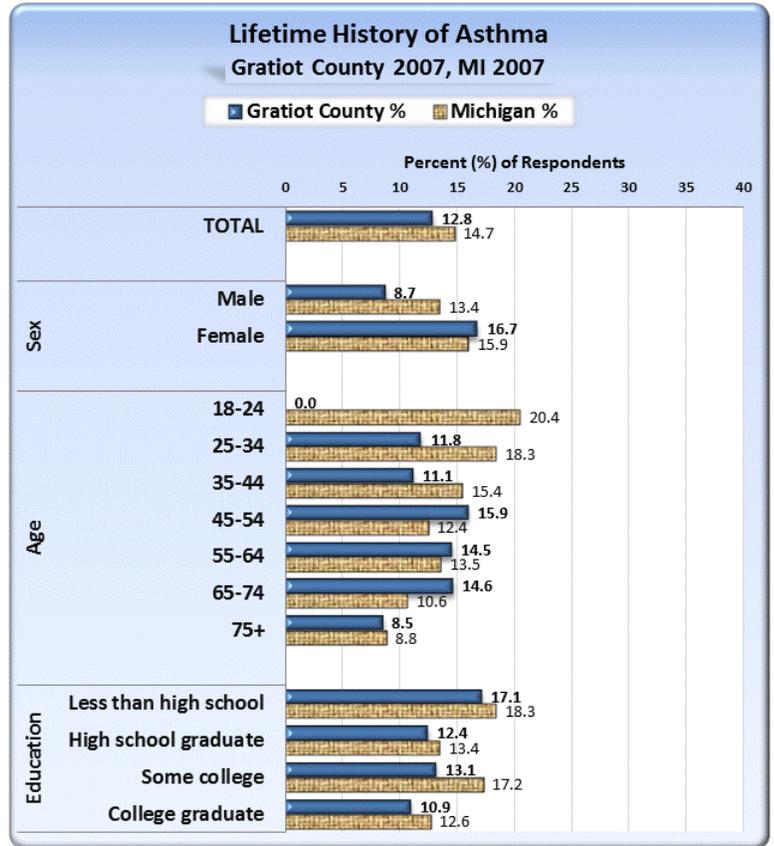
CD, Morbidity, Mortality

Chronic Disease, Morbidity, and Mortality

• Asthma

- Asthma is a chronic disease of the respiratory system that causes the airways of the lungs to swell and narrow, leading to wheezing, shortness of breath, chest tightness, and coughing.

- Local BRFs (survey) results indicate that a lower proportion of Gratiot County adults than Michigan adults have ever been told by a health care provider they have asthma (12.8% vs. 14.7%). The figure to the right also indicates males are less likely to have ever been told they have asthma. The likelihood of ever having asthma decreases with age for Michigan adults but the correlation is weaker for Gratiot County adults; and asthma prevalence tends to decrease with higher educational attainment.



Source: Behavioral Risk Factor Surveillance, Gratiot County. Mid-Michigan District Health Department 2008-2010

Chronic Disease, Morbidity, and Mortality

Twenty Statewide Leading Hospitalizations

Average annual number of hospitalizations per 10,000 resident population, 2005-09 average rate

	Michigan	Gratiot County	Gratiot Males	Gratiot Females	Gratiot Under Age 18 yrs	Gratiot Age 65+ yrs
ALL HOSPITALIZATIONS	1,316.9	1,578.2	1,305.3	1,885.2	940.9	4,599.5
Heart Ds.	152.3	201.0	212.4	188.2	*	933.1
Newborns (<7 days)	124.3	116.7	114.5	119.2	524.0	n/a
Females with Delivery	120.0	111.4	n/a	236.7	14.3	
Injury & Poisoning	100.6	121.1	108.1	135.8	43.6	375.4
Psychoses	48.7	44.9	35.6	55.3	*	69.3
Infectious Diseases	42.6	43.2	36.1	51.2	27.8	163.4
Cancer (malignant)	42.0	52.9	54.2	51.5	*	183.3
Pneumonia	38.4	61.2	60.2	62.5	46.1	242.0
Osteoarthritis	34.5	46.5	37.6	56.5		170.7
Cerebrovascular Disease	34.5	42.8	43.4	42.0		221.9
Skin Diseases	24.4	28.8	26.9	31.0	9.7	83.9
Chronic Bronchitis	23.0	34.0	31.4	36.9		170.7
Rehabilitation Procedures	22.5	49.9	39.6	61.6		267.1
Chest Pain	21.3	24.0	23.1	25.0		65.4
Diabetes	17.0	12.1	12.2	12.1	7.4	28.4
Asthma	16.3	14.5	10.9	18.5	22.9	21.8
Kidney / Urinary Infections	16.3	18.3	8.2	29.7	10.7	74.0
Intervertebral Disc Disorders	15.5	23.7	22.1	25.5		
Blood Diseases	14.4	13.6	10.5	17.0	8.4	48.5
Benign Neoplasms	14.3	13.9		24.0		
<i>All other conditions</i>	394.4	503.6	390.6	604.9		

*less than six cases identified - no rate provided.

Blank cell represents condition not in the top 20 hospitalizations for that specific demographic.

Source: Michigan Resident Inpatient File. Division for Vital Records and Health Statistics, Michigan Department of Community Health

• Leading Hospitalizations

- Hospitalizations are inpatient hospital stays as measured by stays that were completed during a specified year. The number of hospitalizations is often greater than the number of persons hospitalized since some persons are hospitalized more than once during the year.

- For the five-year period 2005-09, Gratiot County had a higher hospitalization rate (1,578 hospitalizations per 10,000 residents annually) than Michigan residents overall (1,317 hospitalizations per 10,000 annually). Gratiot County had higher rates of hospitalization for thirteen of the twenty leading categories, which included heart disease, injury, infectious disease, cancer, pneumonia, osteoarthritis, stroke, chronic bronchitis, rehabilitative procedures, chest pain, kidney infection, and intervertebral disc disorders.

- Among Gratiot County residents, females are more likely to be hospitalized than males, which is partly accounted for by routine hospitalizations of women for delivery. Adults age 65 years and older are much more likely than younger age groups to be hospitalized—most common among this age group are hospitalizations for heart disease, injury and poisoning, pneumonia, stroke, cancer, osteoarthritis, infectious disease, and chronic bronchitis.

Chronic Disease, Morbidity, and Mortality

Ambulatory Care Sensitive Hospitalizations

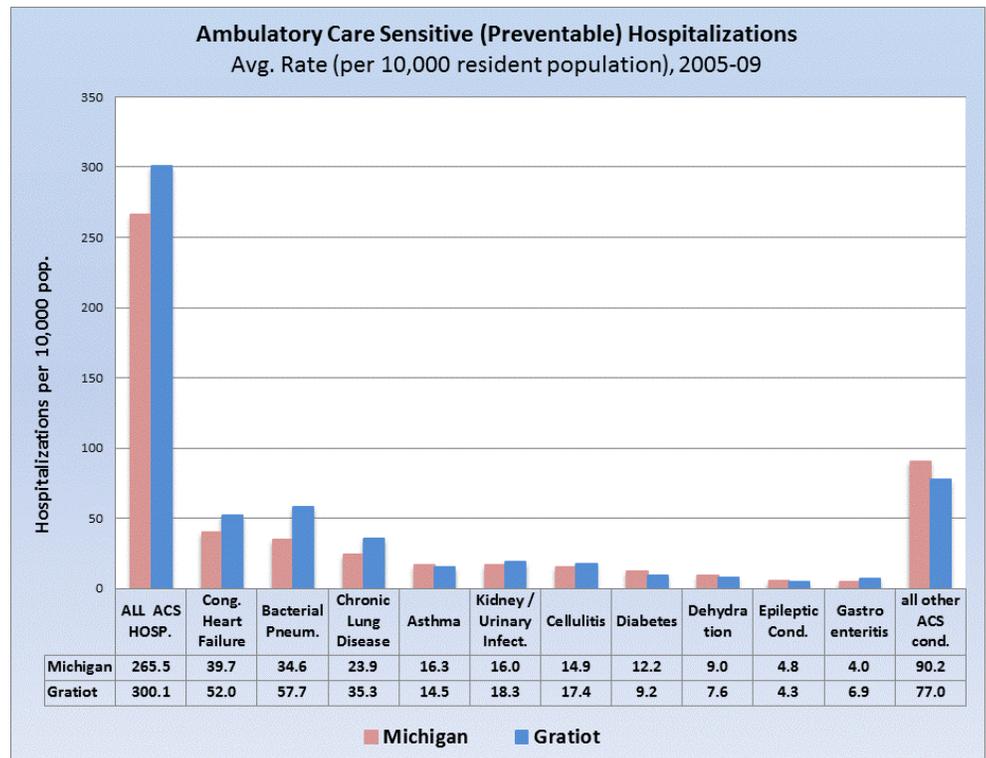
- Ambulatory Care Sensitive (ACS) hospitalizations for conditions like asthma, diabetes or dehydration are hospitalizations where timely and effective outpatient care may have prevented the onset or exacerbation of an illness or condition and the resultant hospitalization. In other words, it's possible some of these hospitalizations could be prevented through timely and effective care in the outpatient setting.

- High rates of Ambulatory Care Sensitive hospitalizations in a community may suggest that primary prevention efforts are lacking, primary care resources are difficult to access, primary health care delivery systems are inadequate, or other factors are present that create barriers to obtaining timely and effective care.

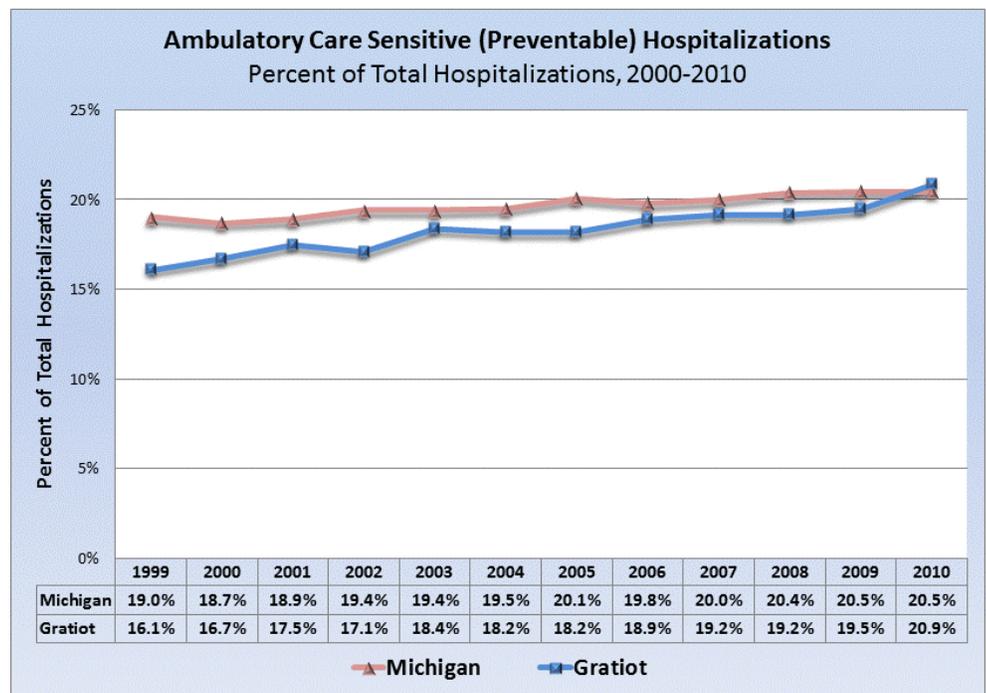
- The figure to the right displays Gratiot County and Michigan "preventable" ACS hospitalizations from 2005-09. During this period, bacterial pneumonia was the number one leading preventable hospitalization for Gratiot County.

- Gratiot County fared worse than Michigan for six of ten leading ACS hospitalizations depicted in the chart. These include congestive heart failure, bacterial pneumonia, chronic lung disease, kidney infection, cellulitis, and gastroenteritis.

- As the lower figure indicates, both Gratiot County and Michigan have experienced increasing ambulatory care sensitive hospitalization rates over the 1999-2010 time period. Gratiot County surpassed Michigan for the first time in this period during the year 2010.



Source: Michigan Resident Inpatient File. Division for Vital Records and Health Statistics, Michigan Department of Community Health



Source: Michigan Resident Inpatient File. Division for Vital Records and Health Statistics, Michigan Department of Community Health

CD, Morbidity, Mortality

Emerging Community Issues

Emerging Community Health Issues

In the summer of 2012, two surveys were implemented by the Live Well Gratiot steering committee to identify and gauge the relative concern about health-related issues in Gratiot County. The first of these surveys was a Community Health Survey distributed to community members across the county. The second, parallel, survey was a Provider Opinion survey distributed to health care providers in Gratiot county.

In May of 2012, the Community Health Survey was mailed to 1,500 Gratiot County adult residents who were randomly selected in proportion to county census tract population. An additional 62 surveys were collected from clients of local service agencies. In all, a total of 441 surveys were captured and used for analysis, providing statistical relevance. The comprehensive survey consisted of seven sections; including a section about community issues and concerns.

In June of 2012, the Provider Opinion Survey was distributed to health care providers in Gratiot County; surveys from 24 provider organizations/offices were returned. This parallel but shorter survey asked health care providers to provide input on community issues and concerns, as well as local health care assets and needs.

In the fall of 2012, data from each survey was compiled and analyzed. Comparisons between survey responses were made to identify the level of alignment of attitudes of community members and those of providers. Survey summaries and data comparisons were then further discussed in work sessions of the Live Well Gratiot Steering Committee.

Leading Community Issues

The Community Health survey asked respondents to indicate whether a given set of health care issues were a ‘serious’ problem, ‘minor’ problem, ‘not a problem’. The following list shows the ranking of community responses in terms of percentage of respondents who indicated that the issue was either serious; effectively, a ranking of the perceived seriousness of each issue.

Community Perceived “Serious” Issue			
Issue	Percentage	Issue	Percentage
Jobs (availability)	60.6%	Stroke	12.8%
Overweight Adults	39.4%	Gambling	12.7%
Overweight Children	38.8%	Heart Disease	12.7%
Alcohol/Drug Use	37.1%	Substance Abuse Treatment (access)	12.0%
Contaminated Sites (landfills, structures, etc.)	31.4%	Crime	11.3%
Cancer	30.1%	Dental Care (access)	10.9%
Smoking	28.1%	Sexually Transmitted Disease	10.9%
Drinking water quality	28.0%	Suicide	10.6%
Teen Pregnancy	27.8%	Recreational Opportunities (access)	10.2%
Prescription Drug Abuse	21.9%	Mental illness	9.4%
Alzheimer’s Disease or Dementia	21.1%	School Violence	8.8%
Diabetes	20.5%	Healthy Foods (availability)	8.1%
Child Abuse	20.1%	Health Care (access)	7.5%
Watershed quality (streams, rivers, lakes)	19.2%	Services for the Disabled (access)	7.2%
Secondhand Smoke	17.6%	Law Enforcement (responsiveness)	6.7%
Traffic Crashes (alcohol/drug related)	17.3%	Prenatal Care (access , awareness)	5.3%
Housing (affordability & availability)	15.9%	Ambulance Services (availability, response)	4.2%
Transportation (public & personal access)	15.6%	Nursing Home Care (access)	3.9%
Domestic Violence	14.6%	Elder Abuse	3.6%

Emerging Community Issues

Comparison between Community Perception and Provider Perception

As in the Community Survey, the Provider Opinion Survey asked respondents to indicate whether a given set of health-related issues were a ‘serious’ problem, ‘minor’ problem, or ‘not a problem’. The following list shows a side-by-side comparison of the 15 highest ranked issues for community respondents and health care providers, in terms of percentage of respondents who indicated that the issue was considered serious. (see table below)

Both community survey respondents and provider respondents identified economic conditions (specifically, lack of jobs) as a serious issue affecting Gratiot County. Access to employment affects household income and can influence one’s access to health insurance, ability to pay for health care, access to reliable transportation, and one’s sense of well-being. Community respondents and providers most frequently identified obesity (both for children and adults) as a health-related concern of serious importance. With overweight/obesity prevalence approaching 65% for adults nationally, it’s not surprising that survey respondents identified it as an issue that’s on many people’s minds. Also frequently identified as a serious issue locally by both community residents and providers was alcohol/drug use—its not clear if both groups rank substance abuse highly for the same reason—it’s possible that community residents may be thinking about their family and community and recognizing the harm drug addiction can cause, whereas providers may be relating their experience of seeing patients struggling to address the issue or access treatment services. Community respondents and providers both ranked issues relating to a healthy environment (contaminated sites, drinking water quality) highly. Local actions addressing the Pine River in Gratiot County likely play a contributory role in informing resident’s opinion and familiarity with the issue. Both smoking and secondhand smoke make the top 15 ranking of serious issues by residents and providers. As described earlier in this report, smoking prevalence among adults remains above the state average, while nearly one in six Gratiot County high school students report smoking.

Top 15 Issues Perceived as ‘Serious’ by Gratiot County Residents and Providers

Community Perceived 'Serious' Issue		Provider Perceived 'Serious' Issue	
Issue	Percentage	Issue	Percentage
Jobs (availability)	60.6%	Overweight adults	100%
Overweight Adults	39.4%	Overweight children	85.7%
Overweight Children	38.8%	Jobs (availability)	76.9%
Alcohol/Drug Use	37.1%	Alcohol/drug use	69.2%
Contaminated Sites (landfills, structures, etc.)	31.4%	Prescription drug abuse	69.2%
Cancer	30.1%	Substance abuse treatment (access)	66.7%
Smoking	28.1%	Contaminated sites	61.5%
Drinking water quality	28.0%	Healthy Foods (availability)	57.1%
Teen Pregnancy	27.8%	Smoking	53.8%
Prescription Drug Abuse	21.9%	Diabetes	50.1%
Alzheimer’s Disease or Dementia	21.1%	Heart Disease	38.5%
Diabetes	20.5%	Teen Pregnancy	33.3%
Child Abuse	20.1%	Health care (access)	28.6%
Watershed quality (streams, rivers, lakes)	19.2%	Secondhand smoke	23.1%
Secondhand Smoke	17.6%	Transportation	17.6%

Emerging Community Issues

Contributory Factors Perceived by Health Care Providers

When asked what they considered to be the primary health care asset in Gratiot County, providers cited the local hospital system and physician offices centrally located in Gratiot County, as well as expanding specialty care centers and affiliations. Also mentioned was the close proximity of Community Mental Health services in relation to the hospital system. The availability of local resources within a small town atmosphere was noted, as well.

When asked what they considered to be the primary obstacles to improving health outcomes or health care service in Gratiot County, providers cited:

- Financial obstacles, including lack of health insurance and difficulty in paying for services out-of-pocket
- Lack of understanding or individual opposition to health care reform
- Time and fiscal constraints that limit opportunity to provide better patient education
- Personal responsibility for one's own health, including self motivation and higher expectations
- Limited provider networking and sharing of resources for those of greatest need

Providers Recommendations to Improve Health Outcomes

When asked what they would like to see developed/enhanced/changed to improve local health outcomes, providers mentioned the following:

- Easier access to health insurance and transportation services
- Low cost opportunities that would promote healthy lifestyles, i.e., nutritional seminars, exercise programs
- Greater variety of healthy opportunities, like restaurants with healthy menu options and recreational centers
- Resources for overweight children & adults—greater nutrition education, access to locally grown food
- More vibrant/active communities
- Greater incentives to spur individuals to choose healthy options, particularly for low-income individuals/families
- Expanded coverage for dental and optometric services
- Greater accountability/oversight of government services like Medicaid

Contributory Factors Perceived by Community

Many of the same themes mentioned by providers were echoed by residents in the community survey. Community respondent comments clustered around three central themes:

Financial and Insurance related:

Greater access to health care for people who have no insurance; affordable insurance options for those that do not have employer-based coverage; rising cost of out-of-pocket health care costs like co-pays and deductibles; greater access to providers that accept certain health plans or Medicaid; expanded dental insurance coverage

Access and Care Related:

More time to interact/communicate with providers; expanded outpatient services; expectation of expanded specialty services locally; shorter wait times for appointments; greater options for substance abuse or mental health services as well as enhanced insurance coverage for both; dental care access for uninsured and seniors

Increased Personal Responsibility:

Differing political views about the level of the government's role in health care; the need for greater personal responsibility for maintaining healthy lifestyle; discourage individuals from using the hospital emergency department as source of primary care;

Recommendations & Next Steps

Following a comprehensive data review in October of 2012, the Live Well Gratiot Steering & Advisory Committee members agreed upon the following as priority issues to be addressed as a result of this community health needs assessment:

- Reduce the Prevalence of Obesity
- Reduce the Use of Tobacco Products
- Reduce the Abuse of Alcohol and Drugs
- Improve Access to Health Care Services

These priority areas align with the feedback that was received by community residents and health care providers, as well as the findings revealed in the data gathered during the assessment process and shared in this report.

The Michigan Department of Community Health unveiled in 2012 the State's plan to address the health and wellness of its residents. The goal of this plan is for every Michigan resident to adopt health as a personal core value, with an initial priority focused on obesity. The road to reaching success is laid out in the Michigan Health and Wellness 4x4 Plan (www.michigan.gov/healthymichigan). This prescription for health recommends that individuals practice four healthy behaviors (maintain healthy diet, get regular physical activity, avoid all tobacco use, receive an annual physical exam) and controlling four health measures (body mass index, blood pressure, cholesterol level, and blood glucose level). Addressing the priority areas selected by Live Well Gratiot can enhance the outcomes identified in the Michigan 4x4 plan.

The Live Well Gratiot initiative is currently in the process of identifying and prioritizing potential strategies to best address each of the priority issues listed above. Once these strategies are finalized, a concerted effort will be made to bring interested community residents, coalitions and organizations together to take greater ownership in moving these strategies forward and sustaining the momentum necessary for achieving positive health outcomes. Both this Community Health Profile and the forthcoming Health Improvement Plan will be shared with the residents of Gratiot County to promote a shared understanding of the initiative and to recruit stakeholders interested in participating in local efforts.

Community Health Assessment is gaining traction as greater emphasis is placed on controlling health care costs and addressing the major public health concerns of the day. It's intended that the Live Well Gratiot initiative will be a continuous process moving forward, in which assessment, implementation and evaluation will take place over a three-year cycle. Existing programs and activities that currently address the identified Live Well Gratiot priorities areas will be encouraged and supported through this initiative, with the goal of strengthening community interest and resources.

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Committee Members

FY 2012



Steering Committee Members

Heather Bell Community Mental Health, Gratiot Co.	Dennis Dunlap Gratiot Technical Education Center	Dale Sanders Business Admin. Alma College	Kristin Traskie MidMichigan Medical Center—Gratiot
Shelly Buschle United Way, Gratiot County	Nicole Frost County Administration Gratiot County	Andrea Tabor Mid-Michigan Dist. Health Dept.	Robin Whitmore MidMichigan Medical Center—Gratiot
Marcus Cheatham Mid-Michigan Dist. Health Dept.	Rex Hoyt Mid-Michigan Dist. Health Dept.	Cheryl Thelen Mid-Michigan Dist. Health Dept.	

Membership

Advisory Committee Members

Jan Amsterburg Gratiot-Isabella RESD	Chelsey Foster City of Ithaca	Sonia Lark Alma Public Schools	Cathy Rayburn Gratiot-Isabella RESD	Andi Whitmore Central Michigan Youth for Christ
Nathan Bootz Ithaca Public Schools	Todd Furlong Great Start Collaborative	Peter Little Gratiot County Parks and Recreation	Matt Schooley Alma Police Dept.	Craig Zeese Gratiot County Commission on Aging
Cindy Bosley Masonic Pathways	Robert Graham Mid-Michigan District Health Dept.	Robert McConkie City of St. Louis	Chris Sipka His Place Ministries	
Lisa Cannon Gratiot County Substance Abuse Coalition	Daymond Grifka Fulton Public Schools	Sean McNatt Breckenridge Community Schools	Stephany Slaughter Alma College	Also contributing to the Live Well Gratiot initiative were college students interning at Mid-Michigan District Health Department: Brittney Hengesbach, Amanda Kern, and Cameron Schmidt
Dan Carley Department of Human Services, Gratiot	Sheilah Hebert MSU Extension	Phillip Moore City of Alma	Audra Stahl Gratiot Child Advocacy	
Roger Cook Chamber of Comm.	Bill Henderson Aircraft Precision Products	Melvin Nyman City of Alma	Carl Sztuczko St. Louis Public Schools	
Bill Dilts Gratiot Collaborative Council	Tim Hughes Ashley Community Schools	Irene O'Boyle Central Michigan University	Tina Travis Gratiot Co. Community Foundation	
Glenn Feldhauser Gratiot Co. Emergency Services	Mary Anne Justin Gratiot Hunger Network	Dan Peterson EightCAP, Inc.	Robert VanDorin Greater Gratiot Development, Inc.	

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2012 Gratiot County Health Needs Assessment Survey

Please take a few minutes to complete this survey. Your opinions will contribute to a better understanding of the health assets and unmet health needs in our community. If you have questions about the survey or would like to know more about the Live Well Gratiot Initiative, please contact the person(s) identified in the cover letter.

Demographic Information

This first set of questions is for statistical purposes to ensure our survey sample accurately reflects our community population as a whole. The information you provide will remain confidential.

1. Please select the County in which you live.

- 96.6% (96.3%) Gratiot County
- 3.4% (3.7%) Other County (specify: _____)

2. How long have you lived in your current county of residence?

- 2.3% (2.8%) Less than 1 year
- 14.4% (20.0%) 1 to 5 years
- 83.4% (77.2%) More than 5 years

3. In which county do you work?

- 42.9% (48.6%) Gratiot County
- 23.0% (22.1%) Other (specify: _____)
- 34.1% (29.3%) Does not Apply

4. Select the option that includes your current age.

- 0.0% (0.0%) Less than 18 years
- 5.7% (13.7%) 18-24 years
- 11.2% (14.3%) 25-34 years
- 14.2% (14.0%) 35-44 years
- 20.4% (18.4%) 45-54 years
- 17.8% (17.6%) 55-64 years
- 30.7% (21.0%) 65 years or older

5. What is your Marital Status?

- 57.7% (53.3%) Married
- 18.4% (18.1%) Separated / Divorced
- 9.0% (6.1%) Widowed
- 14.9% (22.6%) Single / Never married

6. What is your gender?

- 42.0% (44.8%) Male
- 58.0% (54.6%) Female

7. Select the race or ethnic group you most closely identify with.

- 0.5% (5.1%) African American / Black
- 0.0% (0.0%) Asian / Pacific Islander
- 96.8% (87.6%) Caucasian / White
- 1.8% (4.3%) Hispanic / Latino
- 0.7% (0.7%) Native American Indian
- 0.2% (0.8%) Other (specify: _____)

8. What is your estimated yearly family income? (Gross pay/ before taxes)

- 27.6% (39.9%) Less than \$20,000
- 25.5% (21.9%) \$20,000 to \$34,999
- 15.6% (12.9%) \$35,000 to \$49,999
- 13.7% (10.4%) \$50,000 to \$74,999
- 13.4% (10.1%) \$75,000 or more
- 4.2% (4.8%) don't know

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

- 7.8% (12.3%) Less than 12th grade
- 33.9% (41.6%) High School Graduate/ GED
- 27.5% (26.6%) Some College, no degree
- 10.5% (7.0%) 2 Year College Graduate
- 10.8% (6.3%) 4 Year College Graduate
- 9.6% (5.4%) Post Graduate Degree

Crude Results= percentages in 1st column; raw data from survey

Weighted Results= % in (); adjusted to represent county demographics

Loc: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23,

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10. What is your employment status?

- 37.9% (40.3%) Employed full time
- 10.3% (12.8%) Employed part time
- 32.6% (22.8%) Retired
- 4.1% (5.3%) Unemployed less than 1 year
- 3.4% (4.7%) Unemployed for 1 year or more
- 0.7% (1.2%) Full-time student, not employed
- 4.3% (4.7%) Homemaker or choose not to work
- 6.6% (8.3%) Other (specify: _____)

Health Insurance Status

11. Please select the kinds of insurance or coverage you currently have. (Please select all that apply)

- 87.8% (81.3%) Medical / Health (includes Medicare/Medicaid)
- 44.9% (42.1%) Dental
- 37.6% (31.3%) Vision / Optical
- 10.4% (13.6%) Do not have insurance or coverage
- 0.9% (0.9%) Do not know

12. If you do NOT have health insurance or health care coverage, what is the primary reason? Please select the one best answer.

- 20.3% (16.5%) Lost job or unemployed
- 7.2% (7.4%) Part-time or temporary employee, and have no benefits
- 4.3% (2.7%) My employer stopped offering health insurance
- 0.0% (0.0%) Spouse recently died and I lost coverage
- 0.0% (0.0%) Insurance company refused coverage
- 11.6% (13.9%) Recently lost Medicaid eligibility
- 39.1% (42.3%) Can't afford it
- 0.0% (0.0%) Do not know how to get it
- 1.4% (0.9%) Choose not to have insurance
- 15.9% (16.2%) Other (specify: _____)

13. If you do have health insurance or health coverage, please select the type(s) you have. (Please select all that apply)

- 48.1% (40.9%) Employer-sponsored health plan (example: Blue Cross Blue Shield)
- 13.6% (9.6%) A health plan purchased on your own (self-pay plan)
- 30.4% (21.7%) Medicare
- 12.2% (18.2%) Medicaid
- 2.5% (1.8%) Military (Veteran's or VA, CHAMPUS, TRICARE)
- 1.6% (2.4%) County Health Plan (Mid-Michigan Health Plan)
- 5.9% (5.2%) Other insurance (specify: _____)
- 6.3% (7.8%) Do not have health insurance
- 0.9% (4.6%) Do not know

14. If you do have health insurance or health coverage, does it meet your needs?

- 77.2% (69.7%) Yes
- 22.8% (30.3%) No

15. If you answered 'no' to the question above, in what way does it not meet your needs?

- 44.3% (39.1%) Cannot afford co-pays or deductibles
- 13.6% (10.4%) Cannot afford the yearly premium
- 23.9% (32.2%) Does not cover the medical services and doctors I see
- 17.0% (12.2%) Does not cover my prescriptions
- 28.4% (20.9%) Other (specify: _____)

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Your General Health

We would now like to ask you a few questions about your general health status.

16. How would you rate your current health status?

- 3.7% (3.3%) Poor
- 18.3% (22.5%) Fair
- 42.6% (43.5%) Good
- 24.5% (19.8%) Very Good
- 11.0% (10.9%) Excellent

17. When was the last time you had a routine doctor's visit (checkup)?

- 77.7% (75.2%) Within the last year
- 9.0% (11.0%) Within the last two years
- 7.8% (8.1%) Between two and five years ago
- 4.8% (4.9%) More than five years ago
- 0.7% (0.7%) Never had a routine doctor's visit

18. When was the last time you had the following (place a check in appropriate box)

	Within past year	1 to 2 years ago	3 to 5 years ago	More than 5 years	Never	Don't Recall
Blood Pressure checked	90.3% (84.3%)	5.1% (10.2%)	1.8% (1.7%)	1.6% (2.0%)	0.0% (0.0%)	1.1% (1.8%)
Cholesterol checked	66.7% (57.9%)	11.9% (15.2%)	5.2% (4.7%)	2.9% (2.9%)	7.1% (10.2%)	6.2% (9.0%)
Blood Sugar checked	67.9% (65.2%)	10.3% (10.1%)	4.8% (4.7%)	4.5% (4.5%)	4.3% (4.9%)	8.1% (10.6%)
Flu Shot	53.8% (46.6%)	10.6% (15.0%)	7.6% (8.2%)	6.6% (5.8%)	15.9% (17.3%)	5.6% (7.2%)
Vision tested / Eye exam	56.9% (51.6%)	22.3% (25.6%)	10.7% (10.6%)	6.6% (7.5%)	0.9% (1.4%)	2.6% (3.4%)
Dental cleaning / exam	62.2% (55.7%)	12.7% (15.7%)	8.5% (11.0%)	12.7% (13.6%)	0.7% (0.7%)	3.2% (3.3%)
Mammogram (women only)	41.4% (38.1%)	17.6% (14.3%)	7.8% (7.5%)	5.9% (3.7%)	25.0% (33.2%)	2.3% (3.2%)
Pap Test (women only)	52.6% (57.5%)	20.6% (19.4%)	8.5% (6.0%)	10.5% (7.1%)	4.0% (6.6%)	3.6% (3.4%)
Prostate Exam (men only)	49.5% (44.2%)	10.7% (10.5%)	6.6% (5.4%)	4.6% (3.9%)	23.5% (29.4%)	5.1% (6.5%)
Colon / rectal exam	26.1% (20.5%)	15.0% (16.4%)	15.2% (12.6%)	5.7% (4.5%)	34.9% (42.3%)	3.1% (3.7%)
Skin Cancer screening	18.5% (13.0%)	7.8% (10.1%)	5.6% (4.3%)	2.4% (2.3%)	55.9% (61.5%)	9.7% (8.8%)

19. For what reason(s) do you use Emergency Department Services? (Please select all that apply)

- 2.5% (3.8%) For most of my health care needs (have no family doctor or no health insurance)
- 12.9% (16.2%) When I need non-emergency care on the weekends or after doctor's office has closed
- 63.3% (61.1%) For emergency illness or accident
- 2.3% (3.1%) Other (specify: _____)
- 27.2% (24.3%) Have not used the Emergency Department in the past 10 years

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Access to Health Care

We would now like to ask you a few questions about your ability and opportunity to access health care.

20. Was there a time in the past year when you needed to see a doctor, but could not?

- 21.3% (25.4%) Yes
- 78.7% (74.6%) No (skip ahead to question 22)

21. If you answered “yes” to the question above, select the primary reason you could not visit the doctor. (Please select the single most important answer)

- 2.2% (1.3%) Didn't want to go (afraid, too anxious)
- 10.0% (7.7%) Didn't have time / too busy
- 2.2% (2.0%) Could not get time off from work
- 15.6% (12.1%) Could not get an appointment
- 4.4% (5.6%) No transportation to get to doctor
- 1.1% (3.0%) No childcare or care for other family member
- 57.8% (58.5%) Could not afford it / uninsured
- 4.4% (6.1%) Doctor did not accept my insurance
- 2.2% (3.7%) Other (specify: _____)

22. Do you travel outside of Gratiot County for health care? (Gratiot County includes the communities of Alma, Ashley, Bannister, Breckenridge, Elm Hall, Elwell, Ithaca, Middleton, North Star, Perrinton, Pompeii, Riverdale, St. Louis, Sumner, Wheeler.)

- 12.2% (11.3%) Always
- 21.5% (19.3%) Frequently
- 30.9% (29.3%) Seldom
- 35.4% (40.0%) Never (skip ahead to question 25)

23. If you travel outside Gratiot County for health care, select the services you use outside the County. (Please select all that apply)

- 21.3% (19.9%) Primary care (family doctor, pediatrician, gynecologist)
- 36.7% (29.8%) Medical specialists (heart doctor, lung doctor, kidney doctor, surgeon, etc.)
- 9.3% (8.3%) Inpatient hospital care
- 17.5% (15.0%) Dental care
- 16.1% (12.9%) Vision care / ophthalmologist / optometrist
- 0.0% (0.0%) Substance abuse counseling / rehabilitation / treatment
- 1.1% (0.8%) Mental health services
- 7.7% (7.5%) Other (specify: _____)
- 9.1% (9.7%) Do not travel outside Gratiot County for health care

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24. If you travel outside of Gratiot County for health care, for what reason(s) do you do so? (Please select all that apply)

- 21.1% (17.2%) Service not available in Gratiot County
- 16.3% (15.1%) Better quality of care elsewhere
- 3.4% (3.7%) Local doctor does not accept my insurance
- 3.9% (3.2%) Closer to work
- 3.4% (6.3%) Privacy or confidentiality reasons
- 20.0% (18.1%) Other (specify: _____)
- 10.0% (11.2%) Do not travel outside Gratiot County for health care

25. Where do you get most of your health information? (Please select up to three sources)

- 83.0% (81.9%) Doctor / nurse / pharmacist
- 26.3% (31.0%) Friend / family
- 8.6% (14.1%) Health Department
- 1.8% (1.3%) Library
- 1.4% (1.9%) Church
- 21.8% (17.4%) Newspaper / magazine / journal
- 32.7% (31.6%) Internet
- 10.0% (7.9%) TV
- 4.1% (4.0%) Other (specify: _____)

26. Do you have trouble accessing the health services you or your family needs?

- 8.6% (12.7%) Yes (please explain: _____)
- 91.4% (87.3%) No

27. If you have a difficult time speaking with or understanding your health care provider when discussing your care, what is the reason? (Select all that apply)

- 0.7% (0.6%) I do not speak English well
- 5.2% (6.2%) My health care provider does not speak English well
- 2.9% (2.5%) I am hearing-impaired or deaf
- 5.0% (4.7%) I have a hard time understanding the medical terminology
- 2.7% (2.6%) I am afraid or embarrassed to ask questions that would help me understand
- 1.4% (1.4%) We have very different views or values regarding personal health
- 0.9% (0.8%) Other (specify: _____)
- 80.0% (81.1%) Do NOT have difficulty speaking with health care provider

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Your Lifestyle and Behaviors

We would now like to ask you a few questions about behaviors or lifestyle choices that could influence a person's health.

28. Which answer best describes you? (Place a check in appropriate box)

	Always	Often	Rarely	Never	Does not Apply
I wear a seatbelt	93.8% (92.5%)	4.6% (5.1%)	0.7% (1.2%)	0.5% (0.9%)	0.5% (0.4%)
I drive the speed limit	58.8 (60.2%)	36.0 (33.6%)	2.1 (2.2%)	0.5% (1.0%)	2.6% (3.0%)
I eat at least 5 servings of fruits and vegetables daily	8.6% (8.5%)	47.3% (47.2%)	40.3% (40.9%)	3.7% (3.4%)	0.0% (0.0%)
I eat fast food more than once a week	5.1% (5.2%)	23.3% (25.4%)	54.1% (54.0%)	16.4% (14.6%)	1.2% (0.7%)
I exercise or am physically active at least 30 minutes a day	23.8% (25.1%)	44.0% (41.2%)	27.1% (28.3%)	4.9% (5.3%)	0.2% (0.1%)
I smoke cigarettes	13.4% (18.4%)	6.5% (6.4%)	2.5% (2.5%)	69.8% (64.9%)	7.8% (7.8%)
I use chewing tobacco or snuff	0.9% (1.3%)	0.9% (0.9%)	1.6% (2.6%)	86.6% (85.1%)	10.0% (10.1%)
I use illegal drugs	0.2% (0.2%)	0.7% (0.8%)	2.8% (2.8%)	86.7% (85.7%)	9.5% (10.4%)
I get a flu shot each year	44.9% (37.7%)	9.3% (12.8%)	13.9% (16.0%)	30.8% (32.7%)	1.2% (0.9%)
I practice safe sex to prevent unwanted pregnancy or sexually transmitted infection	41.4% (42.9%)	5.2% (6.6%)	3.1% (4.6%)	5.5% (7.9%)	44.8% (38.0%)
I perform self-exams for cancer (examples: breast, testicular, skin exams)	23.7% (22.4%)	25.8% (21.6%)	30.0% (31.2%)	16.4% (20.8%)	4.0% (4.1%)
I get enough sleep to feel rested	22.0% (19.6%)	48.2% (45.0%)	24.5% (25.6%)	4.8% (9.4%)	0.5% (0.3%)
I feel satisfied with my life	35.9% (35.4%)	51.2% (47.8%)	9.7% (12.6%)	2.8% (3.3%)	0.5% (0.9%)
I feel socially isolated	2.6% (2.5%)	13.6% (13.5%)	29.5% (30.9%)	46.8% (45.2%)	7.5% (7.9%)
I worry about losing my job	3.5% (3.9%)	8.5% (12.4%)	20.5% (20.5%)	34.2% (36.2%)	33.3% (27.0%)
I worry about losing my home or being homeless	7.0% (9.1%)	7.5% (8.2%)	19.4% (24.0%)	51.3% (46.5%)	14.8% (12.2%)
I feel safe in my community	59.8% (57.8%)	37.2% (38.5%)	2.1% (2.4%)	0.7% (1.2%)	0.2% (0.1%)
I worry about my level of skills or knowledge for today's workforce	9.3% (12.5%)	13.5% (18.2%)	22.0% (21.8%)	28.8% (29.1%)	26.5% (18.4%)

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Your Family Characteristics

We would now like to ask you a few questions about your household or family.

29. How many people (including yourself) live in your household?

- 19.9% (17.4%) 1 person
- 45.3% (41.8%) 2 persons
- 13.0% (15.1%) 3 persons
- 11.2% (13.5%) 4 persons
- 6.6% (7.4%) 5 persons
- 2.1% (2.2%) 6 persons
- 1.1% (2.0%) 7 persons
- 0.7% (0.6%) 8 or more persons

30. How many children under age 18 years live in your household?

- 69.7% (62.2%) 0 children
- 12.7% (16.3%) 1 children
- 10.6% (12.4%) 2 children
- 3.9% (5.2%) 3 children
- 2.1% (2.8%) 4 children
- 0.2% (0.5%) 5 children
- 0.2% (0.3%) 6 children
- 0.5% (0.3%) 7 or more children

31. How many adults (including yourself) age 65 or older live in your household?

- 53.1% (59.7%) 0
- 42.5% (36.1%) 1-2
- 3.7% (3.8%) 3-4
- 0.7% (0.4%) 5 or more

32. If some members of your household do not have health insurance, select who is **NOT** currently covered.

- 3.3% (7.9%) Entire family not covered
- 12.6% (15.5%) 1 or more adults not covered, children are covered
- 0.8% (1.4%) Children less than age 18 years not covered
- 4.0% (4.2%) Other (specify: _____)
- 75.3% (66.1%) Does not apply - all members of household have insurance
- 4.0% (4.9%) Don't know

33. During the past year, have you taken your child to the emergency department for a non-emergency illness/injury because you could not afford to go to a doctor's office?

- 2.3% (3.6%) Yes
- 38.9% (43.5%) No
- 58.8% (52.9%) Does not apply – no children in household

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34. If you have children under age 18 years in your household, do they have a health care provider that you consider to be their personal or regular “doctor”?
(This could also be a nurse practitioner, physician assistant, or other type of provider)

- 30.4% (36.0%) Yes
- 3.6% (6.1%) No
- 66.0% (57.9%) Does not apply – no children under age 18 years in household

35. Was there a time in the past year when your child needed to see a doctor, but could not?

- 3.3% (3.6%) Yes
- 32.2% (39.5%) No
- 64.4% (56.9%) Does not apply – no children under age 18 years in household

36. If you answered “yes” to the question above, select the primary reason your child could not visit the doctor. (Please select the single most important answer)

- 0.5% (0.5%) Child didn't want to go (afraid, too anxious)
- 0.0% (0.0%) Didn't have time / too busy
- 0.0% (0.0%) Could not get time off from work
- 1.9% (2.3%) Could not get an appointment
- 0.0% (0.0%) No transportation to get to doctor
- 0.0% (0.0%) No childcare or care for other family members
- 1.9% (2.1%) Could not afford it / uninsured
- 1.4% (1.7%) Doctor did not accept my insurance
- 0.5% (0.5%) Other (specify: _____)
- 93.8% (92.9%) Does not apply – no children under age 18 years in household

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Community Issues and Concerns

We would now like to ask you a few questions about issues that affect many communities.

37. Are you satisfied with the quality of life in Gratiot County? (consider things like safety, services, civic engagement, leisure, sense of community, opportunity)

- 14.3% (14.9%) Greatly satisfied
- 50.6% (45.2%) Satisfied
- 27.6% (31.8%) Neutral
- 5.4% (6.3%) Dissatisfied
- 2.1% (1.8%) Greatly dissatisfied

If dissatisfied, what would you like to see improved?

✓ More jobs – 25%, ✓ Infrastructure – 13%, ✓ Recreational opportunities – 8%, ✓ Public services – 7%, ✓ Healthy restaurants – 7%, ✓ Public transportation – 6%, ✓ Health care – 4%, ✓ Affordable housing – 3%, ✓ Community center – 3%

38. Are you satisfied with the health care system in Gratiot County? (consider things like access, cost, availability, quality, options)

- 10.0% (10.0%) Greatly satisfied
- 49.7% (45.3%) Satisfied
- 28.9% (33.5%) Neutral
- 8.4% (7.8%) Dissatisfied
- 3.0% (3.3%) Greatly dissatisfied

If dissatisfied, what would you like to see improved?

✓ Access to insurance – 24%, ✓ Quality of care – 22%, ✓ Health care costs – 17%, ✓ Access to specialists – 17%, ✓ Access to primary care – 10%

39. Are you satisfied with Gratiot County as a good place to raise children?

(consider things like school quality, day care, after-school programs, services, recreation, community support)

- 20.7% (22.5%) Greatly satisfied
- 50.2% (45.3%) Satisfied
- 24.6% (28.3%) Neutral
- 3.5% (3.2%) Dissatisfied
- 0.9% (0.7%) Greatly dissatisfied

If dissatisfied, what would you like to see improved?

✓ Community/recreational center – 30%, ✓ Quality of education – 27%, ✓ School funding – 5%, ✓ Job opportunities for youth – 5%, ✓ Parental oversight – 5%

40. Are you satisfied with Gratiot County as a good place to grow old? (consider

things like housing, transportation, churches, social support, services, recreation, community support)

- 17.4% (18.2%) Greatly satisfied
- 50.8% (47.8%) Satisfied
- 24.6% (27.6%) Neutral
- 5.8% (5.0%) Dissatisfied
- 1.4% (1.4%) Greatly dissatisfied

If dissatisfied, what would you like to see improved?

✓ Senior housing – 28%, ✓ Public transportation – 12%, ✓ Government services – 9%, ✓ Economic development – 7%, ✓ Activities for seniors – 5%, ✓ Restaurants – 5%

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41. Please rate the following issues and concerns as to whether you consider there to be a problem in Gratiot County (Place a check in appropriate box)

	Serious Problem	Minor Problem	Not a Problem	Not Sure
Alcohol / drug use	40.7% (37.1%)	33.2% (35.9%)	8.2% (12.0%)	17.9% (15.1%)
Alzheimer's Disease or dementia	14.7% (21.1%)	29.3% (26.9%)	13.0% (19.8%)	43.0% (41.1%)
Ambulance service (availability, response)	3.9% (4.2%)	14.8% (13.1%)	60.3% (62.7%)	20.9% (20.0%)
Cancer	34.6% (30.1%)	23.2% (21.7%)	9.0% (16.2%)	33.2% (31.9%)
Child abuse	21.4% (20.1%)	24.8% (24.1%)	11.3% (18.9%)	42.5% (36.9%)
Contaminated Sites (landfills, structures, etc.)	34.5% (31.4%)	23.2% (20.5%)	16.1% (22.8%)	26.2% (25.3%)
Crime	11.2% (11.3%)	56.4% (54.2%)	17.8% (22.6%)	14.6% (11.8%)
Dental care (access)	10.0% (10.9%)	17.1% (16.6%)	51.7% (50.8%)	21.2% (21.6%)
Diabetes	21.2% (20.5%)	24.1% (25.3%)	15.6% (18.5%)	39.2% (35.7%)
Domestic violence	15.4% (14.6%)	35.5% (36.3%)	12.2% (17.2%)	37.0% (32.0%)
Drinking water (quality)	26.3% (28.0%)	27.7% (25.2%)	31.8% (33.9%)	14.2% (12.9%)
Elder abuse	3.7% (3.6%)	22.4% (23.3%)	24.4% (29.7%)	49.5% (43.4%)
Gambling	14.1% (12.7%)	24.5% (23.4%)	22.8% (29.9%)	38.6% (34.0%)
Healthy foods (availability)	8.6% (8.1%)	22.5% (21.6%)	57.8% (58.4%)	11.0% (12.0%)
Health care (access)	7.4% (7.5%)	21.6% (19.7%)	57.6% (59.6%)	13.5% (13.2%)
Heart disease	15.0% (12.7%)	28.2% (26.8%)	15.7% (20.4%)	41.2% (40.1%)
Housing (affordability, availability)	14.3% (15.9%)	34.9% (37.3%)	28.8% (28.9%)	22.0% (17.9%)
Jobs (availability)	61.7% (60.6%)	23.1% (26.0%)	4.8% (5.9%)	10.4% (7.5%)
Law enforcement (responsiveness)	6.6% (6.7%)	25.2% (24.7%)	45.4% (47.6%)	22.8% (21.0%)
Mental Illness	8.0% (9.4%)	22.7% (21.4%)	21.5% (26.5%)	47.8% (42.7%)
Nursing home care (access)	4.9% (3.9%)	18.2% (16.7%)	44.8% (49.7%)	32.1% (29.8%)
Overweight adults	44.9% (39.4%)	30.7% (34.4%)	6.3% (10.2%)	18.1% (15.9%)
Overweight children	45.0% (38.8%)	30.3% (33.6%)	6.3% (11.1%)	18.5% (16.5%)
Prenatal care (access, awareness)	4.6% (5.3%)	20.0% (18.2%)	31.7% (37.5%)	43.7% (39.0%)
Prescription drug abuse	22.2% (21.9%)	24.1% (21.9%)	9.8% (15.5%)	43.9% (40.7%)
Recreational opportunities (access)	11.5% (10.2%)	30.0% (28.0%)	39.0% (40.7%)	19.5% (21.1%)
Secondhand smoke	15.2% (17.6%)	32.1% (29.8%)	30.2% (31.6%)	22.5% (21.1%)
School violence	8.0% (8.8%)	34.8% (36.5%)	21.5% (23.9%)	35.7% (30.8%)
Services for disabled (access)	7.7% (7.2%)	24.5% (22.4%)	27.1% (30.9%)	40.8% (39.4%)

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	Serious Problem	Minor Problem	Not a Problem	Not Sure
Sexually transmitted disease	8.7% (10.9%)	22.3% (22.1%)	11.6% (16.5%)	57.4% (50.5%)
Smoking	28.4% (28.1%)	31.1% (30.0%)	14.9% (18.8%)	25.5% (23.0%)
Stroke	13.1% (12.8%)	24.1% (21.7%)	12.7% (18.8%)	50.1% (46.7%)
Substance abuse treatment (access)	12.4% (12.0%)	19.4% (17.4%)	18.0% (24.1%)	50.2% (46.5%)
Suicide	9.4% (10.6%)	25.4% (29.1%)	15.3% (15.6%)	49.9% (44.7%)
Teen pregnancy	22.1% (27.8%)	31.1% (31.1%)	5.8% (6.0%)	41.0% (35.1%)
Traffic crashes (alcohol & drug related)	17.6% (17.3%)	33.2% (33.8%)	10.5% (13.5%)	38.8% (35.5%)
Transportation (public & personal access)	16.0% (15.6%)	27.2% (25.3%)	30.6% (32.5%)	26.2% (26.6%)
Watershed quality (streams, rivers, lakes)	20.6% (19.2%)	26.7% (24.2%)	22.6% (28.3%)	30.1% (28.3%)
Other issue you consider to be a serious problem (specify: _____)				

42. What services would you like to see improved in Gratiot County? (Please comment on any of the following)

➤ **Health related:**

- ✓ 24% - Expand access to health insurance, ✓ 24% - Increase access to care,
- ✓ 18% - Improved quality of care, ✓ 13% - Increased dental access,
- ✓ 10% - Greater focus on prevention, ✓ 7% - Enhanced support services,

➤ **Nutrition / Fitness / Recreation related:**

- ✓ 32% - Healthier food/recreation options, ✓ 23% - More youth programs/activities,
- ✓ 21% - Greater access to low-cost recreational center, ✓ 15% - Enhanced promotion and coordination of existing resources, ✓ 9% - Improve infrastructure

➤ **Education related:**

- ✓ 23% - Greater access to programs/services, ✓ 23% - More affordable education,
- ✓ 12% - Increased health promotion/education, ✓ 11% - Higher school/educator standards, ✓ 8% - Greater emphasis on fundamentals of life, ✓ 8% - Increased educational opportunities

➤ **Transportation related:**

- ✓ 75% - Access to county-wide public transportation, ✓ 14% - Less costly public transit options, ✓ 8% - Improved infrastructure/safety, ✓ 3% Enhanced transportation options to medical appointments

➤ **Other:**

- ✓ 27% - Greater job opportunities, ✓ 11% - Enhance drug enforcement, ✓ 10% - Develop community gardens, ✓ 10% - Reduce abuse of public assistance, ✓ 5% More restaurant options, ✓ 5% - Expand recreation opportunities, ✓ 5% - Increase affordable housing