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I. Building Healthy Communities

Throughout the region the people who live in our communities rely on MidMichigan Health for excellent care, from the most advanced medical technology to an amazing patient experience. MidMichigan’s care extends outside the walls of our Medical Centers in Alma, Clare, Gladwin and Midland. It reaches beyond our Health Parks in Freeland, Mt. Pleasant and Houghton Lake. And it stretches out from our physician practices in Medical Offices throughout the region. That’s because we are focused on helping people lead healthier lives no matter where their lives may intersect with us.

Improving health in the middle of Michigan is a daunting challenge too large to belong to any single organization or group. That is why MidMichigan has so many partnerships and collaborations and has looked to many sources for quantitative and qualitative information on health status and what can be done to address it.

As you read this assessment you will discover facts and figures which may be new information for you. You will also learn about MidMichigan’s past, present and approach toward improving health status. We appreciate your focus on this topic and welcome your comments and suggestions, and yes, encouragement. Please share them with our community education coordinator, Stephanie Leibfritz at (989) 839-1886, or stephanie.leibfritz@midmichigan.org

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June 2013

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Our Mission
Our mission is to provide excellent health services to improve the quality of life for people in our communities.

Our Vision
Our vision is to be an integrated health system providing seamless care of each person we serve.

Our Values
Excellence - We offer nothing less than the best.

We adhere to the highest standards possible in clinical care and customer service. We continuously measure ourselves and constantly strive to improve.

Integrity - We do the right thing, each time, every time.

We treat each individual with compassion and respect, demonstrating the pinnacle of professionalism and dignity. We communicate openly and honestly. We recognize the unique individuality of each person. In all that we do, we exemplify the highest ethical standards.

Teamwork - We provide individual commitment to a group effort.

Collaboration benefits everyone, most importantly our patients. It promotes efficiency, fosters professional and organizational growth, encourages learning and stimulates innovation.

Accountability - We accept responsibility for all we do.

We are accountable for the outcomes of our efforts. We are responsible to the communities we serve, to our patient and to one another. We recognize that as health care providers we occupy a position of trust.
II. Introduction to the 2013 Community Health Needs Assessment

Introductory Remarks
This report contains the results of a baseline assessment of the health needs of Clare County. Contained in the following pages is a report of: (1) the primary and secondary data that has been collected, (2) identification of community benefit initiatives to address prioritized needs based on the data, (3) establishment of priority actions and outcomes and (4) outcome evaluation measures.

Our CHNA supports the Mission of MidMichigan Health to provide excellent health services to improve the quality of life for people in our communities. The Institute for Healthcare Improvement (IHI) believes that new designs can and must be developed to simultaneously accomplish three critical objectives, or what is called the “Triple Aim”: improve the health of the population; enhance the patient experience of care (including quality, access and reliability); and reduce, or at least control, the per capita cost of care. Triple Aim has helped frame our work and focus outcome discussions on measures that matter in the three realms of health, cost and experience. We have analyzed the current status of our population relative to health care access and cost issues, health outcomes and health care behaviors. The community benefit initiatives and corresponding priority actions are intended to provide the best practices for healthy living. We plan to monitor, evaluate and adjust actions on an ongoing basis, refining strategies to improve, as we progress through the ever changing world of health care.

Profile of Clare County
MidMichigan Health’s service area where our hospitals and major facilities are located consists of four counties: Midland, Gratiot, Clare and Gladwin. This service area was defined at a zip code level using system-wide inpatient origin data from the Michigan Inpatient Data Base. In FY 2011 over 85 percent of our discharges originated from one of these zip codes. This report will focus on Clare County.

Clare County is widely known as Michigan’s “Gateway to the North.” Established in Michigan’s lumbering era, the area was home to the first successful logging railroad. This line helped revolutionize the logging industry. Timber, the Muskegon and Tobacco Rivers, abundant land, and a railroad were major catalysts for the county. Between 1865 and 1880, the cities of Clare and Harrison and the Village of Farwell were established. Also, with the addition of the railroads, smaller “whistle stops” such as Lake and Lake George grew. Other communities such as Leota and Temple sprang up as a result of the logging boom.

Harrison, the county seat, has hosted the county fair since 1883. Clare grew from a small village in 1865 to a thriving community by 1879, with a main street lined with businesses ranging from a blacksmith to a jewelry store. Many of the original buildings survive today. From its rugged logging past, the county has evolved into a permanent home for many residents, a part-time home for those who journey south for the winter, and a tranquil tourist destination known for its bountiful natural resources. (Reference: Clare County Convention and Visitor’s Bureau, 2011).

The largest employer in Clare County is MidMichigan Health, with many of those employees working for MidMichigan Medical Center–Clare.

Facts and Figures on Clare County - Based on 2010 Census, there were 30,926 people, and 13,170 households a residing in the county. The population density was 54.8 people per square mile, indicative of a rural location. The racial makeup was approximately 96.8 percent Whites, 0.7 percent Black or African-American, and 0.7 percent for Native American, and less than 0.5 percent for each Asian, and Pacific Islander. Slightly over 1 percent was classified as two or more races. The median age is 45.2.
The Census Bureau estimates the 2010 median household income was $34,431, and the median family income was $42,400. Slightly less than 24 percent of the population was below the poverty line, including 36.3 percent of those under age 18 and 34.5 percent of those ages 5-17.

People 25 years of age or older with a high school degree or higher is 83.2 percent. People 25 years of age or older with a bachelor’s degree or higher is 11.0 percent. The county’s estimated unemployment rate was 9.2 percent.

Figure 1 illustrates the distribution of Clare County’s uninsured population, by age category. Males age 18 to 24 years of age comprise the highest percentage of uninsured individuals at 34.8 percent, followed by males age 25 to 34 years of age, at 31.3 percent. Females age 25 to 34 years have the highest percentage of female population uninsured, at 32.4 percent. The three age categories containing the highest percentage of uninsured males includes ages 18 to 24 years (34.8%), 25 to 34 years (31.3%), and 35 to 44 years (25.2%), while the highest percentage of uninsured females includes ages 18 to 24 years (32.4%), 35 to 44 years (30.6%), and 25 to 34 years (23.1%).

### III. Community Socioeconomic Factors

The data contained within this section was obtained from the United States Census Bureau 2010 Census and the 2010 American Community Surveys.

**Population Projections** - Based on population through 2020, with the exception of Isabella County which has a projected growth of 4.4 percent, all other counties in the MidMichigan Health service area will experience population declines. Clare County (-9.5%), Gladwin County (-10.7%) and Gratiot County (-6.6%) are all projected to have significantly higher population declines than the State average of -3.8 percent. Midland County will remain relatively flat, experiencing only a slight decline of -0.3 percent.

**Race** - Compared to the State average of 78.9 percent, all five counties in the MidMichigan Health service area have a significantly higher percentage of White residents; ranging from 89.2 percent in Isabella County to 97.7 percent in Gladwin County. While Gladwin and Clare Counties are almost exclusively White, the other three counties show more variation in race. Gratiot County has the highest percentage of African American population, at 5.5 percent; followed by Isabella County with 2.4 percent and Midland County with 1.2 percent. Gratiot County also has the highest percentage of Hispanic or Latino, at 5.4 percent. Isabella County is 3.1 percent Hispanic or Latino, followed by Midland at 2.0 percent, Clare at 1.5 percent and Gladwin at 1.2 percent. Midland and Isabella Counties are 1.9 percent and 1.6 percent Asian respectively. Isabella County’s population is 3.4 percent American Indian. This does not account for 26,274 American Indians living on the local reservation as they were not included in the U.S. Census Bureau data used as the source for this information.

**Median Age** - Compared to the State of Michigan as a whole, the MidMichigan Health Service area has a much older population.
The median age for residents of Clare (45.3) and Gladwin (47.7) counties is significantly higher than the median age for Michigan residents of 38.9. The median age of Midland County (40.4) residents is slightly over the State median, while Gratiot County, at 38.7, is right in line with the State median. The median age in Isabella County is only 25.1. It is likely lowered by the concentration of college students in this county. Central Michigan University reports its enrollment at approximately 27,000, or approximately 39 percent of the County population. The concentration of the population falling into the 20 – 24 years old category in Isabella County is 21.9 percent versus the State average of 7.0 percent.

Clare (19.9%) and Gladwin (22.8%) counties also have a significantly higher percentage of population age 65 and older than the State average of 13.8 percent. 14.8 percent of the population of both Midland and Gratiot counties are age 65 and older. Only 9.7 percent of Isabella County is 65 and older, as is expected with the concentration of college students.

Uninsured Adults - Three of the five counties in the MidMichigan Health service area exceeded the National average of 18.1 percent for uninsured persons ages 18-64 years. Clare County exceeds both the National and the State average of 21.4 percent. Uninsured persons ages 18-64 years for each county were as follows: Clare County 22.6 percent, Gladwin County 19.6 percent, Gratiot County 19.3 percent, Isabella County 17.0 percent and Midland County 13.1 percent.

The uninsured statistics for the total population are lower due to the addition of persons 65 and older who are eligible for Medicare. These statistics were as follows: Clare County 15.1 percent, Gratiot County 13.3 percent, Isabella County 13.3 percent, Gladwin County 13.0 percent and Midland County 9.2 percent. The State and National average were 15.5 percent and 12.4 percent respectively.

Household Income - With the exception of Midland County, the average household income is below the State and National averages in all counties. Midland County average income was $70,923, followed by Gladwin County at $55,055, Clare County at $49,808, Gratiot County at $49,784 and Isabella County at $48,040. The State and National averages were $59,772 and $68,259.

The average income for Isabella County is likely lowered by the concentration of college students in this county as mentioned under the “Median Age” section of this document.

The average income for Gratiot County is likely lowered by the presence of Alma College as well as the presence of three correctional facilities. Alma College reports its enrollment at approximately 1,400. The 2010 census reported the institutionalized population in Gratiot County to be 4,220. These two combined represent 13 percent of the total population in Gratiot County.

Marital Status - With the exception of Isabella County (which is likely affected by its concentration of college students), all counties have a higher percentage of married individuals over age 15 than the State average of 48.8 percent. Gladwin County reports this statistic at 60.8 percent, followed by Midland 57.5 percent, Clare 54.8 percent, Gratiot 50.8 percent and Isabella 36.2 percent.

Midland and Isabella Counties show a significantly lower widowed population than the State average; reporting 5.3 percent and 4.0 percent respectively, compared to the State average of 6.3 percent. Gratiot County, Gladwin County and Clare County were all higher than the State average; reporting 7.2 percent, 8.3 percent and 8.0 percent.

While Gratiot County (11.7%) and Gladwin County (11.2%) reported divorced population numbers similar to the State average of 11.6 percent, Midland County and Isabella County again reported significantly lower numbers at 10.7 percent and 8.6 percent. Clare County reported 13.8 percent which is significantly higher than the State average.
With the exception of Isabella County (again affected by its concentrated college population), all counties reported a significantly higher percentage of “husband-wife” households than the State average of 48.0 percent.

**Vehicles Per Household** - Clare County, in which 8.1 percent of the households had no vehicle available, was higher than the State average of 7.8 percent. This is indicative of the County’s transportation needs. The other four counties reported statistics lower than the State average: Gratiot County 3.3 percent, Midland County 5.5 percent, Gladwin County 6.1 percent and Isabella County 7.0 percent.

**Social Security Income** - Not surprisingly considering their higher percentage of individuals age 65 and greater, Clare County (42.7%) and Gladwin County (44.4%) have a higher percentage of households with one or more members collecting social security than the State average of 31.7 percent. Midland County (31.9%) and Gratiot County (31.3%) numbers are fairly consistent with the State average. Isabella County, again affected by its college student population, was significantly lower than the State average at 23.0 percent.

While the State average for Social Security income is $17,108, that number was somewhat lower in all five counties: Clare County $16,008, Gratiot County $16,062, Midland County $16,520, and Isabella County $16,629.

**Medicare and Medicaid** - Due to the higher percentage of individuals age 65 and greater, Clare County (24.8%) and Gladwin County (27.7%) have a higher percentage of Medicare enrollees than the State average of 16.6 percent. Midland County (16.4%) and Gratiot County (17.4%) numbers are fairly consistent with the State average. Isabella County, again affected by its college student population, was significantly lower than the State average at 12.2 percent.

Clare County (16.8%) has a significantly higher percentage of Medicaid enrollees than the State average of 12.4 percent. Gladwin County is slightly higher with a 12.8 percent Medicaid rate. Gratiot County’s Medicaid rate is slightly lower at 11.7 percent, followed by Midland County at 8.7 percent and Isabella County at 8.1 percent.

**Poverty** - With the exception of Midland County, all counties have a significantly higher individual and household level poverty rate than the State averages of 13.5 percent for individuals and 9.6 percent for households.

Individual poverty rates: Midland County 10.4 percent, Gratiot County 17.5 percent, Gladwin County 20.7 percent, Clare County 23.1 percent and Isabella County 31.6 percent.

Household poverty rates: Midland County 7.2 percent, Gratiot County 11.1 percent, Gladwin County 15.0 percent, Clare County 17.9 percent and Isabella County 13.0 percent.

**Occupation/Employment** - Each county is unique in the make-up of its primary employment industries and occupations. The dominate occupations in Midland County are in the management, business, science and arts category. At 39.8 percent Midland’s percentage of these occupations is higher than the State average of 34.2 percent and significantly higher than the four other counties in the service area. The next highest in this category is Isabella County at 27.1 percent. Midland County’s dominate industries are manufacturing (24.6%) and educational services, health care and social assistance (22.4%). Midland County’s manufacturing industry far outweighs the State average of 16.3 percent. Midland County is the home to two Fortune 500 companies, The Dow Chemical Company and Dow Corning Corporation.
The main occupations in Isabella County are in the areas of service occupations and sales and office occupations. At 28.2 percent and 28.0 percent respectively, Isabella County outweighs the State averages of 18.8 percent and 25.0 percent and also all four of the other counties in the service area. Although lower than the State average, management, business science and arts occupations are also significant in Isabella County (27.1%). The most prevalent industries in Isabella County are educational services, health care and social assistance (28.2%) and arts, entertainment, recreation, accommodation and food services (22.1%). Isabella County is home to Central Michigan University, a leading educational institution with several programs in health care. Again, Isabella County significantly outweighs the State averages of 24.6 percent and 9.5 percent for these industries, as well as the other four counties.

All occupation categories play a significant role in Gratiot County. While management, business science and arts is the most dominate category at 26.1 percent, service occupations (22.8%), sales and office occupations (23.7%) and production, transportation and material moving (17.3%) are also significant. Natural resources, construction and maintenance occupations also play a significant role in Gratiot County. At 10.1 percent, the County outweighs the State average of 7.9 percent. Gratiot County’s dominate industries are manufacturing (14.6%) and educational services, health care and social assistance (25.2%). Gratiot County is home to Alma College, a leading four-year institution.

Similar to the other counties, Clare County’s primary occupations are a mixture of management, business science and arts (24.8%), service occupations (20.8%) and sales and office occupations (24.6%). Clare County also has a significant amount of natural resources, construction and maintenance occupations. At 15.9 percent, the County far outweighs the State average of 7.9 percent. The primary industries in Clare County are educational services, health care and social assistance (21.6%), retail trade (13.1%), arts, entertainment, recreation, accommodation and food services (11.9%), and manufacturing (11.4%). The county’s arts, entertainment, recreation, accommodation and food services are significantly higher than the State average of 9.5 percent. Clare County is home to Mid Michigan Community College.

The composition of the occupations in Gladwin County is very similar to that of Clare County. Management, business science and arts (25.1%) account for the highest percentage of occupations; followed by sales and office occupations (25.5%) and service occupations (18.8%). Gladwin County also has a significant amount of natural resources, construction and maintenance occupations (14.0%) as well as production, transportation and material moving (16.6%), both of which exceed State averages. The primary industries in Gladwin County are educational services, health care and social assistance (24.1%), followed by manufacturing (16.0%). Construction (10.4%) and retail trade (10.6%) are also important industries in the county.

Unemployment - Gladwin County’s unemployment percentage (15.1%) is consistent with the State average of 15.1 percent. Midland County’s unemployment is significantly lower than the State at 8.3 percent. Isabella County and Gratiot County are also lower than the State average at 13.3 percent. Clare County, on the other hand, has a significantly higher unemployment rate at 19.0 percent.

Disabilities - The percentage of population with various disabilities in both Clare (23.4%) and Gladwin (20.3%) counties is significantly higher than the State average of 14.4 percent. Gratiot County is also slightly higher than the State average at 15.6 percent. Both Midland County and Isabella County are slightly lower than the State at 13.1 percent and 13.3 percent respectively.

Clare and Gladwin Counties report percentages higher than the State averages in all categories of disabilities. Gratiot County reports higher percentages in all categories except self-care and independent living difficulties. Isabella County has higher percentages in hearing difficulty and cognitive difficulty, but is below the State averages in all other categories. Midland County is below the State averages in all categories except hearing difficulty.
Education - Midland County is the most educated of the five counties in the service area. 41.6 percent of the population in Midland County has received some sort of college degree compared to 32.7 percent in Isabella County, 19.8 percent in Gratiot County, 18.3 percent in Gladwin County and 18.0 percent in Clare County. The State average is 33.6 percent.

Clare County (16.3%), Gladwin County (15.1%) and Gratiot County (12.9%) all have a higher percentage of the population not receiving a high school diploma or a GED compared to the State average of 11.3 percent.

Language Spoken at Home - The percentage of people speaking only English is higher in all five counties than the State average of 91.4 percent. Gladwin County had the highest percentage (97.1%), followed by Gratiot County 96.3 percent, Clare County 96.2 percent, Midland County 95.8 percent, and Isabella County 95.3 percent.

Of the people not speaking English as their only language 1 percent or less do not also speak English very well, with the exception of Isabella County where 2.6 percent speak English less than very well.

IV. Data Sources

The most updated data from sources available to us are included in this report. Description of data sources follow and additional sources are referenced in the data text.

Together We Can (TWC) - is a community project sponsored by the Central Michigan District Health Department headed by Mary Kushion MSA, Health Officer. In collaboration with community organizations such as MidMichigan Health, our goal is to unite the communities of our 6 county region and improve health and promote wellness in our areas.

The 7 Priority Areas of the 6 Counties, Arenac, Clare, Gladwin, Isabella, Osceola and Roscommon are:

1. Access to Health Services
2. Healthy Eating and Active Living
3. Sexual and Reproductive Health priority
4. Maternal and Infant health priority
5. Substance abuse priority
6. Abusive, Violent, and Controlling Behavior
7. Environmental Health and Transportation priority areas

MidMichigan Health has representation and involvement in each of the 7 areas. With 2 of these areas, MidMichigan Health has 2 clinical/community education members being Priority Area Leaders, (PALS): Stephanie Leibfritz, RN, MS, Community Education Coordinator for MidMichigan Health leading the Healthy eating and active Living Priority Area, and Julie Wright, RN, BSN, Community Nurse Educator leading the Infant and Maternal Health Area.
University of Wisconsin Population Health Institute County Health Rankings - The Robert Wood Johnson Foundation and University of Wisconsin’s Population Health Institute has released *County Health Rankings*. Counties in each of the 50 states are ranked according to summaries of a variety of health measures. Counties are ranked relative to the health of other counties in the same state relative to Health Outcomes and Health Factors. Those having high ranks (for example, 1 or 2) are considered to be the healthiest. Those having the lowest ranks (82 for Michigan) are considered to be the least healthy. See Appendix A for the MiHIA County Health Rankings Data for the counties served by MidMichigan Health.

Multiple databases are used, for example:

- Data on deaths and births are based on certificates from information routinely reported to the National Vital Statistics System (NVSS)
- Morbidity and Health Behaviors are from the Behavioral Risk Factor Surveillance System. Seven years of data, 2002–2008, are used to generate more stable estimates of self-reported health status.
- Preventable hospital stays calculated by the authors of the Dartmouth Atlas of Health Care using Medicare claims data for the years 2006–2007.

**Behavioral Risk Factor Surveillance System** - The Behavioral Risk Factor Surveillance System (BRFSS) is the world's largest, ongoing telephone health survey system, tracking health conditions and risk behaviors in the United States yearly since 1984. Conducted by the 50 state health departments as well as those in the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands, with support from the Center for Disease Control (CDC), BRFSS provides state-specific information about issues such as asthma, diabetes, healthcare access, alcohol use, hypertension, obesity, cancer screening, nutrition and physical activity, tobacco use and more. Information is self-reported.

**The Michigan Behavior Risk Factor Survey (BRFS)** - is a statewide, telephone survey of adult residents within each county or region of Michigan. Surveys are administered to collect data regarding region-specific, population-based estimates of health risk behaviors, health practices and chronic conditions of the state's population. The survey reports include data from the following areas:

- Morbidity
  - Poor or fair health
  - Poor physical health days
  - Poor mental health days
- Tobacco Use
- Alcohol Use
- Family and Social Support

V. **Health Snapshot of Clare County**

Our preliminary needs assessment utilized health-related data, creating a picture of the disease states and mortality rates for people in Clare county, as well as at-risk behaviors. We additionally determined the impact of health care access as an overarching issue. To follow is a synopsis of this information for Clare County, as well as prioritized community benefit initiatives, goals, actions and outcome measures.
Health Care Access

According to University of Wisconsin Population Health Institute County Health Rankings for 2012 and 2013, Clare ranked 79 out of 82 counties in clinical care in 2012, and improved to 76 out of 82 in 2013. Within that ranking, the ratio of patient to primary care physician was 3,035:1 in 2012 and 2383:1 in 2013, against a national benchmark of 945:1 in 2012 and 1067:1 in 2013. Additionally for Clare, uninsured for ages 18-64 years is 17 percent in 2012 and 16 percent in 2013, which exceeds the national and state average of 11 percent in 2012 and 2013 (University of Wisconsin Population Health Institute. *County Health Rankings 2012, 2013*). There is a higher percentage (24.8%) of Medicare enrollees than the State average of 16.6 percent, and a higher percentage (16.8%) of Medicaid enrollees than State average of 12.4 percent. (U.S. Census Bureau, American Community Survey, 2008-2010).

According to MidMichigan PRC Research, July 1, 2011 - April 16, 2012, Clare County had the highest percentage of all counties with 90.2 percent of MidMichigan Physicians Group primary care patients questioned who were “always or usually” able to get an appointment as soon as they needed for issues requiring care right away. Clare County was again the highest percentage of our counties with 94.8 percent who stated they were “usually” able to get an appointment as soon as they needed for a routine checkup.

Preventable Hospital Stays
The preventable hospital stays numbered 104 for 2012 and 90 for 2013, against a national benchmark of 49 and 47 respectively (University of Wisconsin Population Health Institute. *County Health Rankings 2012, 2013*).

According to the Dartmouth Atlas of Health Care, utilizing Medicare Claims Data, from 2006-2007, Clare County had the highest with 109 per 1,000 population of ambulatory-care sensitive hospitalizations per Medicare enrollee against 52 per 1,000 State of Michigan Medicare enrollees.

Health Outcomes

Heart Disease - The leading cause of male and female deaths in Clare County is heart disease. The incidence of death associated range of 23-34 percent of all deaths for males, and a range of 25-34 percent of all deaths for females. However, the rate of deaths associated with heart disease has decreased overall from 1999 to 2009. Clare County observed the highest heart disease rate for our counties (279.8 per 100,000 population; these were higher rates than the State of Michigan (216.4 per 100,000 population). The data were gathered by the Division for Vital Records & Health Statistics, Michigan Department of Community Health, Population Estimate. Estimates were calculated by the National Center for Health Statistics, U.S. Census.

Cancer Rates - Cancer incidence trends represent age-adjusted rates per 100,000 population.

- **Breast Cancer** - The incidence of breast cancer in females experienced a gradual decrease in the number of diagnoses between 1993 to 2007, in all counties except Clare County, which experienced an increase during 1998-2002 of 9.4 incidences per 100,000 population. The incidence of breast cancer in Clare County was 110.5 per 100,000 population, which is a lower incidence of breast cancer than the State of Michigan (122.1 per 100,000 population).

- **Prostate Cancer** - Prostate cancer trends for all counties and the state of Michigan between 1993 and 2007 showed a mild increase during 1998-2002, followed by a decrease in incidence from 2003-2007. For all counties, prostate cancer incidence has decreased at present, from its initial baseline incidence observed from 1993-1997. Clare County had the highest incidence (173.7 per 100,000) followed closely by Gladwin County (172.9 per 100,000 population). All counties maintained a lower incidence of prostate cancer than the State of Michigan (173.8 per 100,000 population).
• **Lung and Bronchus** - Lung and bronchus cancer diagnoses in males between 1993 to 2007 was 107.1 diagnoses per 100,000 population, while the incidence in females was 79.3 per 100,000 population. During that time period, all counties with the exception of Midland County, experienced higher rates than the State of Michigan (45.5 per 100,000 population).

• **Colorectal cancer** - Clare had the highest incidence for females (1993-2007) for our counties (51 per 100,000 population), and a higher incidence than the State of Michigan (45 per 100,000 population). However, the incidence of colon and rectum cancer diagnoses in males decreased in number between 1993 to 2007 for all counties and the State of Michigan, with the largest decrease in incidence observed in Clare County, where between 1993 and 2007, the incidence for males declined by 32 diagnoses per 100,000 population. Colorectal cancer rates for men were 51.5 per 100,000 population, which was lower than the State of Michigan, which was 58.2 per 100,000 population.

• **All Other Sites** - The incidence of cancer in males for all other sites, excluding prostate, lung and bronchus, and colon and rectum decreased from the baseline (1993-1997) for the time period of 2003-2007 for Clare County, while there was an increase from baseline from the State of Michigan. The largest decrease in incidence from baseline was observed in Clare County, where between 1993 and 2007, the incidence for males declined by 11.9 diagnoses per 100,000 population. An overall increase was observed for the state of 12.5 diagnoses per 100,000 population from 1993-2007. The incidence of cancer in females for all cancer types increased for Clare County to 465.7 per 100,000. The State of Michigan also increased to 436.4 per 100,000 population.

The data were gathered by the Division for Vital Records and Health Statistics, Michigan Department of Community Health, utilizing the Michigan Resident Cancer File. Data were compiled from 1993-2007 for both males and females.

**Diabetes** - Diabetes death rates were highest in Clare County (29 per 100,000 population). The data were gathered by the Division for Vital Records & Health Statistics, Michigan Department of Community Health, Population Estimate. Estimates were calculated by the National Center for Health Statistics, U.S. Census Populations with Bridged Race Categories, 2007-2009.

**Maternal/Infant Health**

• **Low Birth Weights** - (Less than 2,500 grams upon birth.) Clare incidence was 8.4 percent in 2012 down to 8.1 percent in 2013 when compared to the Michigan average of 8.3 percent in 2012 and 8.4 percent in 2013. The U.S. benchmark is defined at the 90th percentile, held an incidence of 6.0 percent. Low-birth weight rates are below the national average (6.9% compared to 8.3%) but still above the Healthy People 2020 objective of 5.0 percent. (National Vital Statistics System (NVSS) at the National Center for Health Statistics (NCHS) and the Centers for Disease Control and Prevention (CDC) from 2001-2007).

• **Breastfeeding** - Breastfeeding per 100,000 population Central Michigan District Health Department (CMDHD)
  - 60.7% Ever
  - 15% 6 months
  - 11.8% 12 months
Health Care Behaviors

Clare County ranked 69 out of 82 counties in Health Behaviors in 2012 and 2013. Health Behaviors include measures of smoking, diet and exercise, alcohol use and risky sex behavior. Smoking percentages improved from 29 percent in 2012 to 26 % in 2013 compared to a national benchmark of 13 percent for smoking. Obesity percentages were the same at 30 percent in 2012 and 2013 compared to a national benchmark of 25 percent. Clare ranked 32 percent in physical inactivity in 2012 and 2013, compared to the national benchmark of 21 percent. The sexually transmitted infection rate was 109 in 2012 and 168 in 2013 (University of Wisconsin County Health Rankings, 2012, 2013). Clare ranked 32 percent in physical inactivity in 2012 and 2013, compared to the national benchmark of 21 percent. Recreational facilities ranked 10 per 100,000 population, equal to the State of Michigan (10 per 100,000 population). The U.S. benchmark defined at the 90th percentile, reported a rate of 17 per 100,000 population.

Data from University of Wisconsin Population Health Institute County Health Rankings of 2011 and 2012.

Social and Economic Factors

Clare County ranked 80 out of 82 counties in Social and Economic Factors in 2012 and improved to 79 out of 82 counties in 2013. Social economic factors is defined as measures of education, employment, income, family and social support and community safety.

Physical Environment

Clare County ranked 27 out of 82 counties in 2012 in Physical Environment and 30 out of 82 counties in 2013. The data are not comparable as lack of access to healthy food was not measured in 2012. Physical environment includes measurements for daily fine particulate matter in the air and drinking water safety (which was not reported for MClare County) as well the built environment; human-made (versus natural) resources and infrastructure designed to support human activity, such as buildings, roads, parks, restaurants, grocery stores and other amenities such as recreational facilities., limited access to healthy foods and number of fast food restaurants. Population with limited access to healthy foods was not measured for Clare in 2012, but was measured at 3% in 2013 compared to a national benchmark of 1%. Ratios of fast food stores compare the number of fast food sources to the total number of restaurants in a specific area. Fast food restaurants ratio for Clare County was 48% in 2012 and 46% in 2013, compared to a national benchmark of 25% in 2012 and 27% in 2013. Recreational facilities numbered 10 per 100,000 population in 2013 (was not measured in 2012 for Clare), which is above the State of benchmark of 9, and below national benchmark of 16.

Preventive Screenings

**Mammography screening** - Rate of 65 percent in 2012 down to 62 percent in 2013, indicating less of the female population receiving mammography screening in Clare than in the State of Michigan (69%) and below the U.S. benchmark of 74 percent in 2012 and 73 percent in 2013.

Mammography screening values represent the fraction of the female population (age 67-69) that had at least one mammogram over a two-year period. The data were gathered by the Dartmouth Atlas of Health Care, utilizing Medicare Claims Data, from 2006-2007.

**Diabetes Screenings** - HgA1C. Clare County had an 85 percent in 2012 and 87 percent in 2013 diabetic screening rate, which were both above the rate for the State of Michigan (84% in 2012 and 86% in 2013), but below the U.S. benchmark (89% in 2012 and 90% in 2013), defined at the 90th percentile, and holds a screening rate of 89 percent.
VI. Community Health Factors

General Health Status

Personal Health - Personal health is a self-reported measure of the health status of individuals in the community, utilized as a general measure for health-related quality of life. The data were gathered by the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System (BRFSS), and the incidence was calculated by the National Center for Health Statistics. Data is based on the question: “In general, would you say that your health is excellent, very good, good, fair or poor?”

Figure 6 illustrates across all counties, 75-88 percent of respondents claimed to be in good, very good or excellent health. Midland and Isabella Counties reported the lowest response rate of poor or fair health at 12 percent. Gladwin reported the highest rate (25%), followed by Clare County (20%). The State of Michigan reported that 15 percent of respondents claim poor or fair health. Midland (12%), Gratiot (15%), and Isabella (12%) Counties reported equal or lower rates of poor or fair health than the state. The U.S. benchmark defined at the 90th percentile, reported a rate of 10 percent poor or fair health, which was lower than all counties and the State of Michigan.

Leading Health Problems - Leading health problems in the community were evaluated through two metrics including the distribution of deaths by cause for males and females, as well as years of potential life years lost for males and females. Data estimates were gathered in two forms. The first estimate gathered by the National Vital Statistics System (NVSS) at the National Center for Health Statistics, is based on death certificates reported to the NVSS. This data is a report of the number of years of life lost, before the age of 75, for individuals in the community.

The second estimate was gathered by the Division for Vital Records and Health Statistics, Michigan Department of Community Health, utilizing the 2009 Michigan Death File. This data is reported in two ways. It is an estimate of the total number of deaths associated with an illness. This serves as an indicator for what illnesses are associated with the highest rate of deaths in the community. The data is also utilized to estimate the number of years of life lost below age 75, due to a particular illness. The years of life lost to a particular illness serves as an indicator for what illnesses are having the largest impact on the longevity and quality of life of individuals in the community.

Access to Healthy Foods - The Access to healthy foods is estimated by the percent of zip codes within each county with a healthy food outlet, where healthy food outlets are defined as a grocery store or produce stands and farmer’s markets. It is a measure of the fraction of the population with access to identified healthy food outlets. The data were gathered by the U.S. Census Bureau’s Zip Code Business Patterns in 2008.
Figure 7 illustrates that Clare County was estimated to have the greatest access to healthy food outlets (100%), while Gratiot County was estimated to have the lowest access (50%), followed by Isabella County (67%). Both Clare (100%) and Midland (80%) Counties had greater access to health foods than the estimated access for the State of Michigan (73%), while Gladwin (67%), Gratiot (50%), and Isabella (60%) Counties had less access to healthy foods.

The U.S. benchmark defined at the 90th percentile, held an estimate of 92 percent access to healthy foods. Clare County met the U.S. benchmark, while the remaining counties as well as the State of Michigan were estimated to have less access than the U.S. benchmark.

**Male Deaths** - It was estimated that the leading cause of male deaths in the community was heart disease. The incidence of death associated with heart disease varied by county, with a range of 23-34 percent of all deaths for males. Cancer was associated with the second highest incidence of death in the community with a range of 20-28 percent of all deaths for males. Chronic lower respiratory diseases were associated with the third highest incidence of death in the community with a range of 5-8 percent of all deaths for males. Trends associated with the top three contributing illnesses were consistent among all counties with the exception of Isabella County where more deaths from cancer were observed than deaths from heart disease. The top three contributing illnesses to male death in the community followed the same trends with the State of Michigan. There was an exception however, for the number of deaths for the state which are associated with unintentional injuries which was slightly above chronic lower respiratory diseases for the state.

**Female Deaths** - It was estimated that the leading cause of female deaths in the community was heart disease. The incidence of death associated with heart disease varied by county, with a range of 25-34 percent of all deaths for females. Cancer was associated with the second highest incidence of death in the community with a range of 17-23 percent of all deaths for females. Chronic lower respiratory diseases and stroke share significant overlap in the number of deaths associated with each, and therefore were both associated with the third highest incidence of death in the community with ranges of 6-10 percent and 4-8 percent, respectively, of all deaths for females. Trends associated with the top three contributing illnesses were consistent among all counties with the exception of Gratiot and Isabella Counties where more deaths from stroke were observed than deaths from chronic lower respiratory diseases. The top three contributing illnesses to female death in the community followed the same trends with the State of Michigan.
Although rates fluctuated by county, it was evident that the major contributors to death were heart disease and cancer, for both men and women, across the community.

**Years of Potential Life Lost** - Years of life lost are reported in two methods. The first method examines the years of potential life lost below age 75 per 100,000 population. The second method examines the fraction of total life years lost in a particular county or state, due to a particular illness.

Figure 10 illustrates the lowest rate of potential years of life lost was observed in Midland County (6,161 per 100,000 population), while the highest rate was observed in Clare County (10,723 per 100,000 population), followed by Gladwin County (8,854 per 100,000 population). Midland, Gratiot (6,783 per 100,000 population), and Isabella (7,135 per 100,000 population) Counties observed a lower rate of years of life lost than the State of Michigan (7,387 per 100,000 population). The U.S. benchmark defined at the 90th percentile, reports a rate of 5,564 per 100,000 population, which is lower than all counties and the State of Michigan.
Figure 11 illustrates the examination of the years of life lost below the age of 75; by cause of death, for males, revealed that the top three contributing factors were malignant neoplasms (cancer), heart disease and accidents. Malignant neoplasms contributed to 19-28 percent of potential years of male life lost in the community. Heart disease contributed to 15-29 percent of potential years of male life lost in the community. Accidents contributed to 13-26 percent of potential years of male life lost in the community. These three contributors varied in incidence by county, but followed the State of Michigan in sharing the top three contributors to potential years of male life lost.

![Distribution of Years of Life Lost Below the Age of 75, by Cause of Death, for Males, 2009](image)

Figure 11: Distribution of Years of Life Lost Below the Age of 75
Figure 12 illustrates, like males, the highest rate for years of life lost below the age of 75, by cause of death, for females, was contributed to malignant neoplasms (cancer), heart disease and accidents. Malignant neoplasms contributed to 30-47 percent of potential years of female life lost in the community. Heart disease contributed to 11-27 percent of potential years of female life lost in the community. Accidents contributed to 6-25 percent of potential years of female life lost in the community. These three contributors also varied in incidence by county, but follow the State of Michigan in sharing the top three contributors to potential years of female life lost.

Figure 12: Distribution of Years of Life Lost Below the Age of 75

**Mental and Physical Health** - Mental and physical health are self-reported measures of the health status of individuals in the community, based on the responses to two questions: 1) “Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” 2) “Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” The data were gathered by the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System (BRFSS), and the incidence was calculated by the National Center for Health Statistics.

Figure 13 illustrates the range of physically unhealthy days reported in the community was 3-5 days. Midland County reported the fewest number of days (3 days), while Gladwin County reported the greatest (5 days), followed by Clare County (4.8 days). Midland and Gratiot Counties (3.1 days) report fewer physically unhealthy days than the State of Michigan (3.5 days). The U.S. benchmark defined at the 90th percentile, reports 2.6 days of physically unhealthy days. All counties and the State of Michigan were above the U.S. benchmark.

Figure 13: Distribution of Physically and Mentally Unhealthy Days Reported in a 30 Day Period, 2003-2009
The range of mentally unhealthy days reported in the community was 2.6-5.2 days. Isabella County reported the fewest number of days (2.6 days), while Clare County reported the greatest (5.2 days), followed by Gladwin County (4 days). Midland (3.1 days), Gratiot (3.7 days), and Isabella (2.6 days) Counties reported equal to or fewer mentally unhealthy days than the State of Michigan (3.7 days). The U.S. benchmark defined at the 90th percentile, reported 2.3 mentally unhealthy days. All counties and the State of Michigan were above the U.S. Benchmark.

VI. Community Health Factors – Chronic Disease & Conditions

Chronic Disease & Conditions

Diabetes - The HbA1c screening is utilized to monitor blood sugar control of individuals diagnosed with diabetes. It is an indicator for how well an individual’s diabetes is being managed. Estimates for HbA1c screenings are based on the percent of Medicare enrollees who have undergone a HbA1c screening at least once each year. The data were gathered by the Dartmouth Atlas of Health Care, utilizing Medicare Claims Data, from 2006-2007. In addition, the diabetes mellitus age-adjusted death rates were reviewed and represent the age-adjusted rate of death per 100,000 population; where the underlying condition giving rise to the chain of events leading to death is diabetes mellitus. The data were gathered by Division for Vital Records & Health Statistics, Michigan Department of Community Health, Population Estimate. Estimates were calculated by the National Center for Health Statistics.

Figure 14 illustrates that Gladwin County was estimated to have the highest rate of HbA1c screening (87%), while Isabella had the lowest rate (82%), followed by Clare County (84%). All counties with the exception of Isabella County observed HbA1c screening rates above the rate for the State of Michigan (83%). The US benchmark, defined at the 90th percentile, holds a screening rate of 89 percent. All counties and the state of Michigan observed rates below the U.S. benchmark.

Figure 14: Percent of Diabetic Medical Enrollees who Receive HbA1c Screening, 2006-2007.
Figure 15 illustrates the rate of deaths associated with diabetes mellitus varied by county, from 1999-2009. County rates range from 19.4 to 29 per 100,000 population, from 2007-2009. Isabella County observed the lowest death rate (19.4 per 100,000 population) from 2007-2009, while Clare County observed the highest (29 per 100,000 population), followed by Gladwin County (28 per 100,000 population). During that time period, Gratiot (22.7 per 100,000 population) and Isabella (19.4 per 100,000 population) Counties observed lower rates than the State of Michigan (25.3 per 100,000 population).

**Cardiovascular Disease** - The age-adjusted death rate associated with heart disease was reviewed and represents the age-adjusted rate of death per 100,000 population where the underlying condition giving rise to the chain of events leading to death is heart disease. The data were gathered by the Division for Vital Records & Health Statistics, Michigan Department of Community Health, Population Estimate. Estimates were calculated by the National Center for Health Statistics, U.S. Census Populations with Bridged Race Categories, 2007-2009.

Figure 16 illustrates the rate of deaths associated with heart disease has decreased overall from 1999 to 2009. All counties have experienced an overall decline in rate, ranging from 23.8 to 85.3 per 100,000 population. Isabella County observed the lowest death rate (166.9 per 100,000 population) from 2007-2009, while Clare County observed the highest (279.8 per 100,000 population), followed by Gladwin County (256.7 per 100,000 population). During that time period, Midland (173.2 per 100,000 population) and Isabella (166.9 per 100,000 population) Counties observed lower rates than the State of Michigan (216.4 per 100,000 population).
Chronic Lower Respiratory Disease - The age-adjusted death rate associated with chronic lower respiratory disease represents the age-adjusted rate of death per 100,000 population where the underlying condition giving rise to the chain of events leading to death is chronic lower respiratory disease. The data were gathered by the Division for Vital Records & Health Statistics, Michigan Department of Community Health, Population Estimate. Estimates were calculated by National Center for Health Statistics, U.S. Census Populations with Race Categories, 2007-2009.

Figure 17 illustrates the rate of deaths associated with chronic lower respiratory disease has risen slightly for nearly all counties from 1999 to 2009. Counties have experienced an increase, ranging from 2.3 to 17.5 per 100,000 population. Midland County observed the lowest death rate (37.2 per 100,000 population) from 2007-2009, while Clare County observed the highest (69.7 per 100,000 population), followed by Gratiot County (61.3 per 100,000 population). During that time period, all counties with the exception of Midland County, experienced higher rates than the State of Michigan (45.5 per 100,000 population).

Sexually Transmitted Infections - The rate of sexually transmitted infections is measured as the rate of chlamydia incidence per 100,000 population. The data were measured by the Center for Disease Control’s National Center for hepatitis, HIV, STD and TB Prevention, 2008.

Figure 18 illustrates that Midland County was estimated to have the lowest incidence of sexually transmitted infections at 120 per 100,000 population, while Isabella County had the highest incidence at 288 per 100,000 population. All counties were observed as having a lower incidence of sexually transmitted infections than the State of Michigan (446 per 100,000 population). The U.S. benchmark, defined at the 90th percentile, holds a rate of 83 per 100,000 population. All counties, including the State of Michigan, are above the U.S. benchmark.
**Incidence of Cancer** - Cancer incidence trends represent age-adjusted rates per 100,000 population. The data were gathered by the Division for Vital Records and Health Statistics, Michigan Department of Community Health, utilizing the Michigan Resident Cancer File. Data were compiled from 1993-2007 for both males and females. Cancer diagnoses captured in the study include prostate, breast, lung and bronchus, colon and rectum, all other sites and total incidence of cancer. Mammography screening values represent the fraction of the female population (age 67-69) that had at least one mammogram over a two-year period. The data were gathered by the Dartmouth Atlas of Health Care, utilizing Medicare Claims Data, from 2006-2007.

**Prostate Cancer** - The incidence of prostate cancer in males maintained a similar trend for all counties as well as the state of Michigan between 1993 and 2007. All populations observed a mild increase in the number of prostate cancer diagnoses during 1998-2002, followed by a decrease in incidence from 2003-2007. In all cases, prostate cancer incidence has decreased at present, from its initial baseline incidence observed from 1993-1997.

Figure 19 illustrates Isabella County had the lowest incidence of prostate cancer from 2003-2007 (142.6 per 100,000 population), while Clare County had the highest incidence of prostate cancer (173.7 per 100,000), followed closely by Gladwin County (172.9 per 100,000 population). All counties maintained a lower incidence of prostate cancer than the State of Michigan (173.8 per 100,000 population).

**Breast Cancer** - The incidence of breast cancer in females experienced a gradual decrease in the number of diagnoses between 1993 to 2007, with all counties but Clare County, which experienced an increase during 1998-2002 of 9.4 incidences per 100,000 population.

Figure 20 illustrates Gladwin County had the lowest incidence of breast cancer (96.3 per 100,000 population) from 2003-2007, while Gratiot County had the highest incidence (113.6 per 100,000 population), followed by Clare County (110.5 per 100,000 population). All counties maintained a lower incidence of breast cancer, than the State of Michigan (122.1 per 100,000 population).
Mammography screening as a preventative measure for discovering breast cancer in women, is an available procedure in the community.

Figure 21 illustrates Midland County had the highest percentage of the female population receiving mammography screening (80%) from 2003-2007, while Gladwin (63%) and Gratiot (63%) Counties had the lowest, followed by Clare County (65%). Midland (80%) and Isabella (69%) Counties observe equal to or greater percentages of the female populations receiving mammography screening than the State of Michigan (69%). The U.S. benchmark defined at the 90th percentile, held a screening rate of 74 percent of the female population. All counties and the State of Michigan, with the exception of Midland County held rates below the U.S. benchmark.

**Lung and Bronchus** - The incidence of lung and bronchus cancer diagnoses in males decreased in number between 1993 to 2007, with all counties but Isabella County, which experienced an increase during 2003-2007 of 16.5 incidences per 100,000 population from the previous period (1998-2002). The largest decrease in incidence was observed in Clare County, where between 1993 and 2007, the incidence for males declined by 56.8 diagnoses per 100,000 population.

Figure 22 illustrates Midland County had the lowest incidence of lung and bronchus cancer for males (77.2 per 100,000 population) from 2003-2007, while Isabella had the highest incidence (109.3 per 100,000 population), followed by Clare County (107.1 per 100,000 population). Midland and Gratiot Counties experience a lower incidence than the State of Michigan (92.2 per 100,000 population), while a higher incidence was observed in Clare, Gladwin and Isabella Counties.

The incidence of lung and bronchus cancer diagnoses in females increased in number between 1993 to 2007, within all counties but Midland County, which experienced a decline during 2003-2007 of 17.3 incidences per 100,000 population from the previous period (1998-2002). The largest increase in incidence was observed in Isabella County, where between 1993 and 2007, the incidence for females rose by 25.8 diagnoses per 100,000 population.
Figure 23 illustrates Midland County had the lowest incidence of lung and bronchus cancer diagnoses for females (38.6 per 100,000 population) from 2003-2007, while Clare County had the highest incidence (79.3 per 100,000 population), followed by Gladwin County (74.5 per 100,000 population). Midland and Gratiot Counties experience a lower incidence than the State of Michigan (62.5 per 100,000 population), while a higher incidence was observed in Clare, Gladwin and Isabella Counties.

In general there appeared to be an overall higher incidence of lung and bronchus cancer diagnosis for males, than females, in each county as well as the State of Michigan.

Colon and Rectum - The incidence of colon and rectum cancer diagnoses in males decreased in number between 1993 to 2007 for all counties and the State of Michigan. The largest decrease in incidence was observed in Clare County, where between 1993 and 2007, the incidence for males declined by 32 diagnoses per 100,000 population.

Figure 24 illustrates Midland County had the lowest incidence of colon and rectal cancer diagnoses in males (46.5 per 100,000 population) from 2003-2007, while Isabella County had the highest incidence (67.3 per 100,000 population), followed by Gladwin County (64 per 100,000 population). Midland, Clare and Gratiot Counties experienced a lower incidence than the State of Michigan (58.2 per 100,000 population), while a higher incidence was observed in Gladwin and Isabella Counties.
The incidence of colon and rectal cancer diagnoses in females decreased in number from 1993 to 2007, for Midland and Gratiot Counties. An increase in incidence was observed for Clare, Gladwin and Isabella Counties. The largest decrease in incidence was observed in Midland County, where between 1993 and 2007, the incidence for females declined by 18.8 diagnoses per 100,000 population. The largest increase in incidence was observed in Clare County, between 1993 and 2007, the number of diagnoses rose by 7.2 per 100,000 population.

Figure 25 illustrates Midland County had the lowest incidence of colon and rectal cancer diagnoses in females (37.8 per 100,000 population) from 2003-2007, while Clare County had the highest incidence (51 per 100,000 population), followed by Isabella County (46.7 per 100,000 population). Midland and Gladwin Counties experienced a lower incidence than the State of Michigan (45 per 100,000 population), while a higher incidence was observed in Gratiot, Isabella, and Clare Counties.

In general there was a higher incidence of colon and rectal cancer diagnosis for males, than females, in each county as well as the State of Michigan. The largest disparity in male and female diagnoses existed in Isabella County, where there was an incidence of 20.6 diagnoses per 100,000 population greater for men than women. The smallest disparity in male and female diagnoses existed in Clare County where there was an incidence of 0.5 diagnoses per 100,000 population greater for men than women. The State of Michigan disparity was 13.2 diagnoses per 100,000 population greater for men than women.

**All Other Sites** - The incidence of cancer in males for all other sites, excluding prostate, lung and bronchus, and colon and rectum decreased from the baseline (1993-1997) for the time period of 2003-2007, for Midland, Clare and Gratiot Counties. An increase from baseline was observed for Gladwin and Isabella Counties, as well as the State of Michigan. An increase in incidence was observed for all counties excluding Midland and Isabella Counties between 1998 and 2007. The largest decrease in incidence from baseline was observed in Clare County, where between 1993 and 2007, the incidence for males declined by 11.9 diagnoses per 100,000 population. An overall increase was observed for the state of 12.5 diagnoses per 100,000 population from 1993-2007.
Figure 26 illustrates Midland County had the lowest incidence of cancer diagnoses in males for all other sites (232.9 per 100,000 population), while Clare County had the highest incidence (276.4 per 100,000 population), followed by Gladwin County (267.1 per 100,000 population). Midland, Gratiot and Isabella Counties experienced a lower incidence than the State of Michigan (265.5 per 100,000 population), while a higher incidence was observed in Clare and Gladwin Counties.

The incidence of cancer in females for all other sites, excluding breast, lung and bronchus, and colon and rectum increased from the baseline (1993-1997) for the time period of 2003-2007 for all counties and the State of Michigan, with the exception of Midland County. The largest decrease in incidence from baseline was observed in Midland County, where between 1993 and 2007, the incidence for females declined by 15.3 diagnoses per 100,000 population between 1998 and 2007. An overall increase was observed for the state of 11.4 diagnoses per 100,000 population from 1993-2007.

Figure 27 illustrates Midland County had the lowest incidence of cancer diagnoses in females for all other sites (166.5 per 100,000 population), while Gladwin County had the highest incidence (241.2 per 100,000 population), followed by Clare County (224.9 per 100,000 population). Midland, Gratiot and Isabella Counties experienced a lower incidence than the State of Michigan (206.7 per 100,000 population), while a higher incidence was observed in Clare and Gladwin Counties.

In general there was a higher incidence of cancer diagnoses for all other sites for males, than females, in each county as well as the State of Michigan. The largest disparity in male and female diagnoses existed in Midland County, where there was an incidence of 66.4 diagnoses per 100,000 population greater for men than women. The smallest disparity in male and female diagnoses existed in Gratiot County where there was an incidence of 21.1 diagnoses per 100,000 population greater for men than women. The State of Michigan disparity was 58.8 diagnoses per 100,000 population greater for men than women.
**All Cancer Types** - The incidence of cancer in males for all cancer types decreased from the baseline (1993-1997) to present, for all counties as well as the State of Michigan. The largest decrease in incidence from baseline was observed in Clare County, where between 1993 and 2007, the incidence for males declined by 114.1 diagnoses per 100,000 population. An overall decrease was observed for the state of 43.6 diagnoses per 100,000 population from 1993-2007.

Figure 28 illustrates Midland County currently had the lowest incidence of cancer diagnoses in males for all cancer types (505.2 per 100,000 population), while Clare County has the highest incidence (609.3 per 100,000 population), followed by Gladwin County (607.7 per 100,000 population). Midland, Gratiot and Isabella Counties experienced a lower incidence than the State of Michigan (591.2 per 100,000 population), while a higher incidence was observed in Clare and Gladwin Counties.

The incidence of cancer in females for all cancer types decreased from the baseline (1993-1997) to the time period of 2003-2007, for Midland, Gladwin, and Gratiot Counties, while an increase was experienced for Clare and Isabella counties as well as the State of Michigan. The largest decrease in incidence from baseline was observed in Midland County, where between 1993 and 2007, the incidence for females declined by 59.6 diagnoses per 100,000 population. An overall increase was observed for the state of 3 diagnoses per 100,000 population from 1993-2007.

Figure 29 illustrates Midland County had the lowest incidence of cancer diagnoses in females for all cancer types (347.5 per 100,000 population), while Clare County had the highest incidence (465.7 per 100,000 population), followed by Gladwin County (456.1 per 100,000 population). Midland, Gratiot and Isabella Counties experienced a lower incidence than the State of Michigan (436.4 per 100,000 population), while a higher incidence is observed in Clare and Gladwin Counties.
In general there was a higher incidence of cancer diagnoses for all cancer sites for males, than females, in each county as well as the State of Michigan. The largest disparity in male and female diagnoses existed in Midland County, where there was an incidence of 157.7 diagnoses per 100,000 population greater for men than women. The smallest disparity in male and female diagnoses existed in Gratiot County where there is an incidence of 101.9 diagnoses per 100,000 population greater for men than women. The State of Michigan disparity was 154.8 diagnoses per 100,000 population greater for men than women.

VI. Community Health Factors – Maternal and Child Health Indicators

Low Birth Weights - The incidence of low birth weight represents the percent of live births for which the infant weighed less than 2,500 grams upon birth. The data were gathered through the National Vital Statistics System (NVSS) at the National Center for Health Statistics (NCHS) and the Centers for Disease Control and Prevention (CDC) from 2001-2007.

Figure 30 illustrates Gratiot County was estimated to have the lowest incidence of low birth weight (7.1%), while the highest incidence was observed in Clare County (8.4%), followed by Isabella County (7.9%). All counties experienced a lower incidence than the State of Michigan (8.2%) with the exception of Clare County. The U.S. benchmark defined at the 90th percentile, held an incidence of 6.0 percent. All counties as well as the State of Michigan were above the U.S. benchmark.

Low-birth weight rates for all counties are below the national average (6.9% compared to 8.3%) but still above the Healthy People 2020 objective of 5 percent (Healthy People 2020).

Prenatal Care - The target is 77.9 percent for prenatal care beginning in first trimester. (The baseline is 70.8 percent of females delivering a live birth received prenatal care beginning in the first trimester in 2007). All counties in our service area except Midland fell below this target in 2010. The target for early and adequate prenatal care is 77.6 percent. (The baseline is 70.5 percent of pregnant females receiving early and adequate prenatal care in 2007).

Breastfeeding - The Pediatric Nutrition Surveillance System (PedNSS) is a public health surveillance system that monitors the nutritional status of low-income children in federally funded maternal and child health programs. Data on birth weight, anemia, breastfeeding, short stature, underweight, overweight and obesity are collected for children who attend public health clinics for routine care, nutrition education and supplemental food.
Data are collected at the clinic level, aggregated at the state level and then submitted to the Centers for Disease Control and Prevention (CDC) for analysis. A national nutrition surveillance report is produced, and an additional surveillance report is produced for each contributor. The 2007 Pediatric Nutrition Surveillance for breastfeeding in Michigan shows the following breastfeeding results by county. Central Michigan District Health Department (CMDHD) for Gladwin, Clare and Isabella counties shows that 60.7 percent of respondents have ever breastfed, while 15 percent breastfed for six months and 11.8 percent breastfed for 12 months. Mid Michigan District Health Department for Gratiot County shows that 63.3 percent of respondents have ever breastfed, while 16.7 percent breastfed at least six months and 13.9 percent breastfed for at least 12 months. Mid Michigan Community Action Agency for Midland County shows that 63.4 percent ever breastfed while 12.5 percent breastfed for six months and 8.9 percent breastfed for 12 months.

**Teen Pregnancy** - The teen birth rate represents an estimated rate of the number of births per 1,000 female population, ages 15-19. The data were gathered by the National Vital Statistics System (NVSS) at the National Center of Health Statistics.

Figure 31 illustrates teen birth rates range from 14 to 50 per 1,000 female population, ages 15-19, across the counties. The lowest rate was observed in Isabella County (14 per 1,000 population) from 2001-2007, while Clare County observed the highest (50 per 1,000 population), followed by Gladwin County (42 per 1,000 population). All counties with the exception of Isabella and Midland (25 per 1,000 population) Counties experienced higher teen birth rates than the state of Michigan (35 per 1,000 population). The U.S. benchmark, defined at the 90th percentile, holds a rate of 22 per 1,000 population. All counties with the exception of Isabella County were above the U.S. benchmark.

**VI. Community Health Factors – Health Behaviors**

**Smoking** - The incidence of adult smoking represents an estimated percent of the adult population that smokes every day, most days or has at least smoked 100 cigarettes in their lifetime. The data were gathered through the Behavioral Risk Factor Surveillance System (BRFSS) by the Centers for Disease Control and Prevention. The Prevalence was calculated by the National Center for Health Statistics.

Figure 32 illustrates Gladwin County was estimated to have the highest incidence of smoking from 2003-2009 (36%), followed by Clare County (30%) and Gratiot County (26%). Isabella County has the lowest incidence of smoking at 20 percent. Clare, Gladwin and Gratiot Counties exceed the incidence of smoking in the State of Michigan, while Midland (21%) and Isabella (20%) Counties maintain incidence rates below the state rate. The U.S. benchmark, defined at the 90th percentile, holds a rate of 15 percent. All counties, as well as the State of Michigan, are currently above the U.S. benchmark.
**Alcohol Use** - The incidence of excessive drinking is a measure of the fraction of the adult population that reports either binge drinking (defined as consuming more than four and five alcoholic beverages on a single occasion for women and men, respectively) or heavy drinking (defined as drinking more than one and two drinks per day for men and women, respectively). The data were gathered by the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System (BRFSS), and the incidence was calculated by the National Center for Health Statistics.

Figure 33 illustrates Clare County was estimated to have the lowest incidence of excessive drinking (15%), while Isabella County had the highest incidence (23%), followed by Gladwin County (19%). Midland (17%), Clare (15%) and Gratiot (17%) Counties were observed as having lower incidences of excessive drinking than the State of Michigan (19%). The U.S. benchmark defined at the 90th percentile, held an incidence of 8 percent. All counties as well as the state of Michigan were above the U.S. benchmark.

**Obesity** - The incidence of adult obesity is a measure of the fraction of the adult population (age 20 and older) that has a body mass index (BMI) of greater than or equal to 30 kg/m². The data were gathered and prevalence was determined by the Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS) from 2003-2009.

Figure 34 illustrates the incidence of adult obesity we comparable for all counties. Clare, Gladwin and Isabella Counties had the lowest incidence of adult obesity (30%, 30%, and 30%, respectively), while Gratiot County had the highest incidence (33%), followed by Midland County (31%). Clare, Gladwin and Isabella Counties observed a lower incidence than the State of Michigan (31%), while an equal or higher incidence was observed in Midland and Gratiot Counties. The U.S. benchmark defined at the 90th percentile, held an incidence of 25 percent. All counties as well as the State of Michigan were above the U.S. Benchmark.

**Physical Activity** - Numerous studies have shown the health benefits of even moderate physical activity, particularly in reducing the risk of cardiovascular health problems. Some studies have indicated that the risks of such problems are appreciably greater for those who engage in no physical activity even compared to those with sedentary lifestyles.

Clare ranked 32 percent in physical inactivity, added in 2012, compared to a national benchmark of 21 percent. Gladwin ranked 29 percent in physical inactivity, added in 2012, compared to a national benchmark of 21 percent. Gratiot ranked 28 percent in physical inactivity, added in 2012, compared to a national benchmark of 21 percent. The category of physical inactivity was added in 2012, with Midland County ranking 22 percent to the U.S. Benchmark of 21 percent.
MidMichigan Health Line Calls - Our community calls our physician referral line for provider referrals and inquiries as well as for program information, program registration and literature fulfillment requests, in addition to many other inquiries. Summary data for MidMichigan Health Line activities follows.

Summary of Health Line Data for FY 2011
Provider Referral & Inquiries 7,019
Community Education Registration & Inquiries 9,375
Programs & Services Information Requests 1,699
Literature Fulfillment 658

Summary of Data for FY 2012 YTD (through 3/31/12)
Provider Referrals 4,193
Provider Inquiries 6,017
Community Education Registration & Inquiries 5,071
Programs & Services Information Requests 1,248
Support Group Inquiries 55

VI. Community Health Factors – Environmental Health

Environmental Health

Air Quality - The incidence of unhealthy air quality was evaluated by unhealthy air quality days due to fine particulate matter as well as unhealthy air quality days due to ozone. Unhealthy air quality days to fine particulate matter pollution are defined as the annual number of days that was reported as unhealthy for sensitive populations, where fine particulate matter are defined as < 2.5 micrometers in diameter. Unhealthy air quality days due to ozone pollution are defined as the annual number of days that air quality was unhealthy for sensitive populations due to ozone levels. The data were estimated by a collaborative effort between the Centers for Disease Control and Prevention (CDC) and the Environment Protection Agency (EPA) in 2006.

Fine Particulate Matter - Figure 35 illustrates Clare and Gladwin counties were estimated to have the lowest number of air quality days due to fine particulate matter (two days, each), while Midland, Gratiot and Isabella were estimated as having higher levels of fine particulate matter pollution at three days each. All counties were estimated to have lower numbers of unhealthy air quality days than the State of Michigan (five days). The U.S. benchmark defined at the 90th percentile, held an estimate of zero days of unhealthy air quality days due to fine particulate matter. All counties as well as the State of Michigan were above U.S. benchmark.

<table>
<thead>
<tr>
<th>County</th>
<th>Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midland</td>
<td>3</td>
</tr>
<tr>
<td>Clare</td>
<td>2</td>
</tr>
<tr>
<td>Gladwin</td>
<td>2</td>
</tr>
<tr>
<td>Gratiot</td>
<td>3</td>
</tr>
<tr>
<td>Isabella</td>
<td>3</td>
</tr>
<tr>
<td>Michigan</td>
<td>5</td>
</tr>
<tr>
<td>US Benchmark</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 35: Annual Number of Unhealthy Air Quality Days Due to Fine Particulate Matter, 2006.
**Ozone** - Figure 36 illustrates all counties were estimated to have zero days of unhealthy air quality due to ozone pollution. In addition, all counties were estimated to have fewer unhealthy air quality days than the State of Michigan (five days). The U.S. benchmark defined at the 90th percentile, held an estimate of zero days of unhealthy air quality days due to ozone levels. All counties met the U.S. benchmark for unhealthy air quality days due to ozone pollution.

**Access to Healthy Foods** - The Access to healthy foods is estimated by the percent of zip codes within each county with a healthy food outlet, where healthy food outlets are defined as a grocery store or produce stands and farmer’s markets. It is a measure of the fraction of the population with access to identified healthy food outlets. The data were gathered by the U.S. Census Bureau’s Zip Code Business Patterns in 2008.

Clare County was estimated to have the greatest access to healthy food outlets (100%), while Gratiot County was estimated to have the lowest access (50%), followed by Isabella County (67%). Both Clare (100%) and Midland (80%) Counties had greater access to health foods than the estimated access for the State of Michigan (73%), while Gladwin (67%), Gratiot (50%) and Isabella (60%) Counties had less access to healthy foods. The U.S. benchmark defined at the 90th percentile, held an estimate of 92 percent access to healthy foods. Clare County met the U.S. benchmark, while the remaining counties as well as the State of Michigan were estimated to have less access than the U.S. benchmark.

**VII. Access to Care – Professional Research Consultants**

**Professional Research Consultants Patient Research**

**Overall Health** - Figure 38 illustrates, 3,023 Midland County MidMichigan Physicians Group patients were surveyed by Professional Research Consultants, Inc. Of the respondents, 453 or 15 percent rated their own overall health as excellent, 41.1 percent gave a rating of very good, 34.0 percent good, 8.6 percent fair and 1.4 percent rated their overall health as poor.
Of the 666 patients surveyed in Gratiot and Isabella Counties combined, 11.7 percent felt their overall health was excellent. 39.3 percent rated their overall health very good, 35.1 percent good, 10.7 percent fair and 3.2 percent poor. 10.6 percent of the 809 patients surveyed in Clare County rated their overall health as excellent, 31.3 percent gave a rating of very good, 36.8 percent good, 16.4 percent fair and 4.8 percent, or almost 3.5 times the rate in Midland County, rated their overall health as poor.

Only 4.9 percent of the 430 patients surveyed in Gladwin County felt their overall health was excellent. 34.4 percent responded very good, 43.3 percent good, 14.7 percent fair and 2.8 percent poor.

**Access to Care** - MidMichigan Physician Group patients were also asked how often they were able to get an appointment for care as soon as they needed for issues requiring care right away. Of those answering always or usually, the highest percentage, 90.2 percent, was in Clare County. Midland County and Gratiot/Isabella Counties combined reported similar percentages of 83.9 percent and 83.6 percent respectively. Gladwin County reported the lowest percentage (80.5%) of patients feeling they always or usually were able to get an appointment as soon they needed.

Another question asked of these same patients was how often they were able to get an appointment for care as soon as they needed for a routine check-up. Clare County again had the highest percentage (94.8%) of respondents answering always or usually. Gratiot/Isabella Counties combined had 93.8 percent of respondents answer always or usually, and Midland and Gladwin Counties reported similar percentages of 89.6 percent and 89.7 percent respectively.

**Access to Care - Information from the MidMichigan Health PRC Consumer Perception Survey**

According to a MidMichigan Health PRC Consumer Perception Survey, a data-driven study conducted between February 15 and March 4, 2013, the adult responsible for making most of the health care decisions in households represented by ZIP Codes: 48615, 48662, 48801, 48829, 48832, 48847, 48857, 48877, 48878, 48880, 48883, 48889, 48891, 48893, and 49310, were screened for, and asked a number of health care access questions to gauge difficulties in the last year. Overall, surveyed households were most likely to report skipping doses or taking smaller doses in order to make their prescriptions last longer and save costs (17.8%), followed by experiencing difficulties or delays in receiving needed health care for any reason (15.3%), not getting needed prescription medicine because they could not afford it (15.2%), being unable to see a doctor because of the cost (13.4%), being unable to see a doctor because the office hours were not convenient (13.0%), having difficulty getting an appointment to see a doctor (11.4%), having difficulty finding a doctor (10.9%), and having difficulty seeing doctor or making a medical appointment because of a lack of transportation (7.6%).
VII. Access to Care – Information from the American Community Survey

**Uninsured Households** - The distribution of uninsured population is an estimate, by age category and gender, by the U.S. Census Bureau. The data were gathered during the American Community Survey, and is based on three-year estimates from 2008-2010.

**Uninsured Males by Age**

**Under 6 Years:** Less than 5.0 percent of males under the age of six are without health insurance. The highest incidence is estimated in Gratiot County at 4.9 percent, while the lowest incidence is estimated in Midland County at 2.4 percent. Midland (2.4%) and Clare (3.5%) Counties have a lower incidence than the State of Michigan (3.8%). All counties as well as the State of Michigan are estimated to have a higher incidence of individuals without insurance than the United States (0.5%).

**6 to 17 Years:** Midland County has the lowest incidence of individuals without health insurance, at 1.0% of the male population, 6 to 17 years of age. Gladwin has the highest incidence (13.8%), followed by Clare County (10.4%). Midland (1.0%) Gratiot (3.8%) and Isabella (3.8%) Counties are estimated to have a lower incidence of uninsured individuals than the State of Michigan (4.6%). Midland, Gratiot, and Isabella Counties (3.8%), as well as the State of Michigan, are estimated to have lower incidences of individuals without insurance than the United States (8.8%)

**18 to 24 Years:** Isabella County has the lowest incidence of individuals without health insurance, at 13.4 percent of the male population, 18 to 24 years of age. Gladwin has the highest incidence (47.4%), followed by Clare County (34.8%). Midland (22.9%) and Isabella (13.4%) Counties are estimated to have a lower incidence than the State of Michigan (29.4%). Midland, Gratiot (30.2%) and Isabella Counties, as well as the State of Michigan, are estimated to have a lower incidence than the United States (33.3%).
25 to 34 Years: Midland County has the lowest incidence of individuals without health insurance, at 11.9 percent of the male population, 25 to 34 years of age. Isabella County has the highest incidence (38.9%), followed by Gladwin County (34.7%). Midland (11.9%) and Gratiot (25.5%) Counties are estimated to have a lower incidence than the State of Michigan (28.6%). Midland, Clare (31.3%) Gratiot, as well as the State of Michigan, are estimated to have a lower incidence than the United States (33.1%).

35 to 44 Years: Isabella County has the lowest incidence of individuals without health insurance, at 22.6 percent of the male population, 35 to 44 years of age. Gladwin County (30.0%) has the highest incidence, followed by Midland County (29.2%). All counties exceed the incidence in the State of Michigan (18.9%). Isabella County and the State of Michigan have a lower incidence of uninsured individuals than the United States (23.7%), while all remaining counties exceed the incidence for the United States.

45 to 54 Years: Midland County has the lowest incidence of individuals without insurance at 9.3 percent of the male population, 45 to 54 years of age. Clare County (23.9%) has the highest incidence, followed by Isabella County (21.8%). Midland County is estimated to have a lower incidence (9.3%) than the State of Michigan (15.2%), while all remaining counties have a higher incidence. Midland (9.3%), Gladwin (17.6%) and Gratiot (16.8%) Counties, as well as the State of Michigan, have a lower incidence of uninsured individuals than the United States (18.5%).

55 to 64 Years: Isabella County has the lowest incidence of individuals without insurance at 7.3 percent of the male population, 55 to 64 years of age. Midland and Clare County have the highest incidence (9.3%, each), followed by Gladwin County (7.9%). Gladwin (7.9%), Gratiot (7.8%) and Isabella (7.3%) Counties are estimated to have a lower incidence than the State of Michigan (8.5%). All counties and the State of Michigan are estimated to have a lower incidence of uninsured individuals than the United States (12.4%).

65 to 74 Years: Less than 1.0 percent of males 65 to 74 years of age are without health insurance. All counties have a lower incidence than the State of Michigan (0.5%). All counties and the State of Michigan have a lower incidence than the United States (1.2%).

75 Years and Over: Less than 1.0 percent of males 75 years of age and over are without health insurance. All counties with the exception of Gratiot County (0.4%) have a lower incidence than the State of Michigan (0.1%). All counties and the State of Michigan have a lower incidence than the United States (0.6%).
Figure 38: Distribution of Uninsured Male Population by Age Category, 2008-2010.
Uninsured Females by Age

Under 6 Years: Midland County has the lowest incidence of individuals without health insurance at 3.9 percent of the female population, under 6 years of age. Gladwin County (13.8%) has the highest incidence, followed by Clare County (7.5%). Midland (3.9%) and Gratiot (3.7%) Counties are estimated to have a lower incidence of uninsured individuals than the State of Michigan (4.8%). Midland, Gratiot, and Isabella Counties (5.1%), as well as the State of Michigan are estimated to have a lower incidence than the United States (6.3%).

6 to 17 Years: Isabella County has the lowest incidence of individuals without health insurance, at 3.1 percent of the female population, 6 to 17 years of age. Gratiot County (8.1%) has the highest incidence, followed by Clare County (8.0%). Gladwin (4.7%) and Isabella (3.1%) Counties have a lower incidence of uninsured individuals than the State of Michigan (4.8%). All counties and the State of Michigan are estimated to have a lower incidence than the United States (8.8%).

18 to 24 Years: Isabella County has the lowest incidence of individuals without health insurance, at 13.4 percent of the female population, 18 to 24 years of age. Clare County (32.4%) has the highest incidence, followed by Gratiot County (23.5%). Midland (16.9%) and Isabella (11.4%) Counties are estimated to have a lower incidence of individuals without health insurance than the State of Michigan (21.2%). All counties and the State of Michigan, with the exception of Clare County have a lower incidence than the United States (25.8%).

25 to 34 Years: Midland County has the lowest incidence of individuals without health insurance, at 21.9 percent of the female population, 25 to 34 years of age. Gladwin County (33.6%) has the highest incidence, followed by Isabella County (31.5%). All counties are estimated to have a higher incidence of uninsured individuals than the State of Michigan (17.8%). Midland (21.9%) and Clare (23.1%) Counties, as well as the State of Michigan are estimated to have a lower incidence than the United States (23.4%).

35 to 44 Years: Isabella County has the lowest incidence of individuals without health insurance, at 14.2 percent of the female population, 35 to 44 years of age. Clare County (30.6%) has the highest incidence, followed by Gladwin County (16.7%). All counties are estimated to have a higher incidence of uninsured individuals than the State of Michigan (13.7%). All counties and the State of Michigan, with the exception of Clare County, have a lower incidence than the United States (18.7%).

45 to 54 Years: Midland County has the lowest incidence of individuals without insurance at 9.0 percent of the female population, 45 to 54 years of age. Clare County (21.5%) has the highest incidence, followed by Gratiot County (15.4%). Midland (9.0%), Gladwin (9.5%), and Isabella (9.3%) Counties have a lower incidence of individuals than the State of Michigan (12.3%). All counties and the State of Michigan, with the exception of Clare County, have a lower incidence than the United States (16.1%).

55 to 64 Years: Midland County has the lowest incidence of individuals without insurance at 7.5 percent of the female population, 55 to 64 years of age. Gratiot County (11.7%) has the highest incidence, followed by Clare County (10.4%). Midland (7.5%), Gladwin (8.0%), and Isabella Counties (8.5%) have a lower incidence of uninsured individuals than the state of Michigan (9.2%). All counties and the state of Michigan have a lower incidence than the United States (12.9%).

65 to 74 Years: Less than 1.0 percent of females 65 to 74 years of age are without health insurance. All counties have a lower incidence than the state of Michigan (0.5%). All counties and the state of Michigan have a lower incidence than the United States (1.3%)
75 Years and Over: Less than 1.0 percent of females 75 years of age and over are without health insurance. All counties have a lower incidence than the state of Michigan (0.2%). All counties and the state of Michigan have a lower incidence than the United States (0.7%).

![Figure 39: Distribution of Uninsured Female Population by Age Category, 2008-2010.](image-url)
VII. Access to Care – Uninsured Population

Difficulty in Obtaining Health Care Services - Difficulty in obtaining health care services is a complex issue that is examined through several metrics including the evaluation of the uninsured population, population per primary care provider and ambulatory-care sensitive hospitalizations.

Uninsured Population - The subject of the uninsured population specific to each county is addressed in the previous section, where it is evident that there is a disparity in health insurance coverage of up to 47.4 percent, based on age and gender in the community.

Figures 40 and 41 illustrate the largest population densities without health insurance are both male and female genders, between the ages 18-44. In comparison to the State of Michigan and the United States, this age group follows a similar trend for individuals without health insurance.

Population Per Primary Care Provider - The population per primary care provider is an estimate of the number of primary care physicians including physicians practicing general practice medicine, family medicine, internal medicine, pediatrics and obstetrics or gynecology. The ratio of the population to one provider is an indicator for the level of access that a community has to a primary care provider. The data were gathered by the Health Resources and Services Administration’s Area Resource File (ARF), in 2009.

![Distribution of Uninsured Population by Age Category, in Michigan, 2008-2010](image)

![Distribution of Uninsured Population by Age Category, in the United States, 2008-2010](image)
VII. Access to Care – Population by Primary Care Provider

Figure 42 illustrates the ratio of population to primary care provider varied greatly across the counties by up to 3,151 individuals per provider. Midland County had the lowest ratio at 558 individuals per primary care provider, while Gladwin has the highest ratio (3709:1), followed by Clare County (2023:1). The State of Michigan held a ratio of 874 individuals per primary care provider, which was lower than all counties, with the exception of Midland County. The U.S. benchmark defined at the 90th percentile, held a ratio of 631 individuals per primary care provider. The U.S. benchmark ratio was lower than all counties and the State of Michigan, again with the exception of Midland County. When compared to the U.S. benchmark, counties excluding Midland County experienced population volumes per primary care provider that were between 2 and 5.9 times the national benchmark.

VII. Access to Care – Ambulatory-Care Sensitive Hospitalizations

**Ambulatory-Care Sensitive Hospitalizations** - Ambulatory-care sensitive hospitalizations are those hospitalizations which are deemed potentially preventable hospitalizations had the illness been addressed in an outpatient, ambulatory care environment. Data estimates were gathered in two forms. The first estimate gathered by the Dartmouth Atlas of Health Care, utilizing Medicare Claims Data, from 2006-2007. This data is designated as a rate of ambulatory-care sensitive hospitalizations per 1,000 Medicare enrollees. The second estimate was gathered by the Division for Vital Records and Health Statistics, Michigan Department of Community Health, utilizing the Michigan Resident Inpatient Files, from 2009. This data is designated as a rate of ambulatory-care sensitive hospitalizations per 10,000 population, by age and gender.

Figure 43 illustrates that the examination of the Medicare enrollee data revealed a range of ambulatory care sensitive hospitalization of 69 to 109 hospitalizations per 1,000 enrollees. Midland County had the lowest number of ambulatory-care sensitive hospitalizations at 69 per 1,000 enrollees, while Clare County had the highest (109 per 1,000 enrollees), followed by Gladwin County (103 per 1,000 population). Midland County was the only county that had fewer ambulatory-care sensitive hospitalizations (69 per 1,000 enrollees) than the State of Michigan (74 per 1,000 enrollees). The U.S. benchmark defined at the 90th percentile, held a rate of 52 ambulatory-care sensitive hospitalizations per enrollee, which was lower than all counties and the state of Michigan.
Ambulatory-care sensitive hospitalizations for males, based on age, revealed a similar trend observed in ambulatory-care sensitive hospitalizations of Medicare enrollees. Midland County experienced fewer ambulatory-care sensitive hospitalizations than all other counties with the exception of the “18-24 years” age category. Like the hospitalization of Medicare enrollees, there was a large range between counties and age categories. The highest rates of ambulatory-care sensitive hospitalizations were associated with males greater than 45 years of age. Men ages 45 to 64 experienced the highest rate of ambulatory-care sensitive hospitalizations in Clare County, followed by Gladwin and Gratiot Counties. Men 65 to 74 experienced the highest rate in Gratiot County, followed by Clare and Gladwin Counties. Men 75-84 experienced the highest rate in Gratiot County, followed by Clare and Gladwin Counties. Men 84 and older experienced the highest rate in Isabella County, followed by Gladwin and Gratiot County. Additionally, all counties experienced higher rates of ambulatory care hospitalizations than the State of Michigan, for males greater than 45 years of age.

![Ambulatory-Care Sensitive Hospitalizations of Males, By Selected Age Group, 2009](image)

Figure 44: Ambulatory-Care Sensitive Hospitalizations of Males, By Selected Age Group, 2009.

Ambulatory-care sensitive hospitalizations for females, based on age, again revealed similar trends. Midland County experienced fewer ambulatory-care sensitive hospitalizations than all other counties with the exception of the “18-24 years” age category. There was a large range between counties and age categories. The highest rates of ambulatory-care sensitive hospitalizations were associated with females greater than 45 years of age. For all ages greater than 45, Clare County had the highest rate of ambulatory-care sensitive hospitalizations, followed by Gladwin and Gratiot Counties. Additionally, all counties experienced higher rates of ambulatory care hospitalization than the State of Michigan, for females greater than 45 years of age, with the exception of females greater than 84 years of age in Isabella County.
Examination of the rates for all ages revealed the same rank of the highest number of ambulatory-care sensitive hospitalizations in both men and women. The highest rate of occurrence was experienced in Clare County, followed by Gratiot and Isabella Counties.

Figure 45: Ambulatory-Care Sensitive Hospitalizations of Females, By Selected Age Group, 2009.
VII. Access to Care – Exercise / Recreational Facilities

Exercise - The rate of recreational facilities in the community is an indicator of access to recreational exercise. The rate is an estimate of the number of recreational facilities per 100,000 population. The data were gathered by the United States Department of Agriculture (USDA) Food Environment Atlas, and the rates are estimated by the County Business Patterns, for 2008.

The range of recreational facilities in the community was 7-19 facilities per 100,000 population. Midland County had the highest rate of recreational facilities (19 per 100,000 population), while Gratiot County had the lowest rate (7 per 100,000 population), followed by Gladwin County (8 per 100,000 population). Midland, Clare (10 per 100,000 population) and Isabella (10 per 100,000 population) Counties observed rates that were equal to or greater than the State of Michigan (10 per 100,000 population). The U.S. benchmark defined at the 90th percentile, reported a rate of 17 per 100,000 population. All counties and the State of Michigan observed rates below the U.S. benchmark, with the exception of Midland County.

Figure 46: Rate of Recreational Facilities per 100,000 Population, 2008.
VIII. Community Initiative Priority Setting for Clare County

MidMichigan Health’s 2013 Community Health Needs Assessment plan provides prioritized actions to address four community health initiatives. The overarching goal is measurable improvement in community health status, which is believed to be obtainable by adhering to the Goals of Healthy People 2020 as follows:

- Attain high-quality, longer lives free of preventable disease, disability, injury and premature death.
- Achieve health equity, eliminate disparities and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote quality of life, healthy development and healthy behaviors across all life stages.

Priority Setting Process and Results

Because of the large number as well as diversity of health issues facing our communities, ten areas were chosen (areas indicated by an asterisk in the sidebar) to be included in the plan for each affiliate of MidMichigan Health. The starting point was a review of the Healthy People 2020 Focus Areas (see sidebar).

Members of the MidMichigan Health Community Health Needs Assessment Team reviewed issues based upon the health data that was collected, understanding that priority issues for each affiliate would need to be decided based upon what we could best impact, given time and resources.

The team analyzed health outcomes, or the changes in the health status of our population, using various demographic groups over time. Four target areas were selected: Heart disease and cancer, diabetes mellitus, maternal-infant health and health related behaviors.

The team chose heart disease and diabetes for Clare County, because they were the top two mortality diagnoses.

We believe that a continued focus on primary prevention among those at risk for developing DM is needed due to a growing concern about the possibility of substantial increases in diabetes-related complications. In addition, there is a possibility that the increase in people with DM, as well as the complexity of their care, might overwhelm existing health care systems. Next, the team focused on

Healthy People 2020 Focus Areas

Access to Health Services*
Adolescent Health
Arthritis, Osteoporosis and Chronic Back Conditions
Blood Disorders and Blood Safety
Cancer*
Dementias, Including Alzheimer’s Disease
Diabetes*
Disability and Health
Early and Middle Childhood
Educational and Community-Based Programs*
Environmental Health
Family Planning
Food Safety
Genomics
Global Health
Health Communication and Health Information Technology*
Healthcare-Associated Infections
Health-Related Quality of Life & Well-Being
Hearing and Other Sensory or Communication Disorders
Heart Disease and Stroke*
HIV
Immunization and Infectious Diseases
Injury and Violence Prevention
Lesbian, Gay, Bisexual, and Transgender Health
Maternal, Infant, and Child Health*
Medical Product Safety
Mental Health and Mental Disorders
Nutrition and Weight Status
Occupational Safety and Health
Older Adults
Oral Health
Physical Activity*
Preparedness
Public Health Infrastructure
Respiratory Diseases
Sexually Transmitted Diseases*
Sleep Health
Social Determinants of Health
Substance Abuse
Tobacco Use*
Maternal-Infant Health, recognizing the clear concern of our community partners relative to low birth rates and low breastfeeding rates.

Finally, the team looked at health related behaviors, and determined the top three behavior areas that could best address long-term health: diet and exercise, smoking, and preventive screenings.

Four areas stood out to the team where further data is needed to ascertain the seriousness of the issues and the degree with which MidMichigan can have an impact in the future. Those areas are: adolescent health, child health, older adults and respiratory diseases (refer to italicized items in the sidebar on page 4).

The overarching issues fall under health care access, knowing that those who are uninsured underinsured will have difficulty achieving and maintaining health.

**Community Benefit Initiatives**

The following four areas of focus for MidMichigan Health were identified:

<table>
<thead>
<tr>
<th>Area</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Care: Uninsured, Underinsured; Care provider rates; timeliness of care</td>
<td>Initiation and coordination of care. Continuity of services between acute and chronic health care needs to achieve seamless care. It impacts all other areas. Particular concern for the underinsured and uninsured.</td>
</tr>
<tr>
<td>Health Outcomes: Heart Disease; Cancer; Diabetes; Maternal/Infant Health</td>
<td>Risk factors as well as populations at risk for heart disease, cancer and diabetes. Referrals and follow-up care resultant from preventive clinical services and health screenings to detect early onset of illness and disease. Improved pregnancy and postpartum health behaviors to improve the health and well being of mothers and infants.</td>
</tr>
<tr>
<td>Health Care Behaviors: Smoking; Diet and Exercise; Preventive Screenings</td>
<td>Behaviors important to long term health like a healthy diet, regular physical activity, achieving and maintaining a healthy weight. They can be modified for health improvement.</td>
</tr>
</tbody>
</table>

Prioritization was used to direct resources, time, and energy to those issues deemed most critical and practical to address for each affiliate of MidMichigan Health. A criteria weighted method developed by Public Health: Administration and Practice, Robert Hanlon (Author), Pickett (Author), George E. Pickett was utilized to assign priority rankings based on how each health care issue measured up against the criteria. Team members contributed insight based upon their area of expertise, analysis of the data, and input from respective community collaborations.
Basic Priority Rating Formula
Component A = Size of the problem
Component B = Seriousness of the problem
Component C = Estimated measure of solution effectiveness
Component D = PEARL factors (propriety, economic feasibility, acceptability, resource availability, legality)
These components translate into a formula that provides a numerical score giving highest priority to those diseases/conditions with the highest scores.

Overall Priority Rating (OPR) > OPR = \([\text{A+B}\text{C/3}] \times \text{D}\)

There is a certain amount of subjectivity since the scores are judgments from individual raters. However, some scientific control was achieved by using agreed upon definitions of terms, and using statistically significant health care data.

**Components**

Component A – Size of the Problem. Weight 10. Percentage of population directly affected by the problem, i.e. incidence, prevalence, or mortality rates and numbers.

Component B – Seriousness. Weight 15.

Urgency: emergent nature of the problem; trends in incidence, mortality, or risk factors; importance relative to the public; current access to needed service.

Severity: survival rates, average age at death, disability, relative premature mortality.

Economic loss: to the community (city/county/state), to the individual.

Component C – Effectiveness of Intervention. Weight 10. Determination of plausibility of solving the problem. The factor is scored from 0 – 10. This may be the most subjective component of the formula.

Component D – PEARL. Weight 5. The PEARL is a group of factors that, although not directly related to the health problem, have a high degree of influence in determining whether a particular problem can be addressed.

P – Propriety. How well the issue aligns with health system mission.

E – Economic Feasibility. Determine economic consequences if the problem is not addressed.

A – Acceptability. Ascertain degree of buy-in from community member and/or the target population.

R – Resources. Outline resources available to address the problem.

L – Legality. Determine status of current laws that permit this problem to be addressed.

To follow is the decision making grid used that outlined ranking of health issues for Clare County.
### Health Care Access for MidMichigan Medical Center-Clare

<table>
<thead>
<tr>
<th></th>
<th>Size (Incidence &amp; Prevalence)</th>
<th>Seriousness (Urgency, Severity &amp; Economic Loss)</th>
<th>Measures (Evidence of Effectiveness)</th>
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<td>Underinsured</td>
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<tr>
<td>Timeliness</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Care Provider Rates</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>28</td>
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</tr>
</tbody>
</table>

### Health Outcomes for MidMichigan Medical Center-Clare

<table>
<thead>
<tr>
<th></th>
<th>Size (Incidence &amp; Prevalence)</th>
<th>Seriousness (Urgency, Severity &amp; Economic Loss)</th>
<th>Measures (Evidence of Effectiveness)</th>
<th>Resources</th>
<th>Total</th>
<th>Overall Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>10</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>40</td>
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<tr>
<td>Heart Disease/Stroke</td>
<td>10</td>
<td>15</td>
<td>10</td>
<td>5</td>
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</tr>
<tr>
<td>Cancer</td>
<td>5</td>
<td>10</td>
<td>5</td>
<td>2</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>Maternal/Infant Health</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>18</td>
<td>4</td>
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<tr>
<td>Diabetes</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>5</td>
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### Health Care Behaviors for MidMichigan Medical Center-Clare

<table>
<thead>
<tr>
<th></th>
<th>Size (Incidence &amp; Prevalence)</th>
<th>Seriousness (Urgency, Severity &amp; Economic Loss)</th>
<th>Measures (Evidence of Effectiveness)</th>
<th>Resources</th>
<th>Total</th>
<th>Overall Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>10</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>Smoking</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>8</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>Diet and Exercise</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>Preventive Screenings</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>3</td>
</tr>
</tbody>
</table>
## IX. MidMichigan Health’s Community Health Needs Assessment Plan

### Community Health Needs Assessment Plan

#### Health Care Access

**Goal:** Improve access to seamless, comprehensive, quality health care services to include health care providers, diagnostic services and area referral resources.

**Critical Measures:** Percentage of uninsured, care provider rates and timeliness.

<table>
<thead>
<tr>
<th>Priority Actions</th>
<th>FY 2014-2016 Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>To Initiate, Continue or Improve</strong></td>
<td><strong>1.</strong> County Specific Provider Referral and Inquiry reports from Health Line.</td>
</tr>
<tr>
<td>1. Inform community members regarding available insurance and payment options.</td>
<td><strong>2.</strong> Percentage of the population under 65 with and without health insurance.</td>
</tr>
<tr>
<td>2. Connect people to services.</td>
<td><strong>3.</strong> Percentage of the population that could (or could not) get medical care when needed when surveyed and why.</td>
</tr>
<tr>
<td>• Health Care Staff at community venues</td>
<td><strong>4.</strong> Number of patients served by a federally qualified health center (FQHC).</td>
</tr>
<tr>
<td>• Nurse Navigators</td>
<td><strong>5.</strong> Percentage of the population using emergency rooms as the usual source of care.</td>
</tr>
<tr>
<td>• Discharge Planners</td>
<td><strong>6.</strong> Primary care provider rate in each county.</td>
</tr>
<tr>
<td>• Wellness Coaches</td>
<td><strong>7.</strong> Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees.</td>
</tr>
<tr>
<td>3. Arrange transportation to services for those who would not otherwise receive these services.</td>
<td><strong>8.</strong> Readmission rates for selected diagnoses.</td>
</tr>
<tr>
<td>4. Help people find a health care provider through physician referral services.</td>
<td><strong>9.</strong> Statement of less than recommended wait times for immediate, urgent, semi-urgent and non-urgent needs.</td>
</tr>
<tr>
<td>5. Recruit physicians, mid-levels and other health care providers to areas of need.</td>
<td></td>
</tr>
<tr>
<td>6. Continue projects targeted at preventable readmissions for selected diagnoses.</td>
<td></td>
</tr>
<tr>
<td>7. Implement projects targeted at preventable hospitals stays.</td>
<td></td>
</tr>
<tr>
<td>8. Admission review process to determine appropriateness of each admission.</td>
<td></td>
</tr>
<tr>
<td>9. Communicate wait times in urgent care per <a href="http://www.midmichigan.org">www.midmichigan.org</a></td>
<td></td>
</tr>
</tbody>
</table>
**Community Health Needs Assessment Plan**

**Clinical Preventive and Supportive Services**

**Goal:** Reduce disease and economic burden of chronic diseases and improve quality of life for people who have or are at risk for chronic diseases through chronic disease prevention and detection (Heart Disease/Stroke, Cancer and Diabetes).

**Critical Measures:** reduced overall heart disease/stroke, cancer, diabetes incidence and death rates.

### Priority Actions

**To Initiate, Continue or Improve**

1. Implement disease prevention topic specific media campaigns with a call to action to contact Health Line for specific educational literature.
   - Know Your Numbers Education
   - Men’s Guide to Living Well
   - Women’s Guide to Living Well
   - Twelve Weeks to a Better You

2. Provide reduced cost or no cost screening activities for targeted populations based upon United States Services Task Force (USPSTF) recommendations and other empirical clinical standards.
   - Blood Pressure
   - Know Your Numbers (cholesterol, glucose, BMI & MetS
   - Stroke inclusive of PVD
   - Fecal Occult
   - Lung CT scan
   - Mammography
   - Others

3. Provide screenings at a variety of venues that people frequent (like college campuses, at health fairs and other community events).

4. Provide Client Reminders for PCP office screenings:
   - Colorectal Cancer
   - Prostate Cancer
   - Mammography Screening

5. Implement purposeful education
   - Breast Health Nurse one-on-one counseling
   - Pre-Diabetes & Diabetes Classes
   - Hip, shoulder, knee and pain programs
   - Lunch, Live Learn Series for Seniors
   - Support Groups with focused topics
   - Diabetes Expos
   - Call to Action Health Fairs
   - Wellness Counseling
   - Customized pt. education re: preventive actions needed

6. Institute payment and reimbursement systems that incentivize preventive care.

7. Record health screening and other health care preventive actions in the EMR.

8. Expand use of EMR to include preventive measure tracking.

### FY 2014-2016 Measures

1. Number of Intake calls to Health Line for health literature fulfillment.

2. Participation counts for education classes and health care screenings.

3. Screening results and data comparison reports.
   - Participant results: initial, 6 months, 1 year.
   - Track downstream services utilized for each screening encounter.

4. Documentation of preventive screening activities per survey.
   - Blood pressure check in 2 years
   - Cholesterol check in 5 years
   - Fecal occult blood stool test in 2 years
   - Colonoscopy or sigmoidoscopy
   - Flu shot in past year
   - Pap smear in 3 years
   - Mammogram in 2 years

5. Diabetes health status by 10 percent improvement:
   - Diabetic Medicare enrollees that receive HbA1c screening.
   - Other insurance data as available from other providers.

6. Mortality: life expectancy; years of potential life lost; standardized mortality rates.

7. MHN performance reports on diabetes, coronary artery disease and hypertension.
# Community Health Needs Assessment Plan

## Health Care Behaviors

**Goal:** Improve health behaviors to promote health and reduce the risk of chronic disease.

**Critical measures:** Improved physical activity and eating; reduced prevalence of overweight and obesity.

<table>
<thead>
<tr>
<th>Priority Actions</th>
<th>FY 2014-2016 Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Increase the level of fitness through incentivized physical activity programs in the communities and schools.</td>
<td><strong>1.</strong> Percent of the adult population that has a body mass index greater or equal to 30.</td>
</tr>
<tr>
<td>• Community fitness walks.</td>
<td><strong>2.</strong> Proportion of adults who report a healthy weight each year.</td>
</tr>
<tr>
<td>• Sponsorship Support of Walk or bike to school programs.</td>
<td><strong>3.</strong> Proportion of children who have a healthy weight reported by a parent.</td>
</tr>
<tr>
<td>• Watch/Fitness Trail Project with schools.</td>
<td><strong>4.</strong> Proportion of educational offerings that provide counseling or education related to nutrition.</td>
</tr>
<tr>
<td><strong>2.</strong> Smoking Cessation Programs, to include incentives, wellness counseling and tobacco facilitators (telephone support and no to low out of pocket cost).</td>
<td><strong>5.</strong> Proportion of educational offerings that provide counseling or education related to healthy weight.</td>
</tr>
<tr>
<td><strong>3.</strong> Tobacco Use Cessation: Media Campaigns using brief, recurring messages to inform and motivate tobacco users to quit.</td>
<td><strong>6.</strong> Improvement in Tobacco Cessation Rates.</td>
</tr>
</tbody>
</table>
| **4.** Reducing Exposure to Environmental Tobacco Smoke. | **7.** County-level estimates of leisure time physical inactivity  
• Continued support of Smoke-free Campuses |  
• Increase physical activity to 75 minutes of vigorous activity/wk. for adults. |
| **5.** Implement and support Outpatient Smoking Cessation Clinical Path, inclusive of nicotine replacement &/or smoking cessation and other supportive Rx. Measures. | **8.** Number of school health programs to promote personal health and wellness.  
• Increase in fitness levels and number of minutes of physical activity to 60 minutes per day for children. |
| **6.** Implement purposeful education targeted at behavior change & illness prevention. | **9.** Calls to Health Line for health behavior change literature fulfillment.  
• Fitness/Nutrition/Tobacco Cessation in schools. |  
• Family Nights following youth health fairs.  
• Individually Adapted Health Behavior Change Programs. |
Community Health Needs Assessment Plan
Maternal and Infant Health

**Goal:** Improved pregnancy and postpartum health behaviors to improve the health and well being of mothers and infants.

**Critical measure:** Improvement in maternal and infant child health; decrease in teen birth rates

<table>
<thead>
<tr>
<th>Maternal and Infant Health Priority Actions</th>
<th>FY 2014-2016 Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase the proportion of pregnant women who attend a series of prepared childbirth classes.</td>
<td>1. Prenatal data</td>
</tr>
<tr>
<td>2. Target underserved populations to include teen moms and those in financial need.</td>
<td>• First trimester care rates.</td>
</tr>
<tr>
<td>3. Collaborate with other agencies to provide needed care, education and services across county lines.</td>
<td>• First time mom follow-up rates.</td>
</tr>
<tr>
<td>4. Increase breastfeeding initiation, duration and exclusivity.</td>
<td>2. Infant data</td>
</tr>
<tr>
<td>• ideal breastfeeding exclusivity for the first 6 mths.; target 50 percent breastfeeding for 6 mths.; goal 50% breastfeeding for 1 year.</td>
<td>• Birth weight</td>
</tr>
<tr>
<td>• Track breastfeeding moms for duration and exclusivity.</td>
<td>• Number of well visits for babies and children.</td>
</tr>
<tr>
<td>5. Increase the proportion of new mothers who receive breastfeeding support.</td>
<td>3. Participation counts and biographic data of participants in childbirth education and support group classes.</td>
</tr>
<tr>
<td>6. Provide childbirth preparation classes for areas with low birth weight baby and increase obesity rates</td>
<td>4. OB specialty clinic visit volumes; prenatal care rates.</td>
</tr>
<tr>
<td>• Include maternal/infant health, breastfeeding &amp; nutrition content.</td>
<td>5. Breastfeeding data: follow-up survey.</td>
</tr>
<tr>
<td>• Coordinate classes with area agencies, so that all expectant moms have the opportunity for education</td>
<td>• At initiation</td>
</tr>
<tr>
<td>7. Implement support for new moms.</td>
<td>• 1-2 days post discharge</td>
</tr>
<tr>
<td>• Breastfeeding support in partnership with public health &amp; other agencies.</td>
<td>• 3 months</td>
</tr>
<tr>
<td>• Newborn support group for 1st year of life.</td>
<td>• 6 months</td>
</tr>
<tr>
<td>• Include purposeful education for healthy mom and growing baby.</td>
<td>• 12 months</td>
</tr>
<tr>
<td>8. Implement purposeful education targeted at behavior change and prevention.</td>
<td>6. Track number of intake calls specific to each call to action.</td>
</tr>
<tr>
<td>• Maturation classes for adolescents and parents.</td>
<td>a. Requests for BF facilitation</td>
</tr>
<tr>
<td>• Safe Sex Talk – aimed at High School and College aged students.</td>
<td>b. Requests for education or call to action literature.</td>
</tr>
<tr>
<td>9. Implement wellness promotion literature, with a call to action to call Health Line.</td>
<td>7. Teen pregnancy and STD rates.</td>
</tr>
<tr>
<td>• Benefits of Breastfeeding</td>
<td></td>
</tr>
<tr>
<td>• Twelve Weeks to a Better you</td>
<td></td>
</tr>
</tbody>
</table>
X. Summary Statement – The Future is Now

Having identified the priority community initiatives for MidMichigan Medical Center-Clare, we look forward to implementing the actions needed to help us attain our goals. We understand that educating people about how to avoid a disease, or offering one program or preventive screening may not improve outcome measures to the degree that we would like. Thus, we plan to evaluate our outcomes while considering the impact of other contributing factors, like economic factors, social inclusion, education, racial or ethnic bias, cultural factors, community acceptance, mass media impact, politics, living conditions and geography; described as determinants of health. To create a more comprehensive picture of the needs of our population we will complete a Community Health Needs Assessment Survey to assess current needs for services and community outreach programs from the perspective of the population we serve. This will give us further input regarding the successes of our current community outreach efforts, as well as whether or not they feel their clinical needs are being met. We are particularly interested in knowing what impacts the decision of people who are uninsured or underinsured to come to programs and services that are provided at a reduced or no cost. We also want to know what suggestions they have, and what needs to be provided from their perspective.

Also, since our communities proclaim a strong interest in health of children, we will investigate implementation of a Behavioral Risk Factor Survey to be completed by middle school students, based upon the National Youth Risk Behavior Surveillance System (YRBSS). Since the National Youth Risk Behavior Surveillance System (YRBSS) is based upon national data; we are interested in local data for our goals and implementation strategies.

With the advent of the electronic medical record, we will be able to collect further data on readmission diagnoses, to target areas where further prevention activities are needed. Additionally, the patient portal will allow patients to request medication refills, request appointments, and manage their healthcare information. Communication between the inpatient and outpatient electronic medical record systems will provide further benefits, improving coordination of care among different providers and shortening the time it takes to accurately make a diagnosis and provide appropriate treatment.

Also with advancement in call tracking, we can track the number of health provider referrals and health provider inquiries to obtain further information about access to care. Additionally, the expansion of the Patient Centered Medical Home will change the way physician offices currently operate. Patient Centered Medical Homes promote efficient use of resources and technology, and foster highly involved relationships between individual patients and their personal physicians, as well as their families. MidMichigan Health has nominated 11 physician practices within MidMichigan Health Network to be designated as a Patient Centered Medical Home. Our hope is that this method of care coordination will promote better health care for patients while cutting costs. Additional screening data like A1C rates for diabetes diagnoses and monitoring of diabetes patients will be available in all practices that use Patient Centered Medical Home. One of the Triple Aim Health Improvement Delivery Projects through MiHIA, the Cost of Care project, is focusing on diabetic care. The purpose is to examine best practices for community diabetic care delivery. The long-term goal is to define payment models that reward the “right behavior” for chronic disease management.

We recognize the ongoing, cyclical nature of our Community Health Needs Assessment plan, and look forward to the challenge of moving toward improved health. The Changes of Today define our Tomorrow.

June 5, 2013
XI. Appendix A: MiHIA County Health Rankings Data

MiHIA County Health Rankings 2012 data – MidMichigan Health region

| MIHIA Region County Health Rankings - 2012 data (82 Counties) | Arenac | Bay | Clare | Gratiot | Gladwin | Huron | Isabella | Iosco | Ogemaw | Midland | Saginaw | Sanilac | Neoscan | Monroe | Tuscola | National | Benzie | Benzie |
|---------------------------------------------------------------|-------|-----|------|--------|--------|------|---------|------|-------|--------|--------|--------|--------|--------|--------|--------|----------|--------|--------|
| Health Outcomes rank | 69 | 54 | 80 | 33 | 68 | 46 | 20 | 26 | 67 | 17 | 76 | 50 | 75 | 27 |
| Premature death | 8,507 | 7,682 | 7,981 | 6,042 | 7,679 | 7,028 | 6,163 | 6,227 | 8,959 | 6,048 | 6,029 | 7,317 | 6,977 | 6,713 | 5,466 | 7,273 |
| Poor or fair health | 18% | 20% | 16% | 17% | 18% | 12% | 15% | 15% | 12% | 15% | 17% | 22% | 14% | 10% | 14% |
| Poor physical health days | 3.7 | 3.6 | 3.4 | 4.5 | 3.4 | 3.2 | 3.6 | 2.9 | 3.8 | 3.5 | 4.1 | 2.4 | 2.6 | 2.5 |
| Poor mental health days | 5.8 | 4.5 | 5.3 | 4.1 | 4.3 | 3.7 | 3.8 | 4.5 | 4.2 | 3.4 | 3.7 | 4 | 3.5 | 2.3 | 2.3 | 3.7 |
| Low birth weight | 8% | 7% | 8% | 7% | 7% | 7% | 7% | 8% | 7% | 6% | 7% | 7% | 7% | 7% | 6% | 6.0% | 8.3% |
| Healthy Behaviors rank | 42 | 53 | 69 | 70 | 81 | 16 | 26 | 23 | 43 | 17 | 79 | 71 | 75 | 28 |
| Adult smoking | 23% | 29% | 27% | 33% | 20% | 21% | 19% | 21% | 22% | 20% | 21% | 22% | 20% | 19% | 14% | 21% |
| Adult obesity | 35% | 34% | 30% | 34% | 31% | 33% | 34% | 34% | 31% | 40% | 35% | 36% | 31% | 25% | 22% |
| Physical inactivity | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% | 34% |
| Excessive drinking | 11% | 13% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% |
| Motor vehicle death rate | 12 | 12 | 14 | 12 | 14 | 12 | 16 | 16 | 17 | 11 | 15 | 15 | 15 | 15 | 15 | 15 |
| Sexually transmitted infections | 11 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 11 | 12 | 13 | 12 | 13 | 12 | 13 |
| Teen birth rate | 33 | 35 | 49 | 32 | 39 | 23 | 16 | 41 | 49 | 23 | 42 | 32 | 32 | 32 | 22 | 24 |
| Clinical Care rank | 80 | 58 | 79 | 59 | 76 | 50 | 72 | 69 | 64 | 4 | 26 | 65 | 49 | 73 |
| Uninsured | 16% | 17% | 16% | 16% | 14% | 16% | 15% | 16% | 11% | 13% | 15% | 16% | 15% | 14% | 11% | 14% |
| Primary care physicians | 377/6 | 203/8 | 339/6 | 191/6 | 519/6 | 209/6 | 238/6 | 468/5 | 176/6 | 659/1 | 583/1 | 220/1 | 331/1 | 230/4 | 621/1 | 874/1 |
| Preventable hospital stays | 114 | 83 | 104 | 86 | 104 | 75 | 96 | 81 | 92 | 62 | 88 | 89 | 76 | 85 | 49 | 74 |
| Diabetic screening | 85% | 96% | 95% | 90% | 86% | 85% | 85% | 85% | 85% | 85% | 85% | 85% | 85% | 85% | 85% | 84% |
| Mammography screening | 70% | 67% | 66% | 68% | 70% | 72% | 67% | 67% | 69% | 72% | 73% | 86% | 71% | 66% | 74% | 88% |
| Social & Economic Factors rank | 67 | 32 | 80 | 35 | 69 | 18 | 14 | 29 | 66 | 6 | 73 | 53 | 78 | 31 |
| High school graduation | 85% | 80% | 75% | 83% | 79% | 89% | 83% | 83% | 75% | 82% | 74% | 87% | 67% | 84% | 76% |
| Suicide rate | 63% | 46% | 46% | 52% | 52% | 63% | 83% | 44% | 71% | 80% | 49% | 44% | 92% | 60% | 60% |
| Unemployment | 16% | 12% | 16% | 12% | 16% | 13% | 9% | 13% | 13% | 9% | 12% | 16% | 16% | 14% | 5.4% | 12.5% |
| Children in poverty | 32% | 23% | 43% | 20% | 31% | 23% | 23% | 21% | 31% | 15% | 27% | 20% | 35% | 24% | 13% | 23% |
| Inadequate social support | 27% | 23% | 19% | 23% | 14% | 14% | 20% | 21% | 15% | 16% | 21% | 29% | 17% | 16% | 14% | 29% |
| Children single parent house | 28% | 33% | 32% | 30% | 27% | 27% | 30% | 31% | 32% | 34% | 40% | 24% | 47% | 37% | 20% | 32% |
| Violent crime rate | 255 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 | 281 |
| Physical Environment rank | 18 | 75 | 27 | 35 | 16 | 72 | 34 | 63 | 25 | 14 | 73 | 58 | 6 | 41 |
| Air pollution days | 2 | 6 | 2 | 3 | 2 | 0 | 3 | 3 | 3 | 3 | 4 | 7 | 0 | 4 | 0 | 5 |
| Air pollution-ozone days | 9 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 3 |
| Access to rec activities | 12 | 8 | 10 | 6 | 8 | 7 | 11 | 9 | 21 | 6 | 5 | 8 | 9 | 16 | 9 |
| Limited access healthy foods | 0% | 13% | 0% | 0% | 0% | 8% | 0% | 16% | 0% | 0% | 12% | 1% | 0% | 0% | 6% | 0% |
| Fast food restaurants | 46% | 50% | 48% | 42% | 33% | 41% | 47% | 47% | 39% | 54% | 61% | 39% | 33% | 40% | 25% | 48% |
| Overall Ranking | 69 | 54 | 80 | 33 | 68 | 46 | 20 | 26 | 67 | 17 | 76 | 50 | 75 | 27 |
### MiHIA County Health Rankings 2013 data – MidMichigan Health region

<table>
<thead>
<tr>
<th>Health Outcomes</th>
<th>Arenac</th>
<th>Bay</th>
<th>Clare</th>
<th>Gladwin</th>
<th>Gratiot</th>
<th>Huron</th>
<th>Iosco</th>
<th>Isabella</th>
<th>Midland</th>
<th>Otsego</th>
<th>Roscommon</th>
<th>Saginaw</th>
<th>Sanilac</th>
<th>Tuscola</th>
<th>Michigan Bench</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rank</strong></td>
<td>79</td>
<td>53</td>
<td>75</td>
<td>73</td>
<td>49</td>
<td>42</td>
<td>61</td>
<td>42</td>
<td>14</td>
<td>51</td>
<td>71</td>
<td>54</td>
<td>32</td>
<td>39</td>
<td>7,284</td>
</tr>
<tr>
<td>Premature death</td>
<td>8,810</td>
<td>7,483</td>
<td>7,817</td>
<td>8,223</td>
<td>6,811</td>
<td>7,427</td>
<td>8,267</td>
<td>8,843</td>
<td>5,696</td>
<td>7,881</td>
<td>8,526</td>
<td>8,325</td>
<td>7,002</td>
<td>7,631</td>
<td>7,284</td>
</tr>
<tr>
<td>Poor or fair health</td>
<td>15%</td>
<td>20%</td>
<td>20%</td>
<td>17%</td>
<td>20%</td>
<td>19%</td>
<td>12%</td>
<td>16%</td>
<td>12%</td>
<td>18%</td>
<td>23%</td>
<td>23%</td>
<td>22%</td>
<td>26%</td>
<td>20%</td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>5%</td>
<td>6%</td>
<td>6%</td>
<td>5%</td>
<td>6%</td>
<td>5%</td>
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<td>6%</td>
</tr>
<tr>
<td>Excessive drinking</td>
<td>12%</td>
<td>12%</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
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**GREEN** cells represent Top quartile

**RED** cells represent 4th Quartile
XII. Appendix B: Organizations Consulted

1016 Recovery Network
Central Michigan District Health Department
Central Michigan University: College of Health Professions
Clare County Chamber of Commerce
Clare County Council on Aging
Clare County Transit
Clare County Women’s Aid Service
Clare-Gladwin Great Start Collaborative
Clare Gladwin Literacy Council
Clare Ministerial Association
Community Mental Health Central Michigan
Harrison Farmers Market
Hope Pregnancy Services
Michigan Department of Human Services, Clare County
Michigan State University Extension
MidMichigan Big Brothers Big Sisters
MidMichigan Blue Cross Blue Shield
MidMichigan Community College
MidMichigan Gladwin
MidMichigan Gladwin Pines
MidMichigan Medical Center-Gratiot
MidMichigan Home Care
MidMichigan Medical Center-Midland
MidMichigan Physicians Group
Northeast Michigan Community Service Agency (NEMSCA) Headstart
Pere Marquette District Library
Region 7 Area on Aging
Saginaw Indian Chippewa Tribe
Together We Can, Clare-Gladwin Health Improvement Plan (HIP) Team
XIII. Appendix C: Approvals

Clare County Community Needs Assessment and Implementation Plan was approved by the MidMichigan Medical Center-Clare Board of Directors on June 25, 2013