

**Diabetes Risk Factors
Community Profile
Upper Peninsula**

August 2013

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Upper Peninsula

The National Association of Chronic Disease Directors (NACDD) has contracted with the Directors of Health Promotion and Education (DHPE) to provide the following data and recommendations to identify:

- target audiences for the Diabetes Prevention Programs (DPP)
- how to reach the target audience
- health care facilities in the area that can refer to DPPs.
- locations of select business that may be useful in promoting DPPs

This report uses PRIZM segment descriptions to determine where people at risk for diabetes are located. Each segment has unique demographic descriptions based on income, life stage, age range, presence of children in the household, home ownership, employment, education, and race and ethnicity; there are 66 PRIZM segments. Based on the segment profiles the following questions can be examined:

- Where is the target population located?
- How would you reach them?
- What else is in the area?

Target Population

Approximately 82,835¹ adults 21 years old and older with prediabetes live in the Upper Peninsula. Approximately 50% of adults 65 years old and older are estimated to have prediabetes.¹ People with prediabetes have an increased risk of developing type 2 diabetes, heart disease and stroke. Studies have shown that people with prediabetes who lose weight and increase their physical activity can prevent or delay type 2 diabetes and in some cases return their blood glucose levels to normal.

If the modifiable risk factors for type 2 diabetes (being overweight or obese and physical inactive) continue to increase, so will the prevalence of type 2 diabetes. The adult obesity prevalence in Michigan has increased from 18.2 to 31.7 percent between 1995 and 2010.²

Individuals at greatest risk of developing diabetes in Michigan are:

- African Americans
- Individuals with no college education
- Households that earn less than \$25,000 per year

¹Estimate is based on multiplying the population for those 21 years old and older by 35%. The estimated number of persons with prediabetes was calculated by applying the national estimate of prediabetes from NHANES III to the 2013 population estimate for adults aged 21 years and older in the geography of interest. This is the same methodology as was used in the Centers for Disease Control and Prevention. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2011. Available at: http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf.

²Michigan Behavioral Risk Factor Surveillance System, 1995-2010. Available at <http://apps.nccd.cdc.gov/BRFSS>.

Table 1 provides a summary of some of the demographic factors associated with a higher risk of developing diabetes. **Appendix 2** contains a detailed report of demographics and household characteristics for the areas of interest.

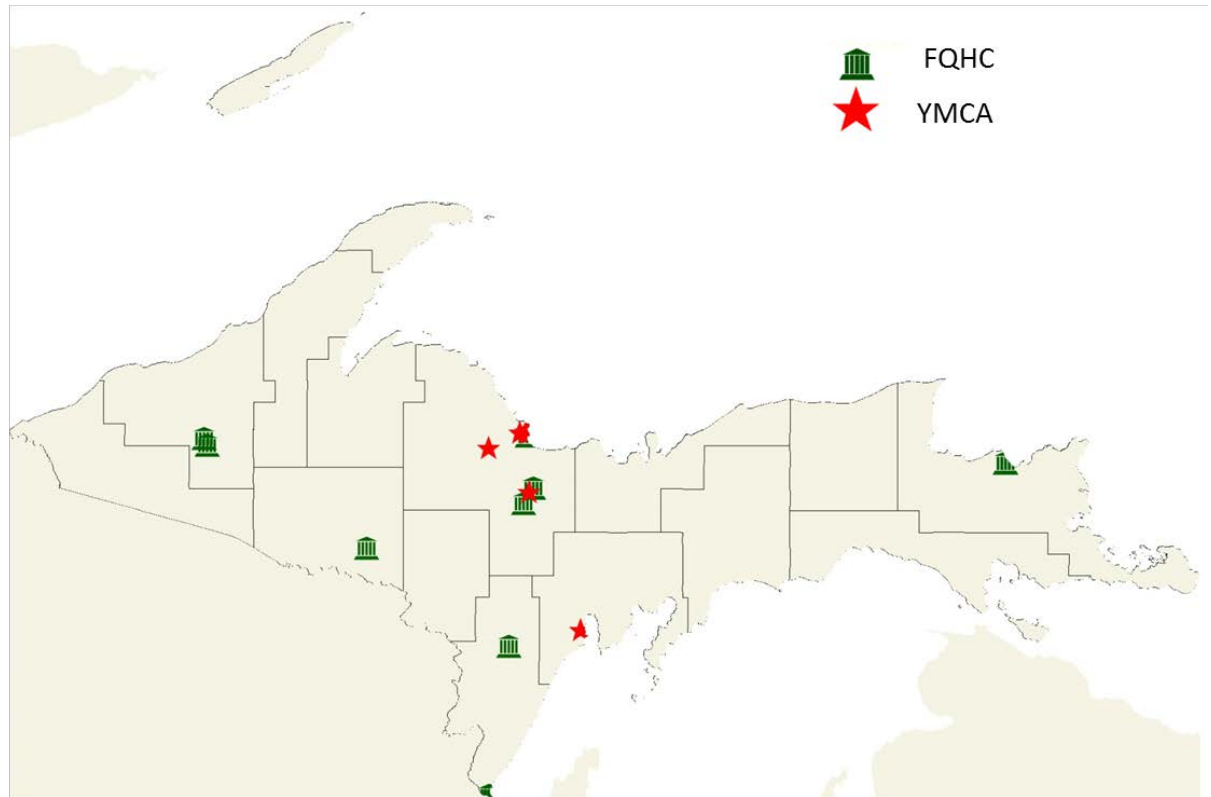
	Upper Peninsula	Michigan	United States
Total Population	311,805	9,862,679	314,861,807
Age			
< 21 years old	24.10%	27.69%	28.08%
21-44	27.70%	29.70%	31.59%
45-64	29.29%	27.87%	26.40%
65-84	16.15%	12.69%	12.06%
85+	2.77%	2.05%	1.87%
Race			
White	89.57%	78.56%	71.49%
Black or African American	2.31%	14.21%	12.71%
American Indian and Alaska Native	4.75%	0.64%	0.96%
Asian	0.74%	2.56%	5.04%
Native Hawaiian and Other Pacific Islander	0.03%	0.03%	0.18%
Some Other Race	0.18%	1.57%	6.56%
Two or More Races	2.43%	2.43%	3.06%
Ethnicity			
Hispanic	1.14%	4.69%	17.33%
Not Hispanic	98.86%	95.31%	82.67%
Household Income			
Average	\$49,953	\$58,514	\$69,637
Median	\$38,660	\$43,691	\$49,297
Population 25 and older with less than a four-year college degree	79.20%	74.90%	71.90%

Approximately 30% of the population in Michigan’s Upper Peninsula is between 45 and 64 years old. This age group is an ideal target group as the prevalence of diabetes goes up dramatically in the population 65 and older.³ Compared to the state, the Upper Peninsula has a lower median average household income and higher percent of adults with less than a four-year college degree. This suggests that the population that lives in Upper Peninsula may be at higher risk of developing diabetes compared to the state as a whole.

³ Michigan Behavioral Risk Factor Surveillance System, 1995-2010. Available at <http://apps.nccd.cdc.gov/BRFSS>.

Map 1.1 shows where Federally Qualified Health Centers (FQHC) and YMCA's are located in the Upper Peninsula.

Map 1 Michigan's Upper Peninsula



Location of People with Diabetes Risk Factors

The target population is individuals with risk factors for diabetes. The target population was determined using the demographic description and lifestyle preferences of each PRIZM segment found in the Upper Peninsula were also examined separately to see where the highest concentration of the target populations are located within these geographic areas. Segments with demographic characteristics associated with a higher prevalence of diabetes were combined to form a profile.

The demographic and socioeconomic characteristics included are:

- Education Attainment: less than a four-year college degree
- Household Income: \$50,000 or less per year
- Age: segment age ranges that overlapped or contained the age group of 45 to 84 year olds

Based on these three characteristics the following PRIZM segments were found to be at high risk of developing diabetes: 38,39,40,41,42,43,44,45,46,48,49,52,53,54,55,56,57,58,59,60,61,64,65,66. There are 66 PRIZM segments. In general, as the segment number increases, the socioeconomic status decreases. As mentioned previously each segment has a unique demographic and socioeconomic description based on several indicators including income, life stage, age range, presence of kids in the household, home ownership, employment, education, and race and ethnicity. For a detailed description of each segment, visit

<http://www.claritas.com/MyBestSegments/Default.jsp?ID=30&id1=1027&id2=&webid=1>

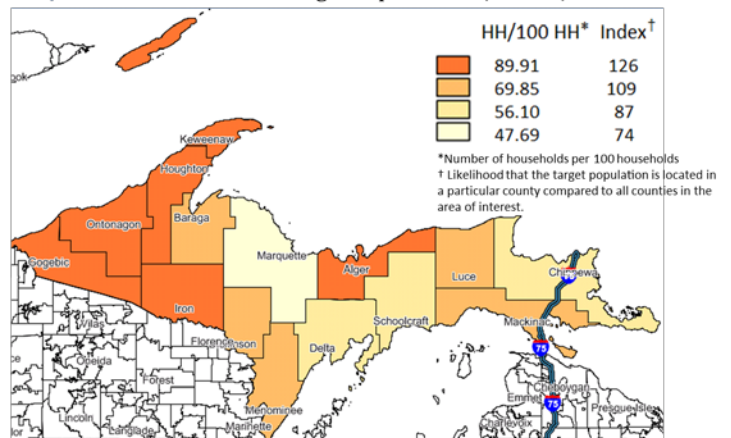
To verify that these segments also had high-risk lifestyle behaviors that could lead to diabetes additional analyses examined their likelihood of being physically active, consuming fruits and vegetables, and watching over 20 hours of television per week. It was found that these segments were among the least likely to be physically active and to consume fruits and vegetables, and among the most likely to watch more than 20 hours of television per week.

Map 2.1 shows the concentration of the target segments county in the Upper Peninsula and **Map 2.2** shows the concentration within each zip code; the darker the orange, the higher the concentration of the target segments.

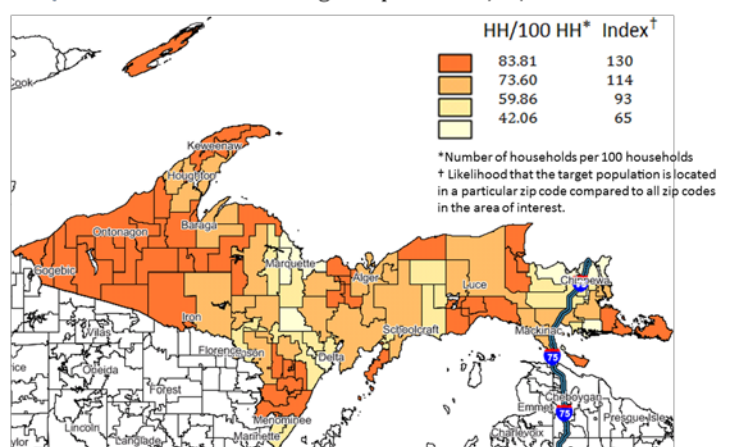
Appendix 3 provides a list of all the zip codes and census tracts in the Upper Peninsula and the number of households that are at high risk of developing diabetes.

The zip codes within the Upper Peninsula where 90% or more households have one or more adults that fit this profile are: 49775, 49969, 49910, 49838, 49768, 49820, 49925, 49762 and 49847.

Map 2.1 Concentration of Target Population by County



Map 2.2 Concentration of Target Population by Zip Code



Marketing⁴

Below are ways to reach your target audience. There are descriptions of how often and the types of print, radio, and television stations they read, listen to, and watch. For radio and television, the times and days of the week the audience is most likely to listen to or watch are listed as well.

See **Appendix 4** for detailed tables and information for the source information the descriptions below are based on. The majority of findings are based on the number of adults per 100 households. For these findings, it is possible to have more than 100 adults per 100 households as multiple adults can live in a household. A few of the findings are based on household consumption, for these findings the number of households cannot exceed 100.

Print Media Profile:

Among the segments at high risk for diabetes that live:

- Approximately the 82 adults per 100 households report frequently reading the newspaper; however, 78 adults per 100 households report reading the newspaper infrequently.
- Approximately 73 adults per 100 households report reading the Sunday newspaper and 65 adults per 100 households report reading the daily newspaper.

If using print media as a method for reaching the target population, the Sunday newspaper has the most reach.

Radio Media Profile:

Among the segments at high risk for diabetes that live:

- Approximately 95 adults per 100 households listen to the radio less than 20 hours a week for men and less than 15 for women; however, 65 adults per 100 households listen to the radio more than 20 hours a week for men and more than 15 hours a week for women.
- The highest number of adults per 100 households listens to the radio Monday through Friday from 6 am to 10am and 10am to 3pm.
- The most frequently listened to radio stations are country radio stations,

If using radio media as a method for reaching the target population, the best time of day is 6 a.m. to 10 a.m. Monday through Friday on country radio stations.

⁴ Marketing Profile is based on the PRIZM segments that are least likely to report exercising: segments 26, 31, 38-40, 42-49, 52-66. There are 66 PRIZM segments the higher the number the lower the social-economic status. The segments are defined based on a combination of household characteristics (e.g., presence of kids), demographic characteristics, and economic characteristics. Nielsen's segmentation system has been tested and verified in various settings and geographic locations. The selected marketing avenues were selected based both on a high Market Potential Index as well as the number of people that could be reached.

Television Media Profile:

Note this profile captures usage of specific channels if you want to know the shows watched or frequency of viewing different shows, let DHPE know and additional analysis can be run.

Among the Segments at High Risk for Diabetes that live in:

- Over 102 adults per 100 households watch 23.5 hours or more of television per week for men and 24.5 hours or more per week for women.
- Over 85 adults per 100 households average at least a half hour of television between 8 p.m. and 11 p.m., 7:30 p.m. and 8 p.m., and 7 p.m.-7:30 p.m. Monday through Friday. Weekend viewing during these time periods is also around 80 adults per 100 households.
- Approximately 80% of households subscribe to cable or satellite television.

If using television media as a method for reaching the target population, the best time of day is 7 p.m. -11 p.m. Monday through Friday.

Internet Media Profile:

Among the Segments at High Risk for Diabetes that live in:

- Over 118 adults per 100 households use the internet 0 to 17 times per month.
- Approximately 55% own their own computer.
- Approximately 41 adults per 100 households use the internet frequently – 28 or more times per month.
- Less than half of households (46%) have access to the internet at home.
- Approximately 15 adults per 100 households use the internet via a cell phone or smart phone.

If using the internet as a method for reaching the target population, keep in mind that less than half of the target segment has access to the internet at home. Internet use for most users in the target segments is low.

Attitude Towards Media:

Over 60 users per 100 households in the target population feel magazines, newspapers, radio, and television ads give useful information. The target segments are more likely to agree that television is the most trusted media.

Grocery Shopping Habits

Over 98 users per 100 households in the target segments grocery shop at a Walmart Supercenter.

Retailer and Shopping Habits:

Walmart appears to be the store that the target segments shop at most often.

Restaurants:

McDonalds and Burger King are the two fast food restaurants where the highest number of users per household frequent. However, the target segments are less likely to frequent these restaurants compared to all segments.

Maps

The following maps may be useful in program planning efforts to identify potential target areas.

Maps 3.1 through 8.3 highlight geographic areas with demographic and socioeconomic status data that are associated with a higher risk of developing diabetes. **Maps 9.1 through 12.2** highlights geographic areas where health behaviors are exhibited that are associated with higher risk of developing diabetes. **Appendix 5** contains the demographic and socioeconomic status data provided in **Maps 3.1 through 8.3** **Appendix 6.1-6.2** contains the health behavior data provided in **Maps 3.1 through 12.2**

Demographic and Socioeconomic Status Associated with Higher Risk of Diabetes

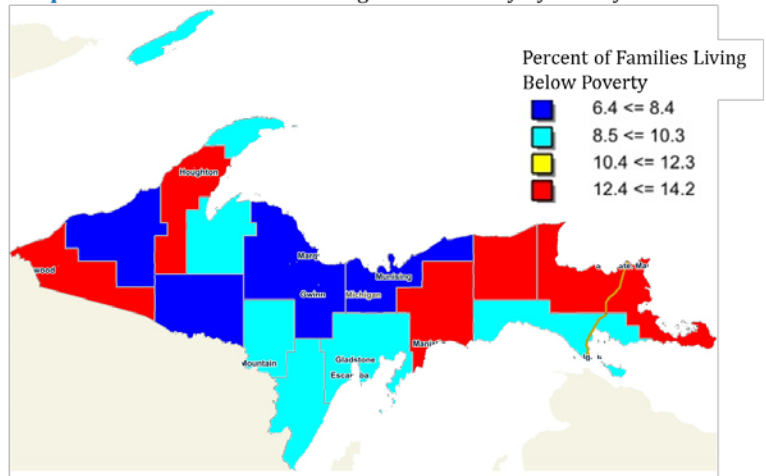
Map 3.1 shows the percent of families living below poverty by county. The counties in red have the highest percent of families living below poverty, between 12.4% and 14.2%.

Map 3.2 shows the percent of families living below poverty by zip code.

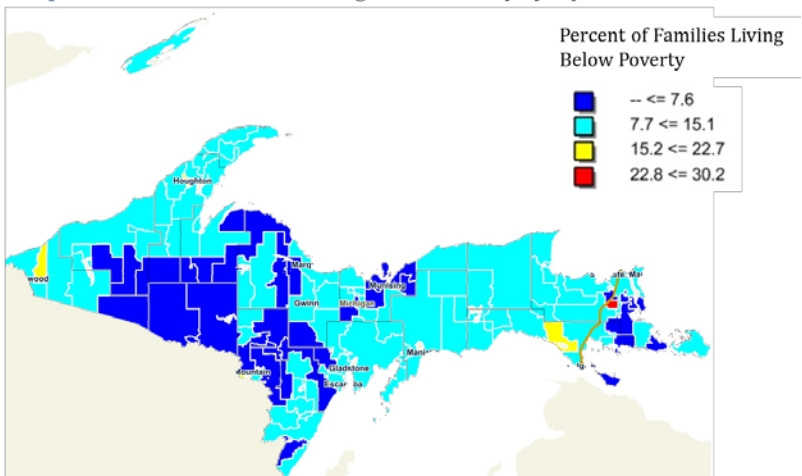
At least 15% of the families in the following zip codes are below poverty: 49788, 49921, 49931, 49802, 49911, 49760, and 49868.

Map 3.3 shows the number of families living below poverty.

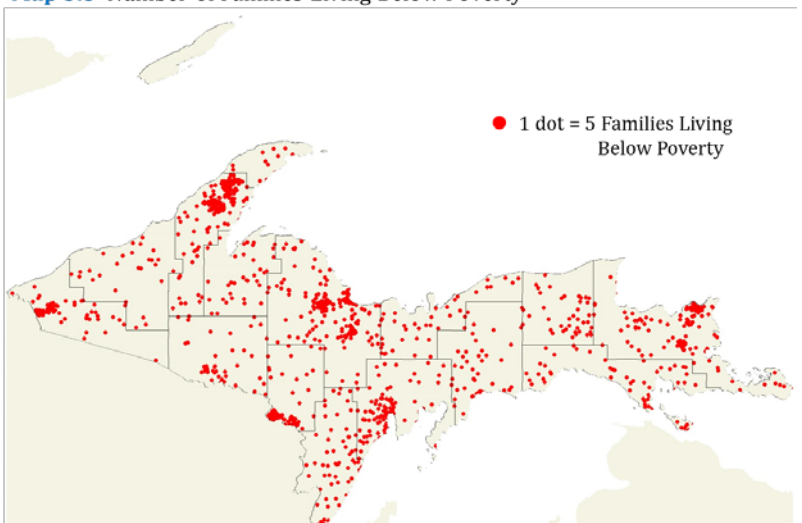
Map 3.1 Percent of Families Living Below Poverty by County



Map 3.2 Percent of Families Living Below Poverty by Zip Code



Map 3.3 Number of Families Living Below Poverty



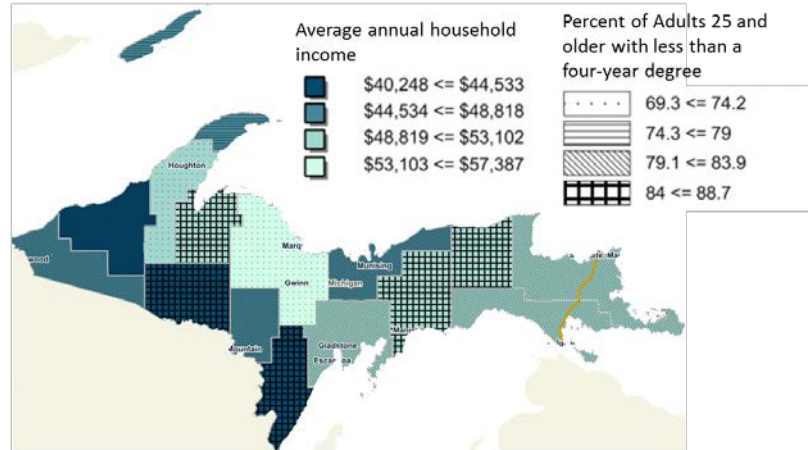
Map 4.1 shows the average annual household income and percent of adults 25 and older who have less than a four-year college degree by county. The areas with the darkest bluish-green color have the lowest average household income and the areas with the darkest lines have the highest percent of adults without a four-year college degree.

Map 4.2 shows the average annual household income and percent of adults 25 and older who have less than a four-year college degree by zip code.

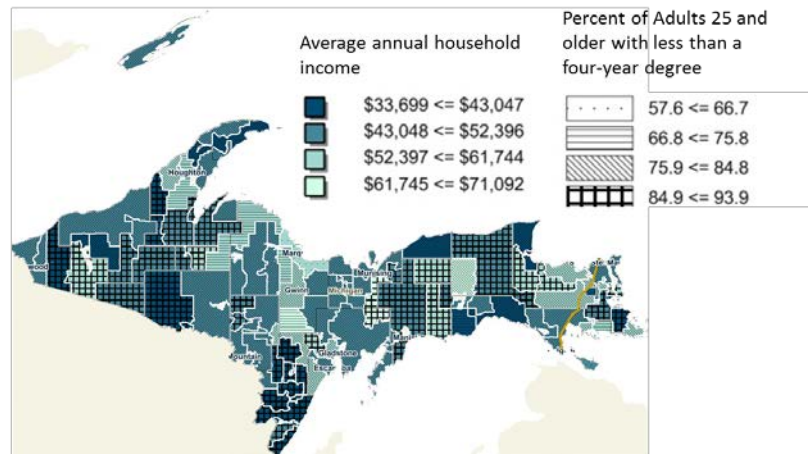
The following zip codes had average household income less than \$40,000 per year: 49847, 49873, 49886, 49952, 49910, 49821, 49927, 49812, 49874, 49965 and 49887.

At least 90% of adults 25 years old and older have less than a four-year college degree in the following zip codes: 49788, 49883, 49873, 49728, 49970, 49847, 49848, 49919, 49886, 49908 and 49836.

Map 4.1 Average Household Income and Percent of Adults with Less than a Four-Year College Degree by County



Map 4.2 Average Household Income and Percent of Adults with Less than a Four-Year College Degree by Zip Code



Map 5.1 shows the percent of the population that is Hispanic by county. As the blue color darkens, the percent of the population that is Hispanic increases.

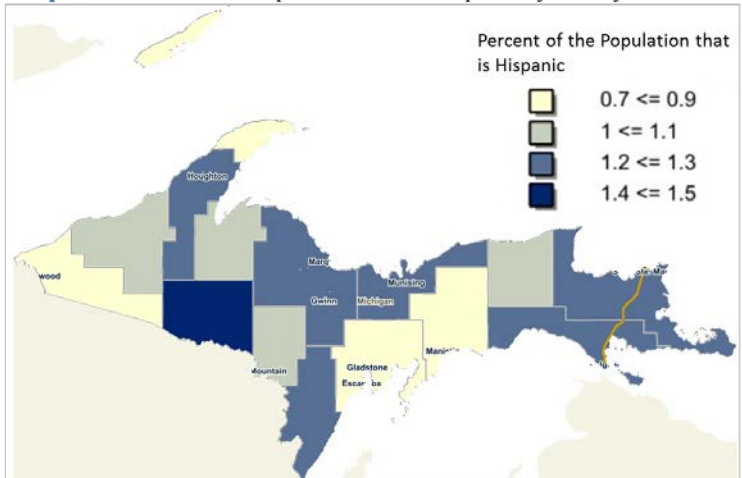
Map 5.2 shows the percent of the population that is Hispanic by zip code.

At least 2% of the population is Hispanic in the following zip codes: 49841, 49757, and 49821.

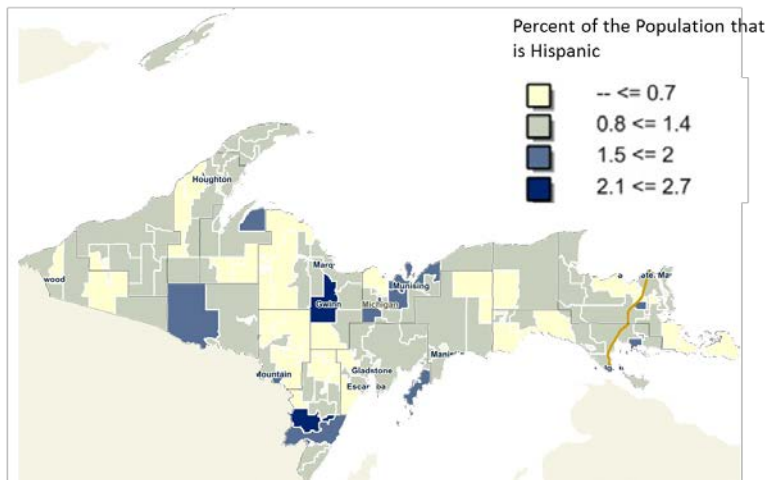
Nationally Hispanics have a higher risk of developing diabetes.

Map 5.3 shows the number of Hispanics.

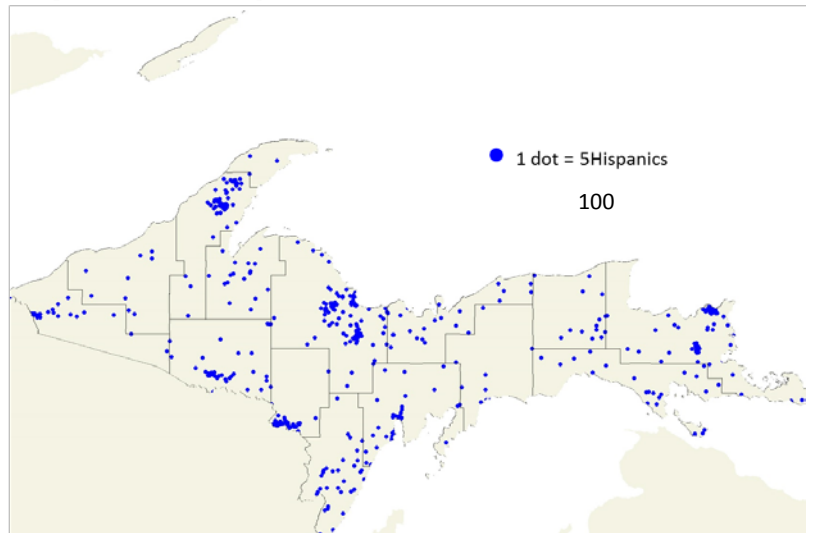
Map 5.1 Percent of the Population that is Hispanic by County



Map 5.2 Percent of the Population that is Hispanic by Zip Code



Map 5.3 Number of Hispanic



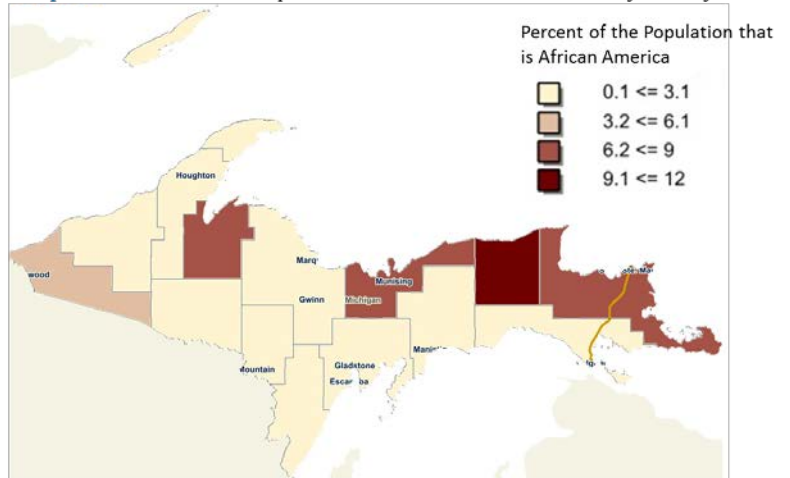
Map 6.1 shows the percent of the population that is African American by county. As the red color darkens, the percent of the population that is African American increases.

Map 6.2 shows the percent of the population that is African American by zip code.

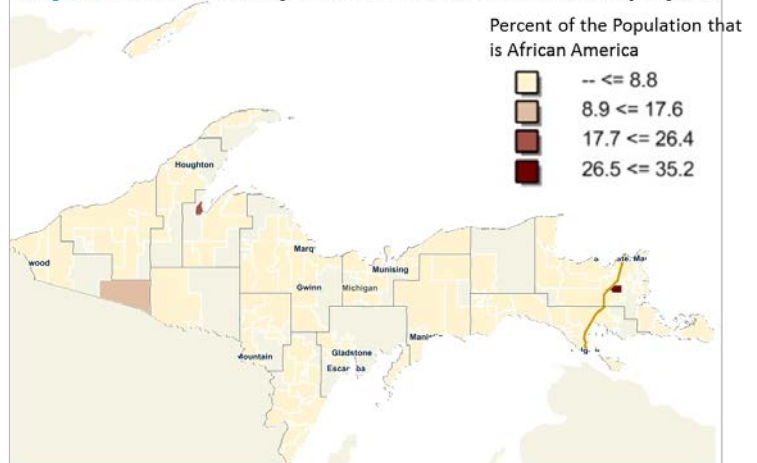
At least 10% of the population is African American in the following zip codes: 49788, 49947, 49895, 49908, 49868, 49969 and 49958.

Map 6.3 shows the number of African Americans.

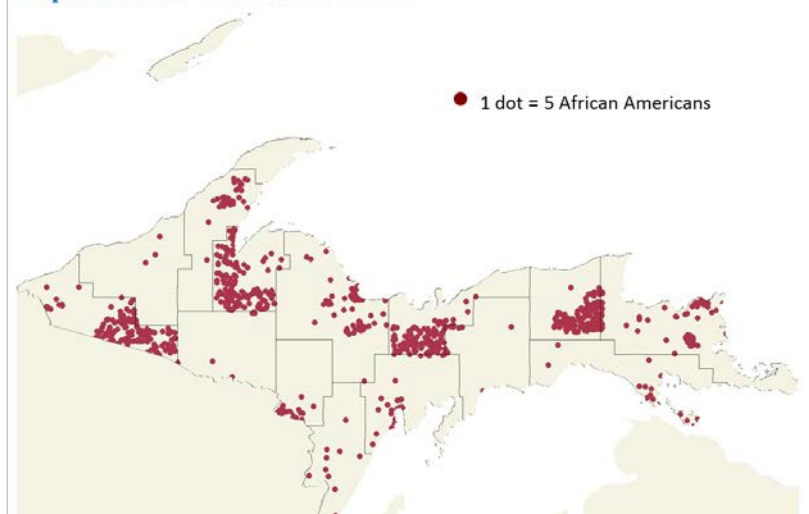
Map 6.1 Percent of the Population that is African American by County



Map 6.2 Percent of the Population that is African American by Zip Code



Map 6.3 Number of African Americans



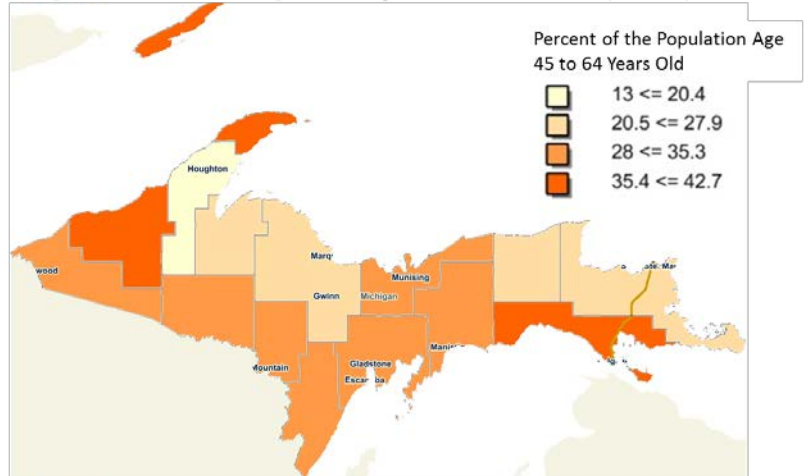
Map 7.1 shows the percent of the population 45 through 64 years old by county. As the orange color darkens, the percent of the population that is between 45 and 64 years old increases.

Map 7.2 shows the percent of the population 45 through 64 years old by zip code.

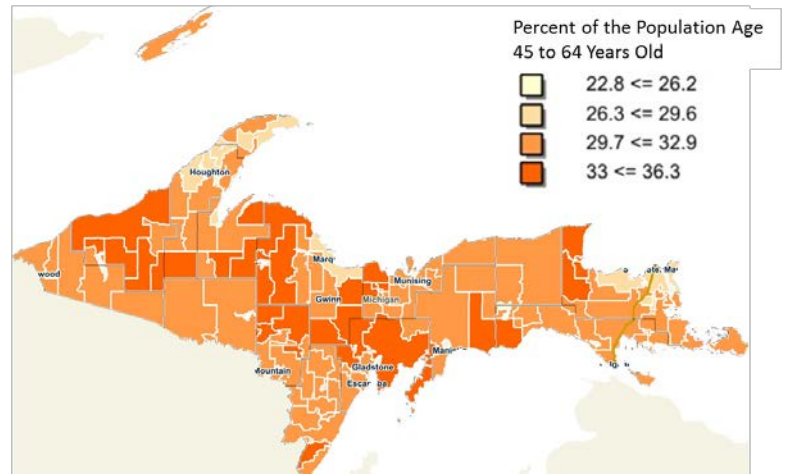
At least 37% of the population is 45 to 64 years in the following zip codes: 49833, 49962, 49910, 49861, 49826, 49822, 49728, 49925, 49852, 49825, 49881, 49817, 49893, 49768, 49815, 49840, 49912, 49879 and 49880.

Map 7.3 shows the number of adults 45 through 64 years old.

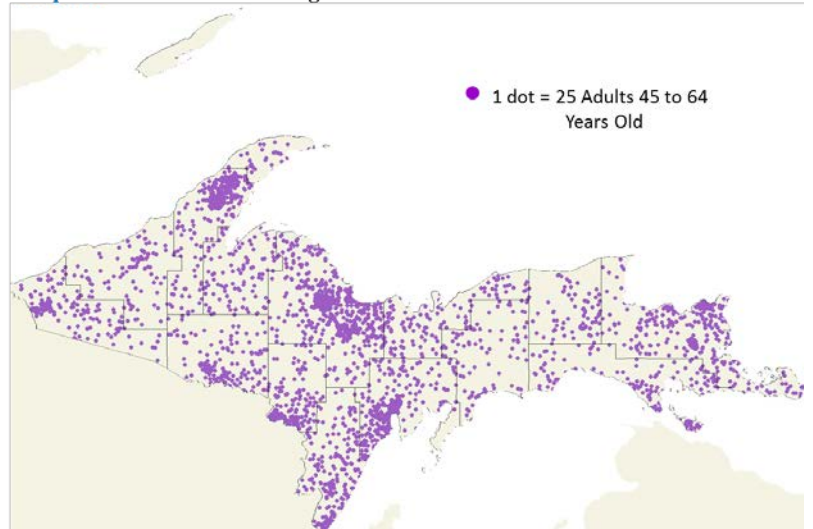
Map 7.1 Percent of the Population Age 45 to 64 Years Old by County



Map 7.2 Percent of the Population Age 45 to 64 Years Old by Zip Code



Map 7.3 Number of Adults Age 45 to 64 Years Old



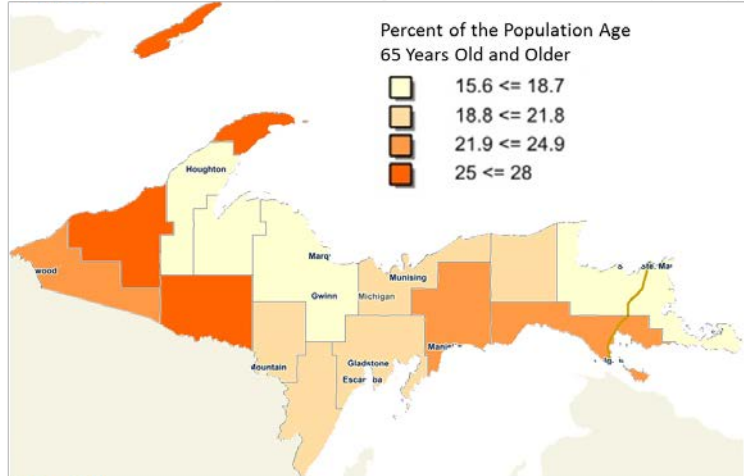
Map 8.1 shows the percent of the population 65 years old and older by county. As the orange color darkens, the percent of the population that is 65 years old and older increases.

Map 1.8.b shows the percent of the population 65 years old and older by zip code.

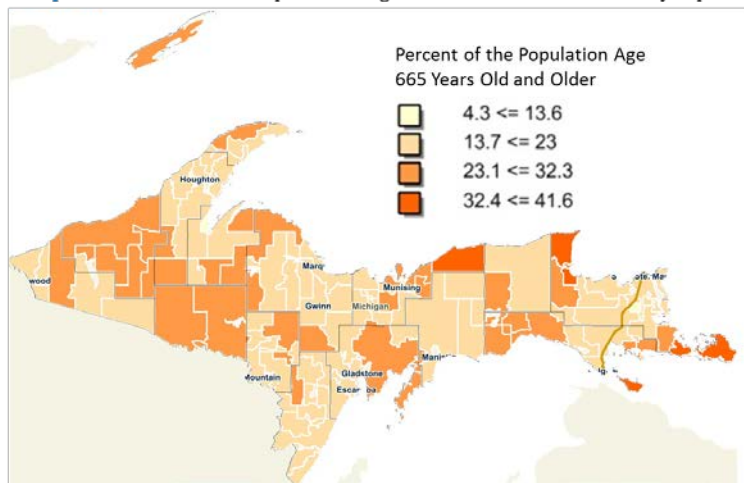
At least 30% of the population is 65 years old and older in the following:
 49775, 49839, 49725, 49726, 49768,
 49762, 49910, and 49925.

Map 8.3 shows the number of adults 65 years old and older.

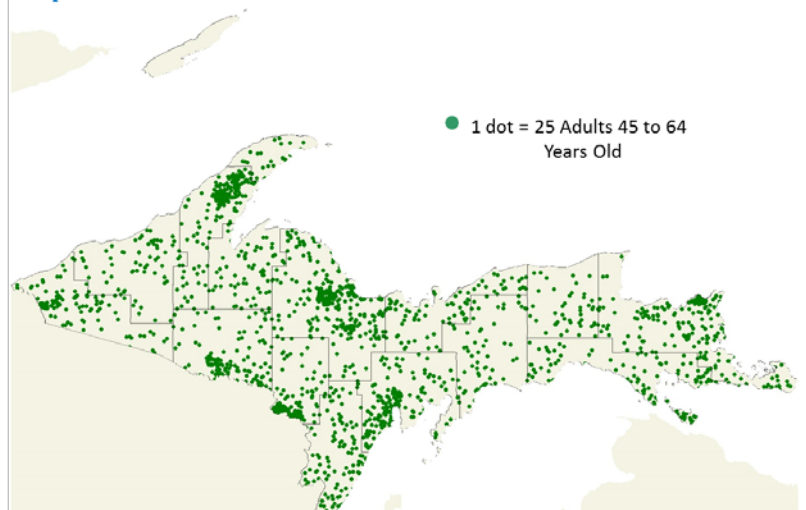
Map 8.1 Percent of the Population Age 65 Years Old and Older by County



Map 8.2 Percent of the Population Age 65 Years Old and Older by Zip Code



Map 8.3 Number of Adults 65 Years Old and Older



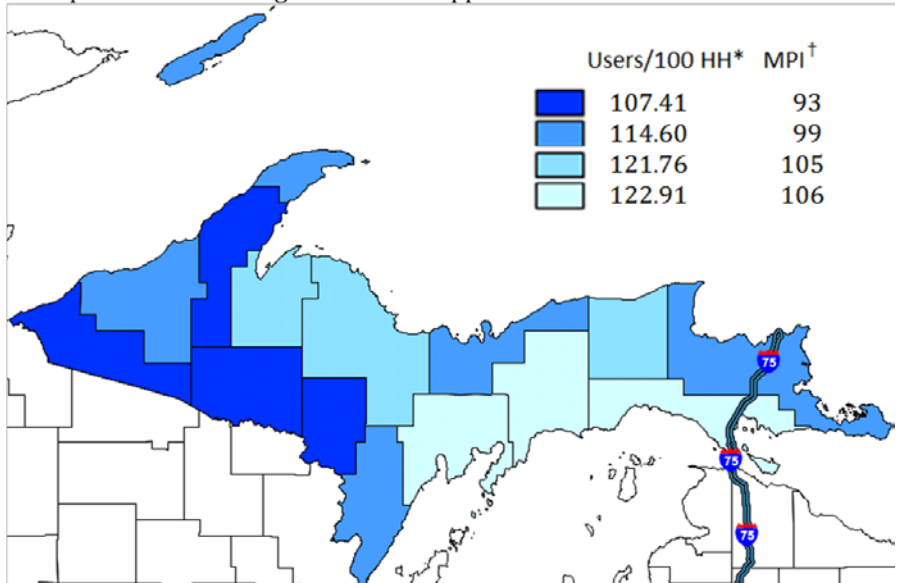
Behaviors Associated with Higher Risk of Diabetes

Maps 1.9.a and 1.9.b show the likelihood adults have health insurance by county and zip code compared to the average adult within *the Upper Peninsula*. The darker the blue, the *less likely* they are to report having health insurance.

Market Potential Index (MPI) is calculated based on the number of users per 100 households in each county or zip code divided by number of users per 100 households in the geographic area of interest times 100. It indicates the likelihood that households in a county or zip code are to display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicates they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest. An MPI of 100 indicates that they are as likely to display the behavior of interest as the average household in the geography of interest.

The behavior of interest in **Maps 9.1 and 9.2** are having health insurance and the geography of interest is *Upper Peninsula*. The zip codes with the darkest blue color are 12% *less likely* (88-100= -12) to have insurance as compared to the average user for *Upper Peninsula* and the light blue areas are 11% *more likely* (111-100) to have insurance.

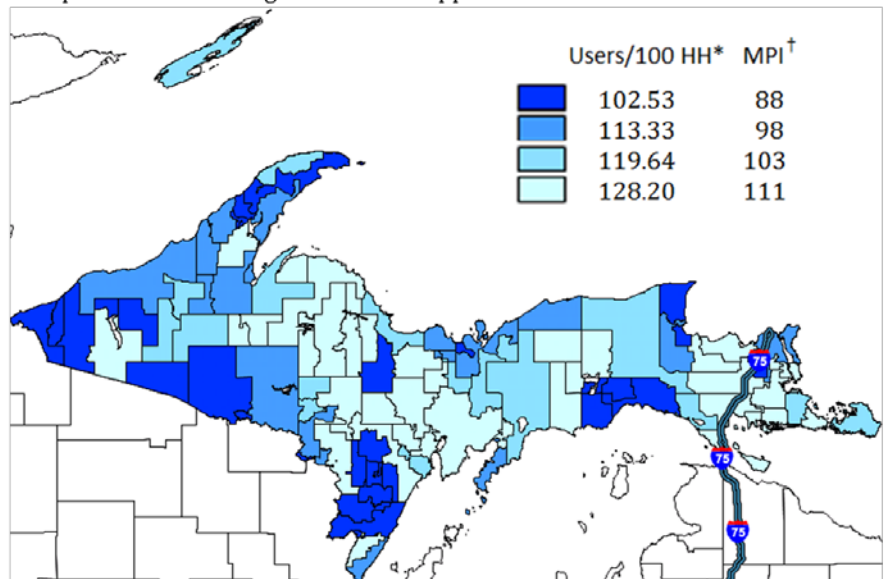
Map 9.1 Likelihood Adults Report Having Health Insurance by County Compared to the Average User in the Upper Peninsula



*Number of adults per 100 households.

† MPI = Market Potential Index. Likelihood that households in a county display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicated they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest.

Map 9.2 Likelihood Adults Report Having Health Insurance by Zip Code Compared to the Average User in the Upper Peninsula



*Number of adults per 100 households.

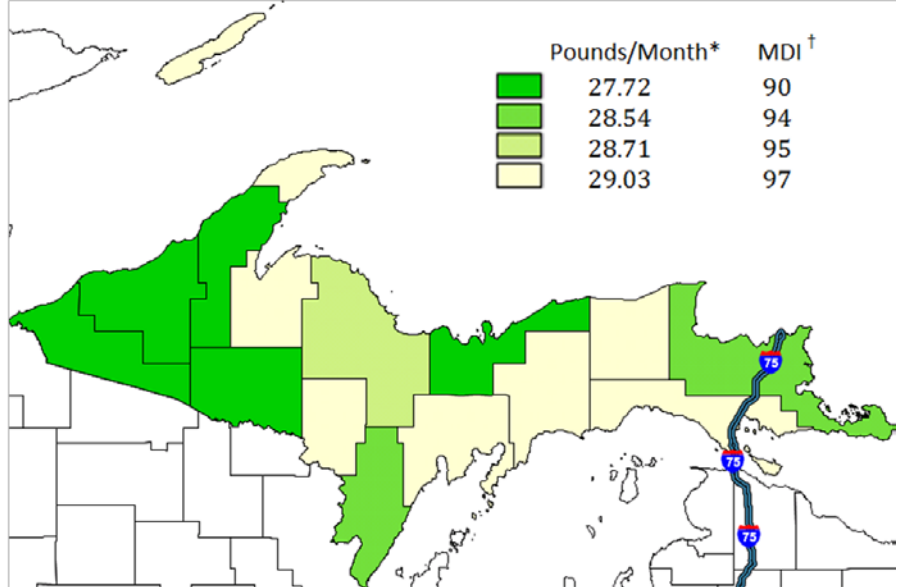
† MPI = Market Potential Index. Likelihood that households in a zip code display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicated they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest.

Maps 10.1 and 10.2 show the likelihood households consume more or less fresh fruits and vegetables per month by county and zip code as compared to the average household in *the Upper Peninsula*. The darker the green, the *less likely* the households are to consume as much fresh fruits and vegetables as the average household in *the Upper Peninsula*.

Market Demand Index (MDI) is calculated based on the average consumption per household in each county or zip code compared to the average consumption in the geography of interest. It indicates the likelihood that households in a county or zip code have a higher or lower demand (or rate of consumption) for a particular product compared to the average for the geography of interest. An MDI of less than 100 indicates households are less likely to consume the product of interest. An MDI greater than 100 indicates households are more likely to consume the product of interest. A MDI of 100 indicates that they are as likely to consume the product of interest as the average household in the geography of interest.

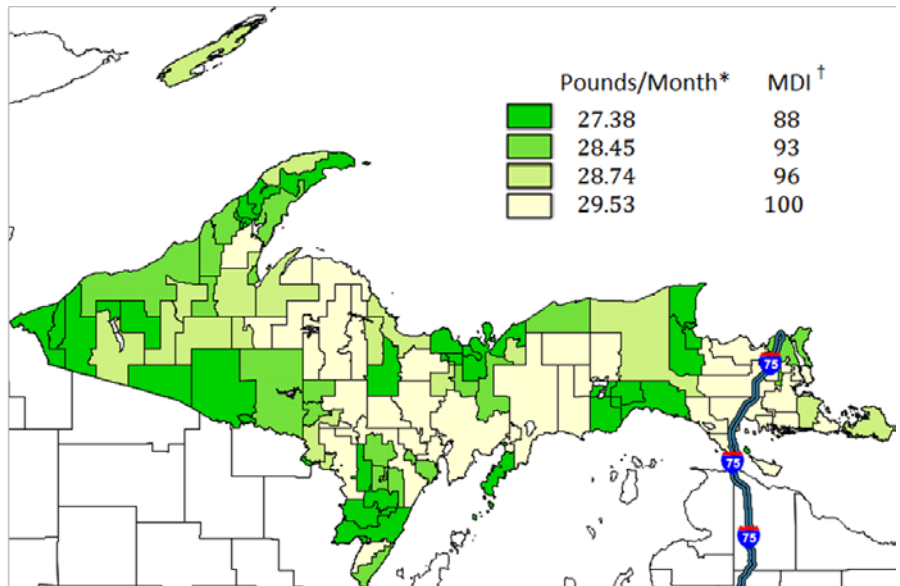
The product of interest in **Maps 10.1 and 10.2** is pounds of fresh fruits and vegetables consumed per month per household and the geography of interest is *the Upper Peninsula*. The zip codes of darkest green are 12% *less likely* (88-100 = -12) to consume fresh fruits and vegetables as compared to the average household in *the Upper Peninsula*.

Map 10.1 Likelihood Households Consume More or Less Fresh Fruit and Vegetables in a One Month Period by County Compared to the Average User in the Upper Peninsula



- Average number of pounds of fresh fruits and vegetables per month per household
- † MDI= Market Demand Index. MDI is calculated based on the average consumption per household in a county compared to the average consumption in the geography of interest. An MDI of less than 100 indicates adults are less likely to consume the product of interest. An MDI greater than 100 indicates households are more likely to consume the product of interest.

Map 10.2 Likelihood Households Consume More or Less Fresh Fruit and Vegetables in a One Month Period by Zip Code Compared to the Average User in the Upper Peninsula



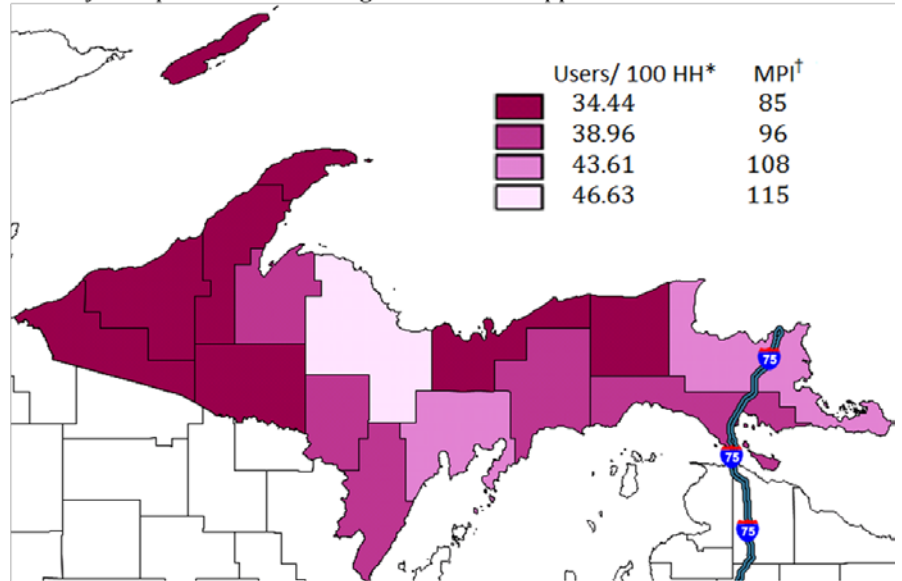
- Average number of pounds of fresh fruits and vegetables per month per household
- † MDI= Market Demand Index. MDI is calculated based on the average consumption per household in a zip code compared to the average consumption in the geography of interest. An MDI of less than 100 indicates adults are less likely to consume the product of interest. An MDI greater than 100 indicates households are more likely to consume the product of interest.

Maps 11.1 and 11.2 show the likelihood adults in exercise 2 or more times per week at home by county and zip code compared to the average user in *the Upper Peninsula*. The darker the purple, the *less likely* they are to report exercising two or more times per week.

Market Potential Index (MPI) is calculated based on the number of users per 100 households in each county or zip code divided by number of users per 100 households in the geographic area of interest times 100. It indicates the likelihood that households in a county or zip code are to display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicates they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest. An MPI of 100 indicates that they are as likely to display the behavior of interest compared to the average household in the geography of interest.

The behavior of interest in **Maps 11.1 and 11.2** is exercising two or more times per week at home and the geography of interest is *the Upper Peninsula*. The darkest purple zip codes are 20% *less likely* ($80-100 = -20$) to exercise two or more times per week at home as compared to the average adult in *the Upper Peninsula* and the light purple zip codes are 18% *more likely* ($118-100=18$) to exercise two or more times per week.

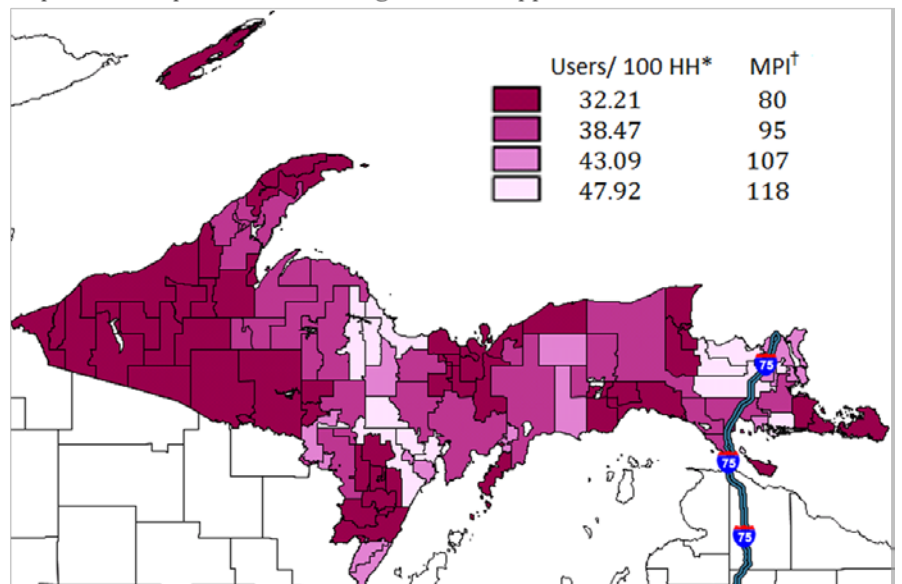
Map 11.1 Likelihood Adults Exercise 2 or More Times per Week at Home by County Compared to the Average Adult in the Upper Peninsula



*Number of adults per 100 households.

† MPI = Market Potential Index. Likelihood that households in a county display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicated they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest.

Map 11.2 Likelihood Adults Exercise 2 or More Times per Week at Home by Zip Code Compared to the Average Adult in Upper Peninsula



*Number of adults per 100 households.

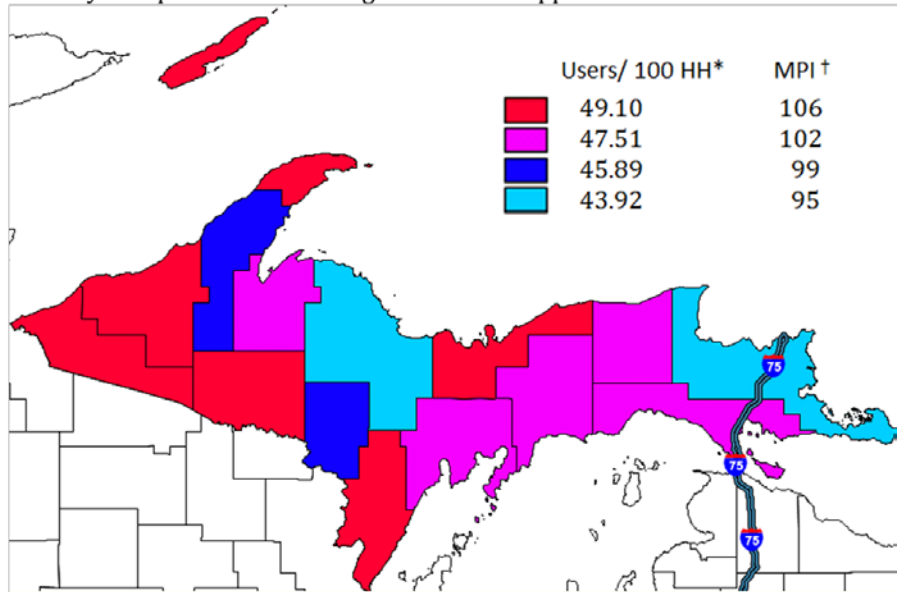
† MPI = Market Potential Index. Likelihood that households in a zip code display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicated they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest.

Maps 12.1 and 12.2 show the likelihood adults watch 45 or more hours of television per week by county and zip code compared to *the Upper Peninsula*. The red areas are *more likely* to report watching 45 or more hours of television per week.

Market Potential Index (MPI) is calculated based on the number of users per 100 households in each county or zip code divided by number of users per 100 households in the geographic area of interest times 100. It indicates the likelihood that households in a county or zip code are to display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicates they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest. An MPI of 100 indicates that they are as likely to display the behavior of interest compared to the average household in the geography of interest.

The behavior of interest in Maps 12.1 and 12.2 is watching 45 or more hours of television per week and the geography of interest is *the Upper Peninsula*. The red zip codes are 7% *more likely* ($107 - 100 = 7$) to watch 45 or more hours of television per week as compared to the average user household in *the Upper Peninsula*, and the light blue areas are 8% *less likely* to watch 45 or more hours of television per week.

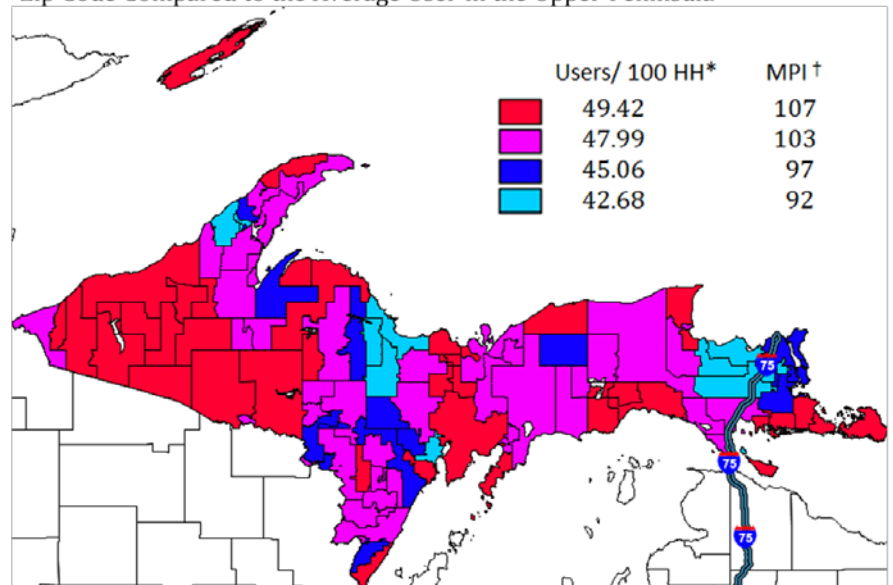
Map 12.1 Likelihood Adults Watch More Than 45 Hours of TV per Week by County Compared to the Average User in the Upper Peninsula



*Number of adults per 100 households.

† MPI = Market Potential Index. Likelihood that households in a county display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicated they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest.

Map 12.2 Likelihood Adults Watch More Than 45 Hours of TV per Week by Zip Code Compared to the Average User in the Upper Peninsula



*Number of adults per 100 households.

† MPI = Market Potential Index. Likelihood that households in a zip code display the behavior of interest compared to the average for the geography of interest. An MPI of less than 100 indicated they are less likely to display the behavior of interest. An MPI greater than 100 indicates they are more likely to display the behavior of interest.

Understanding the Built Environment

Table 2 below provides a list of the number of certain types of businesses located in *the Upper Peninsula*. The North American Industry Classification System (NAICS) codes were used to identify businesses. The following NAICS codes were used:

- 621111 Medical Offices (except Mental Health Specialist)
- 445120 Convenience food stores
- 447110 Gasoline stations with convenience stores
- 445110 Grocery stores
- 813110 Churches
- 722511 - 722515 Restaurants
- 722515 Coffee shops
- 812112 - 812113 Beauty Salons
- 611110 Elementary and Secondary Schools
- 713940 Fitness Centers

Appendix 7 provides a list of each of these types of businesses that are in *the Upper Peninsula*.

Table 2. Number of Select Types of Businesses within the Upper Peninsula

	Number of Businesses
Medical Offices (except Mental Health Specialist)*	264
Federally Qualified Health Centers †	9
Convenience Stores	89
Convenience Stores with Gas Station	133
Grocery Stores	138
Churches	601
Restaurants	657
Coffee Shops	24
Beauty Salons/Barbers	339
Elementary and Secondary Schools	331
Fitness Centers	81
Senior Centers	34

* This includes dermatologists, cardiologist, and other specialty offices in addition to primary care offices. Due to changes in coding, it is not easy to separate the type of medical office based on the NAICS codes. Also medical offices are listed multiple times because each provider can register themselves as a business. Attempts were made to de-duplicate the number based on the street address. However, all listings are provided in Appendix 7.

† Health Resource and Service Administration Data Warehouse
http://datawarehouse.hrsa.gov/Download_HCC_LookALikes.aspx. Accessed March 8, 2013

Large Employers

Table 3 below provides a list of business that have 500 or more employees within *the Upper Peninsula*. Businesses with multiple locations may have registered the number of employees for each location or the number for all locations (e.g., McDonald's might say it has 10,000 employees because all locations combined have 10,000). **Appendix 8** provides a list of all businesses, large employers, and business with multiple locations. The business lists may contain the same business multiple times for several reasons: 1) they have multiple locations 2) different spellings of the same business were registered with the same address 3) the business is registered under more than one NASIC code and 4) it was register with the same name more than once or with a different employee size.

Table 3. Large Employers within the Upper Peninsula

Company Name	Address	City/State	Zip Code
KEWADIN CASINOS	2186 SHUNK RD	Sault Sainte Marie, MI	49783
LSSU TECHNOLOGY	650 W EASTERDAY AVE	Sault Sainte Marie, MI	49783
WAR MEMORIAL HOSP HUMAN RSRCS	500 OSBORN BLVD	Sault Sainte Marie, MI	49783
BAY MILLS RESORT & CASINO	11386 W LAKESHORE DR	Brimley, MI	49715
CHIPPEWA REGIONAL FACILITY	4269 W M 80	Kincheloe, MI	49788
VERSO PAPER	W6791 US HIGHWAY 2	Quinnesec, MI	49876
DICKINSON COUNTY HOSPITAL	1721 S STEPHENSON AVE	Iron Mountain, MI	49801
GREDE FOUNDRIES	801 CARPENTER AVE	Iron Mountain, MI	49801
BRIGGS & STRATTON CORP	1401 ELI AVE	Bessemer, MI	49911
MARQUETTE GENERAL HEALTH SYST	580 W COLLEGE AVE	Marquette, MI	49855
NORTHERN MICHIGAN UNIVERSITY	1401 PRESQUE ISLE AVE	Marquette, MI	49855
CLIFFS NATURAL RESOURCES INC	EMPIRE MINE RD	Palmer, MI	49871
CLIFFS MICHIGAN MINING CO	101 TILDEN MINE RD	Ishpeming, MI	49849
CLEVELAND CLIFFS MI OPERATIONS	101 TILDEN MINE RD	Ishpeming, MI	49849
GRAND HOTEL	286 GRAND AVE	Mackinac Island, MI	49757
OLSON'S GAS REFRIGERATION INC	4881 COUNTY 416 20TH RD	Escanaba, MI	49829
OSF HEALTHCARE SYSTEM	3401 LUDINGTON ST	Escanaba, MI	49829
ESCANABA PAPER CO	71 COUNTY ROAD 426	Escanaba, MI	49829
ISLAND RESORT & CASINO	399 W HIGHWAY 2 & 41	Harris, MI	49845
ISLAND RESORT & CHIP IN CASINO	W399 HIGHWAY 2 41	Harris, MI	49845

Appendix 1: Project and Technical Notes:

Behavioral Risk Factor Surveillance System (BRFSS) is a primary source of diabetes data at the county and state level for local health departments and other agencies. Through a grant award, from NACDD the Directors of Health Promotion and Education (DHPE) are able to offer data and analysis at smaller units of geography through a database maintained by the Nielsen Company.

Technical Background

Nielsen is a global marketing and advertising research company that offers software to businesses and government agencies through two software programs: ConsumerPoint and PrimeLocation. Nielsen is one of the world's leading suppliers of marketing information, media information and TV ratings, online intelligence, and mobile measurement.

Nielsen PRIZM Segments

Community populations are categorized into 66 segments based on socioeconomic rank, life stage, and urbanization. The 66 segments each have unique demographic descriptions based on income, age class, age range, presence of kids in the household, home ownership, employment, education, and race and ethnicity. Each segment also has specific lifestyle preferences that are typical for the segment such as media preferences, shopping preferences, and typical behaviors. More information may be accessed at the following site:

<http://www.claritas.com/MyBestSegments/Default.jsp?ID=30&SubID=&pageName=Segment%2BLook-up>

Appendix 2: Enhanced Demographics

Due to the length of this appendix it is in a separate accompanying document. This appendix contains detailed demographics and socioeconomic characteristics beyond those provided in **Table 1**.

Appendix 3: Target Concentration Reports

There are approximately 130,500 households in the Upper Peninsula. Of these, approximately 83,961 households (or 64%) have one or more members who are at high risk of developing prediabetes.

Due to the length of this appendix, it is in a separate accompanying document. The information in this appendix was used create Maps 2.1 and 2.2.

Appendix 4: Media Profiles

Media profiles were conducted for the target area of interest using PRIZM household segments that have characteristics associated with a higher risk of developing prediabetes and diabetes as the target population. For this report, the geography of interest in the Upper Peninsula.

Due to the length of this appendix, it is in a separate accompanying document. The information in this appendix was used create the marketing descriptions provided in the Marketing section of this report.

Appendix 5: Select Demographics by Zip Code

Due to the length of this appendix it is in a separate accompanying document. This information in this appendix was used in the creation of Maps 3.1 through 8.3.

Appendix 6.1 Behaviors Associated with Higher Risk of Diabetes by County

Due to the length of this appendix, it is in a separate accompanying document. The information in this appendix was used create Maps 9.1 through 12.1.

Appendix 6.2 Behaviors Associated with Higher Risk of Diabetes by Zip Code

Due to the length of this appendix, it is in a separate accompanying document. The information in this appendix was used create Maps 9.2 through 12.2

Appendix 7. List of Select Businesses

Due to the length of this appendix it is in a separate accompanying document. The information in this appendix was used to estimate the number of business in **Table 2**.

Appendix 8. Large and Multi Site Businesses

Due to the length of this appendix it is in a separate accompanying document. The information in this appendix was used to develop the large employer list in **Table 3**.