PARKVIEW HEALTH

2016 Community Health Needs Assessment

INDIANA PARTNERSHIP FOR
HEALTHY COMMUNITIES

CONTRIBUTORS

INDIANA PARTNERSHIP FOR HEALTHY COMMUNITIES

The Indiana Partnership for Healthy Communities (IN-PHC) is a partnership between the Indiana University Richard M. Fairbanks School of Public Health (FSPH) and the Polis Center at IUPUI (Polis). Formed with support from the Indiana Clinical and Translational Sciences Institute (I-CTSI), its mission is to help build the capacity of hospitals, local health departments, and community-based organizations to improve the health of Indiana communities, by translating knowledge generated by the academy and by communities into improved and sustainable processes for understanding and effecting community health.

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Focused on research and service in public health and healthcare systems, FSPH conducts high quality program evaluation and applied research on methods for understanding and addressing community health issues.

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1 EXECUTIVE SUMMARY

To assist Parkview Health in completing its 2016 community health needs assessment (CHNA), the Indiana Partnership for Healthy Communities (IN-PHC) designed and conducted both primary and secondary data collection and analysis activities for each of the seven counties in northeast Indiana that compose Parkview's primary service area, including: Allen, Huntington, Kosciusko, LaGrange, Noble, Wabash, and Whitley. This report pertains to all seven counties together.

The IN-PHC team assessed the health needs of the region as a whole, as well as the individual counties and populations to assist Parkview's hospitals in the development of community health improvement strategies that leverage system resources for shared health concerns while also considering localized needs. A preliminary list of health needs was identified using secondary data from the Healthy Communities Institute database as well as other state and national data sources. This list of health needs was augmented with local input collected via a community phone survey and a local provider survey.

Because the Parkview service area includes geographic concentrations of potentially vulnerable populations, including the Amish, Hispanic/Latino and African American populations, the assessment team reached out to these populations via targeted focus groups to better understand their health concerns.

Thirteen health concerns were identified for the region. The assessment team objectively prioritized these using the Hanlon Method recommended by the National Association of County and City Health Officials. This method rates health concerns based on: 1) size of the health problem, 2) seriousness of the health problem, and 3) effectiveness of potential interventions.

Among the top five health concerns identified for the region are tobacco use, obesity, diabetes, maternal/infant and child health (tied for fourth) and drug/alcohol abuse. Cardiovascular disease, cancer and sexually transmitted diseases are among the top eight. The specific order of priority differs between counties due to differences in affected populations and community concerns. For example, drug and alcohol abuse ranks higher for Kosciusko, Wabash and LaGrange Counties as compared to Noble and Allen Counties.

As the next step in selecting health priorities for its community health improvement planning efforts, the assessment team recommends that Parkview screen the identified health concerns based on feasibility of available public health interventions. Feasibility includes the suitability and community acceptability, availability of resources, cost-benefits ratio, and legality of potential interventions.

2 THE COMMUNITY

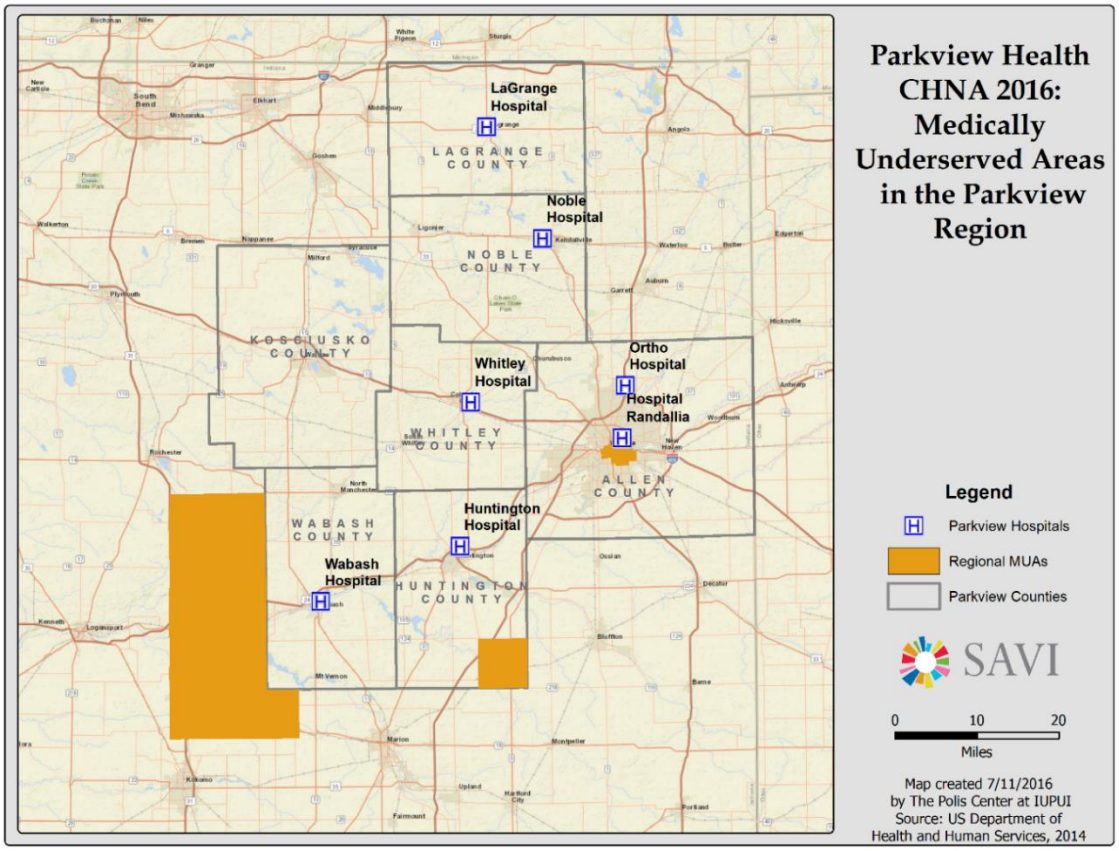
2.1 GEOGRAPHIC DESCRIPTION OF SERVICE AREA

The Parkview Health system includes Allen, Huntington, Kosciusko, LaGrange, Noble, Wabash, and Whitley Counties in northeast Indiana, as well as portions of northwest Ohio and southwest Michigan. Parkview hospitals are located in six of these seven counties.

2.2 COMMUNITY SERVED BY PARKVIEW

As shown in Figure 1, a portion of Fort Wayne in Allen County, and the entirety of Salamonie Township in Huntington County are designated as Medically Underserved Areas by the United States Health Resources and Services Administration (HRSA). A combination of factors are considered when determining the status of medically underserved areas, including too few primary care providers, high infant mortality rates, high rates of poverty, and a large concentration of older adults. Keeping these areas in mind, a variety of improvement strategies should be considered to address the various needs of the regional and county-specific populations.

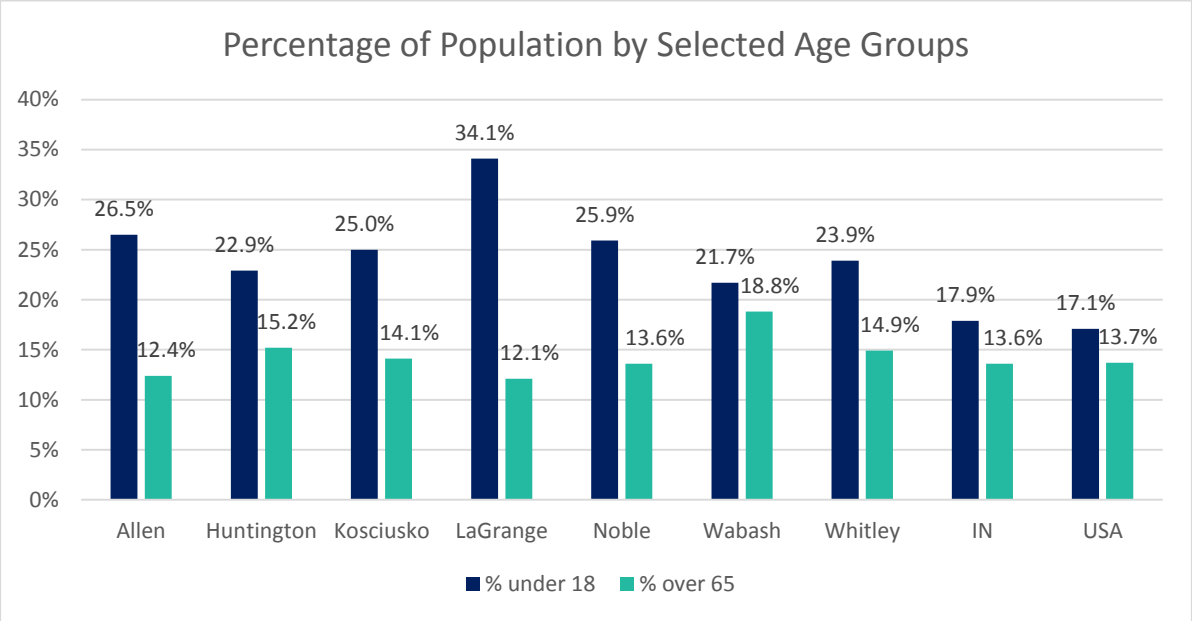
Figure 1: Medically Underserved Areas in Parkview Region



2.2.1 Age

Because different age groups require different levels and types of care, strategies for improving Parkview's delivery of services should incorporate the needs of each generation. As Figure 2 demonstrates, the proportion of the population under age 18 and over age 65 varies from county to county. The percentage of the population under age 18 ranges from a low of 21.7% in Wabash County to a high of 34.1% in LaGrange County, while the percentage of the population over 65 ranges from a low of 12.1% in LaGrange County to a high of 18.8% in Wabash County (Figure 2).

Figure 2: Percentage of Population by Selected Age Groups



The median age ranges from 30.9 years in LaGrange County to 42.3 years in Wabash County (Table 1). The median age in LaGrange County is notably lower than the other counties as well as the state and nation, while the median ages in Wabash and Whitley Counties are notably higher (Table 1).

Table 1: Population, 2014

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley	IN	USA
Population	360,990	36,959	77,790	37,759	47,497	32,492	33,307	6,542,411	314,107,084
Median Age	35.6	39.9	38.0	30.9	37.6	42.3	40.6	37.2	37.4

Source: US Census Bureau (2010-2014 5-Year Estimates)

2.2.2 Race and Ethnicity

Many racial and ethnic groups often experience disparities in health and healthcare. They may also face unique challenges in accessing healthcare due to linguistic, social or cultural differences. Culturally inclusive interventions are important to consider when selecting those that will be most effective among various racial/ethnic populations.

Noble County has the largest percentage of Hispanic/Latino population while Whitley County has the smallest (Table 2). Blacks and African Americans make up 11.8% of the population in Allen County but less than 1% in each of the other six counties. Six of the seven counties have proportionally fewer Blacks and African Americans than the state and nation. People of other races and ethnicities are most numerous in Allen County (5.8%). Wabash and Whitley Counties are predominantly White; just 3.5% of their populations are nonwhite.

Table 2: Percent of Population by Race and Ethnicity, 2014

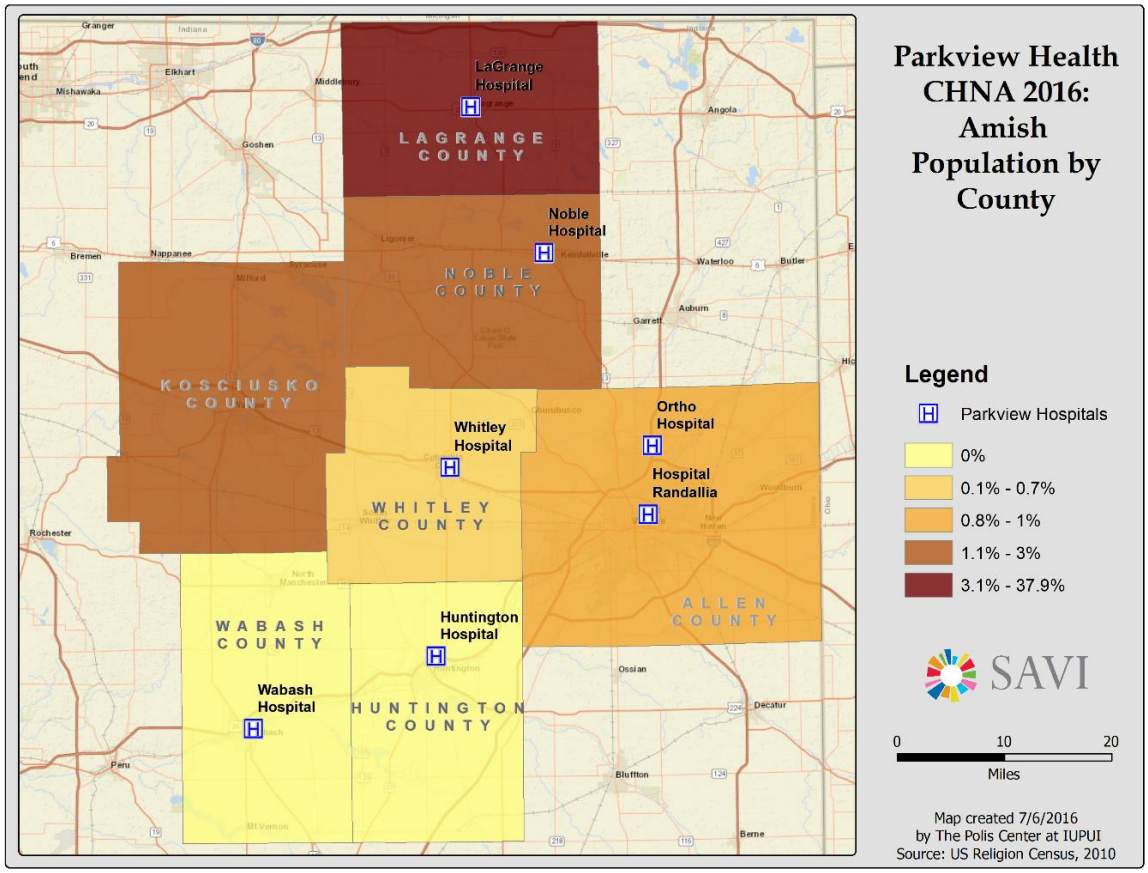
	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley	IN	USA
White	75.6%	95.8%	89.2%	93.5%	88.6%	96.5%	96.5%	80.8%	62.8%
Black/ African American	11.8%	0.7%	0.8%	0.3%	0.4%	0.5%	0.3%	9.1%	12.6%
Hispanic/ Latino	6.8%	1.9%	7.7%	3.5%	9.6%	2.1%	1.5%	6.3%	16.9%
Other Race or Ethnicity	5.8%	1.6%	2.3%	2.7%	1.4%	0.9%	1.7%	3.8%	7.7%

Source: US Census Bureau (2010-2014 5-Year Estimates)

Northeast Indiana is home to a large Amish population (Note: Amish populations are reflected in the total county populations reported by the U.S. Census Bureau). According to the 2010 U.S. Religion Census, more than 14,000 Amish live in LaGrange County, accounting for 37.1% of its total population, making it the second largest county (by population) for the Amish in the United States.

The Amish face a range of health concerns that the "English" do not. Their specific health needs and practices should also be considered when concentrating healthcare efforts in areas with large Amish population. The map included as Figure 3 shows the Amish population by county in the seven-county region in northeast Indiana.

Figure 3: Amish Population by County in Parkview Service Area



2.2.3 Socioeconomic Status

Socioeconomic status – tracked by a variety of indicators including income, education, and employment – is a strong predictor of many health outcomes. The proportion of the population of low socioeconomic status is a gauge of the degree of vulnerability to poor health in a community.

The median household income in the region ranges from a low of $45,657 in Wabash County to a high of $54,023 in Whitley County (Table 3). Unemployment ranges from 6.4% in Whitley County to 10% in Noble County. The percentage of the population below the poverty line ranges from 8.9% in Whitley County to 15.5% in Allen County. Each of these indicators builds understanding on differences across Parkview counties in terms of people's access to basic needs that helps them maintain good health or access healthcare when needed.

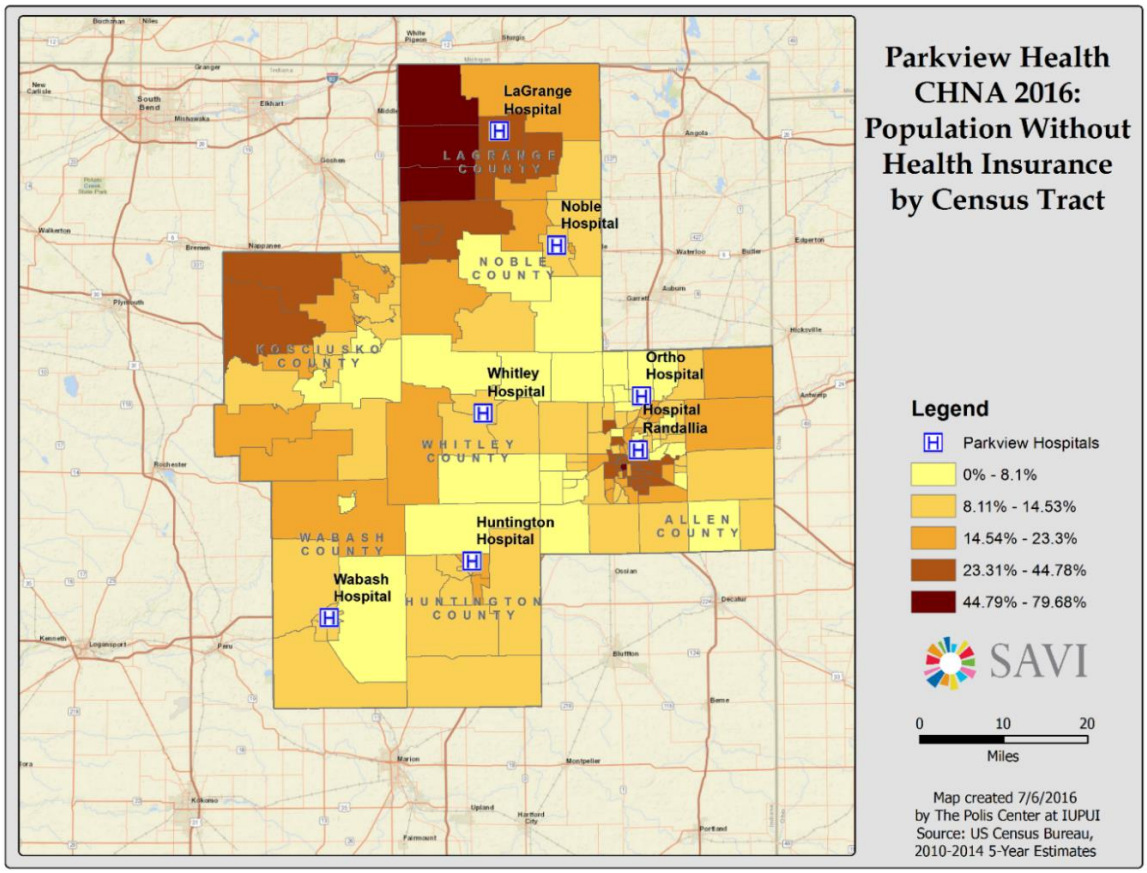
Table 3: Selected Economic Data, 2014

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley	IN	USA
Median household income	$49,124	$47,356	$52,706	$49,112	$49,102	$45,657	$54,023	$48,737	$53,482
Poverty (%)	15.5%	11.6%	12.4%	15.3%	12.8%	14.9%	8.9%	15.5%	15.6%
Unemployment (%)	9.0%	8.7%	7.7%	7.1%	10.0%	7.4%	6.4%	5.7%	5.8%
Population without health insurance (%)	14.5%	11.8%	15.6%	44.5%	14.8%	10.3%	9.1%	13.8%	14.2%

Source: US Census Bureau (2010-2014 5-Year Estimates)

The percentage of the population without health insurance ranges from county-wide total of 9.1% in Whitley County to 44.5% in LaGrange County. Again, it should be noted that the Amish population is counted as a part of the total population by the US Census Bureau. Because many Amish do not have health insurance and the relatively high percentage of Amish in the population, the numbers below may appear very large relative to the state and nation. The map in Figure 4 presents this information at the Census tract level to further reveal concentrations of those without health insurance.

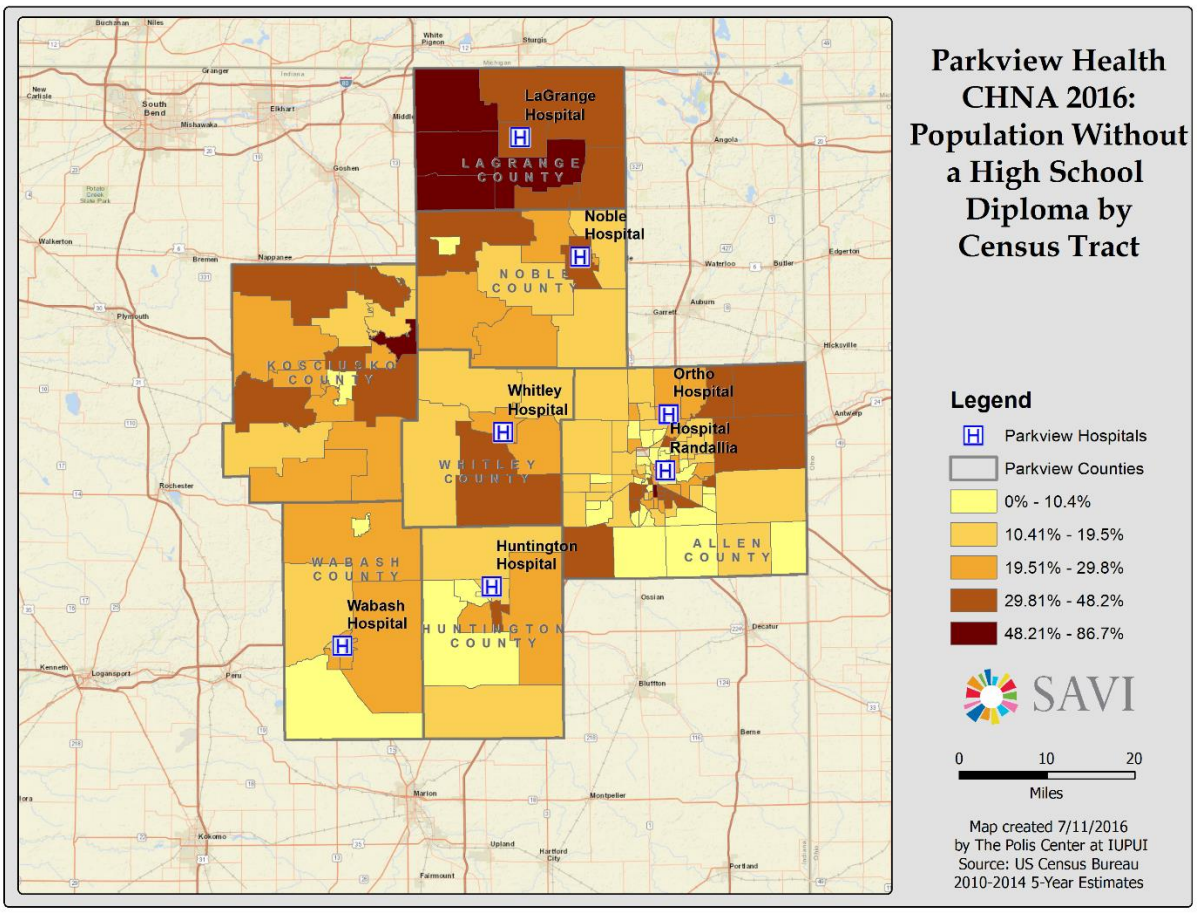
Figure 4: Uninsured Population in Parkview Service are by Census Tract



Educational attainment is a potential social determinant of health because of its direct impact on the economic characteristics of a population. Education often leads to higher paying jobs and more economic stability, including easier access to health insurance and healthcare. Identifying populations with limited education may help to identify areas of special health service needs.

Figure 5 shows the percentage of the population without a high school diploma (or equivalent) by Census tract. LaGrange County has the highest proportion of the population without a high school diploma, which is influenced in part by the large Amish population. The Amish do not usually attain high school educations and instead pursue other economic endeavors in their communities. Some portions of Allen, Kosciusko, and Whitley Counties also have a relatively higher proportions of the population without a high school diploma.

Figure 5: Population without a High School Diploma by Census Tract



3 DATA SOURCES USED TO CONDUCT THE CHNA

The identification of health needs for the seven Parkview counties was carried out using two types of data: 1) Secondary data from the Healthy Communities Institute (HCI) database and other local and national agencies; and 2) primary data obtained through a phone survey of community residents in the seven-county service area and through an online survey of healthcare providers working in the area. To supplement these data and identify population-specific health needs, focus groups of potentially vulnerable populations were also conducted.

3.1 SECONDARY DATA

The Parkview Health CHNA Dashboard[1], developed by Healthy Communities Institute, was used to access secondary data. Additional state and national secondary data sources were accessed for more recent and geographically-specific information, including the following:

- **Centers for Disease Control and Prevention National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (CDC-NCHHSTP) Atlas:** A federal source of data regarding sexually transmitted infections and diseases.
- **County Health Rankings:** A Robert Wood Johnson Foundation program implemented by the University of Wisconsin Population Health Institute that releases new estimates annually measuring health across all US counties. These data are compiled from a variety of providers and typically combines data across multiple years to release estimates for areas with small populations, such as rural counties.
- **Health Indicators Warehouse:** Developed by the National Center for Health Statistics, the Health Indicators Warehouse compiles data from a variety of governmental and non-governmental sources to provide standardized health indicators and associated interventions in a single location.
- **Indiana State Department of Health (ISDH):** The ISDH's annual natality report includes information on live births in Indiana, as well as a mortality report compiling information on the deaths of Indiana residents.
- **Indiana University Center for Health Policy:** A collaborative and multidisciplinary research center addressing healthcare issues regarding healthcare for vulnerable populations, healthcare reform, HIV/AIDS, mental illness, obesity, and substance abuse prevention and treatment.
- **US Census Bureau:** A leading source of data on the people and economy of the United States.

3.2 COMMUNITY INPUT (PRIMARY DATA)

This assessment uses three sources of primary data: 1) A phone survey of the community conducted on behalf of Parkview and the IN-PHC by The Eagleton Center for Public Interest Polling (a center of Rutgers University) completed in March of 2016; 2) an online survey developed by the IN-PHC and distributed by Parkview to area providers completed in June of 2016; and 3) focus groups with specific vulnerable

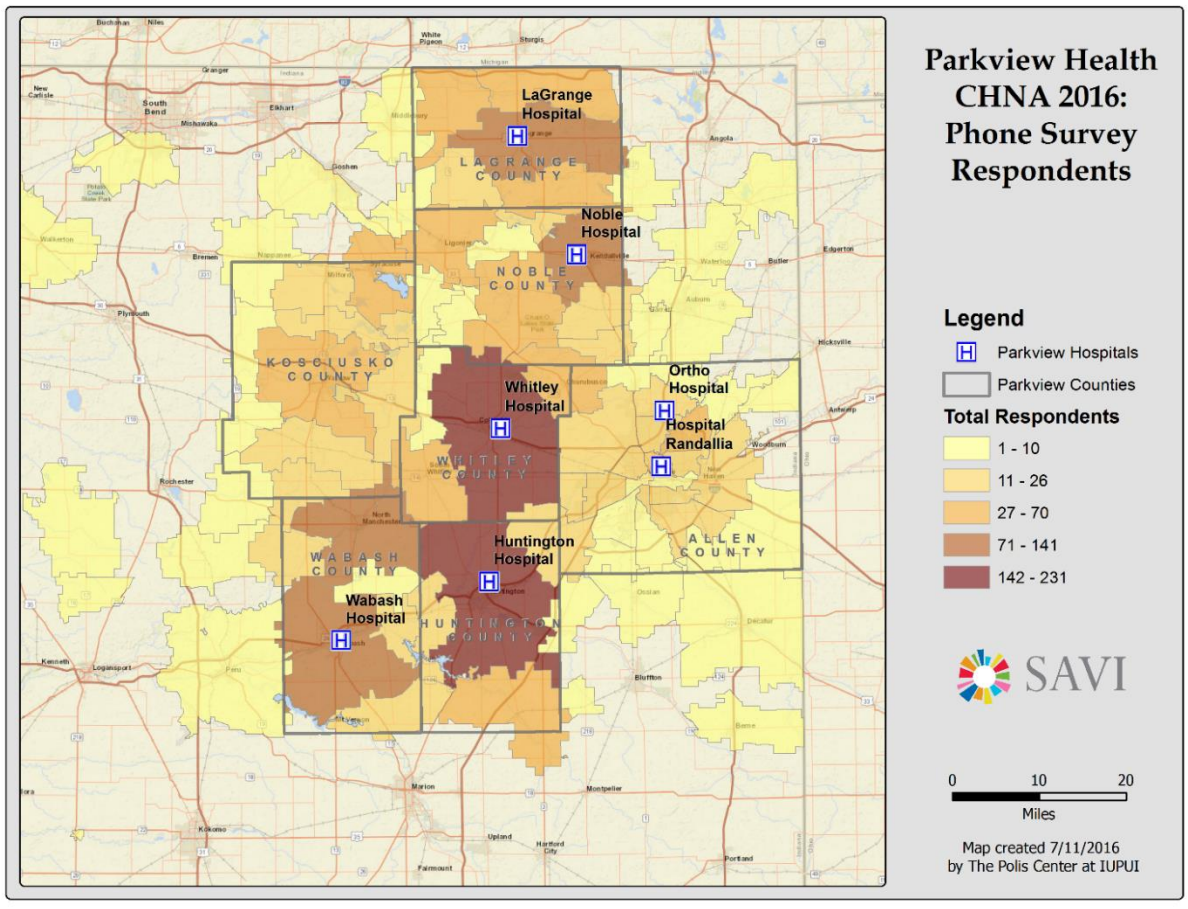
[1] www.parkview.com/en/community/Community-Health-Improvement

populations that were organized by Parkview and conducted by the IN-PHC. For the Amish community in LaGrange County, a survey was distributed through community leaders instead of the focus group.

3.2.1 Community Survey

To maximize survey participation, the phone survey was designed to contain a manageable number of questions so that it could be completed within a short amount of time. Questions regarding the health and healthcare needs of the community were modeled after the Center for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (CDC-BRFSS) survey, as these questions have been validated through a long record of use and are comparable to state or national data. The survey also sought residents' perspectives regarding what they considered to be the top health concern in their community now, as well as their current level of concern about issues identified in previous health needs assessments (e.g. obesity). In addition, the survey asked about emerging problems that may not have been preeminent in previous health needs assessments (e.g. drug addiction). Finally, participants were asked a series of questions to gauge the awareness and reach of existing Parkview Health Service programs among community residents. Sample quotas of 300 adults per county for the seven-county area were achieved for a total of 2,101 respondents participating in the survey (Figure 6).

Figure 6: Geographic Distribution of Phone Survey Respondents

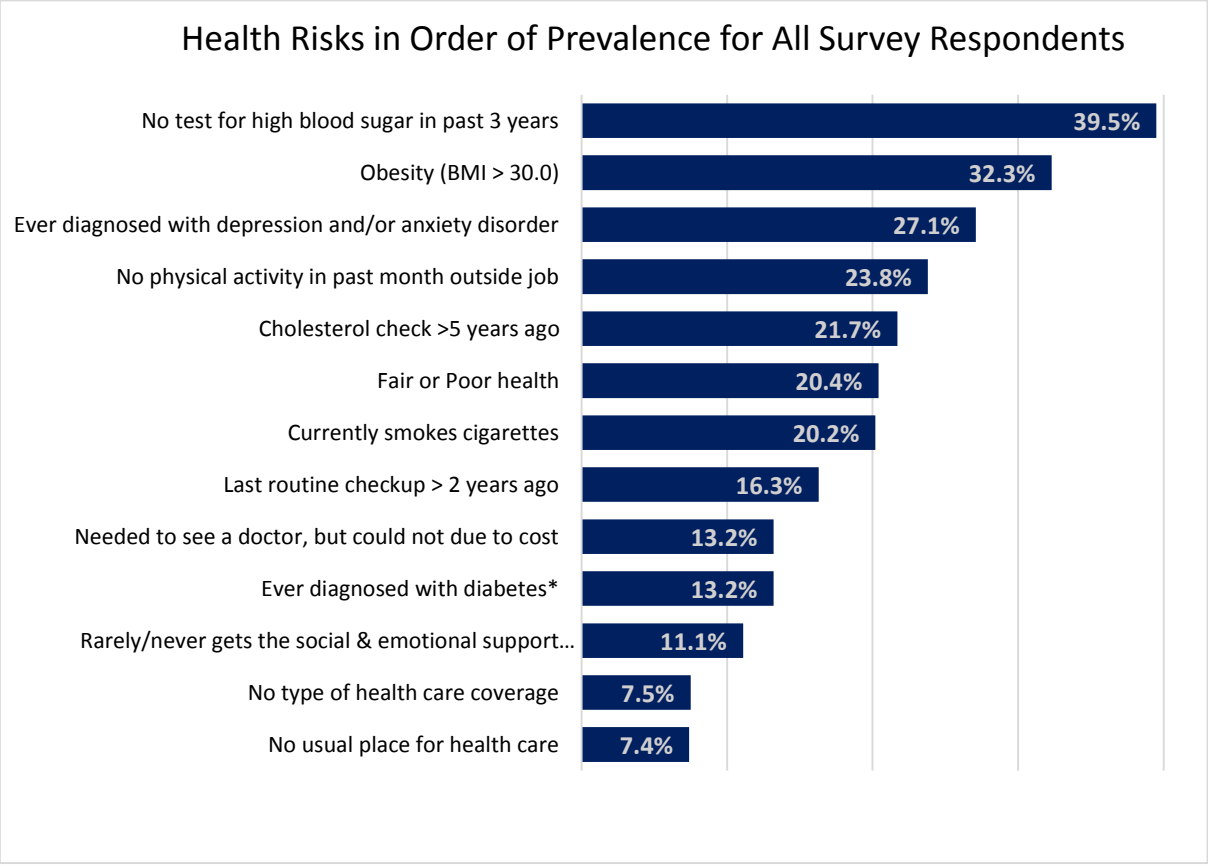


The Eagleton Center provided algorithmically determined weights to control for differences in the demographic makeup of survey participants compared to the total population of each county. Weighting is a process that corrects for the differences between the sample and population so that results may speak for the population at large. For the purposes of this report, weighted percentages for this survey are used unless otherwise indicated. While reading these results, it is important to remember that the answers of 2,101 respondents have been transformed (post-stratified) to reflect the entire population of the seven counties. The weights have altered the contributions of each respondent to most accurately reflect the actual distribution of the population.

Health Status of Community Survey Respondents

Across 13 health items in the community phone survey, shown in Figure 7 is the proportion of the respondents (weighted) whose response reflects a health risk, in descending order. The persistence of community health problems identified in the previous CHNA is apparent in that approximately one-third of the residents are obese and nearly one-fourth reported no physical activity outside their job in the past month. Access to care may have improved, with only a little over 7% reporting they have no type of insurance or a usual place for healthcare. Of note, this uninsured rate is much lower than U.S. Census Bureau estimates. However, new issues were identified as well: More than one in four residents have been diagnosed with depression or anxiety disorder in their lifetime, and one in five would rate their health as fair or poor.

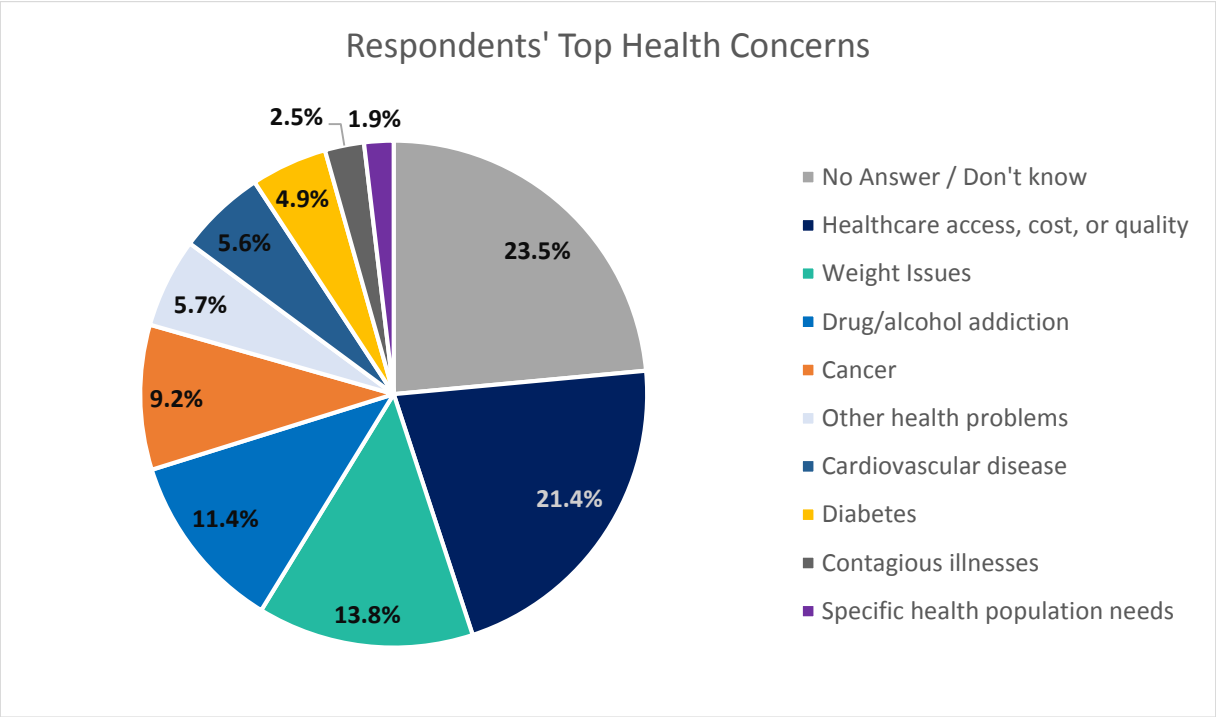
Figure 7: Health Risks of Community Phone Survey Respondents



Perceived Health Needs of Community Phone Survey Respondents

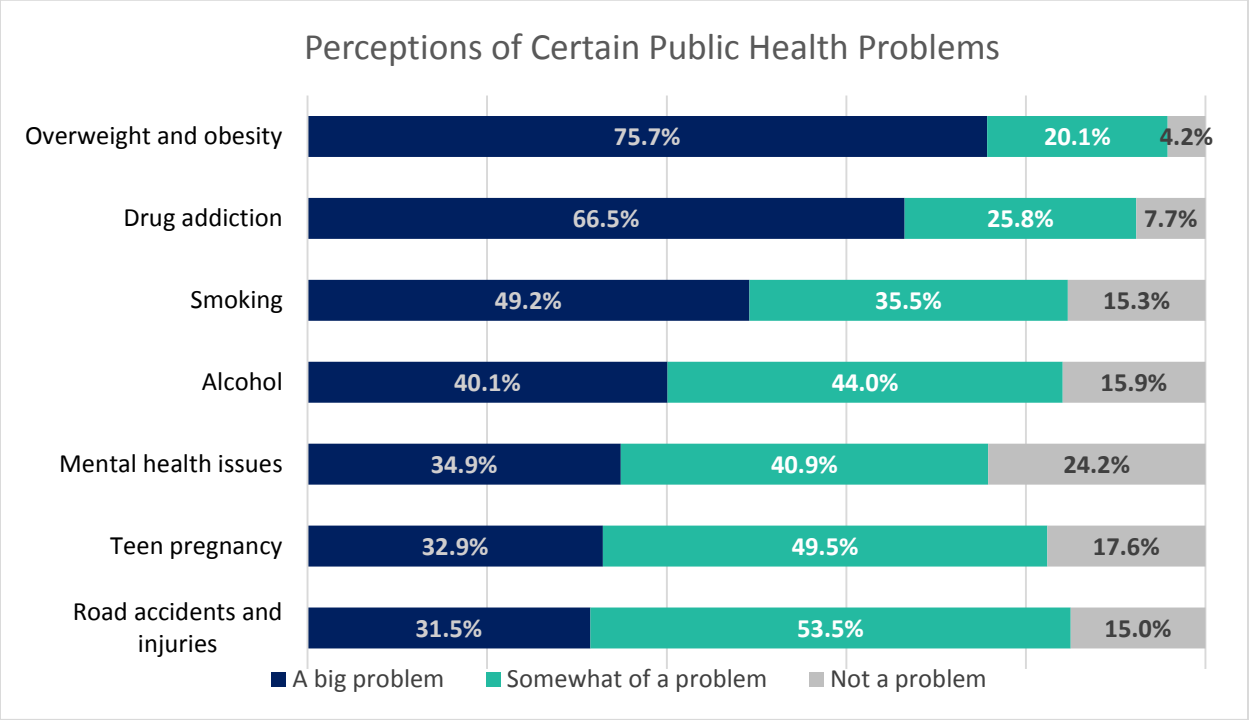
Respondents were asked an open ended question (i.e. they were not given a list to choose from but instead were asked to provide feedback which was recorded verbatim) regarding what they perceived as the key health concern in their community. The question was designed to try to capture any emerging issues that might have been missed if respondents could only select from a list. While a little less than a quarter of respondents did not answer, one-fifth of the respondents indicated healthcare access, cost and quality as a top health concern (Figure 8). Obesity/weight issues, drug and alcohol addiction, and cancer were also prevailing answers. Note, these results are not weighted, but are tabulated from each answer that was recorded.

Figure 8: Top Health Concerns of Community Phone Survey Respondents:



After being given the opportunity to identify the top health concern in their community without specific prompting, participants were then asked a series of questions regarding their perspective on whether certain health problems are currently A Big Problem, Somewhat of a Problem, or Not a Problem in their community. After weighting, a clear majority of residents believe obesity is A Big Problem, in keeping with findings of the previous CHNA. Nearly two-thirds of residents also described drug addiction as A Big Problem, qualifying it as a significant emerging concern (Figure 9).

Figure 9: Perception of Certain Public Health Problems



Further analysis of the community survey to illustrate the socioeconomic disparities within the Parkview community was conducted subsequently. Results are included in Appendix C.

3.2.2 Provider Survey

The assessment team also conducted and analyzed the results of an online survey of health professionals and those in public health support roles (e.g. nonprofit providers) in the seven county area in order to better assess the broader scope of public health needs and concerns. The survey was administered using SurveyMonkey, an online survey service.

A total of 187 providers responded to the survey. The survey covered aspects of the provider's work, including the setting in which they practiced and for how long they have practiced, as well as what they perceived as the chief public health concerns, barriers to care, and available resources in their communities.

The majority of respondents primarily practiced in Allen County (47.3%) while Noble and Huntington Counties had the fewest area providers answer at just over 7% of the total sample each (Figure 10). Most respondents had been in practice or service for more than 20 years (40%) (Figure 11).

Figure 10: County of Primary Practice or Service of Provider Survey Respondents (n=187)

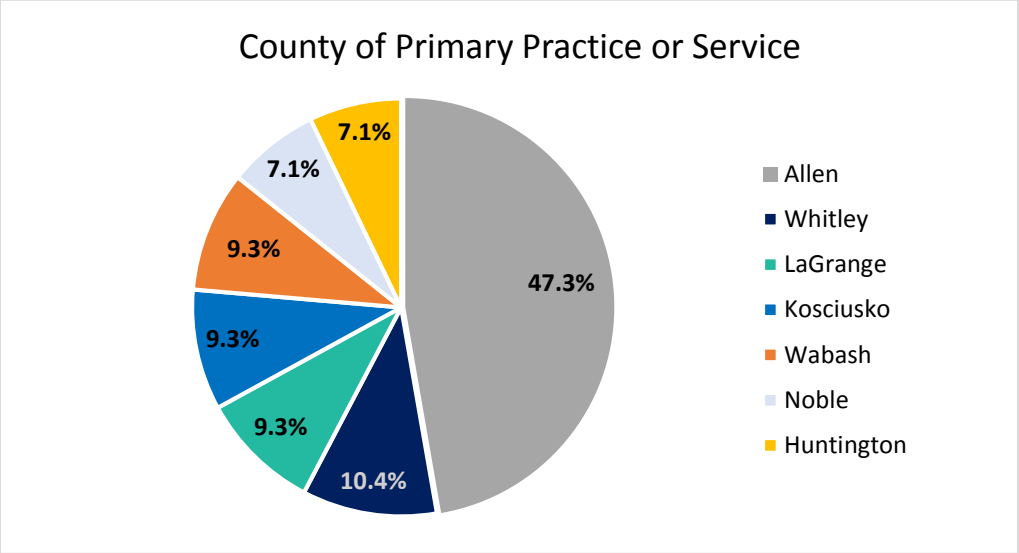
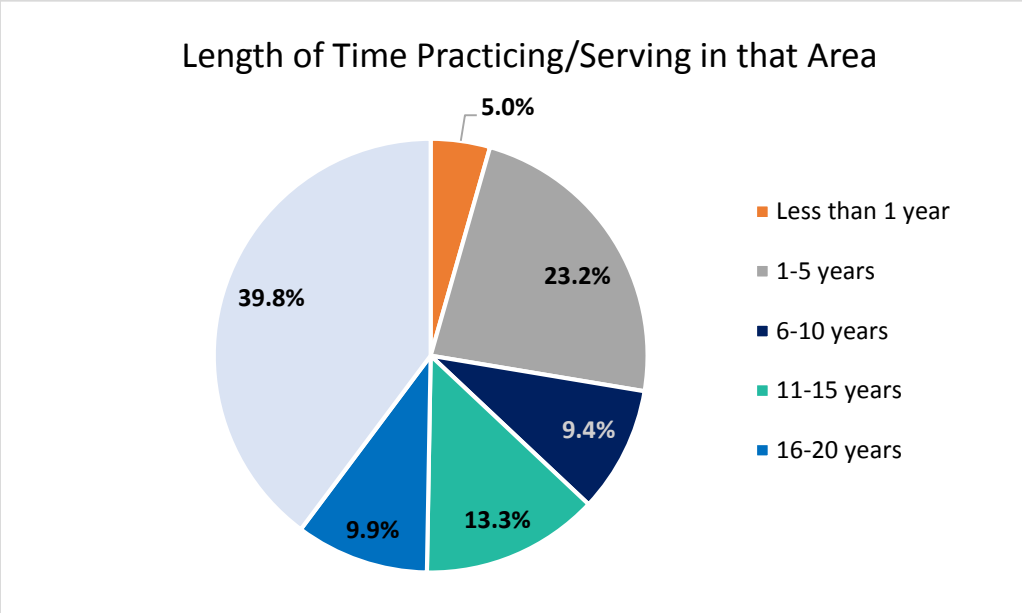
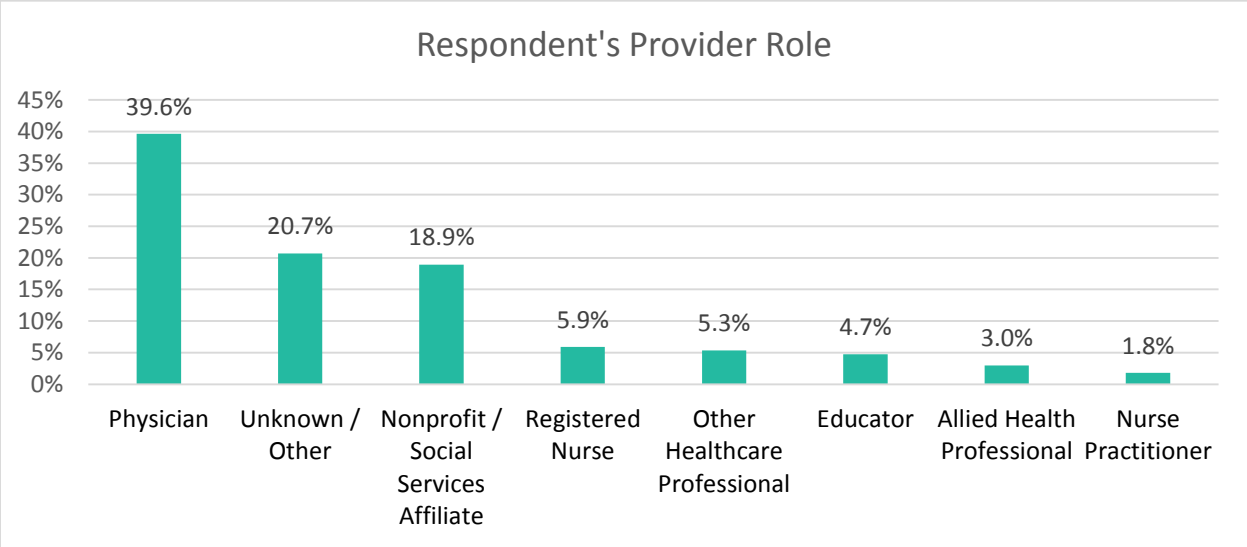


Figure 11: Length of Time Practicing/Serving in that Area



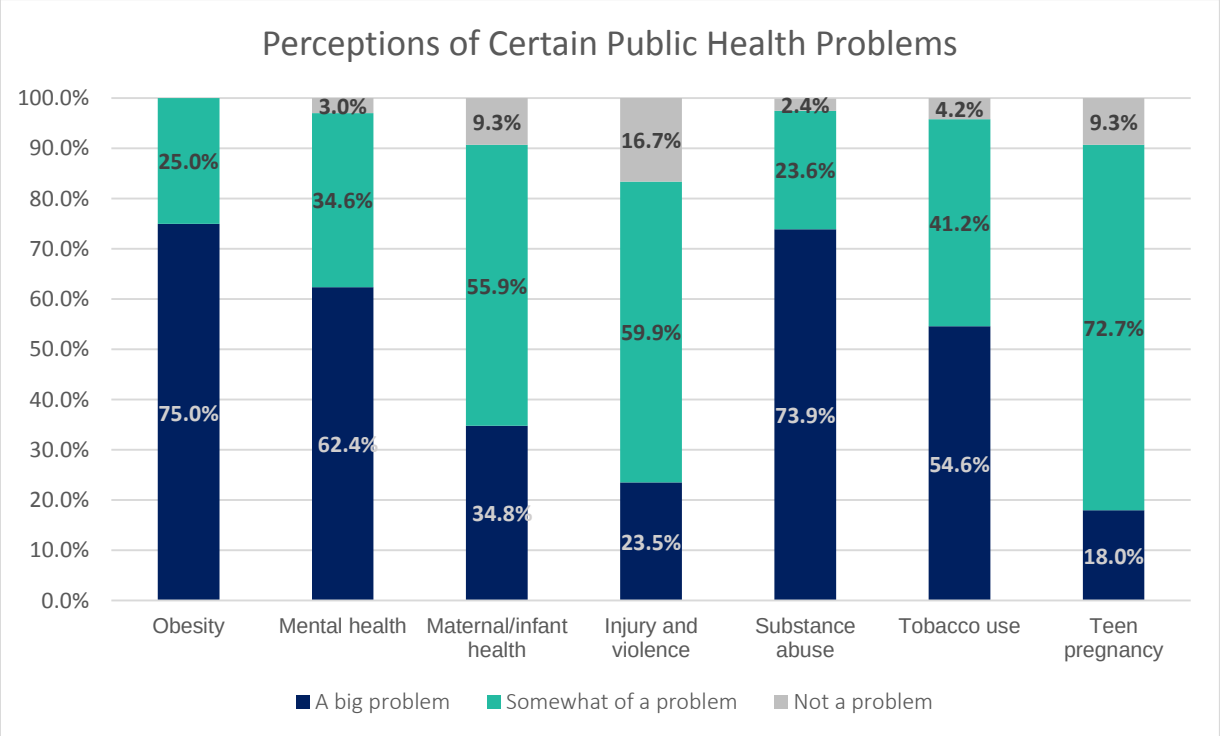
About two out of every five respondents identified themselves as physicians, while another one in five worked in the nonprofit sector (Figure 12).

Figure 12: Role of Provider Survey Respondents



More than half of all provider-respondents believed obesity, mental health, substance abuse and tobacco use were A Big Problem in their communities (Figure 13).

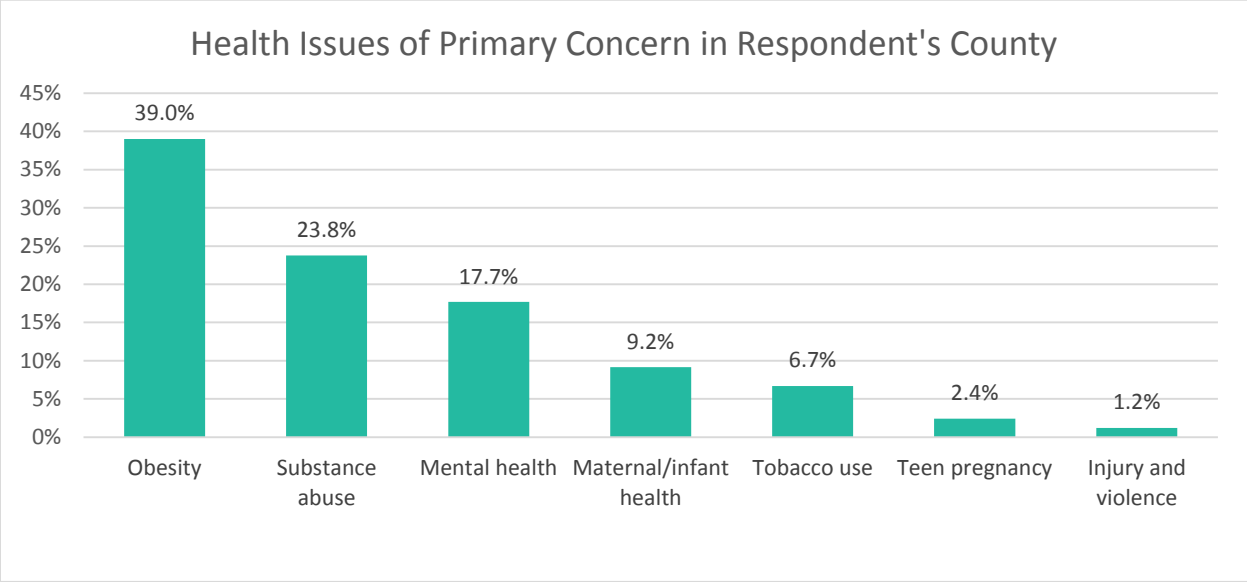
Figure 13: Community Health Problems Perceived by Provider Survey Respondents



When asked to identify the public health problem of primary concern in the community where they practiced, providers' top three responses were obesity, substance abuse, and mental health (Figure 14).

It should be noted that the survey had a pre-defined list of top concerns to choose from. The community survey allowed the respondent to provide any response, which was recorded verbatim. Direct comparison between the community and provider surveys is not possible.

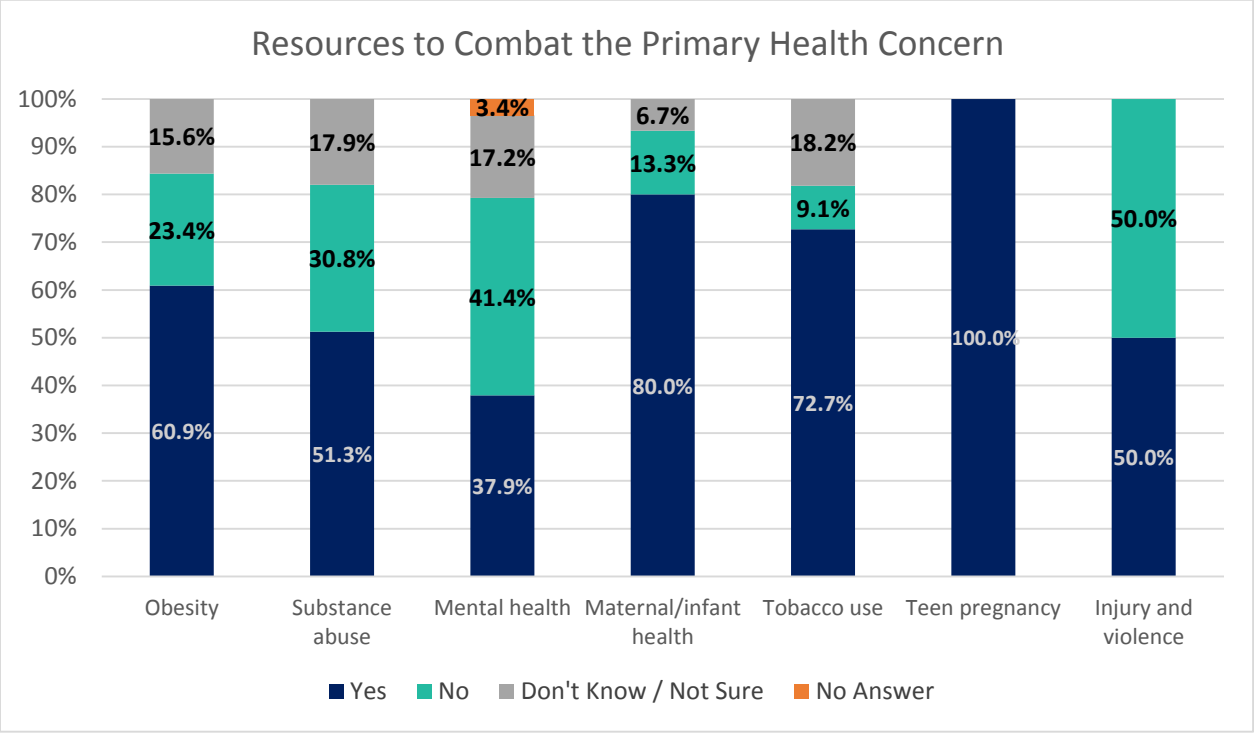
Figure 14: Health Issues of Primary Concern in Respondent's County:



Providers were asked if they were aware of resources in their communities to address or prevent the primary health concern.

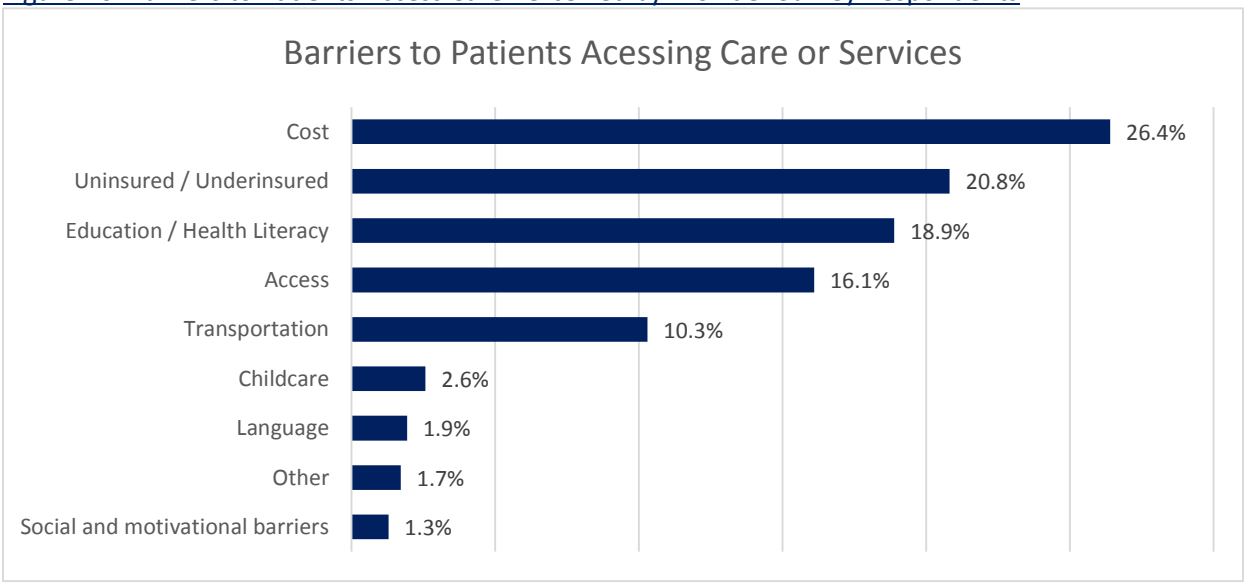
- Of those who mentioned obesity as the top concern, 39% said there were no resources in the community to help address the problem, or they did not know of any (Figure 15).
- More than half who considered mental health to be the top concern did not know or believed they had no resources in their community to address that problem.
- Nearly half of those who reported substance abuse as the top concern did not know of or believe there were resources in the community to address that problem.

Figure 15: Resources Perceived by Provider Survey- Respondents



When asked about barriers to patients accessing care or healthcare services in their communities, providers indicated that cost was the primary obstacle their clients faced (Figure 16). A lack of insurance or underinsurance was the second most prevalent. Access, education and health literacy, and transportation were also common. Cost was the top concern that emerged in the open-ended response from the community survey (see Figure 8 above), indicating that the cost of basic healthcare is a problem worthy of attention in this region.

Figure 16: Barriers to Patients Access Care Perceived by Provider Survey Respondents



3.2.3 Focus Groups

To gain insight into the needs and perceptions of sub-populations in the Parkview Health System (Parkview) area, focus groups were conducted in Allen, Noble, and Kosciusko Counties. Focus groups are a data collection technique that capitalizes on group interactions to provide qualitative information on a range of topics and in various research fields [1]. Our objective was to receive input from populations underrepresented in the telephone survey on health risks and concerns in their communities. Altogether, three focus groups were arranged by Parkview: one with African American participants in Allen County, one with Hispanic participants in Noble County, and one with Hispanic participants in Kosciusko County. Only one participant attended the Kosciusko focus group so an interview was conducted. His responses to questions mirrored those of the Noble County group. Each focus group was audio-taped and an assistant moderator took notes. The following is a summary of the risks to health, greatest health concerns, and the gaps and strengths of health services in the community.

African American Community

The health risks identified by focus group participants in Allen County include: poor diet, lack of exercise, substance use, mental health issues, poor prenatal care, limited accessibility to grocery stores with healthy options, and little knowledge of preventive care. The group believe that while there are some services available to address these concerns, the information is not getting to the population with the greatest need, "so, I think the people you most want to help are the people least likely to attend." It is "an unfortunate truth of the black community that we won't move unless there's a lure." Community days are frequently held in the county, however without an incentive to go to a screening or sign up for resources, residents are unlikely to participate. Additionally, a grass roots organization, "meet people where they are at," is the best way to reach those individuals.

Poor dietary habits are viewed as a major contributor to health risks. Certain areas do not have healthy food grocery stores and as a result, too many individuals resort to "junk food" obtained at service stations to replace fresh fruits and vegetables. Cooking dinner for the family is on the decrease, often because of busy lives or parents are tired after working all day. While meals prepared at home are preferable to unhealthy options at the 7-11, many packaged foods purchased for convenience are high in sodium, calories and fat. This contributes to the increasing rates of diabetes and cholesterol. Education is the key to helping the community understand these conditions could be preventable and treatable with a healthy lifestyle and learning how to manage conditions.

Unhealthy eating patterns are further exacerbated by lack of exercise. Sports are becoming less available for kids, a parent has to drive 20 to 30 minutes for their child to participate in t-ball or soccer. After a busy day, the commute time one way is a deterrent and provides an excuse to not go out and have "60 minutes of play." This trickles down to the children, who in turn become more sedentary when unable to engage in sports or physical activity. Walk, bike, or race-a-thons would likely be embraced if they were available throughout the county. There are public trails in the Fort Wayne area, but unfortunately they are not marketed so residents are frequently unaware of opportunities to be active. It is harder to be resistant to a healthy lifestyle once the availability of options are widely known.

Substance use is another problem in the African American community. This population is "very casual about drinking, smoking pot, smoking cigarettes, cigars." It is accepted, so ultimately the behaviors resulting from the abuse are accepted. The message of what drugs do to the body and to the brain is not

getting to the community. People do not know where to go for services, if they are even seeking care, and it requires insurance. In addition to the known problems of substance use, this also leads to late nights, poor sleep, and, most problematic, mental health issues.

There is a notable stigma in the African American community surrounding mental healthcare. It is a "pray it away" issue compounded by a distrust of the system. This can prevent families from accepting the realities of mental health. Acknowledging prayer and faith have a role in good health, families also need to be aware that services are available to help. One important first step would be to engage pastors, deacons, and elders of the church. Those influential individuals are not utilized to encourage parishioners to seek services. This crisis also relates to "our young people just pulling a gun out and shooting somebody." The black community incorporates mental illness, such as bi-polar youth, into the cultural norm to excuse the behavior.

While there is a great prenatal program in the area, the care for pregnant women and young children is lacking for the black community. This is obvious in the infant mortality rates. More must be done to provide young women and young mothers with access to healthcare for themselves and their children. Lack of information and education is again the key for this health concern.

Individuals in the African American community seeking to lead an active lifestyle are still restricted by access to healthy food options. In particular, the southeast side of town has no healthy food stores or grocery stores with fresh fruits and vegetables. Community gardens might be a viable option. Those do take time for startup and community buy-in, however would eventually prove to be a valuable resource for minimal financial support. One participant is involved with a growing trend in Tennessee for fruit and vegetable trucks, similar to the ice cream trucks with which everyone is familiar. Farmers utilize these trucks to sell their crops throughout the neighborhoods of their local area.

Many of the community health issues could be improved with preventive care, however "people don't know what's available to them." There must be innovative ways to get the information to a community that is not always inclined to trust or seek services. The "propaganda" message is not out there. For example, a Health Clinic recently opened; however, there was no event to invite people in the community to see what the clinic has to offer or greet those in the neighborhood. A message communicating the clinic is "here in your community for you" would have overcome some of the neighborhood resistance. Without welcoming residents to visit, the perception "they are just here for the money or for the numbers" prevails.

Hispanic Community

The health risks identified by focus group participants in Kosciusko and Noble counties include: poor diet, lack of exercise, no urgent care availability, translational difficulties, and substance use. The group believes many of the health risks in their community are linked to poor diet, however there are few options available to assist with this. Access to care, particularly urgent care, is a problem in their area. The language barrier adds another level of difficulty for this population.

The Hispanic community embraces a food culture. They are proud of their culinary influences and enjoy the social aspect of eating together. The high number of restaurants in the area are an indication that businesses in the county cater to this norm. While "food is not the culprit," dietary choices lead to several poor health impacts, including diabetes and high cholesterol. Diabetes is considered a problem in the

Hispanic community. Unfortunately there is also a great deal of denial, with families refusing to accept diabetic diagnosis. One family member refused medication, rather than trying to treat Type 1 diabetes with diet and exercise and now is blind. Participants have friends and family who have experienced serious health repercussions due to an unwillingness to accept medical advice. Much of this refusal is attributed to a lack of understanding, however "ignorance can be corrected." Cholesterol ranks high in the perception of the group for the county. This is primarily attributed to the unhealthy diet. There is little awareness of good vs. bad cholesterol, the impact of diet, or the risk for heart disease. Unfortunately, without the education necessary, there is little likelihood the community would follow medical advice even if preventive tests and treatment were sought.

Many of the perceived health risks could be prevented with a healthier lifestyle. The community has made many overtures to improve opportunities for activities but have been unsuccessful. The sports and recreation facility is close knit so "basically only a select few get access to it, full access." The park does not put out the swings, closed the tennis courts, keep the baseball diamonds locked, has no lighting on the trails, and "kicked [men] out of the park for playing football." The Warsaw model of the partnership with the YMCA is held as an ideal arrangement and would allow for educating the youth as well as adults. Participants understand that cost presents an obstacle in any development of a park and recreation program. However, those activities are enjoyable with the positive outcome of long-term benefits. Discussions with local officials did not result in expanded park opportunities, leaving the community without options for sports and physical activities. "They won't listen to the small guy, so maybe that's where Parkview and other places can step in."

The major medical services available in many of the cities and towns in Kosciusko and Noble counties are inaccessible. Participants are dissatisfied with the 25-30 minute commute to obtain emergency medical care. A walk-in clinic for minor emergencies would be very helpful. The local doctor's office is good, with a bilingual nurse practitioner, however, there are no services for X-rays or less serious trauma. When health fairs are available, they are not local and are not widely publicized nor translated for the English-as-a-second-language population. If such events were held in the community, individuals could take advantage of preventive testing and receive information on healthy living.

Translation services are typically a concern for the Hispanic community. "You are talking to a group of people. Most of us know how to get by" yet that is not true for the entire population. While there are some interpreters or "parents take their kids," there remains a communication gap. Individuals also have great difficulty navigating the insurance process due to the language barrier. Many participants do not understand what services are covered and have difficulty understanding the bills received from insurance providers, leading to distrust of the system. Even the most informed of the group describes it as complicated. Workshops to explain how insurance programs, co-pays, and networks operate would be very beneficial, "I would say 80% of the people my age have insurance and don't even know how to navigate through it."

Alcohol consumption among Hispanic males is viewed as a big problem. It is considered a recreational activity, even a part of the culture, so it is intertwined in all events. "You have a baptism, it's there. First birthdays, it's there." There is also a large drug problem. Focus group participants believe the county ranks pretty high in methamphetamine use and other recreational drugs. A lack of access to services contributes to this growing epidemic. Alcoholic Anonymous meetings are no longer even held in the area. Without substance or addiction services, the community is unlikely to view this as a concern. Consequently, usage

continues and the associated problems, such as depression, escalate. More education is necessary, “Hispanics don’t recognize or accept it because of our heritage.”

These focus groups were conducted to provide the perspective of the community. The goal was to assess areas of health concerns and threats of the African American and Hispanic populations as well as to identify existing services to meet these needs. The themes were similar for both groups: poor diet and exercise, substance use, accessibility to healthcare, and preventive education. The benefits of improved access to healthcare and education are numerous and have an impact not only on persons with a physical or mental illness but also improve health outcomes of those in current good health.

3.3 Data Limitations and Information Gaps

Limitations of the Community Phone Survey

One limitation to the phone survey of community residents is the relatively small number of questions that can feasibly be asked without compromising participation rates. We had to focus our selection of questions to those considered most critical to defining health concerns and priorities. Health is a comprehensive topic which cannot be fully covered in a brief survey.

A general limitation of phone surveys, applicable to this one as well, is that participation is greater among retirees or those otherwise unemployed compared to younger, employed persons. Statistical weighting was utilized to correct for these and other differences.

Finally, the assessment team, in consultation with Parkview staff, selected several questions from the CDC'S BRFSS. It was our intent that these be asked in an identical fashion as asked by the CDC so that validity and comparability to state and U.S. results be fully intact. However, some inadvertent changes were made during fielding at the Eagleton Center for Public Interest Polling. These changes, however, are relatively minor, and should not affect confidence in the findings, though they are perhaps not directly comparable to state/national rates. For example, if a person says they have been diagnosed with diabetes, and if female, they were supposed to be asked specifically if this was only during pregnancy. This was not asked, though some respondents volunteered it.

Limitations of Provider Survey

The principal limitation of the provider survey was that it was not conducted with a strategic sampling technique. This resulted in a number of downstream limitations, including a small sample that is not necessarily representative, or adjusted to be representative, of the larger population of providers. The sample is, at best, a convenience sample.

Furthermore, the interpretation of "provider" was not clearly defined. Respondents varied from public officials to nonprofit care providers to grade school administrators. Without a clear definition of "providers," it is difficult to draw conclusions from the results that can be presented in a meaningful way.

Finally, the survey deviated just enough from the community survey that direct comparisons cannot be drawn. Future iterations of this survey should contain the same language and options as the community survey.

Limitations of Secondary Data:

One of the most notable limitations of the secondary data is that each data source applies a different model to estimate the data at the county level. A second limitation is that data was sourced from multiple data years, with the most recent ranging from 2015 in some cases to 2012 in others. Some of the data were actually averages of estimates from many data years.

These limitations are common, however, and are not necessarily the product of the research design specific to this CHNA.

4 IDENTIFICATION OF COMMUNITY HEALTH NEEDS

To be considered a health need for the purposes of this assessment, an indicator had to fall into one of two categories. The indicator had to show up as problematic using the HCI tool or appear in the community or provider surveys as a problem of great concern. Often, indicators would fall into both categories. Both of these categories and the resulting list of indicators are examined in detail below.

Figure 17 illustrates the identification of health needs using the primary and secondary data. The sections below go into greater detail on how this process was undertaken.

Figure 17: Visualization of Health Problem Selection Process

4.1 Analysis of Secondary Data

For each of the seven counties, more than 100 health indicators on the HCI tool were evaluated relative to the remaining Indiana counties. The HCI dashboard displays its relative scoring system using the colors red, yellow, and green. Red indicates that the county is performing in the lowest, or worst, quartile of counties (in other words, the worst 25%). Green represents the top two quartiles, or best half of counties. Yellow represents the third quartile.

Figure 18: Legend in the HCI Tool

25% of counties performing better	50%	75%	100%
Best			Worst

Each red indicator was identified from each county. The initial lists for all seven counties (each county added together including duplicates) totaled to 67 indicators. These lists were then merged into one, resulting in a total of 32 indicators by removing the duplicates.

These health indicators were then categorized into specific health needs and confirmed by acquiring the most up-to-date secondary information available at the county level. Then, categories were condensed where possible. For example, adult and youth obesity were collapsed into a single category called "Obesity." This process generated a list of 12 health indicators for the Parkview region, based off of HCI data, confirmed by recent secondary data:

- Aging (Alzheimer's and osteoporosis)
- Asthma
- Cancer
- Cardiovascular disease
- Chronic renal disease
- Diabetes
- Healthcare access, cost and quality
- Maternal, child, and infant health
- Mental health
- Obesity
- Sexually transmitted diseases
- Tobacco use

4.2 Analysis of Community Input

Next, each indicator was compared to the community and provider surveys. To help better identify public interest in specific health needs, two questions from each survey were utilized. From the community survey, these included:

Question 9: What do you think is the top health concern in your community today?

This was an open ended question. Responses were recorded verbatim then subsequently categorized into generalized health concerns.

Question 10: In 2013, community residents identified a few health concerns. We want to know what you think about these health problems today. For each please tell me if it is not a problem, somewhat of a problem, or a big problem.

A. Teen pregnancy
B. Road accidents and injuries
C. Overweight and obesity
D. The ability to get help for stress, depression and problems with emotions
E. Smoking
F. Alcohol
G. Drug addiction

Based on responses to Questions 9 and 10, a list of top community health concerns was generated for each county. These health concerns were again confirmed using the most recent secondary data available to confirm the prevalence of this community concerns. Next, the results of the provider surveys were incorporated. Responses from two questions from the provider survey were used. The list of health issues below was provided for both of these questions.

Question 8: How concerning are the following health issues in the county where you primarily practice? (These were to be answered as not a problem, somewhat of a problem, or a big problem)

Question 9: Which of the health issues is the chief concern in the country where you primarily practice? (Please check one)

A. Obesity/nutrition/physical activity
B. Mental health
C. Maternal, infant and child health
D. Injury and violence
E. Substance abuse (alcohol/drugs)
F. Tobacco use
G. Teen pregnancy

Health concerns in Question 8 with 25% or more of the total responses considering the indicator “a big problem” were included. Via the primary data analysis, two additional indicators were added to the list of community health concerns: drug abuse/addiction and alcohol abuse/addiction, which were combined at Parkview’s request for a final list of 13 indicators for the Parkview region.

4.3 COMMUNITY HEALTH ISSUES

Based on the identification process explained above, a list of 13 community health issues were identified for Parkview region. These are described below in alphabetic order.

4.3.1 Aging (Alzheimer's Disease and Osteoporosis in the Medicare Population)

Alzheimer's disease is a chronic, incurable, progressive disorder that affects and disrupts cognition and eventually renders the patient unable to perform basic tasks. Most people with Alzheimer's begin to present symptoms in their 60s. Osteoporosis is an incurable disease that causes bones to become brittle leading to bone fracture and other complications [2]. It is most common in post-menopausal women.

In the Parkview region, about one in 10 people in the Medicare population is affected by Alzheimer's disease, while osteoporosis affects about one in 20. Currently, only clinical treatments exist to manage symptoms of these diseases

Table 4: Aging

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Alzheimer's disease*	11.0%	10.5%	9.5%	8.3%	7.9%	10.4%	9.0%
Osteoporosis*	5.7%	6.5%	4.5%	4.7%	5.2%	6.4%	4.6%

**In Medicare population*

4.3.2 Asthma

Asthma is a chronic, incurable disease which causes many symptoms that make breathing difficult [3]. Around 5% of the Medicare population in the Parkview area is affected by asthma, as well a portion of the population of adults and children. Asthma as a chief health concern was not mentioned in the community or provider surveys, but asthma in the Medicare population appeared as a primary concern in several of the seven counties according to HCI. While the population affected may be small, the disease burden is high due to expensive and potentially life-long costs associated with managing symptoms of asthma. There are several clinical intervention strategies recommended by healthcare professionals to reduce the frequency and severity of symptoms.

Table 5: Asthma

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Asthma	5.6%	6%	4.5%	3.6%	5.5%	4.8%	5.5%

**In Medicare population*

4.3.3 Cancer

Cancer (the suite of diseases resulting in abnormally and often uncontrollable growth of malignant cells) collectively forms the second leading cause of death in the United States. The CDC believes it will soon become the leading cause of death [2]. According to the community and provider surveys, there is high public concern regarding cancer.

The population affected by cancer is not very large, but due to high rates of morbidity, hospitalizations, and costs associated with cancer treatment, it ranks high in the list of health concerns for the Parkview region. Many preventive and clinical treatments exist to prevent or manage a variety of cancers.

Table 6: Cancer

Age adjusted death rates	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
All sites malignant neoplasms	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%
Breast cancer	0.02%	0.004%	0.023%	0.01%	0.01%	0.01%	0.02%
Prostate cancer	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Colorectal cancer	0.01%	0.01%	0.02%	0.01%	0.02%	0.01%	0.01%

4.3.4 Cardiovascular Disease

Heart disease is the leading cause of death according to the CDC [2]. The most common of these is coronary artery disease, which can lead to heart attack. Heart disease affects populations of all races and genders, and usually occurs in middle age.

While less than 1% of all deaths in the region are attributable to heart disease, the number can be reduced with a variety of prevention and clinical treatment strategies.

Table 7: Cardiovascular Disease

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Age adjusted death rate	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%

4.3.5 Chronic Kidney Disease

Chronic kidney disease is a gradual loss of kidney function. In the early stages of this disease, it is possible that very few signs or symptoms will be present, but the disease can lead ultimately to kidney failure and death [3].

In the Medicare population in the Parkview region, approximately 14-22% of the population is affected by chronic kidney disease for which they will need long-term treatment, potentially including dialysis. However, chronic kidney disease is preventable with a variety of intervention strategies. Clinical treatments need further review to be considered recommended by healthcare professionals.

Table 8: Chronic Kidney Disease

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Chronic renal disease*	18.0%	21.8%	16.1%	14.0%	14.9%	17.5%	16.3%
Age adjusted death rate	0.02%	0.04%	0.02%	0.02%	0.01%	0.01%	0.02%

**In Medicare population*

4.3.6 Diabetes

Diabetes is a group of diseases which affect the way the body uses blood sugar. A diabetes diagnosis means a person has too much blood sugar, which can lead to other, more serious, health complications [2].

Diabetes was considered a high health concern in the community survey. Approximately 20% of survey respondents indicated they have diabetes, and more than a third reported that they have not had their blood sugar tested in the past three years. In the Parkview region the prevalence of diabetes ranges from 10.3% for Allen County to 21.5% in Whitely County. Diabetes has both preventive and clinical interventions recommended by healthcare providers and professionals.

Table 9: Diabetes

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Diagnosed Diabetes %	10.3%	12.7%	10.4%	11.2%	11.8%	19.3%	21.5%
Death rate diabetes*	0.02%	0.02%	0.03%	0.02%	0.02%	0.04%	0.03%

**Age-adjusted*

4.3.7 Drug and Alcohol Abuse and Addiction

Drug use and dependence can cause accidental death, unintentional injury, or other health problems. In the Parkview region, data from the substance abuse treatment center indicates that nearly all of the individuals seeking treatment have identified dependence on multiple drugs. Table 11 summarizes primary dependence reported as well as rates of polysubstance abuse. Substance abuse is preventable and may be treatable. Although many preventive strategies are recommended, many treatment strategies need more research to be declared effective enough for recommendation.

According to the CDC, excessive alcohol use can lead to an increased risk of health problems, such as liver disease [3] and unintentional injuries. In the Parkview region, alcohol abuse was a major health concern in the both the community and provider surveys. Dependence is defined as the primary substance of concern at the time a patient seeks substance abuse treatment. The Parkview region's substance abuse treatment data indicates a very high potential for alcohol abuse, with alcohol being the primary substance for treatment sought at more than one in three treatment events. There are both preventive and clinical

strategies recommended by healthcare professionals. Most of the preventive strategies are especially directed towards adolescents, a high-risk group for alcohol abuse.

Table 10: Drug and Alcohol Abuse and Addiction

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Meth dependence	3.8%	6.2%	11.7%	21.7%	25.7%	5.7%	14.7%
Marijuana dependence	31.5%	24.6%	21.7%	24.1%	22.1%	21.7%	18.6%
Heroin dependence	7.2%	0.8%	6.5%	0.6%	0.4%	10.7%	1%
Cocaine dependence	6.4%	0.76%	0.3%	0.6%	3%	0.4%	1%
Prescription drug dependence	8%	23.1%	12.9%	5.4%	5.5%	17.4%	23.5%
Polysubstance abuse	74%	85.4%	85.1%	78.3%	86%	87.5%	92.2%
Alcohol dependence %	40.1%	34.6%	38.8%	39.2%	35.7%	36.3%	35.3%

4.3.8 Healthcare Cost and Access

Since the passage of the Affordable Care Act (ACA), many Americans carry health insurance who previously did not. Enrollment in ACA coverage corresponds with large declines in the uninsured rate. Between 2013 and 2014, the uninsured rate dropped significantly, from 16.2% in the last quarter of 2013 to 12.1% in the last quarter of 2014. However, many still do not carry health insurance, low-income working families make up over 40% of the remaining uninsured, leading to high out-of-pocket costs for treatment, and potentially no treatment at all for those who cannot afford care.

In the Parkview region, the large Amish population contributes to the high percentage of the population without health insurance (Note: LaGrange County has a very large proportion of Amish and thus very large proportions of uninsured residents. Other counties have much lower proportions of Amish.). Table 11 shows that working-age adults and children are disproportionally affected by a lack of health insurance. Some recommended strategies exist to encourage enrollment in healthcare plans.

Table 11: Percentage of Uninsured Population by Age Group

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Under 18	9.1%	6.9%	12.8%	56.6%	10.5%	5.6%	5.1%
18-64	19.7%	16.4%	20.2%	45.0%	19.7%	15.0%	12.7%
Over 65	0.5%	0.0%	0.6%	6.8%	0.3%	0.0%	0.4%

4.3.9 Maternal Child and Infant Health

Maternal, infant, and child healthcare is a broad category which encompasses a variety of health indicators related to pregnancy, birth, and complications at the time of and immediately following birth. Populations affected include both mothers and their children.

Early and regular prenatal care is a critical component of healthcare for pregnant women and a key step towards having a healthy pregnancy and baby. Behavioral changes prior to birth, including smoking cessation for mothers, also have important outcomes in infant health.

In the Parkview region, just under 10% of children had low birth weight (less than 2,500 grams at birth). More than a third, and in some cases, nearly two-thirds of mothers did not receive prenatal care during the first trimester of pregnancy. Mothers who smoked during pregnancy ranged from 6.7% in LaGrange County to more than a quarter of mothers in Wabash County.

This umbrella of health concerns has both preventive and clinical recommended strategies to improve the health of both the mothers and babies.

Table 12: Maternal Child and Infant Health

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Low birthweight babies %	9.4%	7%	7.6%	5.6%	6.2%	9.1%	7.3%
Mothers who did not receive prenatal care during 1st trimester	45.2%	32.2%	63.8%	62.1%	38.4%	36.1%	32.8%
Mothers who smoked during pregnancy	10.3%	16.8%	15.6%	6.7%	19%	25.2%	17.5%

(Low birth Weight = less than 2,500 grams at birth)

4.3.10 Mental Health

Depression is a serious illness that affects an individual's ability to perform daily tasks or cope with daily life. Individuals with depression are at higher risk for other mental illnesses, injury, or death. Depression is also linked to economic and social burdens which may perpetuate depressive episodes.

Just under one in five people among the Medicare population in the Parkview area are affected by depression. While depression may not be preventable, it is treatable. However, many of the affected do not have the means to seek or afford treatment, making intervention strategies complex for all affected populations

Table 13: Depression in Medicare Population

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Depression*	19.1%	18.3%	15.5%	15.8%	17.7%	15.9%	17.5%

**In Medicare Population*

4.3.11 Obesity

Obesity (having a body mass index greater than 30.0) affects all age groups and disproportionately affects people of lower socioeconomic statuses and racial/ethnic groups. There are often many complications that can occur as a direct or indirect result of obesity.

In the Parkview region, nearly a third of adults and more than one in ten low-income, preschool-aged children are obese. Through the community and provider surveys, we have identified a clear public concern about the prevalence of obesity in the area. There is also an upward trend associated with the percentage of the population who is obese. However, obesity is a treatable and preventable health concern with a variety of public health intervention strategies that come recommended by healthcare providers and professionals.

Table 14: Obesity

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Obesity (% of adult population)	30.1	32.6	33.2	34.2	31.8	31.6	32.0
Low Income Preschool Obesity	13.6	12.2	17.9	16.5	14.5	11.0	17.3

4.3.12 Sexually Transmitted Diseases

Chlamydia and gonorrhea are two common sexually transmitted diseases that, in some cases, present no symptoms, but can lead to serious health problems if left untreated. Treatment is usually relatively simple once diagnosed [3]. Younger populations, those with multiple partners, and those who do not use a condom during sex are at high risk to contract these and other sexually transmitted diseases. Those who have or have had sexually transmitted infections in the past are at even greater risk.

In the Parkview area, relatively small proportions of the population are affected by chlamydia and/or gonorrhea, but these proportions are high compared to other counties in Indiana. Preventive and clinical strategies are recommended for reducing the number of those affected and living with these diseases.

Table 15: Chlamydia and Gonorrhea

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Population w/ Chlamydia %	0.5%	0.3%	0.2%	0.1%	0.3%	0.2%	0.1%
Population w/ Gonorrhea %	0.20%	0.02%	0.06%	0.00%	0.05%	0.01%	0.02%

4.3.13 Tobacco Use/Smoking

Smoking is the leading cause of preventable death [3]. People of all ages, races, and genders are susceptible to the effects of smoking and secondhand smoke.

In the Parkview region, more than one in five adults are current smokers. Additional, unquantified numbers of adults and children are affected by secondhand smoke. Tobacco use was a high concern in the provider survey, and about 20% of the community survey participants were self-declared smokers. Smoking is both preventable and treatable, and several recommended intervention strategies exist to reduce the number of smokers and tobacco users.

Table 16: Tobacco Use/Smoking

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Adult Smoking Rate	21%	25.7%	21.9%	19.3%	26.7%	19.3%	21.5%

5 RANKING OF IDENTIFIED COMMUNITY HEALTH NEEDS

5.1 PROCESS AND CRITERIA

The prioritization of health concerns for the seven county region was conducted using a modified Hanlon Method. This method, called the Basic Priority Rating System (BPRS) is recommended by HCI and the National Association of County and City Health Officials (NACCHO) for the purpose of prioritizing community health needs [4]. Although complex, it is useful when the desired outcome is an objective and replicable list of health priorities based on the baseline data and numerical values. We chose this method as it best fits the data that were acquired using the primary and secondary data sources, and meets the need to establish a process which can be replicated in future assessments.

This report presents prioritization results for the region as a whole (i.e. all seven counties together), as well as on an individual county-by-county basis.

This method has three principle advantages:

- It allows decision-makers to identify explicit factors to be considered in setting priorities;
- It organizes the factors into groups that are weighted relative to each other;
- It allows the factors to be modified as needed and scored individually.

In order to proceed with the Hanlon method, indicators were chosen to identify a particular health concern based upon data availability and assessment of data analysts.

Each of the 13 health concerns that were identified through the primary and secondary data analysis were then rated on the following criteria according to the Hanlon Method:

- Size of the health problem = A
- Seriousness of the health problem = B
- Effectiveness of potential interventions = C

The priority scores are calculated using the formula:

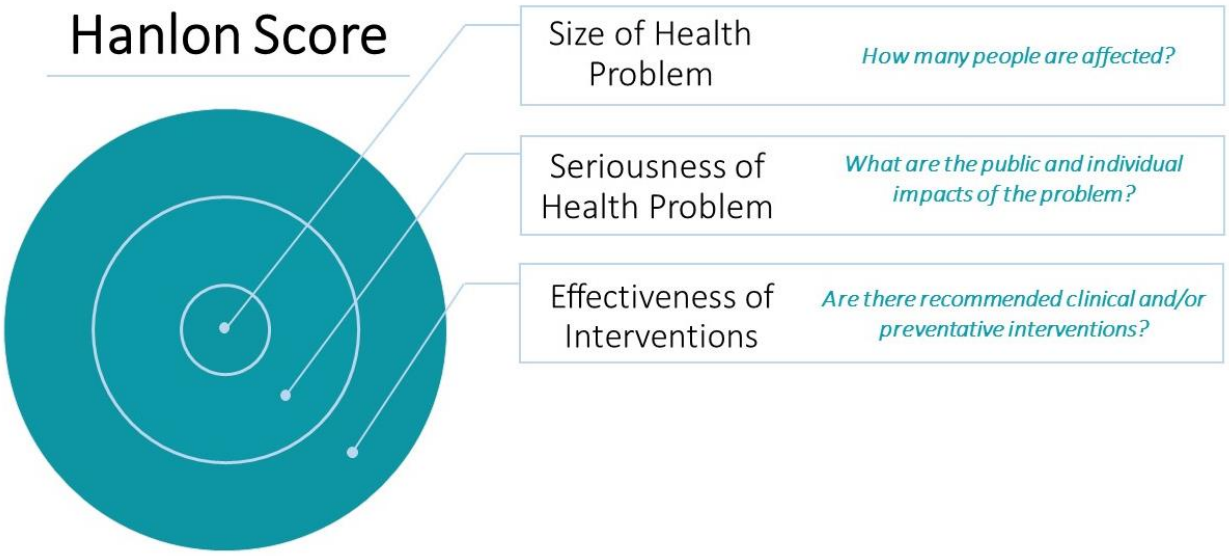
$D= [A+ (2xB)] \times C$

Where D is the final Priority Score. These scores are then ranked to determine the priority order.

The seriousness of the health problem is multiplied by two because it is weighted as being twice as important as the size of the problem. The effectiveness of interventions is multiplied by the sum of the size of the problem and two times the seriousness because it is considered the most important of the criteria, as the presence of recommended preventive and clinical interventions are ultimately the way the health problem will be addressed.

Based on the priority scores calculated using the above formula, ranks are then assigned to health problems. For the purpose of this CHNA, the method was modified to best fit the data available. The details and procedures used for modification are explained below.

Figure 19: Hanlon Method



The size of the health problem can be measured in many ways. For this report, mortality and morbidity rates and the percent of the population effected by particular health problems were used. For health issues with multiple indicators, the median was used. The maximum score is 10 and the minimum 0. The criteria for rating and the score for each indicator is given in the tables below.

Table 17: Ranking Criteria for Size of the Health Problem

Ranking	Size of the Health Problem (% of population with health concern)
9 or 10	>25%
7 or 8	10% —24.9%
5 or 6	1% —9.9%
3 or 4	0.1% — 0.9%
1 or 2	0.01% — 0.09%
0	<0.01%

Table 18: Size of the Health Problem

Health Concern	Health Indicator used to calculate size of the problem	Allen		Huntington		Kosciusko		LaGrange		Noble		Wabash		Whitley		Median rank
		Rate	*Rank*	*Rate*	*Rank*	*Rate*	*Rank*	*Rate*	*Rank*	*Rate*	*Rank*	*Rate*	*Rank*	*Rate*	*Rank*	
Aging	Alzheimer's disease or dementia Medicare population	11.0%	7	10.5%	7	9.5%	6	8.3%	6	7.9%	6	10.4%	7	9.0%	6	6
	Osteoporosis	5.7%	6	6.5%	6	4.5%	5	4.7%	5	5.2%	5	6.4%	6	4.6%	5	
Asthma	Asthma Medicare population	5.6%	6	6.0%	6	4.5%	5	3.6%	5	5.5%	6	4.8%	5	5.5%	6	5.5
Cancer	Age adjusted death rate all malignant neoplasms	0.2%	3	0.2%	3	0.2%	3	0.1%	3	0.2%	3	0.2%	3	0.2%	3	1
	Age adjusted death rate breast cancer	0.02%	1	0.004%	0	0.023%	1	0.01%	1	0.01%	1	0.01%	1	0.02%	1	
	Age Adjusted death rate prostate cancer	0.01%	1	0.01%	1	0.01%	1	0.01%	1	0.01%	1	0.01%	1	0.01%	1	
	Age Adjusted death rate colorectal Cancer	0.01%	1	0.01%	1	0.02%	1	0.01%	1	0.02%	1	0.01%	1	0.01%	1	
Cardiovascular disease	Age adjusted death rate cardiovascular disease	0.2%	3	0.3%	3	0.2%	3	0.2%	3	0.2%	3	0.2%	3	0.2%	3	3
Chronic kidney disease	Chronic renal disease Medicare population	18.0%	8	21.8%	8	16.1%	7	14.0%	7	14.9%	7	17.5%	8	16.3%	7	1
	Age adjusted death rate chronic kidney disease	0.02%	1	0.04%	1	0.02%	1	0.02%	1	0.01%	1	0.01%	1	0.02%	1	
Diabetes	Percentage of diagnosed diabetes	10.3%	7	12.7%	7	10.4%	7	11.2%	7	11.8%	7	19.3%	7	21.5%	7	4
	Age adjusted death rate due to diabetes	0.02%	1	0.02%	1	0.03%	1	0.02%	1	0.02%	1	0.04%	1	0.03%	1	
Drug and alcohol abuse and addiction	Percentage of meth dependence	3.8%	5	6.2%	6	11.7%	7	21.7%	8	25.7%	10	5.7%	6	14.7%	7	8
	Percentage of marijuana dependence	31.5%	10	24.6%	8	21.7%	8	24.1%	8	22.1%	8	21.7%	8	18.6%	8	
	Percentage of heroin dependence	7.2%	6	0.8%	4	6.5%	6	0.6%	4	0.4%	3	10.7%	7	1.0%	5	
	Percentage of cocaine dependence	6.4%	6	0.76%	4	0.3%	3	0.6%	4	3.0%	5	0.4%	5	1.0%	5	
	Percentage of prescription drug dependence	8.0%	6	23.1%	8	12.9%	7	5.4%	6	5.5%	6	17.4%	7	23.5%	8	
	Percentage of polysubstance abuse	74.0%	10	85.4%	10	85.1%	10	78.3%	10	86.0%	10	87.5%	10	92.2%	10	
	Percentage of alcohol dependence	40.1%	10	34.6%	10	38.8%	10	39.2%	10	35.7%	10	36.3%	10	35.3%	10	
Healthcare access - cost and quality	Percentage of uninsured under 18 yrs	9.1%	6	6.9%	7	12.8%	7	56.6%	10	10.5%	7	5.6%	6	5.1%	5	7
	Percentage of uninsured 18-64 yrs	19.7%	8	16.4%	7	20.2%	8	45.0%	10	19.7%	8	15.0%	7	12.7%	7	
	Percentage of uninsured 65 and older	0.5%	4	0.0%	0	0.6%	4	6.8%	6	0.3%	3	0.0%	0	0.4%	3	
Maternal/infant/child health	Percentage low birthweight babies	9.4%	6	7.0%	6	7.6%	6	5.6%	6	6.2%	6	9.1%	6	7.3%	6	7
	Mothers who did not receive prenatal care during first trimester	45.2%	10	32.2%	10	63.8%	10	62.1%	10	38.4%	10	36.1%	10	32.8%	10	
	Mothers who smoked during pregnancy	10.3%	7	16.8%	7	15.6%	7	6.7%	6	19.0%	8	25.2%	9	17.5%	8	
Mental health	Depression Medicare population	19.1%	8	18.3%	8	15.5%	7	15.8%	7	17.7%	8	15.9%	7	17.5%	8	7.5
Obesity	Percentage of adults who are obese	30.1%	10	32.6%	10	33.2%	10	34.2%	10	31.8%	10	31.6%	10	32.0%	10	7.5
	Low income preschool obesity	13.6%	7	12.2%	7	17.9%	8	16.5%	7	14.5%	7	11.0%	7	17.3%	7	
Sexually transmitted diseases	Percentage of population with gonorrhea	0.2%	3	0.02%	2	0.06%	2	0.0%	2	0.05%	1	0.01%	2	0.02%	3	2
	Percentage of population with chlamydia	0.5%	4	0.3%	3	0.2%	3	0.1%	2	0.3%	2	0.2%	2	0.1%	4	
Tobacco use	Adult smoking rate	21.0%	8	25.7%	9	21.9%	8	19.3%	7	26.7%	10	19.3%	7	21.5%	8	8

The seriousness of the health problem was determined by using five questions developed by the study team.

Q1. Is there an immediate potential impact on the larger community?

Q2. Is there a measurable public health concern? *

Q3. Does the problem cause long term illness?

Q4. Does the problem have a high death or hospitalization rate?

Q5. Is there an increasing prevalence of the problem in the community? **

* *Measurable concern is evaluated using the community and provider surveys.*

** *Based on time trends of affected population or mortality/morbidity rate*

Where each question was scored as below with possible half points:

0 = No or none

1 = Some or somewhat

2 = Yes or very/a lot

Based on this criteria, the score for each health concern is given in Table 19:

Table 19: Seriousness of the Health Concern Scores

Health Needs	Q1	Q2	Q3	Q4	Q5	TOTAL
	Rank	*Rank*	*Rank*	*Rank*	*Rank*	*Rank*
Alzheimer's disease	0.5	0.5	2	1	0	4
Asthma	0.5	0.5	2	1	1	5
Cancer	0.5	1.5	2	2	1	7
Cardiovascular disease	1	1.5	1.5	1.5	1	6.5
Chronic kidney disease	0	0	2	1	1	4
Diabetes	0.5	1.5	2	1.5	1	6.5
Drug and alcohol abuse and addiction	2	2	2	2	2	10
Healthcare access - cost and quality	1	2	1	1	0	5
Maternal/infant/child health	0	1	1	2	1	5
Mental health	1.5	2	2	1	2	8.5
Obesity	0.5	2	1	1.5	1.5	6.5
Sexually transmitted diseases	2	0	2	2	2	8
Tobacco use	1	0.5	2	1	2	6.5

The final criterion, effectiveness of interventions, was calculated using two resources for systematic reviews: CDC's Community Guide and HealthEvidence.org.

The Community Guide was used as the main source since it is recommended by NACCHO. The Community Guide conducts systematic reviews of interventions in many topic areas to learn what works to promote public health. The Community Preventive Services Task Force uses the results of these reviews to issue evidence-based recommendations and findings to the public health community. Only the Task Force's recommended interventions were considered.

For health problems not found in the Community Guide, Healthevidence.org was used. Healthevidence.org is a registry of systematic reviews maintained by McMaster University in Canada to promote evidence-based public health. The interventions that were evaluated to be high-quality studies, and were recommended by reviewers, were used.

Scores were calculated based on whether preventive, clinical, or both interventions were recommended by either of these sources. Based upon the type of intervention, scores were allocated according to the list below.

- No recommended interventions = 0 points
- Recommended preventive interventions = 3 points
- Recommended clinical interventions = 2 points
- Both preventive and clinical interventions recommended = 5 points

Therefore, this criteria has a minimum of 0 and a maximum of 5 points available. The table below provides the scores for the Effectiveness of Interventions criterion.

Table 20: Effectiveness of the Interventions scores

Health Concerns/ Needs	Preventive available	Clinical available	Both available?	Score
Aging	No	Yes	No	2
Asthma	No	Yes	No	2
Cancer	Yes	Yes	Yes	5
Cardiovascular disease	Yes	Yes	Yes	5
Chronic kidney disease	Yes	No	No	3
Diabetes	Yes	Yes	Yes	5
Drug and alcohol abuse and addiction	Yes	No	No	3
Healthcare access - cost and quality	Yes	No	No	3
Maternal/infant/child health	Yes	Yes	Yes	5
Mental health	No	Yes	No	2
Obesity	Yes	Yes	Yes	5
Sexually transmitted diseases	Yes	No	No	3
Tobacco use	Yes	Yes	Yes	5

5.2 RANKING RESULTS

Parkview region's score and ranking using the modified Hanlon method for prioritizing health concerns is given in Table 21. For the region tobacco use was ranked the top health concern. Obesity ranked second while maternal/infant and child health and diabetes were tied at third.

Table 21: Hanlon Method for Prioritizing Health Needs:

Health Need	Size of Health Problem Score	Seriousness of Health Problem Score	Effectiveness of Intervention Score	PRIORITY SCORE	PRIORITY RANK
Tobacco use	8	6.5	5	105	1
Obesity	7.5	6.5	5	102.5	2
Diabetes	4	6.5	5	85	3
Maternal/infant/child health	7	5	5	85	3
Drug and alcohol abuse and addiction	8	10	3	84	5
Cardiovascular disease	3	6.5	5	80	6
Cancer	1	7	5	75	7
Sexually transmitted diseases	2	8	3	54	8
Healthcare access - cost and quality	7	5	3	51	9
Mental health	7.5	8.5	2	49	10
Asthma	5.5	5	2	31	11
Aging	6	4	2	28	12
Chronic kidney disease	1	4	3	27	13

The list of proposed health priorities differs slightly from the list of health concerns in the 2013 Parkview Health Systems Community Health Needs Reports for three reasons.

1. In the previous reports, the Hanlon Method was not used for prioritization of health needs.
2. In the previous report, individual health indicators were used as health concerns. For example, infant mortality rate and prenatal care were considered separate concerns. In this report, these indicators are consolidated into one health concern, due to the interrelated and interdependent nature of various health indicators.
3. In this assessment, the information provided by the HCI tool and its proprietary evaluation was used to identify health problems, although we confirmed and supplemented those indicators using other sources. The previous health reports used miscellaneous other secondary data sources.

The health concerns ordered by rank according to the modified Hanlon Method for the Parkview regions is given in Figure 20.

Figure 20(a): Parkview Region Health Needs Ranking (Hanlon Method)

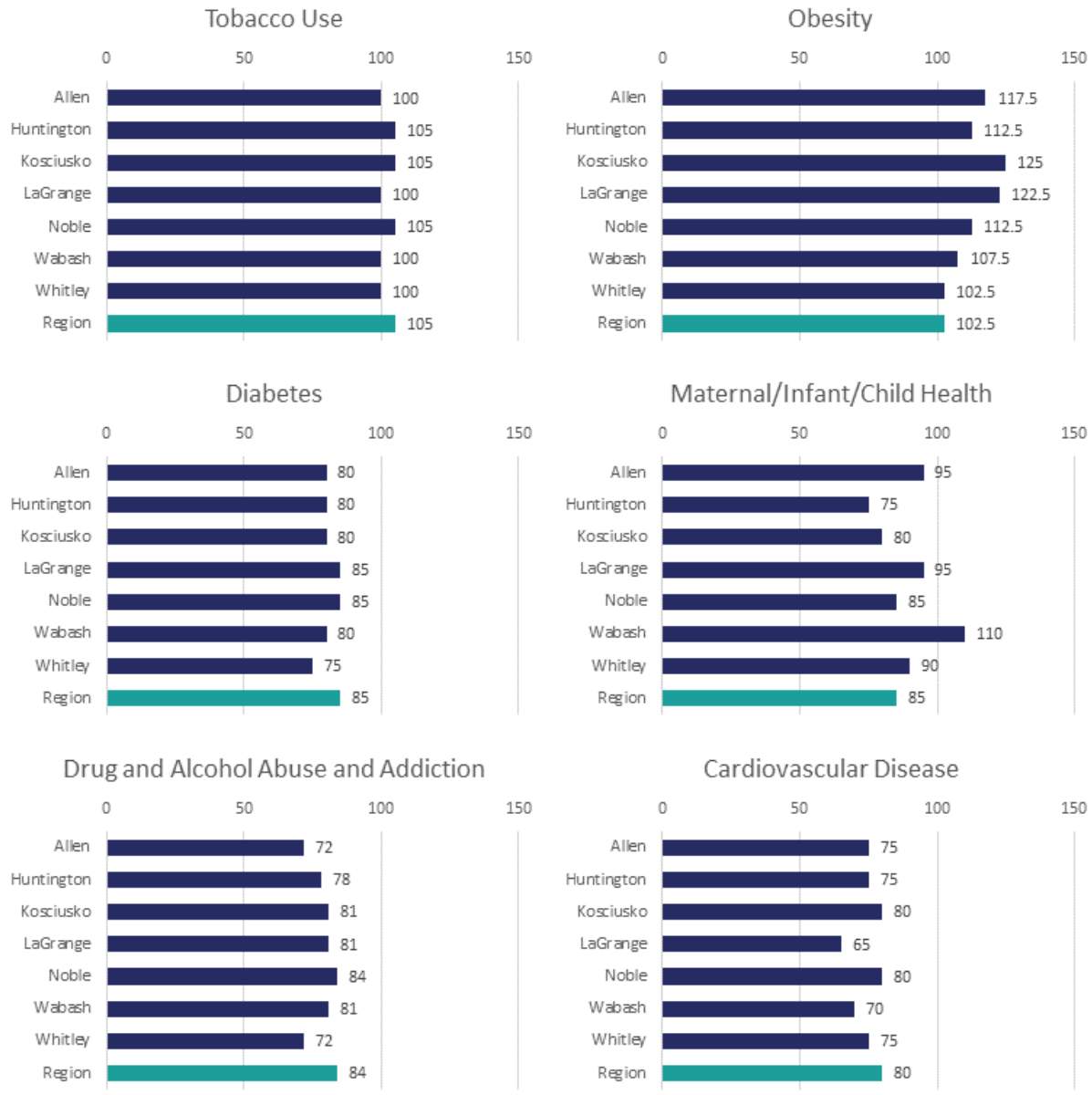


Figure 20(b): Parkview Region Health Needs Ranking (Hanlon Method)

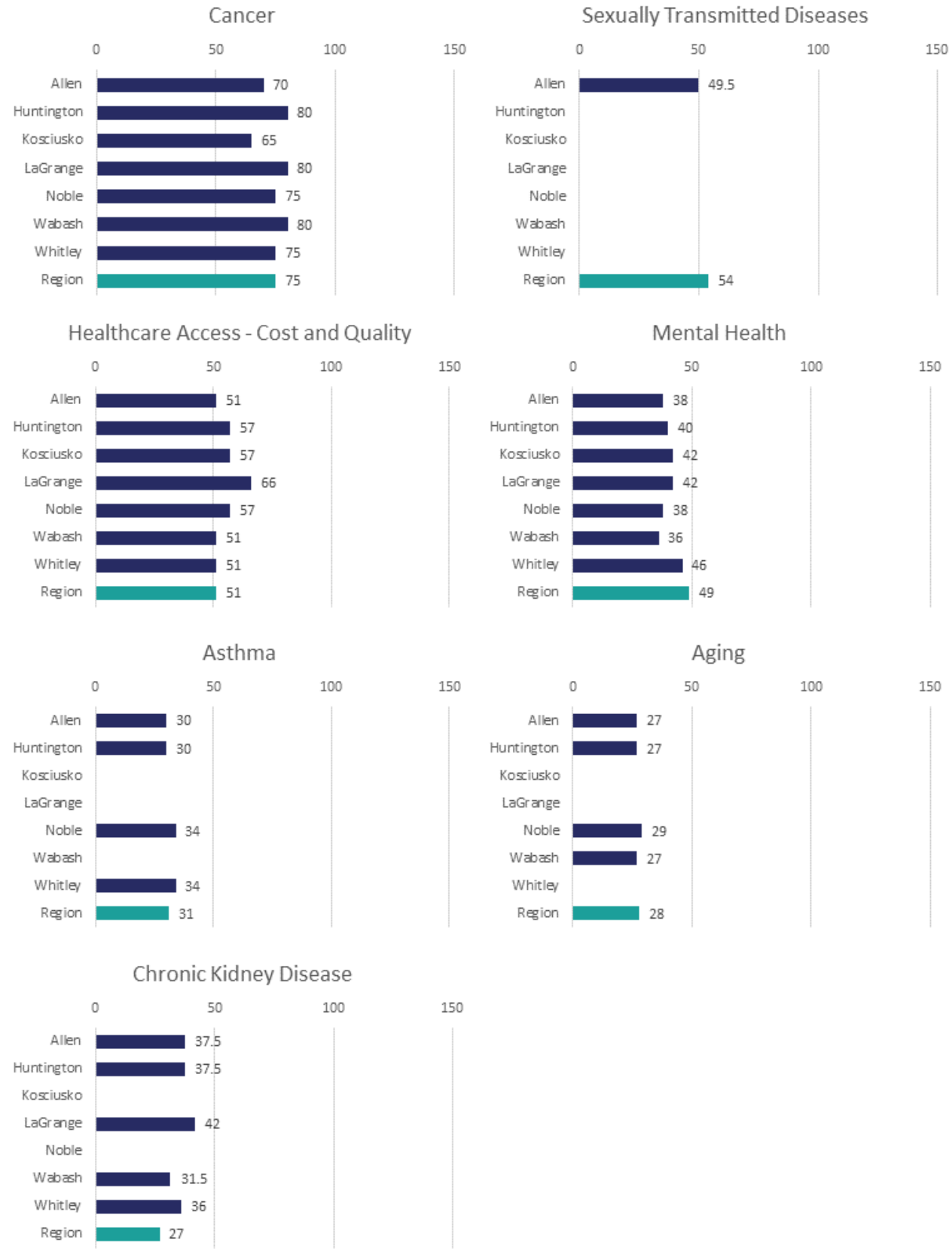


Figure 21: Relative Hanlon Scores by Indicator: Region-wide and County-specific

	REGIONAL	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
1	**Tobacco**	**Obesity**	**Obesity**	**Obesity**	**Obesity**	**Obesity**	**MCH**	**Obesity**
2	**Obesity**	**Tobacco**	**Tobacco**	**Tobacco**	**Tobacco**	**Tobacco**	**Obesity**	**Tobacco**
3	**Diabetes/ MCH***	**MCH**	**Diabetes**/ Cancer*	**Drugs/Alcohol**	**MCH**	**Diabetes/ MCH***	**Tobacco**	**MCH**
4		**Diabetes**		**Diabetes**/ **MCH**/CVD*	**Diabetes**		**Drugs/Alcohol**	**Diabetes**/ CVD/Cancer*
5	**Drugs/Alcohol**	CVD	**Drugs/Alcohol**		**Drugs/Alcohol**	**Drugs/Alcohol**	Cancer/ **Diabetes***	
6	CVD	**Drugs/Alcohol**	**MCH**/CVD*		Cancer	CVD		
7	Cancer	Cancer		Cancer	Access	Cancer	CVD	**Drugs/Alcohol**
8	STD	Access	Access	Access	CVD	Access	Access	Access
9	Access	STD	Mental health	Mental health	Mental health /CKD*	Mental health	Mental health	Mental health
10	Mental health	Mental health	CKD			Asthma	CKD	CKD
11	Asthma	CKD	Asthma			Aging	Aging	Asthma
12	Aging	Asthma	Aging					
13	CKD	Aging						

* Indicators tied in ranking

5.3 PRIORITY SELECTION

The Indiana Partnership for Healthy Communities presented these findings to Parkview Health System representatives on August 15, 2016. Executives from each Parkview hospital were in attendance, for a total attendance of 30 representatives. The presentation included a brief analysis of the community telephone surveys, online provider survey, and focus group findings. The Hanlon methodology for scoring and ranking of the health concerns were also described in detail, and a summary of the results followed.

Following the discussion, the 14 health concerns identified in the preliminary report were then voted upon by all the attendees. The voting was conducted in real time and the results were announced at the meeting. The audience was asked to select three top health concerns from the list of 14. Obesity was voted as the top health concern with the highest number of votes (29); followed by mental health with 18 votes. Maternal, infant and child health and drug abuse and addiction each had 11 votes. Diabetes and tobacco use each had six votes. Alcohol abuse and addiction received two votes followed by healthcare access and cardiovascular disease; each receiving one vote. The rest of health concerns didn't receive any votes. Results are summarized in Table 22.

Table 22: Total Votes for All Health Concerns

Indicator	Number of votes
Obesity	29
Mental Health	18
MCH	11
Drugs Abuse	11
Diabetes	6
Tobacco Use	6
Alcohol Abuse	2
Healthcare Access	1
Cardiovascular Disease	1
Aging	0
Asthma	0
Chronic Kidney Disease	0
Sexually Transmitted Diseases	0
Cancer	0

After the formal presentation, questions and concerns from the attendees were addressed. The attendees had questions about the Hanlon Scoring method and how the ranking for the health concerns was achieved. There were questions about secondary data sources for the health concerns. Parkview representatives agreed that splitting alcohol and drug abuse and addiction into two separate categories may not identify the seriousness of the health implication caused by substance abuse. A recommendation followed to combine these into a single category, reducing the list to 13 health concerns. This document reflects that change.

For the entire Parkview region, a consensus was reached to pursue obesity as the top health concern. The hospital representatives indicated that the results of preliminary reports and voting would be shared with the Boards of Directors for each hospital. Subsequent decisions to pursue specific interventions for each

area's selected health concerns would be made by each Board of Directors in consideration of the findings in the county's CHNA report and the above mentioned voting results.

Priorities were selected by Parkview representatives after considering the feasibility of intervention programming, based on the "PEARL" test [4]. This is the final step in the Hanlon method, and is designed to screen out impractical or impracticable interventions based on key feasibility factors:

Propriety: The program should be designed to address the specific needs. For example, a program designed to reduce childhood obesity may not work to reduce adult obesity. When possible, programs should leverage the existing strengths of the Parkview system and other community healthcare providers.

Economics: The economic costs that may occur as the result of a new program should be weighed relative to its benefits: does the benefit to the community offset the cost of the implementation? Know how many people are affected by the problem, the cost to address the problem, and the consequences to the individuals and the community as a whole if the program is implemented (or not). Here, it is also important to assess how the economic costs and benefits are distributed among community groups. Benefits between groups should be maximized and costs should be distributed as equitably as possible.

Acceptability: Ultimately, the community will choose whether or not programming works for them. Evaluation strategies should monitor the acceptance by community members and adjust programming as necessary to ensure the program is accepted and utilized by appropriate community groups.

Resources: An ambitious but underfunded program may not be as successful as a scaled-back version targeted to the right community groups. As often as is needed, resources should be evaluated to determine what resources are available for existing programs, and which may be available for new programming.

Legality: Laws and regulations vary widely, so a program that works well in one location may not be legally feasible somewhere else. Furthermore, different organizations and entities have different levels of legal authority. For example, a program to reduce smoking by implementing high taxes on tobacco products can only be enacted by a governing entity with the ability to levy taxes.

After considering the feasibility factors above, each hospital selected its own top priorities. Table 23 below reflects the region-specific priorities for each Parkview hospital. Note, obesity is a region wide priority.

Table 23: Priority Selections by County

	Allen	Huntington	Kosciusko	LaGrange	Noble	Wabash	Whitley
Tobacco Use					✓		
Obesity	✓	✓	✓	✓	✓	✓	✓
MCH	✓					✓	✓
Diabetes							
Drugs / Alcohol		✓		✓	✓		
CVD							
Cancer							
STD							
Access							
Mental Health	✓			✓			
Asthma							
Aging							
CKD							

Based on the selections above, the INPHC study team has provided Parkview Health System officials with a list of their existing programs to address the health concerns selected as a priority in each county, as well as evaluation strategies for those programs. INPHC also provided information on additional recommended / scientifically-supported intervention strategies for the consideration of Parkview Health System.

6 REFERENCES

[1] Asbury, J. E. (1995). Overview of Focus Group Research. Qualitative Health Research, 5(4), 414.

[2] Mayo Clinic http://mayoclinic.org

[3] Centers for Disease Control and Prevention http://cdc.gov

[4] National Association of City and County Officials http://archived.naccho.org/topics/infrastructure/accreditation/upload/Prioritization-Summaries-and-Examples.pdf

7 APPENDIX A: HANLON METHOD SCORES AND RANKS BY COUNTY

7.1 ALLEN COUNTY

Figure A-1: Relative Hanlon Scores by Indicator: Allen County

Health Need	Size of Health Problem Score	Seriousness of Health Problem Score	Effectiveness of Intervention Score	PRIORITY SCORE	PRIORITY RANK
Obesity	8.5	7.5	5	117.5	1
Tobacco use	8	6	5	100	2
Maternal/infant/child health	7	6	5	95	3
Diabetes	4	6	5	80	4
Cardiovascular disease	3	6	5	75	5
Drug and alcohol abuse and addiction	6	9	3	72	6
Cancer	1	6.5	5	70	7
Healthcare access - cost and quality	6	5.5	3	51	8
Sexually transmitted diseases	3.5	6.5	3	49.5	9
Mental health	8	5.5	2	38	10
Chronic kidney disease	4.5	4	3	37.5	11
Asthma	6	4.5	2	30	12
Aging	6.5	3.5	2	27	13

7.2 HUNTINGTON COUNTY

Figure A-2: Relative Hanlon Scores by Indicator: Huntington County

Health Need	Size of Health Problem	Seriousness of Health Problem	Effectiveness of Intervention	PRIORITY SCORE	PRIORITY RANK
Obesity	8.5	7	5	112.5	1
Tobacco use	9	6	5	105	2
Cancer	1	7.5	5	80	3
Diabetes	4	6	5	80	3
Drug and alcohol abuse and addiction	8	9	3	78	5
Cardiovascular disease	3	6	5	75	6
Maternal/infant/child health	7	4	5	75	6
Healthcare access - cost and quality	7	6	3	57	8
Mental health	8	6	2	40	9
Chronic kidney disease	4.5	4	3	37.5	10
Asthma	6	4.5	2	30	11
Aging	6.5	3.5	2	27	12

7.3 KOSCIUSKO COUNTY

Figure A-3: Relative Hanlon Scores by Indicator: Kosciusko County

Health Need	Size of Health Problem	Seriousness of Health Problem	Effectiveness of Intervention	PRIORITY SCORE	PRIORITY RANK
Obesity	9	8	5	125	1
Tobacco use	8	6.5	5	105	2
Drug and alcohol abuse and addiction	7	10	3	81	3
Cardiovascular disease	3	6.5	5	80	4
Diabetes	4	6	5	80	4
Maternal/infant/child health	7	4.5	5	80	4
Cancer	1	6	5	65	7
Healthcare access - cost and quality	7	6	3	57	8
Mental health	7	7	2	42	9

7.4 LaGrange County

Figure A-4: Relative Hanlon Scores by Indicator: LaGrange County

Health Need	Size of Health Problem	Seriousness of Health Problem	Effectiveness of Intervention	PRIORITY SCORE	PRIORITY RANK
Obesity	8.5	8	5	122.5	1
Tobacco use	7	6.5	5	100	2
Maternal/infant/child health	6	6.5	5	95	3
Diabetes	4	6.5	5	85	4
Drug and alcohol abuse and addiction	8	9.5	3	81	5
Cancer	1	7.5	5	80	6
Healthcare access - cost and quality	10	6	3	66	7
Cardiovascular disease	3	5	5	65	8
Chronic kidney disease	4	5	3	42	9
Mental health	7	7	2	42	9

7.5 NOBLE COUNTY

Figure A-5: Relative Hanlon Scores by Indicator: Noble County

Health Need	Size of Health Problem	Seriousness of Health Problem	Effectiveness of Intervention	PRIORITY SCORE	PRIORITY RANK
Obesity	8.5	7	5	112.5	1
Tobacco use	10	5.5	5	105	2
Diabetes	4	6.5	5	85	3
Maternal/infant/child health	8	4.5	5	85	3
Drug and alcohol abuse and addiction	8	10	3	84	5
Cardiovascular disease	3	6.5	5	80	6
Cancer	1	7	5	75	7
Healthcare access - cost and quality	7	6	3	57	8
Mental health	8	5.5	2	38	9
Asthma	6	5.5	2	34	10
Aging	5.5	4.5	2	29	11

7.6 WABASH COUNTY

Figure A-6: Relative Hanlon Scores by Indicator: Wabash County

Health Need	Size of Health Problem	Seriousness of Health Problem	Effectiveness of Intervention	PRIORITY SCORE	PRIORITY RANK
Maternal/infant/child health	9	6.5	5	110	1
Obesity	8.5	6.5	5	107.5	2
Tobacco use	7	6.5	5	100	3
Drug and alcohol abuse and addiction	7	10	3	81	4
Cancer	1	7.5	5	80	5
Diabetes	4	6	5	80	5
Cardiovascular disease	3	5.5	5	70	7
Healthcare access - cost and quality	6	5.5	3	51	8
Mental health	7	5.5	2	36	9
Chronic kidney disease	4.5	3	3	31.5	10
Aging	6.5	3.5	2	27	11

7.7 WHITLEY COUNTY

Figure A-7: Relative Hanlon Scores by Indicator: Whitley County

Health Need	Size of Health Problem	Seriousness of Health Problem	Effectiveness of Intervention	PRIORITY SCORE	PRIORITY RANK
Obesity	8.5	6	5	102.5	1
Tobacco use	8	6	5	100	2
Maternal/infant/child health	8	5	5	90	3
Cancer	1	7	5	75	4
Cardiovascular disease	3	6	5	75	4
Diabetes	4	5.5	5	75	4
Drug and alcohol abuse and addiction	8	8	3	72	7
Healthcare access - cost and quality	5	6	3	51	8
Mental health	8	7.5	2	46	9
Chronic kidney disease	4	4	3	36	10
Asthma	6	5.5	2	34	11

8 APPENDIX B: PRELIMINARY SURVEY RESULTS FOR THE AMISH COMMUNITY

Note: The frequencies reported here are *preliminary* and should not be shared or used for decision-making. The Assessment Team is still verifying their accuracy and interpreting results. Further analysis will be conducted to discover correlations between demographic and health data.

A survey was conducted with members of the Amish community in the Parkview Health System service area for the 2016 Community Health Assessment. Survey participants were engaged through a random distribution of the survey at Topeka Pharmacy (heavily used by the Amish) and through distribution of surveys by Amish members of both the Parkview LaGrange Hospital Patient & Family Advisory Council and Hospital Board of Directors. Sixty-nine people completed the survey. One respondent was eliminated due to age (16); responses from sixty-eight individuals were included in this preliminary analysis, using SPSS statistical software.

Demographics

1. Of the 68 responders, most resided in the 46571 and 46565 zip codes, (27, 39.7%) and 21 (30.9%) respectively. The zip code distribution is shown below:

Zip Code	Number	Percent
46543	1	1.5
46565	21	30.9
46571	27	39.7
46761	6	8.8
46767	2	2.9
46794	1	1.5
46795	9	13.2
49091	1	1.5
Total	**68**	**100.0**

2. The age range of respondents was 18 to 82 years. Respondent age was categorized to correspond with the telephone survey conducted by Rutgers. The number and percent for each age category is displayed in the table below:

Age Category	Number	Percent
18-29	15	22.1
30-49	29	42.6
50-64	9	13.2
65+	15	22.1
Total	**68**	**100.0**

The **majority of respondents were aged 30-49** (29, 42.6%). The next highest categories were 18-29 and 65+, each with 15 respondents (22.1%). The lowest number of respondents fell in the 50-64 category, with 9 respondents (13%).

3. The **majority of survey respondents were female** (40, 58.8%). Male respondents numbered 28 (41.2%).

4. Nearly **90% of survey respondents (61) were or had been married**. Seven had never been married (10.3%). The majority of married respondents were still married (58, 95%); three respondents were no longer married (5%).

5. **A little over half of respondents had children at home for whom they were responsible** (39, 57.4%); 29 respondents did not have children in their home (42.6%)

Individual Health Problems

6. Responders were asked to report height and weight, which were then used to compute Body Mass Index (BMI). BMIs were then categorized according to Centers for Disease Control and Prevention definitions of Underweight, Normal Weight, Overweight, and Obese. Among survey respondents, 26 were normal weight, (41.3%), 13 were overweight (20.6%), 23 were classified as obese (36.5%) and 1 was underweight (1.6%). We were unable to compute BMI for 5 individuals because they did not report either their height or weight or both.

Weight Category	Number	Percent
Normal	26	41.3
Obese	23	36.5
Overweight	13	20.6
Underweight	1	1.6
Total	**63**	**100.0**

7. Survey respondents were asked to rate their health as excellent, very good, good, fair or poor. Eight respondents (11.8%) rated their health as excellent, 12 as very good (17.6%), 31 as good (45.6%), 14 as fair (20.6%) and 3 as poor (4.4%).

Health Rating	Number	Percent
Excellent	8	11.8
Very Good	12	17.6
Good	31	45.6
Fair	14	20.6
Poor	3	4.4
Total	**68**	**100.0**

8. Respondents were asked when they had their last medical check-up. Twenty-three (33.8%) reported they had a check-up in the past year. Twelve (17.6%) had had a check-up one-to-two years ago; three (4.4%) reported they had had a check-up between two and five years ago, nine reported they had had one more than five years ago, and 15 (22.1%) reported they had never had a check-up. Six respondents (8.8%) did not know when they had had their last check-up.

Last Medical Check-up	Number	Percent
Within past year	23	33.8
A year to about 2 years ago	12	17.6
Between 2 and 5 years ago	3	4.4
More than 5 years ago	9	13.2
Never	15	22.1
Don't know	6	8.8
Total	**68**	**100.0**

9. Respondents were asked when they last had their cholesterol checked. Sixty-seven individuals responded to this question. Of those, 29 said they had never had a cholesterol test (43.3%), 14 said they had had one in the past year (20.9%), and 10 responded that they didn't know when they had had their last test (14.9%). The three other response options, ranging between one-to-two (6, 7.5%) years ago, two-to-five years ago (5, 7.5%) and more than five years ago (3, 4.5%) were each selected by less than 10% of responders.

Last Cholesterol Test	Number	Percent
Within the past year	14	20.9
A year to about 2 years ago	6	9.0
Between 2 and 5 years ago	5	7.5
More than 5 years ago	3	4.5
Never	29	43.3
Don't know	10	14.9
Total	67	100.0
Missing	1	
Total	**68**	**100.0**

10. Survey respondents were asked if they had had a lab test for high blood sugar in the past three years. Nearly 37% reported they had, (25, 36.8%), more than 32% reported they had not (22, 32.4%), and nearly 30% reported they had never had a glucose test (20, 29.4%). One respondent did not answer the question.

Glucose Test Last 3 Years	Number	Percent
No	22	32.8
Yes	25	37.3
Never	20	29.9
Total	67	100.0
Missing	1	
Total	**68**	**100.0**

In the following question, respondents were asked, that if they had been told they had diabetes. **Almost 6% indicated they had been told they had diabetes** (4, 5.9%). Sixty-four respondents (94.1%) either answered "no" (29, 42.6%) or did not respond to the question (35, 51.5%).

11. Respondents were asked whether they had ever smoked, had once smoked and quit, or currently smoked. Just under 70% of respondents reported never smoking (46, 69.7%). Seventeen people (25.8%) said they had smoked at one time but quit, and three individuals reported the currently smoked (4.4%). Two individuals did not respond to the question. In the following question, which asked if smokers had tried to quit in the past year, five people reported they had tried to quit (7.4%).

Smoking	Number	Percent
Currently smoke	3	4.5
Used to smoke	17	25.8
Never smoked	46	69.7
Total Responding	66	100.0
Missing	2	
Total	**68**	**100.0**

12. Survey respondents were asked if they had ever experienced depression, anxiety or both. The largest group of respondents said they experienced neither (25, 39.1%). The second largest group said they had experienced both (21, 32.8%). Six people reported depression (9.4%) and three reported anxiety (4.7%). Nine people said they didn't know (14.1%). Four people declined to answer the question.

Depression/Anxiety	Number	Percent
Depression	6	9.4
Anxiety	3	4.7
Both	21	32.8
Neither	25	39.1
Don't know	9	14.1
Total	64	100.0
Missing	4	
Total	**68**	**100.0**

13. Respondents were asked where they normally went for healthcare. The vast majority reported going to a doctor's office (58, 87.9%). Two people reported going to the hospital (3.0%) and 2 reported they didn't go anywhere for healthcare. Two respondents declined to answer the question. Four people (6.1%) checked the "Other" response, and wrote in the following:
    - Midwife (2), chiropractor (2), herbalist
    - Nathopathic dr.

    Several respondents selected multiple responses to the question. Ten of those indicating doctor's office also added:

    - Midwife
    - Healer (2)
    - Hospital
    - Herbs
    - Natural health nutritionist
    - Health provider
    - Northern Nutrition (natural products)
    - Southwest Spine Cent[er] in Colon, MI
    - Elkhart Clinic - Dr Oswald

    One respondent that selected doctor also added "seldom;" another who checked hospital, also wrote in "Healer for non-emergencies."

Community Health Problems

Survey questions up to this point asked about responders' personal health and well-being. They were also asked to rate the severity of seven health problems in their community. These included teen pregnancy, road accidents and injuries, overweight and obesity, ability to get help for stress, depression, and problems with emotions, smoking, alcohol, drug addiction. They were asked to rate each of these as 1) Not a problem, 2) Somewhat of a problem, or 3) A big problem in their community.

14a. Regarding teen pregnancy, the largest number of responders considered it somewhat of a problem (30, 58.8%). The second largest group (20, 39.2%) considered a big problem. These two groups accounted for 98% of responses. Only 2% did not consider teen pregnancy a problem. Seventeen individuals declined to respond to this category.

Teen Pregnancy	Number	Percent
Not a problem	1	2.0
Somewhat of a problem	30	58.8
A big problem	20	39.2
Total	51	100.0
Missing	17	
Total	**68**	

14b. Regarding road accidents and injuries, just under half of responders (29, 49.2%) considered this a big problem in the community. Most of the other half considered this somewhat of a problem (28, 47.5%). Only two individuals did not consider accidents and injuries a problem. Nine individuals declined to respond.

Road Accidents/Injuries	Number	Percent
Not a problem	2	3.4
Somewhat of a problem	28	47.5
A big problem	29	49.2
Total	59	100.0
Missing	9	
Total	**68**	

14c. The majority of survey respondents considered obesity a big problem in their community (38, 65.5%). Most of the remaining third considered it somewhat of a problem (19, 32.8%). Only 1 individual did not think obesity/overweight was a problem (1.7%). Ten individuals declined to rate this problem.

Overweight/Obesity	Number	Percent
Not a problem	1	1.7
Somewhat of a problem	19	32.8
A big problem	38	65.5
Total	58	100.0
Missing	10	
Total	**68**	

14d. Getting help for mental/emotional problems like depression and anxiety were not considered a problem by the largest group of responders (26, 46.4%). Almost as many considered it somewhat of a problem (24, 42.9%). A small group of responders thought it was a big problem (6, 10.7%). Twelve individuals declined to rate the problem.

Help for Emotional Problems	Number	Percent
Not a problem	26	46.4
Somewhat of a problem	24	42.9
A big problem	6	10.7
Total	56	100.0
Missing	12	
Total	**68**	

14e. Smoking was considered somewhat of a problem by most people who responded (33, 57.9%). Twenty two responders thought it was a big problem (38.6 only two individuals (3.5%) rated smoking as not a big problem. Combined, 96.5% of the survey group considered smoking a big or somewhat of a problem. Eleven individuals declined to rate the problem.

Smoking	Number	Percent
Not a problem	2	3.5
Somewhat of a problem	33	57.9
A big problem	22	38.6
Total	57	100.0
Missing	11	
Total	**68**	

14f. Alcohol use was considered a big problem by the largest group of survey responders (35, 60.3%). Nearly all other responders thought it was somewhat of a problem (22, 37.9%). Only 1 individual rated it as not a problem (1.7%). Ten individuals declined to rate the problem.

Alcohol Use	Number	Percent
Not a problem	1	1.7
Somewhat of a problem	22	37.9
A big problem	35	60.3
Total	58	100.0
Missing	10	
Total	**68**	

14g. a sizeable group of responders considered drug abuse a big problem (42, 72.4%). Nearly all other responders considered it somewhat of a problem (15, 25.9%). Only one individual responded that drug abuse was not a problem. Ten people declined to assign a rating.

Drug Use	Number	Percent
Not a problem	1	1.7
Somewhat of a problem	15	25.9
A big problem	42	72.4
Total	58	100.0
System	10	
Total	**68**	

The table below summarizes findings for ratings of community health problems:

Health Problem	Not a problem	Somewhat of a problem	A big problem
Teen pregnancy	2.0	58.8	39.2
Accidents/Injuries	3.4	47.5	49.2
Overweight/Obesity	1.7	32.8	65.5
Help with Emotional Problems	46.4	42.9	10.7
Smoking	3.5	57.0	38.6
Alcohol Use	1.7	37.9	60.3
Drug Use	1.7	25.9	72.4

Note: The frequencies reported here are *preliminary* and should not be shared or used to for decision-making. The Assessment Team is still verifying their accuracy and interpreting results. Further analysis will be conducted to discover correlations between demographic and health data.

9 APPENDIX C – DEMOGRAPHIC DISPARITIES IN HEALTH AND HEALTHCARE

Increasingly an emphasis is being placed on approaches to improve health and health equity at the population or community level by addressing the fundamental causes of health and disease that lie upstream from medical care (Braveman & Gottlieb, 2014; Heiman & Artiga, 2015). Addressing the social determinants of health – the everyday "conditions in which people are born, grow, live, work and age ("WHO | What are social determinants of health?," n.d.)" – is necessary to broadly improve population health. These everyday conditions result in differential access to health-promoting resources and opportunities (e.g. education, money, power) that in turn generate disparities in health which are socially-influenced and therefore potentially preventable.

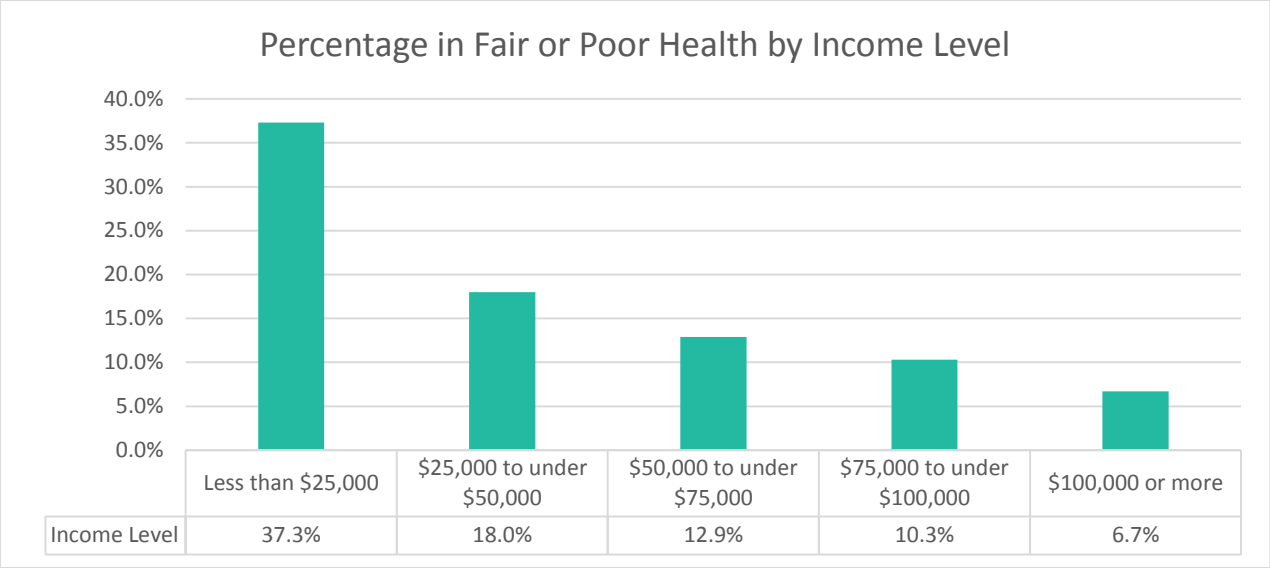
Health and healthcare disparities have been widely documented across the US, particularly among those of lower socioeconomic status and minority racial/ethnic groups (Agency for Healthcare Research and Quality, 2015; Centers for Disease Control and Prevention, 2013). For this reason, we highlight here key demographic disparities identified in the phone survey of Parkview communities, focusing on those differences which are considered to be socially-influenced (e.g. smoking prevalence by education level) rather than biologically-based (e.g. natural worsening of health with increasing age).

The complexity of disease causality and of community-level interventions for social determinants of health precludes us from a comprehensive discussion within the current report, but the team would welcome the opportunity to dig more deeply into this topic with leaders at a future time.

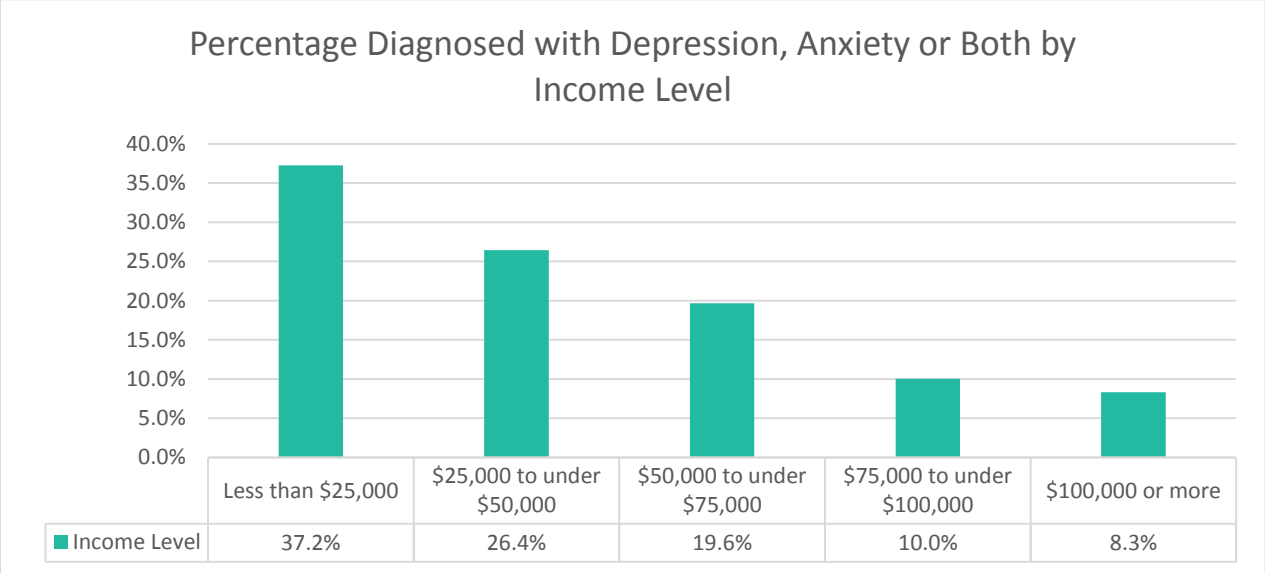
This section provides an overview of these disparities in the Parkview region.

Socioeconomic Disparities

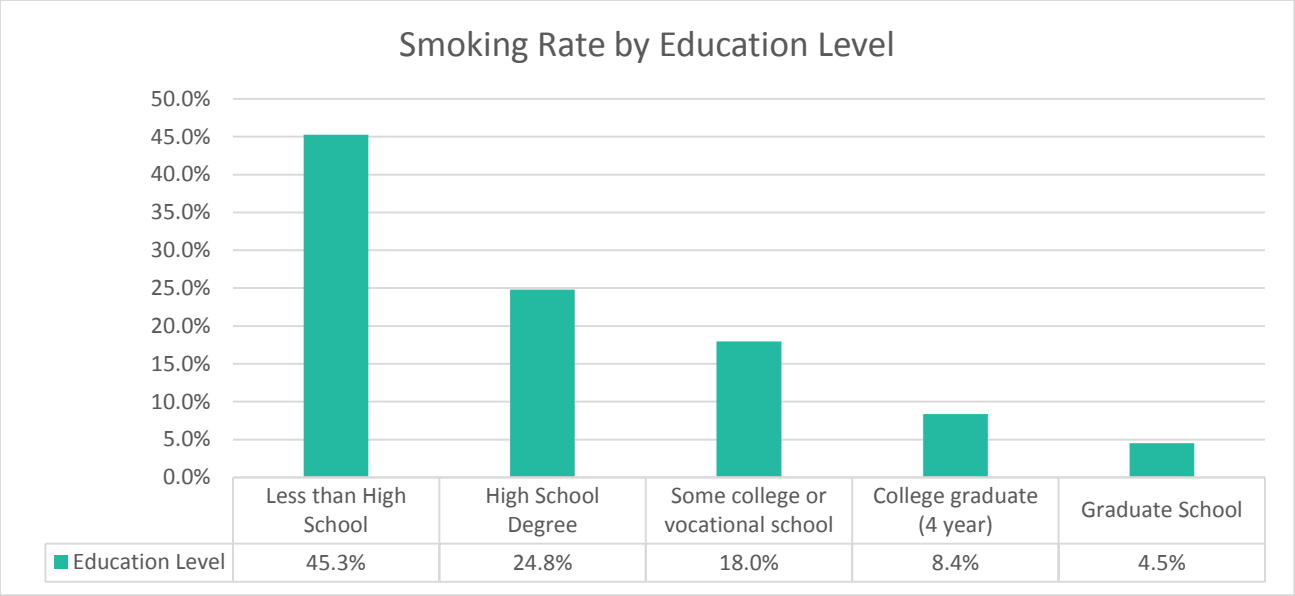
Consistent with patterns noted around the world (Marmot, 2015), there is evidence of a clear social gradient in health across Parkview communities. In general, higher income and higher education are associated with better health, health behaviors, and healthcare access/utilization, and vice versa. It tends to follow a stair-step pattern, where incremental increases are associated with incremental improvements in health. The following charts demonstrate examples of this gradient for 1) fair/poor self-rated health, 2) depression/anxiety, 3) smoking, 4) physical inactivity, 5) lack of usual place for medical care.



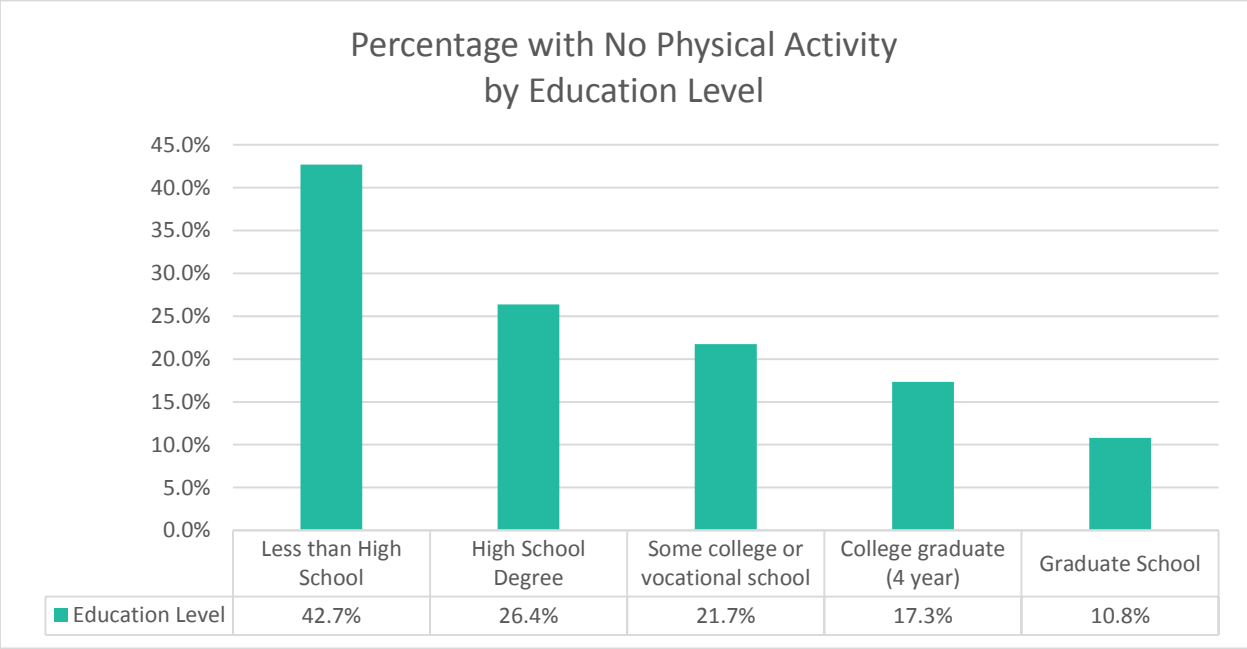
The rate of fair/poor health among those earning the least (less than $25,000) is more than five times the rate among the highest earners ($100,000 or more). However, even the difference among those making a bit more money ($25,000-$50,000) compared to the lowest earners is substantial at half the rate seen in the lowest-earning group.



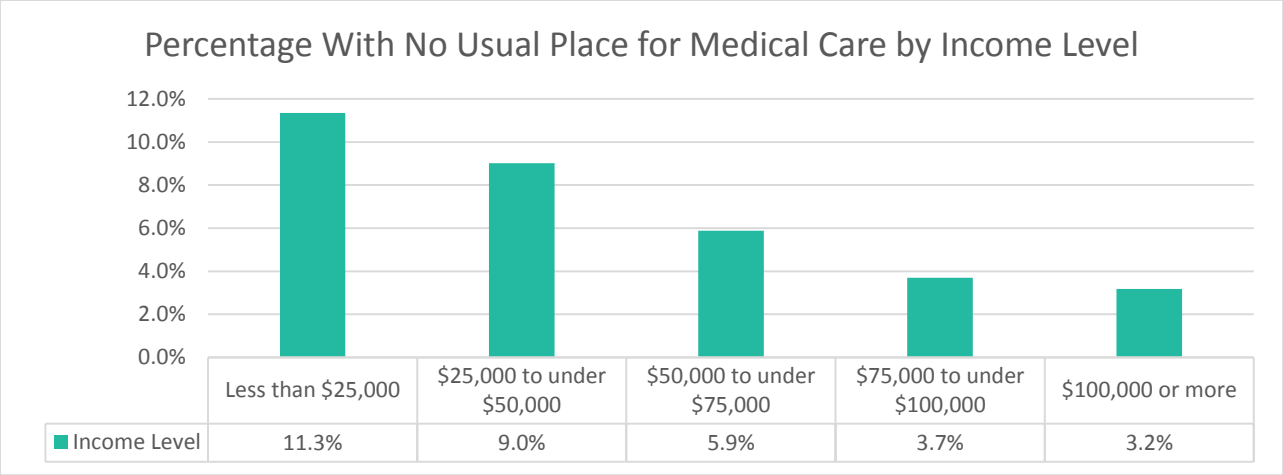
The social gradient is also apparent in mental health. The percentage of those who have been diagnosed with depression, anxiety, or both is more than four times higher among the lowest income group than the highest, and there is incremental reduction with each step up the income ladder.



Smoking is a health behavior that is socially influenced. The chart above demonstrates a striking decrease in smoking as education level rises. The smoking rate among those who have less than a high-school education is 10 times higher than among those with a graduate school education. Every step up the education spectrum results in a decrease in smoking rates.



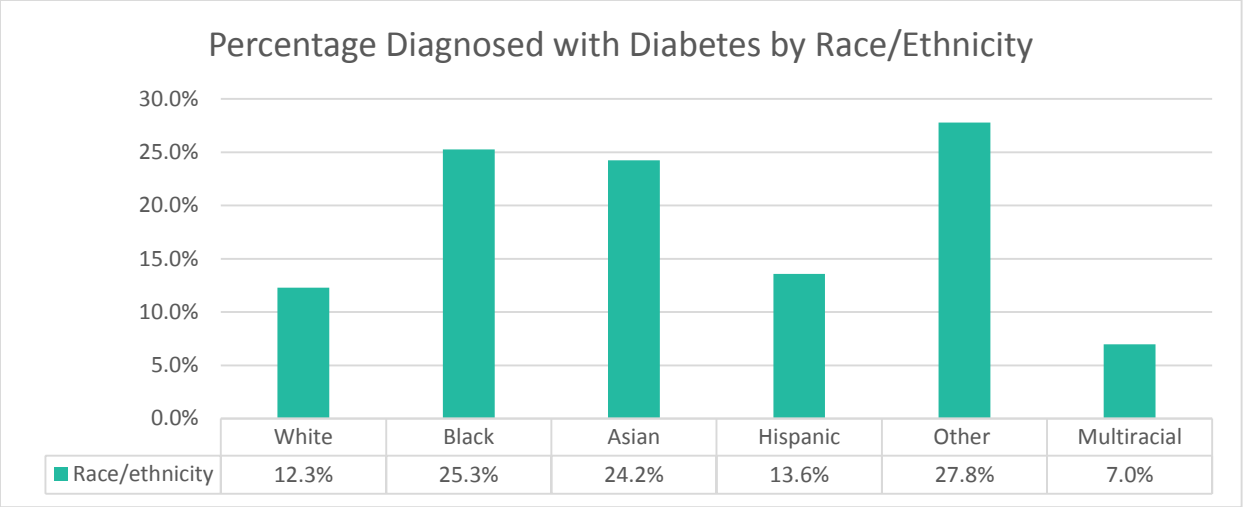
There is a similar gradient in physical activity. The proportion who report no physical activity in the past month outside work is drastically higher among the lower education group than the higher ones, again dropping with each step up the educational ladder.



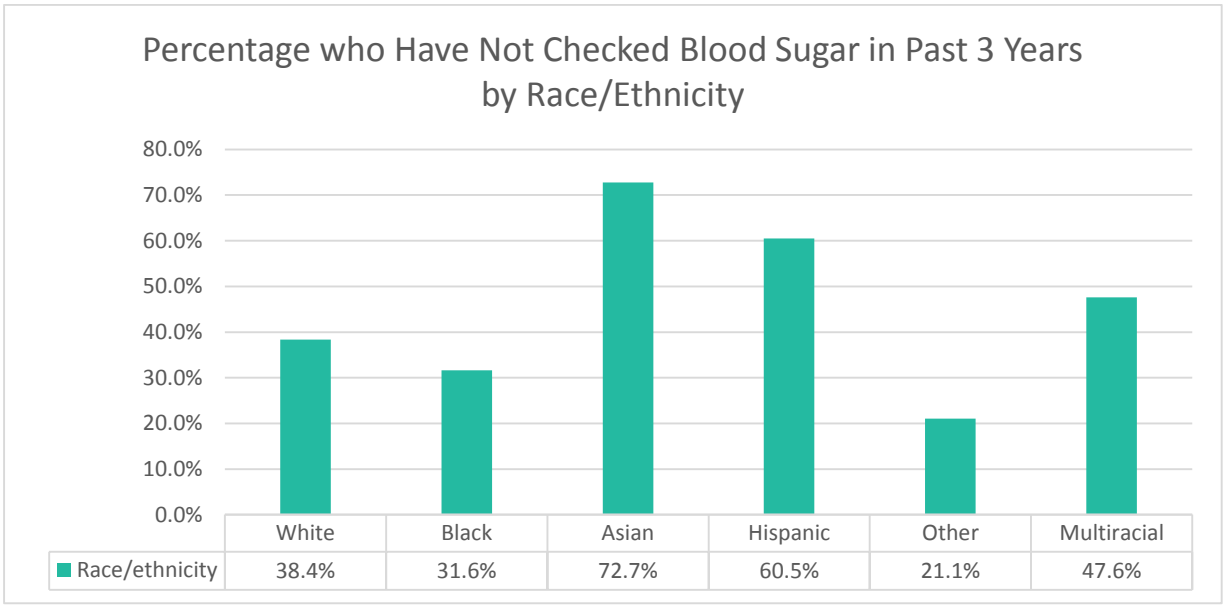
The previous charts demonstrate that those on the lower end of the socioeconomic spectrum are more likely to have poor health and be exposed to health-damaging behaviors. Yet, healthcare access and utilization are also impacted. The chart above shows that those with the least income are the most likely to report having no usual place for medical care.

Racial/Ethnic Disparities

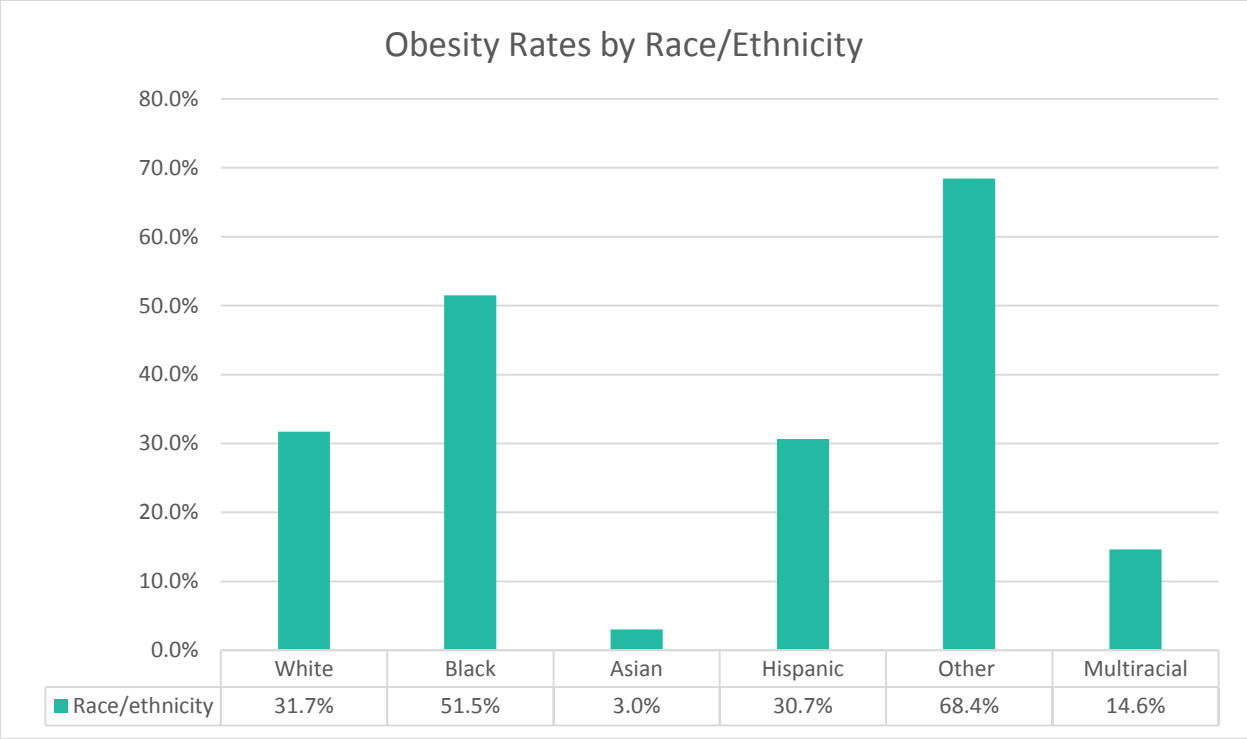
Minority racial/ethnic groups in the US experience a wide variety of health and healthcare disparities, many of which were brought into focus with the Institute of Medicine's landmark report on the topic (Institute of Medicine, 2002). Groups who have experienced historical trauma or disadvantage, such as African Americans or Native Americans, are particularly affected (Office of Disease Prevention and Health Promotion, 2016). Little progress has been made in reducing these disparities over the past decade (Agency for Healthcare Research and Quality, 2015). In the charts below, we highlight key racial/ethnic disparities in the following measures: 1) diabetes prevalence, 2) diabetes screening, 3) obesity, and 4) lack of healthcare coverage



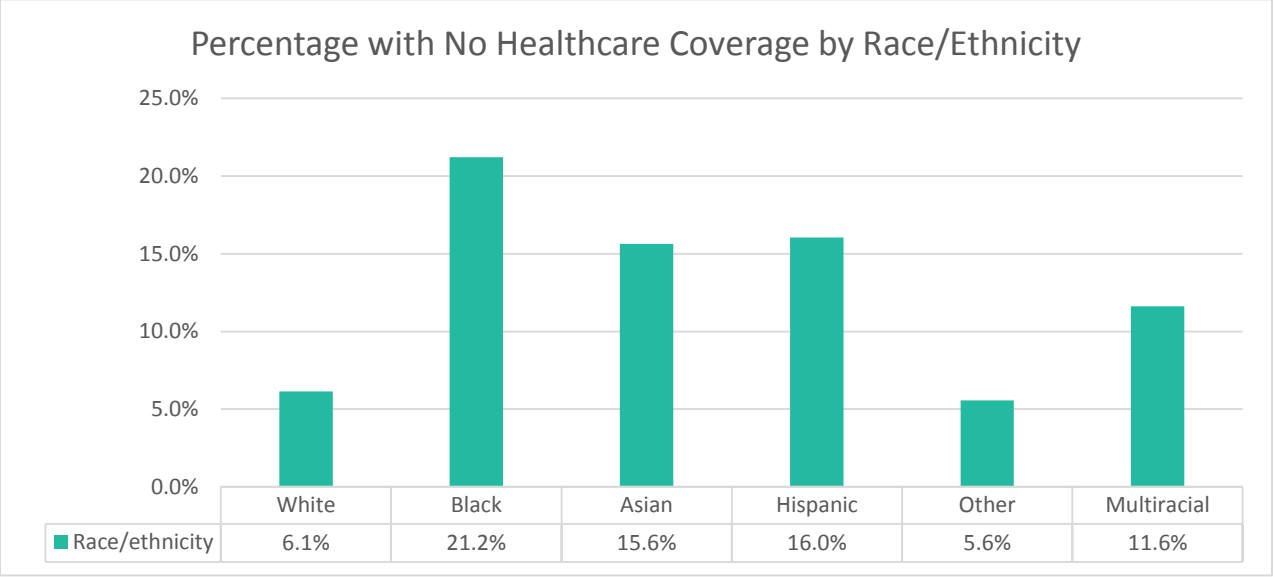
The chart above shows that the rate of diabetes in Black, Asian, and "Other" races is essentially double the rate in White or Hispanic persons.



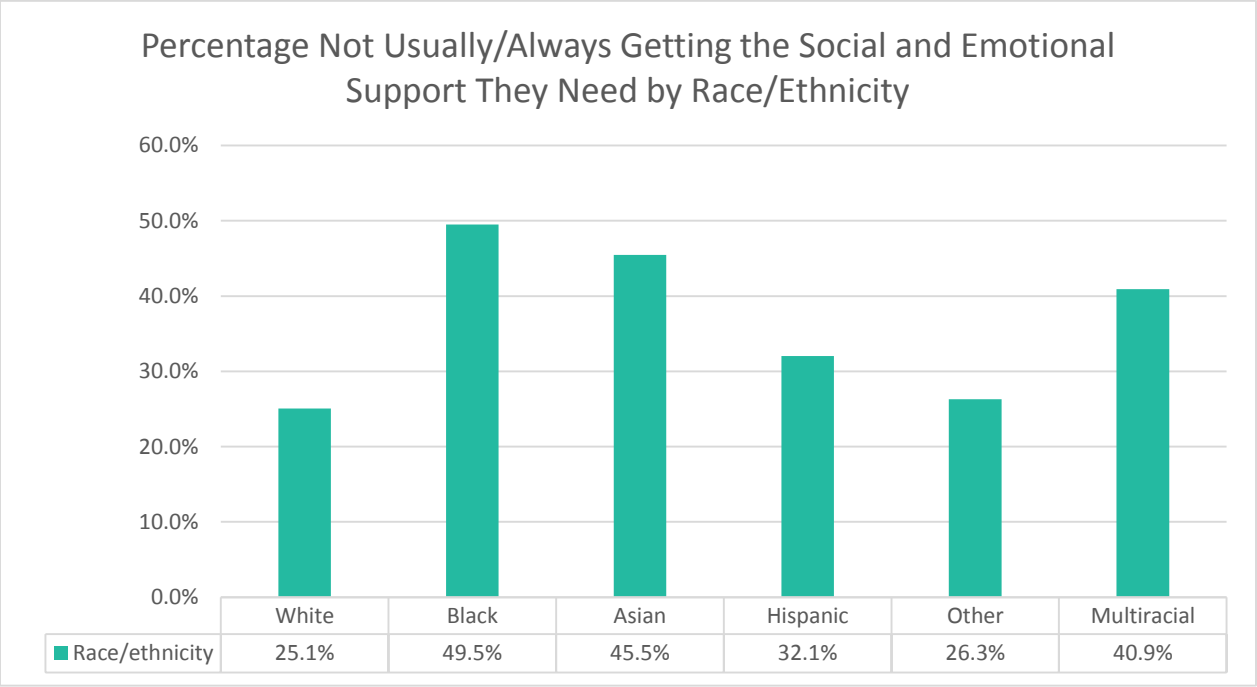
Screening for diabetes is substantially lacking in some groups known to be at high risk diabetes, including Asians and Hispanic people (Alex, ria, & 1-800-Diabetes, n.d.; "Why are Asians at Higher Risk?," n.d.).



Obesity rates are substantially higher among those of "other" or Black races compared to the White or Hispanic populations. Access and affordability of nutritious foods in various communities likely play a role (Larson, Story, & Nelson, 2009). Obesity is lowest among Asians.



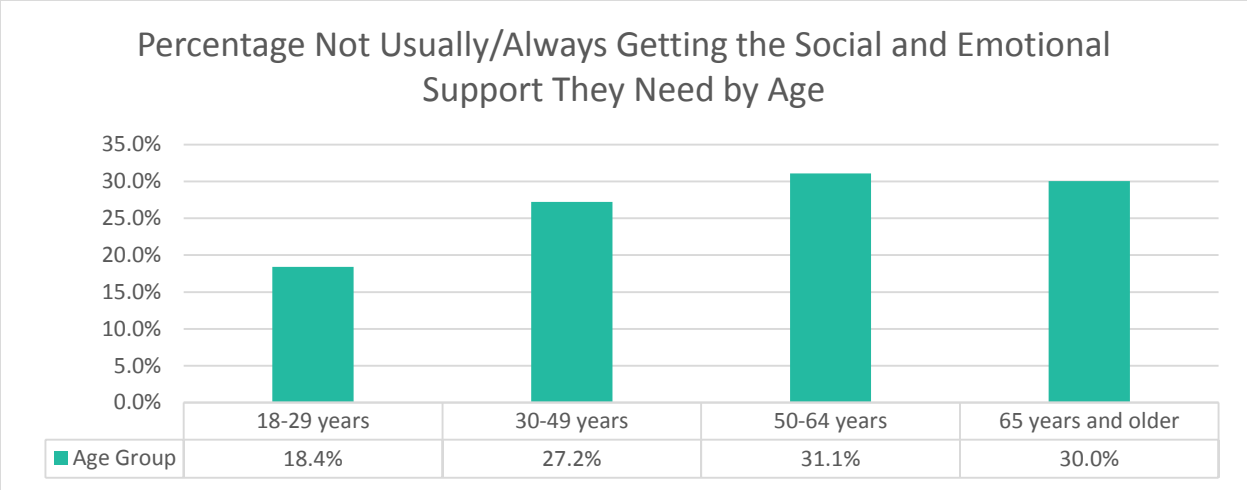
Despite recent advances in healthcare coverage nationally through the Affordable Care Act, disparities in healthcare coverage persist. The percentage of the Black population without healthcare coverage is more than three times the rate among the white population. Hispanics and Asians are more than twice as likely to be uninsured as white persons.



Higher proportions of all racial/ethnic minority groups in Parkview communities reported not usually/always getting the social and emotion support they need compared to the white population. The rate of inadequate support was twice as high among Black persons as among white persons.

Age Disparities

Many perceived differences identified by age are related to the gradual worsening of health over time as a result of natural biological processes. However, there are some examples of social disparities by age as well. For example, the chart below indicates that the proportion who say they do not usually or always get the social and emotional support they need increases to its highest level among those above age 65. Social isolation is a known risk for worsening health (Cornwell & Waite, 2009), and interventions to increase social connectedness among elderly members of a community would be potentially beneficial.



Sex Disparities

Health differences between men and women often have a biological basis, however, a number of our measures reflect a number of differences in men's access and utilization of healthcare services. In the Parkview phone survey, men were:

- Less likely than women to have had a routine checkup in the past year;
- Less likely than women to have had their cholesterol checked in the past 5 years;
- Less likely than women to have had their blood sugar tested in the past 3 years';
- Less likely to have a usual place to receive healthcare;
- Less likely to have any kind of healthcare coverage;
- More likely than women to currently smoke.

In contrast, women were:

- More likely than men to have been diagnosed with depression, anxiety or both;
- Less likely to receive the social and emotional support needed (always/usually);
- More likely to have been diagnosed with diabetes.

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