



Sharon Regional Health System
Community Health Needs Assessment
April 2013



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Consultant's Report

Mr. Jeff Chrobak
Chief Financial Officer
Sharon Regional Health System
740 East State Street
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On behalf of Sharon Regional Health System, (Sharon) we have assisted in conducting a Community Health Needs Assessment (CHNA) consistent with the scope of services outlined in our engagement letter dated October 29, 2012. The purpose of our engagement was to assist the System in meeting the requirements of Internal Revenue Code §501(r)(3). We relied on the guidance contained in IRS Notice 2011-52 when preparing your report. We also relied on certain information provided by Sharon, specifically certain utilization data and existing community health care resources.

Based upon the assessment procedures performed, it appears Sharon is in compliance with the provisions of §501(r)(3). Please note that, we were not engaged to, and did not, conduct an examination, the objective of which would be the expression of an opinion on compliance with the specified requirements. Accordingly, we do not express such an opinion.

We used and relied upon information furnished by the Organization, its employees and representatives and on information available from generally recognized public sources. We are not responsible for the accuracy and completeness of the information and are not responsible to investigate or verify it.

These findings and recommendations are based on the facts as stated and existing laws and regulations as of the date of this report. Our assessment could change as a result of changes in the applicable laws and regulations. We are under no obligation to update this report if such changes occur. Regulatory authorities may interpret circumstances differently than we do. Our services do not include interpretation of legal matters.

BKD, LLP

April 30, 2013

Introduction

IRC Section 501(r) requires health care organizations to assess the health needs of their communities and adopt implementation strategies to address identified needs. Per IRC Section 501(r), a byproduct of the *Affordable Care Act*, to comply with federal tax-exemption requirements, a tax-exempt hospital facility must:

- Conduct a community health needs assessment every three years.
- Adopt an implementation strategy to meet the community health needs identified through the assessment.
- Report how it is addressing the needs identified in the community health needs assessment and a description of needs that are not being addressed with the reasons why such needs are not being addressed.

The community health needs assessment must take into account input from persons who represent the broad interest of the community served by the hospital facility, including those with special knowledge of or expertise in public health. The hospital facility must make the community health needs assessment widely available to the public.

This community health needs assessment, which also describes the process, is intended to document Sharon Regional Health System's, compliance with IRC Section 501(r). Health needs of the community have been identified and prioritized so that Sharon Regional Health System, (Hospital) may adopt an implementation strategy to address specific needs of the community.

The process involved:

- Collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, health care resources and patient use rates.
- Interviews with key informants who represent a) broad interests of the community, b) populations of need or c) persons with specialized knowledge in public health.
- Circulation of a Community Health Input Questionnaire that gathered a wide range of information which was widely distributed to members of the community.

This document is a summary of all the available evidence collected during the initial cycle of community health needs assessments required by the IRS. It will serve as a compliance document as well as a resource until the next assessment cycle.

Both the process and document serve as the basis for prioritizing the community's health needs and will aid in planning to meet those needs.

Executive Summary

Sharon Regional Health System identified various community health needs through the assessment process described in this document. 180 residents provided input through a community health input questionnaire. Another 29 individuals with specialized knowledge participated in key informant interviews. In addition, secondary data was compiled from various national, state and local sources of information on demographics, socioeconomics, disease prevalence, health indicators, health equity and mortality.

The accumulated data was analyzed and reviewed to identify health issues of uninsured persons, low-income persons and minority groups and the community as a whole. Health needs were prioritized utilizing a method that weighs: 1) the ability of the Hospital to evaluate and measure outcomes; 2) how many people are affected by the issue or size of the issue; 3) what are the consequences of not addressing this problem; 4) prevalence of common themes; and 5) the ability of the Hospital to impact change. The hospital engaged **BKD, LLP** to assist with compiling secondary data and to assist with prioritizing identified health needs. Members of management then evaluated existing hospital programs corresponding to the identified needs.

Subsequently, key hospital leadership entered into a dialogue to discuss the results of the evaluation and select health priorities. Participants were given the opportunity to revise rankings and debate issues until a consensus was reached on a composite ranking of health issues. The process identified the following issues with scores of 24 or more (on a scale of 28):

- Diseases of the heart
- Mental health
- Cancer
- Adult smoking

As a result of the analysis, the following areas were identified as the priorities on which Sharon Regional Health System will focus on over the next three years.

Sharon Regional Health System Priorities	Correlated Community Health Need
Diseases of the Heart	Premature Death Lack of Health Knowledge/Health Promotion
Cancer	Access to Health Screenings Premature Death Lack of Health Knowledge/Health Promotion
Mental and Emotional Well Being	Poor Mental Health Days Suicide Depression
Tobacco & Substance Abuse	Adult Smoking Teen Smoking Secondhand Smoke Alcohol & Drug Abuse

Sharon Regional Health System will continue to work with the community to adopt and execute an implementation plan to realize goals that address identified health needs.

Summary of Community Health Needs Assessment

The Hospital engaged **BKD, LLP** to conduct a formal community health needs assessment. **BKD, LLP** is one of the largest CPA and advisory firms in the United States, with approximately 2,000 partners and employees in 30 offices. BKD serves more than 900 hospitals and health care systems across the country. The community health needs assessment was conducted from December 2012 through April 2013.

Based on current literature and other guidance from the treasury and the IRS, the following steps were conducted as part of Hospital's community health needs assessment:

- The "community" served by the Hospital was defined by utilizing inpatient data regarding patient origin. This process is further described in *Community Served by the Hospital*.
- Population demographics and socioeconomic characteristics of the community were gathered and reported utilizing information from various third parties (see references in Appendices). The health status of the community was then reviewed. Information on the leading causes of death and morbidity information was analyzed in conjunction with health outcomes and factors reported for the community by CountyHealthrankings.org. Health factors with significant opportunity for improvement were noted.
- An inventory of health care facilities and resources was prepared and a demand for physician and hospital services was estimated. Both were evaluated for unmet needs.
- Community input was provided through key informant interviews of 29 stakeholders and a community health input questionnaire was widely distributed. The Community Health Input Questionnaire was completed by 180 individuals. Results and findings are described in the Key Informant and Community Health Input Questionnaire sections of this report.
- Information gathered in the above steps was analyzed and reviewed to identify health issues of uninsured persons, low-income persons and minority groups and the community as a whole. Health needs were ranked utilizing a weighting method that considers 1) the ability of the Hospital to impact change, 2) the size of the problem, 3) the seriousness of the problem and 4) the prevalence of common themes.

Health needs were then prioritized taking into account the perceived degree of influence the Hospital has to impact the need and the health needs impact on the overall health of the community. Information gaps were identified during the prioritization process and are also reported.

- Recommendations based on this assessment have been communicated to Hospital management.

General Description of Hospital

The Hospital is a major provider of advanced health and medical services for the northwest Pennsylvania-northeast Ohio region. Serving the region for over 115 years, the Hospital is located on the Pennsylvania-Ohio border near Youngstown and Warren, Ohio, and midway between Cleveland, Pittsburgh and Erie. Sharon Regional Health System consists of a 258-bed hospital with 22 satellite centers and more than 1,750 employees. Growth in medical services along with more people choosing Sharon Regional Health System for their care has enabled them to remain an independent community-focused health care system.

A new emergency care center, women's center, diabetes and endocrinology center, freestanding cancer care center, advanced wound recovery center, Hubbard diagnostic and specialty center, rehab center and expanded behavioral health services make Sharon Regional Health System a leader in delivery of health care services.

Community Served by the Hospital

The Hospital is located in the city of Sharon, Pennsylvania. Sharon is approximately seventy-one miles north of Pittsburgh, Pennsylvania, and eighty-four miles east of Cleveland, Ohio. Sharon and the surrounding geographic area are not close to any major metropolitan area. Sharon is accessible from Interstate 80 by state highways and other secondary roads.

Defined Community

A community is defined as the geographic area from which a significant number of the patients utilizing hospital services reside. While the community health needs assessment considers other types of health care providers, the utilization of Hospital services provides the clearest definition of the community. The criteria established to define the community is as follows:

- A zip code area must represent two percent or more of the Hospital's total discharges and/or outpatient visits.
- The Hospital's market share in the zip code area must be greater than or equal to 20 percent.
- The area is contiguous to the geographical area encompassing the Hospital.

Based on the patient origin of acute care discharges from July 1, 2011, through June 30, 2012, management has identified the community to include the zip codes listed in *Exhibit 1*. *Exhibit 1* presents the Hospital's patient origin for each of the top 13 zip code areas in its community. Following is a detailed map of the Hospital's geographical location and the footprint of the community identified in *Exhibit 1*. The map displays the Hospital's geographic relationship to surrounding counties, significant roads and highways, and identifies the 13 zip codes that comprise the Hospital's community.

When specific information is not available for zip codes, the community health needs assessment relies on information for specific counties. The geographic area of the defined community based on the identified zip codes for the community covers significant portions of Mercer County in Pennsylvania and part of Trumbull County in Ohio. The community health needs assessment utilizes the two counties when corresponding information is more readily available. Hospital management identified two zip codes as part of the community definition that did not meet the above criteria, 16161 – Wheatland and 16113 – Clark. Data for these zip codes was not available for *Exhibits 2-5*, as well as for the community maps.

Exhibit 1
Sharon Regional Health System
Summary of Inpatient Discharges by Zip Code (Descending Order)
7/1/2011 to 6/30/2012

Zip Code	City	Discharges	Percent of Total Discharges	Cumulative Percent
16146	Sharon	2,165	20.64%	20.64%
16148	Hermitage	2,082	19.85%	40.49%
16121	Farrell	779	7.43%	47.91%
16150	Sharpsville	738	7.04%	54.95%
16137	Mercer	717	6.84%	61.78%
44438	Masury	469	4.47%	66.25%
16125	Greenville	462	4.40%	70.66%
44425	Hubbard	441	4.20%	74.86%
16159	West Middlesex	351	3.35%	78.21%
44403	Brookfield	316	3.01%	81.22%
16154	Transfer	185	1.76%	82.98%
16161	Wheatland	108	1.03%	84.01%
16113	Clark	30	0.29%	84.30%
	All Other	<u>1,647</u>	<u>15.70%</u>	<u>100.00%</u>
	Total	<u><u>10,490</u></u>	<u><u>100.00%</u></u>	

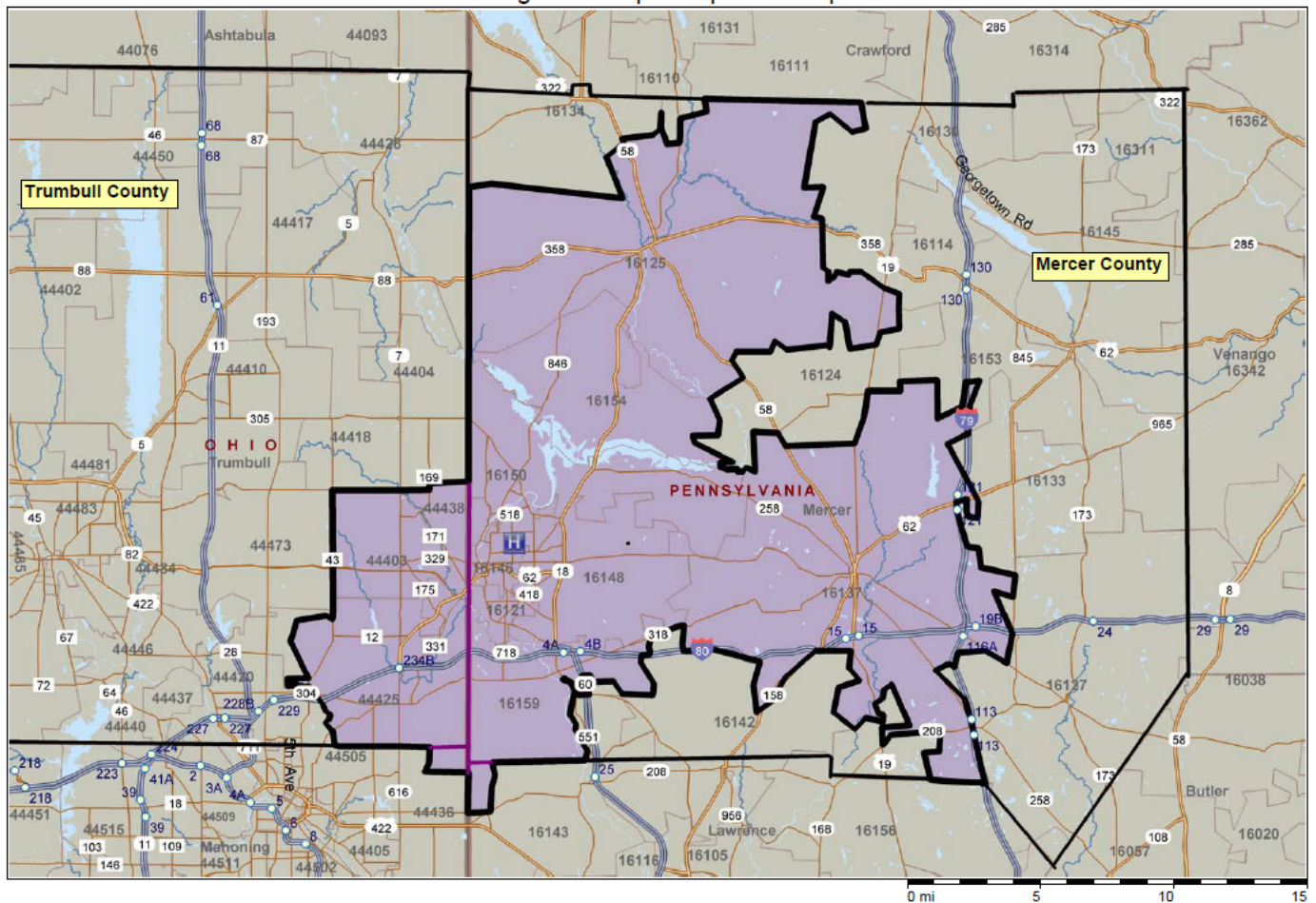
Source: Sharon Regional Health System

Community Details

Identification and Description of Geographical Community

The following map geographically illustrates the Hospital's location and community by showing the community zip codes shaded. The bulk of the community's population lies in Mercer County, with a portion of Trumbull County also having significant discharge numbers.

Sharon Regional Hospital Zip Code Population



Community Population and Demographics

The U.S. Bureau of Census has compiled population and demographic data based on the 2010 census. The Nielsen Company, a firm specializing in the analysis of demographic data, has extrapolated this data by zip code to estimate population trends from 2013 through 2018.

Exhibit 2 illustrates that the overall population is projected to decrease slightly over the five-year period from 105,377 to 103,602. Oposing the trend of the overall total numbers, the age category that utilizes health care services the most, 65 years and over, is projected to increase from 21,470 to 23,525. The projected changes to the composition of the total community, between male and female, are projected to remain approximately the same over the five-year period.

Exhibit 2
Sharon Regional Health System Community Zip Codes
Estimated 2013 Population and Projected 2018 Population

Zip Code	City	Under 15 years	15-44 years	45-64 years	65 years and over	Total	Male	Female
Estimated 2013 Population								
16146	Sharon	2,751	5,006	3,724	2,343	13,824	6,511	7,313
16148	Hermitage	2,503	4,913	4,949	4,298	16,663	7,720	8,943
16121	Farrell	1,052	1,890	1,481	1,130	5,553	2,542	3,011
16150	Sharpsville	1,419	2,670	2,354	1,487	7,930	3,836	4,094
16137	Mercer	2,024	4,801	4,091	2,306	13,222	7,264	5,958
44438	Masury	760	1,555	1,361	903	4,579	2,264	2,315
16125	Greenville	2,870	6,368	4,908	3,885	18,031	8,699	9,332
44425	Hubbard	2,231	4,971	4,615	2,930	14,747	7,172	7,575
16159	West Middlesex	654	1,440	1,446	855	4,395	2,170	2,225
44403	Brookfield	497	1,178	1,319	886	3,880	1,922	1,958
16154	Transfer	407	835	864	447	2,553	1,278	1,275
PROVIDER SERVICE AREA		<u>17,168</u>	<u>35,627</u>	<u>31,112</u>	<u>21,470</u>	<u>105,377</u>	<u>51,378</u>	<u>53,999</u>
Projected 2018 Population								
16146	Sharon	2,670	4,809	3,398	2,499	13,376	6,321	7,055
16148	Hermitage	2,421	4,911	4,599	4,728	16,659	7,725	8,934
16121	Farrell	1,001	1,852	1,343	1,189	5,385	2,473	2,912
16150	Sharpsville	1,328	2,623	2,253	1,629	7,833	3,793	4,040
16137	Mercer	1,957	4,810	3,906	2,590	13,263	7,349	5,914
44438	Masury	730	1,474	1,236	999	4,439	2,193	2,246
16125	Greenville	2,675	6,297	4,491	4,198	17,661	8,508	9,153
44425	Hubbard	2,110	4,894	4,276	3,256	14,536	7,062	7,474
16159	West Middlesex	561	1,400	1,340	965	4,266	2,102	2,164
44403	Brookfield	449	1,111	1,203	964	3,727	1,835	1,892
16154	Transfer	372	796	781	508	2,457	1,227	1,230
PROVIDER SERVICE AREA		<u>16,274</u>	<u>34,977</u>	<u>28,826</u>	<u>23,525</u>	<u>103,602</u>	<u>50,588</u>	<u>53,014</u>

Source: The Nielsen Company

Exhibit 2.1 provides the percent difference for each zip code from estimated 2013 to projected 2018 as well as the ability to compare the percent difference to the state of Pennsylvania, Ohio and the United States for comparison purposes. Exhibit 2.1 illustrates that the overall population is projected to decrease by 1.7 percent over the five-year period while the state of Pennsylvania has projected an increase at 1 percent, the state of Ohio is flat and the United States increase of 3.3 percent. Brookfield and Transfer zip codes are projecting large decreases overall in comparison to Pennsylvania, Ohio and the United States. Note that the age category that utilizes health care services the most, 65 years and over, is projected to increase overall by 9.6 percent. This increase in the 65 year and over category will have a dramatic impact on both the amount and type of services required by the community.

Exhibit 2.1
Sharon Regional Health System Community Zip Codes
Estimated 2013 Population vs Projected 2018 Population Percent Difference

Zip Code	City	Under 15 years	15-44 years	45-64 years	65 years and over	Total	Male	Female
Percent Difference								
16146	Sharon	-2.9%	-3.9%	-8.8%	6.7%	-3.2%	-2.9%	-3.5%
16148	Hermitage	-3.3%	0.0%	-7.1%	10.0%	0.0%	0.1%	-0.1%
16121	Farrell	-4.8%	-2.0%	-9.3%	5.2%	-3.0%	-2.7%	-3.3%
16150	Sharpsville	-6.4%	-1.8%	-4.3%	9.5%	-1.2%	-1.1%	-1.3%
16137	Mercer	-3.3%	0.2%	-4.5%	12.3%	0.3%	1.2%	-0.7%
44438	Masury	-3.9%	-5.2%	-9.2%	10.6%	-3.1%	-3.1%	-3.0%
16125	Greenville	-6.8%	-1.1%	-8.5%	8.1%	-2.1%	-2.2%	-1.9%
44425	Hubbard	-5.4%	-1.5%	-7.3%	11.1%	-1.4%	-1.5%	-1.3%
16159	West Middlesex	-14.2%	-2.8%	-7.3%	12.9%	-2.9%	-3.1%	-2.7%
44403	Brookfield	-9.7%	-5.7%	-8.8%	8.8%	-3.9%	-4.5%	-3.4%
16154	Transfer	-8.6%	-4.7%	-9.6%	13.6%	-3.8%	-4.0%	-3.5%
PROVIDER SERVICE AREA		-5.2%	-1.8%	-7.3%	9.6%	-1.7%	-1.5%	-1.8%
PA 2013 Estimated (1,000s)		2,253	4,868	3,572	2,092	12,786	6,233	6,553
PA 2018 Projected (1,000s)		2,247	4,818	3,486	2,359	12,910	6,297	6,613
PERCENT DIFFERENCE		-0.2%	-1.0%	-2.4%	12.7%	1.0%	1.0%	0.9%
OH 2013 Estimated (1,000s)		2,213	4,430	3,173	1,733	11,550	5,641	5,909
OH 2018 Projected (1,000s)		2,188	4,350	3,061	1,950	11,550	5,644	5,906
PERCENT DIFFERENCE		-1.1%	-1.8%	-3.5%	12.5%	0.0%	0.1%	-0.1%
U.S. 2013 Estimated (1,000s)		61,804	126,084	83,113	43,862	314,862	154,820	160,042
U.S. 2018 Projected (1,000s)		63,380	126,608	84,337	50,998	325,322	160,000	165,322
PERCENT DIFFERENCE		2.6%	0.4%	1.5%	16.3%	3.3%	3.3%	3.3%

Source: The Nielsen Company

The following is an analysis of the age distribution of the population for the community. The analysis is provided by zip code and provides a comparison to Pennsylvania, Ohio and the United States.

Exhibit 2.2
Sharon Regional Health System Community Zip Codes
Estimated 2013 Population vs Projected 2018 Population with Percent Totals

Zip Code	City	Under 15 years	15-44 years	45-64 years	65 years and over	Total	Male	Female
Estimated 2013 Population								
16146	Sharon	19.9%	36.2%	26.9%	16.9%	100.0%	47.1%	52.9%
16148	Hermitage	15.0%	29.5%	29.7%	25.8%	100.0%	46.3%	53.7%
16121	Farrell	18.9%	34.0%	26.7%	20.3%	100.0%	45.8%	54.2%
16150	Sharpsville	17.9%	33.7%	29.7%	18.8%	100.0%	48.4%	51.6%
16137	Mercer	15.3%	36.3%	30.9%	17.4%	100.0%	54.9%	45.1%
44438	Masury	16.6%	34.0%	29.7%	19.7%	100.0%	49.4%	50.6%
16125	Greenville	15.9%	35.3%	27.2%	21.5%	100.0%	48.2%	51.8%
44425	Hubbard	15.1%	33.7%	31.3%	19.9%	100.0%	48.6%	51.4%
16159	West Middlesex	14.9%	32.8%	32.9%	19.5%	100.0%	49.4%	50.6%
44403	Brookfield	12.8%	30.4%	34.0%	22.8%	100.0%	49.5%	50.5%
16154	Transfer	15.9%	32.7%	33.8%	17.5%	100.0%	50.1%	49.9%
TOTAL PROVIDER SERVICE AREA		16.3%	33.8%	29.5%	20.4%	100.0%	48.8%	51.2%
Projected 2018 Population								
16146	Sharon	20.0%	36.0%	25.4%	18.7%	100.0%	47.3%	52.7%
16148	Hermitage	14.5%	29.5%	27.6%	28.4%	100.0%	46.4%	53.6%
16121	Farrell	18.6%	34.4%	24.9%	22.1%	100.0%	45.9%	54.1%
16150	Sharpsville	17.0%	33.5%	28.8%	20.8%	100.0%	48.4%	51.6%
16137	Mercer	14.8%	36.3%	29.5%	19.5%	100.0%	55.4%	44.6%
44438	Masury	16.4%	33.2%	27.8%	22.5%	100.0%	49.4%	50.6%
16125	Greenville	15.1%	35.7%	25.4%	23.8%	100.0%	48.2%	51.8%
44425	Hubbard	14.5%	33.7%	29.4%	22.4%	100.0%	48.6%	51.4%
16159	West Middlesex	13.2%	32.8%	31.4%	22.6%	100.0%	49.3%	50.7%
44403	Brookfield	12.0%	29.8%	32.3%	25.9%	100.0%	49.2%	50.8%
16154	Transfer	15.1%	32.4%	31.8%	20.7%	100.0%	49.9%	50.1%
TOTAL PROVIDER SERVICE AREA		15.7%	33.8%	27.8%	22.7%	100.0%	48.8%	51.2%
ESTIMATED 2013		16.3%	33.8%	29.5%	20.4%	100.0%	48.8%	51.2%
PROJECTED 2018 POPULATION		15.7%	33.8%	27.8%	22.7%	100.0%	48.8%	51.2%
PENNSYLVANIA 2013		17.6%	38.1%	27.9%	16.4%	100.0%	48.8%	51.2%
OHIO 2013		19.2%	38.4%	27.5%	15.0%	100.0%	48.8%	51.2%
UNITED STATES 2013		19.5%	38.9%	25.9%	15.7%	100.0%	49.2%	50.8%

Source: The Nielsen Company

Very similar to the 9.6 percent growth seen in the overall number of people in the 65 year and over category in *Exhibit 2.1*, *Exhibit 2.2* indicates that as a percent of total population for the community, the 65 years and over category will be 22.7 percent of the total population in 2018 compared to 20.4 percent in 2013. Hermitage zip code is showing the highest percentage in 2018 at 28.4%. Sharon zip code has the lowest at 18.7%. The community proves to be much older compared to the states of Pennsylvania, Ohio and the United States.

While the relative age of the community population can impact community health needs, so can the ethnicity and race of a population. *Exhibit 3* shows the population of the community by ethnicity by illustrating the Hispanic versus non-Hispanic residents. In total, the projected 2018 population breakdown shows the community has a lower Hispanic population than Pennsylvania, Ohio and significantly lower than the United States.

Exhibit 3
Sharon Regional Health System Community Zip Codes
Estimated 2013 Population vs Projected 2018 Population with Percent Difference

Zip Code	City	Estimated 2013			Projected 2018			% Difference		% Total	
		Hispanic	Non-Hispanic	Total	Hispanic	Non-Hispanic	Total	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic
16146	Sharon	267	13,557	13,824	287	13,089	13,376	7.5%	-3.5%	2.1%	97.9%
16148	Hermitage	168	16,495	16,663	182	16,477	16,659	8.3%	-0.1%	1.1%	98.9%
16121	Farrell	95	5,458	5,553	105	5,280	5,385	10.5%	-3.3%	1.9%	98.1%
16150	Sharpsville	52	7,878	7,930	56	7,777	7,833	7.7%	-1.3%	0.7%	99.3%
16137	Mercer	196	13,026	13,222	219	13,044	13,263	11.7%	0.1%	1.7%	98.3%
44438	Masury	45	4,534	4,579	48	4,391	4,439	6.7%	-3.2%	1.1%	98.9%
16125	Greenville	189	17,842	18,031	211	17,450	17,661	11.6%	-2.2%	1.2%	98.8%
44425	Hubbard	205	14,542	14,747	225	14,311	14,536	9.8%	-1.6%	1.5%	98.5%
16159	West Middlesex	30	4,365	4,395	31	4,235	4,266	3.3%	-3.0%	0.7%	99.3%
44403	Brookfield	31	3,849	3,880	29	3,698	3,727	-6.5%	-3.9%	0.8%	99.2%
16154	Transfer	19	2,534	2,553	18	2,439	2,457	-5.3%	-3.7%	0.7%	99.3%
PROVIDER SERVICE AREA		1,297	104,080	105,377	1,411	102,191	103,602	8.8%	-1.8%	1.4%	98.6%
Pennsylvania (1,000s)		801	11,984	12,786	922	11,988	12,910	15.1%	0.0%	7.1%	92.9%
Ohio (1,000s)		388	11,162	11,550	435	11,115	11,550	12.0%	-0.4%	3.8%	96.2%
U.S. (1,000s)		54,578	260,284	314,862	61,050	264,272	325,322	11.9%	1.5%	18.8%	81.2%

Source: The Nielsen Company

Exhibit 4 shows the population of the community by race by illustrating three different categories: white, black and other residents. In total, the population breakdown for the community shows a higher concentration of white residents than Pennsylvania, Ohio and the United States. A review of the specific zip code areas shows a larger percentage of black residents in the Farrell and Sharon zip codes compared to other zip codes in the community.

Exhibit 4
Sharon Regional Health System Community Zip Codes
Estimated 2013 Population vs Projected 2018 Population with Percent Difference

Zip Code	City	Estimated 2013				Projected 2018				Percent Difference				2018 Percent Total		
		White	Black	Other	Total	White	Black	Other	Total	White	Black	Other	Total	White	Black	Other
16146	Sharon	10,957	2,095	772	13,824	10,443	2,092	841	13,376	-4.7%	-0.1%	8.9%	-3.2%	78.1%	15.6%	6.3%
16148	Hermitage	15,535	619	509	16,663	15,485	625	549	16,659	-0.3%	1.0%	7.9%	0.0%	93.0%	3.8%	3.3%
16121	Farrell	2,658	2,535	360	5,553	2,481	2,494	410	5,385	-6.7%	-1.6%	13.9%	-3.0%	46.1%	46.3%	7.6%
16150	Sharpsville	7,623	128	179	7,930	7,494	131	208	7,833	-1.7%	2.3%	16.2%	-1.2%	95.7%	1.7%	2.7%
16137	Mercer	12,351	575	296	13,222	12,316	606	341	13,263	-0.3%	5.4%	15.2%	0.3%	92.9%	4.6%	2.6%
44438	Masury	4,207	219	153	4,579	4,077	194	168	4,439	-3.1%	-11.4%	9.8%	-3.1%	91.8%	4.4%	3.8%
16125	Greenville	17,459	173	399	18,031	17,058	172	431	17,661	-2.3%	-0.6%	8.0%	-2.1%	96.6%	1.0%	2.4%
44425	Hubbard	14,038	381	328	14,747	13,812	367	357	14,536	-1.6%	-3.7%	8.8%	-1.4%	95.0%	2.5%	2.5%
16159	West Middlesex	4,270	52	73	4,395	4,139	47	80	4,266	-3.1%	-9.6%	9.6%	-2.9%	97.0%	1.1%	1.9%
44403	Brookfield	3,780	49	51	3,880	3,626	51	50	3,727	-4.1%	4.1%	-2.0%	-3.9%	97.3%	1.4%	1.3%
16154	Transfer	2,475	30	48	2,553	2,372	30	55	2,457	-4.2%	0.0%	14.6%	-3.8%	96.5%	1.2%	2.2%
PROVIDER SERVICE AREA		95,353	6,856	3,168	105,377	93,303	6,809	3,490	103,602	-2.1%	-0.7%	10.2%	-1.7%	90.1%	6.6%	3.4%
Pennsylvania (1,000s)		10,357	1,419	1,009	12,786	10,285	1,481	1,143	12,910	-0.7%	4.4%	13.3%	1.0%	79.7%	11.5%	8.9%
Ohio (1,000s)		9,481	1,434	635	11,550	9,382	1,469	699	11,550	-1.0%	2.4%	10.1%	0.0%	81.2%	12.7%	6.1%
U.S. (1,000s)		225,086	40,007	49,768	314,862	228,212	41,797	55,313	325,322	1.4%	4.5%	11.1%	3.3%	70.1%	12.8%	17.0%

Socioeconomic Characteristics of the Community

The socioeconomic characteristics of a geographic area influence the way residents access health care services and perceive the need for health care services within society. The economic status of an area may be assessed by examining multiple variables within the community. The following exhibits are a compilation of data that includes household income, labor force, employees by types of industry, employment rates, educational attainment and poverty for the community. These measures will be used to compare the socioeconomic status of the community to Pennsylvania, Ohio and to the U.S.

Income and Employment

Exhibit 5 presents the average and median income for households in each zip code. Average income is projected to decrease between 1.1% to 5.4% for the zip code population. The change in median income is a projected decrease between 1.3 to 6.7%. Overall, the zip code population has a projected decrease in both average and median household incomes greater than projections for Pennsylvania, Ohio, as well as the United States. The United States and Pennsylvania are projecting increases in both categories of income measurement.

Exhibit 5
Sharon Regional Health System Community Zip Codes
Estimated Family Income for 2013 and 2018 with Percent Difference

Zip Code	City	Estimated 2013		Projected 2018		Percent Difference	
		Avg. Household Income	Median Household Income	Avg. Household Income	Median Household Income	Avg. Household Income	Median Household Income
16146	Sharon	\$ 36,292	\$ 26,526	\$ 35,725	\$ 26,047	-1.6%	-1.8%
16148	Hermitage	\$ 60,980	\$ 44,555	\$ 59,697	\$ 43,391	-2.1%	-2.6%
16121	Farrell	\$ 35,630	\$ 28,573	\$ 35,238	\$ 28,203	-1.1%	-1.3%
16150	Sharpsville	\$ 54,897	\$ 42,648	\$ 53,896	\$ 41,821	-1.8%	-1.9%
16137	Mercer	\$ 52,131	\$ 43,692	\$ 51,324	\$ 43,023	-1.5%	-1.5%
44438	Masury	\$ 36,701	\$ 31,162	\$ 34,938	\$ 29,842	-4.8%	-4.2%
16125	Greenville	\$ 48,958	\$ 38,044	\$ 48,290	\$ 37,294	-1.4%	-2.0%
44425	Hubbard	\$ 46,963	\$ 39,699	\$ 44,560	\$ 37,039	-5.1%	-6.7%
16159	West Middlesex	\$ 55,753	\$ 45,000	\$ 54,893	\$ 44,177	-1.5%	-1.8%
44403	Brookfield	\$ 42,414	\$ 33,857	\$ 40,124	\$ 32,669	-5.4%	-3.5%
16154	Transfer	\$ 52,459	\$ 41,773	\$ 51,728	\$ 40,752	-1.4%	-2.4%
PROVIDER SERVICE AREA		\$ 47,562	\$ 37,775	\$ 46,401	\$ 36,751	-2.4%	-2.7%
	Pennsylvania	\$ 68,045	\$ 49,430	\$ 71,956	\$ 51,537	5.7%	4.3%
	Ohio	\$ 59,725	\$ 44,612	\$ 60,030	\$ 44,280	0.5%	-0.7%
	United States	\$ 69,637	\$ 49,297	\$ 71,917	\$ 49,815	3.3%	1.1%

Source: The Nielsen Company

Exhibit 6 presents average annual unemployment rates for the counties of Mercer and Trumbull, Pennsylvania, Ohio and the United States. *Exhibit 6* illustrates unemployment rates have risen in recent years with the exception of 2011 where all rates showed a small decline. The exhibit shows that Trumbull County, in particular, suffers from the effects of unemployment, having a higher rate than even the United States average. Mercer County also struggles with a rate higher than the state of Pennsylvania.

Exhibit 6
Sharon Regional Health System Community
Unemployment Rates (%)
2007-2011

County	2007	2008	2009	2010	2011
Mercer County, PA	5.5	6.8	11.0	10.5	8.8
Trumbull County, OH	6.2	7.5	13.6	11.8	9.6
Pennsylvania	4.4	5.3	8.0	8.5	7.9
Ohio	5.7	6.6	10.1	10.0	8.6
United States	4.6	5.8	9.3	9.6	9.0

Source: FDIC

Exhibit 7 summarizes employment by major industry. Mercer and Trumbull counties are supported by several major industries including trade, transportation and utilities, education and health services and manufacturing. The education and health services industry accounts for more than 20% of all employment for the counties. Manufacturing is the second major industry, accounting for over 17% of all employment for the counties.

Exhibit 7
Sharon Regional Health System Community
Employment by Major Industry
2010

Major Industries	Mercer		Trumbull		Total	%	US
	County	%	County	%			
Goods-producing	9,196	19.8%	15,162	21.7%	24,358	21.0%	14.7%
Natural Resources and Mining	437	0.9%	121	0.2%	558	0.5%	1.4%
Construction	1,205	2.6%	2,384	3.4%	3,589	3.1%	4.3%
Manufacturing	7,554	16.3%	12,656	18.2%	20,210	17.4%	9.0%
Service-providing	31,669	68.2%	44,820	64.3%	76,489	65.8%	68.4%
Trade, Transportation and Utilities	9,866	21.2%	14,169	20.3%	24,035	20.7%	19.1%
Information	462	1.0%	612	0.9%	1,074	0.9%	2.1%
Financial Activities	1,711	3.7%	2,514	3.6%	4,225	3.6%	5.8%
Professional and Business Services	2,523	5.4%	6,314	9.1%	8,837	7.6%	13.1%
Education and Health Services	11,238	24.2%	12,318	17.7%	23,556	20.3%	14.6%
Leisure and Hospitality	4,481	9.6%	6,890	9.9%	11,371	9.8%	10.2%
Other Services	1,387	3.0%	2,003	2.9%	3,390	2.9%	3.4%
Federal Government	304	0.7%	561	0.8%	865	0.7%	2.3%
State Government	1,006	2.2%	802	1.2%	1,808	1.6%	3.6%
Local Government	4,291	9.2%	8,374	12.0%	12,665	10.9%	11.0%
Total Employment	46,465	100.0%	69,718	100.0%	116,183	100.0%	100.0%

Source: U.S. Department of Census

Major employers by county include the following:

**Exhibit 8
 Sharon Regional Health System Community
 Employment by Top Employers**

Top Employers	County	
	Mercer	Trumbull
Sharon Regional Health System	X	X
UPMC Horizon	X	X
State Government	X	
General Electric Co	X	
Wal-Mart Associates Inc	X	
John Maneely Co	X	
George Junior Republic, Inc.	X	
Duferco Farrell Corp	X	
US Investigations Svcs LLC	X	
Grove City College	X	
First National Bank of PA	X	
Grove City Medical Center	X	
Mercer County	X	
Grove City Area School District	X	
St. Paul Homes	X	
Joy Cone Company	X	
Estes Express Lines	X	
Sharon School District	X	
Hermitage School District	X	
Federal Government	X	
Diocese of Youngstown		X
General Motors		X
HM Health Partners		X
Infocision		X
Mahoning County		X
RG Steel		X
Trumbull County		X
U.S. Postal Service		X
ValleyCare Health System		X
West Corp.		X
Windsor House		X
Youngstown Air Reserve Base		X
Youngstown City Schools		X
Youngstown State University		X

Source: PA Site Search, Regional Chamber Youngstown-Warren

Poverty

Exhibit 9 presents the percentage of total population in poverty (including under age 18) and median household income for households in each county versus the states of Pennsylvania and Ohio and the United States.

Exhibit 9
Sharon Regional Health System Community
Poverty Estimate: Percentage of Total Population in Poverty and Median Household Income
2008-2010 and 2009-2011 3-year Estimates

County	2010		Median	2011		Median
	All Persons	Under Age 18	Household Income	All Persons	Under Age 18	Household Income
Mercer County, PA	13.7%	22.9%	\$ 42,022	13.7%	21.8%	\$ 42,957
Trumbull County, OH	16.8%	28.0%	\$ 41,155	16.5%	28.4%	\$ 42,196
Pennsylvania	12.8%	17.8%	\$ 50,289	13.2%	18.6%	\$ 51,016
Ohio	14.8%	21.4%	\$ 46,563	15.8%	23.1%	\$ 46,595
United States	14.4%	20.1%	\$ 51,222	15.2%	21.4%	\$ 51,484

Low-income residents often postpone seeking medical attention until health problems become aggravated, creating a greater demand on a given community's medical resources. This includes reliance upon emergency room services for otherwise routine primary care. Often uninsured, the low-income demographics' inability to pay for services further strains the medical network. Low-income residents are also less mobile, requiring medical services in localized population centers, placing additional pressure on those providers already in high demand. Understanding the extent of poverty within the population, therefore, helps determine an accurate picture of demand. The poverty rates for Mercer and Trumbull counties ranked unfavorably when compared to Pennsylvania, Ohio and the United States in 2011. Mercer County's rate did improve slightly in 2011 for ages under 18, but still remained at a high rate in overall comparisons. Trumbull County's all ages rate improved slightly in 2011, but remained well above all state and national rates.

Uninsured

Exhibit 10 presents health insurance coverage status by age (under 65 years) and income (at or below 400%) of poverty for each county versus the states of Pennsylvania, Ohio and the United States. It is clear that the proportion of uninsured population increases when focusing on income levels at or below 400% of federal poverty level versus all income levels.

Exhibit 10
Sharon Regional Health System Community
Health Insurance Coverage Status by Age (Under 65 years) and Income (At or Below 400%) of Poverty
2009-2011 3-year Estimates

County	All Income Levels				Below 400% of FPL			
	Under 65 Uninsured	Percent Uninsured	Under 65 Insured	Percent Insured	Under 65 Uninsured	Percent Uninsured	Under 65 Insured	Percent Insured
Mercer County, PA	11,310	12.7%	77,825	87.3%	10,143	16.1%	53,053	83.9%
Trumbull County, OH	25,589	15.0%	145,426	85.0%	23,232	18.6%	101,997	81.4%
Pennsylvania	1,225,714	11.8%	9,176,685	88.2%	1,055,797	16.5%	5,325,586	83.5%
Ohio	1,351,620	14.0%	8,306,732	86.0%	1,210,634	18.8%	5,217,461	81.2%
United States	45,640,406	17.5%	215,786,240	82.5%	40,138,822	23.9%	127,905,808	76.1%

Education

Exhibit 11 presents educational attainment by age cohort for individuals in each county versus the states of Pennsylvania, Ohio and the United States.

Exhibit 11
Sharon Regional Health System Community
Educational Attainment by Age - Total Population
2011

State/ County	Age Cohort				
	18-24	25-34	35-44	45-64	65+
<u>Completing High School</u>					
Mercer County, PA	88.2%	91.9%	91.7%	92.2%	78.4%
Trumbull County, OH	79.2%	89.2%	92.1%	91.4%	75.2%
Pennsylvania	86.6%	91.3%	92.0%	91.0%	78.0%
Ohio	83.9%	90.2%	91.5%	90.4%	78.6%
<u>Bachelor's Degree or More</u>					
Mercer County, PA	5.9%	25.6%	27.6%	20.2%	12.2%
Trumbull County, OH	7.1%	20.0%	18.6%	17.8%	11.1%
Pennsylvania	11.4%	34.8%	31.9%	26.8%	16.9%
Ohio	8.7%	29.4%	28.8%	24.5%	16.7%
<u>Graduate or Professional Degree (Population Age 25 and over)</u>					
Mercer County, PA	6.8%				
Trumbull County, OH	5.4%				
Pennsylvania	10.4%				
Ohio	9.1%				

Source: U.S. Census Bureau, 2009-2011 American Community Survey 3-year estimate

Education levels obtained by community residents may impact the local economy. Higher levels of education generally lead to higher wages, less unemployment and job stability. These factors may indirectly influence community health. Both Mercer and Trumbull counties compare unfavorably to Pennsylvania and Ohio for persons aged 25 and older in obtaining a bachelor's degree or higher. Persons obtaining a graduate or professional degree are about 60 percent of the state averages.

Health Status of the Community

This section of the assessment reviews the health status of Mercer and Trumbull County residents, with comparisons to the states of Pennsylvania and Ohio. This in-depth assessment of the mortality and morbidity data, health outcomes, health factors and mental health indicators of the county residents that make up the community will enable the Hospital to identify priority health issues related to the health status of its residents.

Good health can be defined as a state of physical, mental and social well-being, rather than the absence of disease or infirmity. According to *Healthy People 2020*, the national health objectives released by the U.S. Department of Health and Human Services, individual health is closely linked to community health. Community health, which includes both the physical and social environment in which individuals live, work and play, is profoundly affected by the collective behaviors, attitudes and beliefs of everyone who lives in the community. Healthy people are among a community's most essential resources.

Numerous factors have a significant impact on an individual's health status: lifestyle and behavior, human biology, environmental and socioeconomic conditions, as well as access to adequate and appropriate health care and medical services. Studies by the American Society of Internal Medicine conclude that up to 70 percent of an individual's health status is directly attributable to personal lifestyle decisions and attitudes. Persons who do not smoke, who drink in moderation (if at all), use automobile seat belts (car seats for infants and small children), maintain a nutritious low-fat, high-fiber diet, reduce excess stress in daily living and exercise regularly have a significantly greater potential of avoiding debilitating diseases, infirmities and premature death.

The interrelationship among lifestyle/behavior, personal health attitude, and poor health status is gaining recognition and acceptance by both the general public and health care providers. Some examples of lifestyle/behavior and related health care problems include the following:

Lifestyle	Primary Disease Factor
Smoking	Lung cancer Cardiovascular disease Emphysema Chronic bronchitis
Alcohol/drug abuse	Cirrhosis of liver Motor vehicle crashes Unintentional injuries Malnutrition Suicide Homicide Mental illness
Poor nutrition	Obesity Digestive disease Depression
Driving at excessive speeds	Trauma Motor vehicle crashes

Lifestyle	Primary Disease Factor
Lack of exercise	Cardiovascular disease Depression
Overstressed	Mental illness Alcohol/drug abuse Cardiovascular disease

Health problems should be examined in terms of morbidity as well as mortality. Morbidity is defined as the incidence of illness or injury and mortality is defined as the incidence of death. However, law does not require reporting the incidence of a particular disease, except when the public health is potentially endangered. Infectious diseases in Pennsylvania and Ohio must be reported to county health departments. Except for Acquired Immune Deficiency Syndrome (AIDS), most of these reportable diseases currently result in comparatively few deaths.

Due to limited morbidity data, this health status report relies heavily on death and death rate statistics for leading causes in death in Mercer and Trumbull counties and the states of Pennsylvania and Ohio. Such information provides useful indicators of health status trends and permits an assessment of the impact of changes in health services on a resident population during an established period of time. Community attention and health care resources may then be directed to those areas of greatest impact and concern.

Leading Causes of Death

Exhibit 12 reflects the leading causes of death for Mercer and Trumbull County residents and compares the rates, per hundred thousand, to the states of Pennsylvania and Ohio average rates, per hundred thousand. Ohio's department of health only reported the top six causes of death. Overall rates for Trumbull County and the state of Ohio are 2008 three-year average rates.

Exhibit 12
Sharon Regional Health System Community
Selected Causes of Resident Deaths: Number and Rate per 100,000 Residents 2010

	Mercer Number	Rate	Trumbull Number	Rate*	Pennsylvania Number	Rate	Ohio Number	Rate*
Total Deaths, All Causes	1,358	1,164.3	N/A	1,205	123,473	972.1	N/A	1,149
Diseases of Heart	342	293.2	642	213.6	31,274	246.2	26,072	191.7
Malignant Neoplasms	336	288.1	524	179.9	28,809	226.8	25,030	187.3
Chronic Lower Respiratory Disease	80	68.6	134	45.0	6,164	48.5	6,705	50.4
Cerebrovascular Disease	78	66.9	132	43.1	6,629	52.2	5,735	42.4
Alzheimer's Disease	47	40.3	72	23.0	3,566	28.1	4,105	29.7
Nontransport Accidents	44	37.7	101	46.6	4,134	32.6	5,030	41.6

Source: Pennsylvania Department of Health Portal, Ohio Department of Health
* Note: Total death rates for Trumbull Co & Ohio are 2008 3 year average rates.

Exhibit 13 compares the number of deaths for Mercer County residents, with U.S. Crude Rates and identifies causes of death that statistically differ from U.S. rates.

Exhibit 13
Sharon Regional Health System Community
Comparison of Rates for Selected Causes of Death: Rate per 100,000 Residents: Mercer County
2010

Selected Cause of Death	Number of Deaths	County Rate	PA Rate	2010 US Rate	Percent Difference from US
Total Deaths, All Causes	1,358	1164.3	972.1	798.7	45.8%
Diseases of Heart	342	293.2	246.2	192.9	52.0%
Malignant Neoplasms	336	288.1	226.8	185.9	55.0%
Cerebrovascular Disease	78	66.9	52.2	41.8	60.0%
Chronic Lower Respiratory Disease	80	68.6	48.5	44.6	53.8%
Alzheimer's Disease	47	40.3	28.1	27.0	49.3%
Nontransport Accidents	44	37.7	32.6	26.0	45.1%

Source: Pennsylvania Department of Health Portal

Exhibit 13.1 compares the number of deaths for Trumbull County residents, with U.S. Crude Rates and identifies causes of death that statistically differ from U.S. rates.

Exhibit 13.1
Sharon Regional Health System Community
Comparison of Rates for Selected Causes of Death: Rate per 100,000 Residents: Trumbull County
2010

Selected Cause of Death	Number of Deaths	County Rate *	OH Rate *	2010 US Rate	Percent Difference from US
Total Deaths, All Causes	N/A	1205.4	1148.5	798.7	50.9%
Diseases of Heart	642	213.6	191.7	192.9	10.7%
Malignant Neoplasms	524	179.9	187.3	185.9	-3.2%
Chronic Lower Respiratory Disease	134	45.0	50.4	41.8	7.7%
Cerebrovascular Disease	132	43.1	42.4	44.6	-3.4%
Alzheimer's Disease	72	23.0	29.7	27.0	-14.8%
Nontransport Accidents	101	46.6	41.6	26.0	79.2%

Source: Ohio Department of Health

* Note: Total Death rates are 2008 3 year average rates.

Health Outcomes and Factors

An analysis of various health outcomes and factors for a particular community can, if improved, help make that community a healthier place to live, learn, work and play. A better understanding of the factors that affect the health of the community will assist with how to improve the community's habits, culture and environment. This portion of the community health needs assessment utilizes information from County Health Rankings, a key component of the Mobilizing Action Toward Community Health (MATCH) project, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.

The County Health Rankings model is grounded in the belief that programs and policies implemented at the local, state and federal levels have an impact on the variety of factors that, in turn, determine the health outcomes for communities across the nation. The model provides a ranking method that ranks all 50 states and the counties within each state, based on the measurement of two types of health outcomes for each county: how long people live (mortality) and how healthy people feel (morbidity). These outcomes are the result of a collection of health factors and are influenced by programs and policies at the local, state and federal levels.

Counties in each of the 50 states are ranked according to summaries of a variety of health measures. Those having high ranks, *e.g. 1 or 2*, are considered to be the "healthiest." Counties are ranked relative to the health of other counties in the same state on the following summary measures:

- Health Outcomes - rankings are based on an equal weighting of one length of life (mortality) measure and four quality of life (morbidity) measures.
- Health Factors - rankings are based on weighted scores of four types of factors:
 - Health behaviors (six measures)
 - Clinical care (five measures)
 - Social and economic (seven measures)
 - Physical environment (four measures)

A more detailed discussion about the ranking system, data sources and measures, data quality and calculating scores and ranks can be found at the website for County Health Rankings (www.countyhealthrankings.org).

As part of the analysis of the needs assessment for the community, the two counties that comprise the majority of the community will be used to compare the relative health status of each county to the states of Pennsylvania and Ohio as well as to a national benchmark. A better understanding of the factors that affect the health of the community will assist with how to improve the community's habits, culture and environment.

The following tables, from County Health Rankings, summarize the 2012 health outcomes for the two counties that comprise the majority of the community for the Hospital. Each measure is described and includes a confidence interval or error margin surrounding it – if a measure is above the state average and the state average is beyond the error margin for the county, then further investigation is recommended.

Health Outcomes - rankings are based on an equal weighting of one length of life (mortality) measure and four quality of life (morbidity) measures. *Exhibit 14* shows Mercer County health outcomes were significantly higher than national benchmarks. Mortality and morbidity outcomes were both unfavorable, ranking 47th and 51st, respectively, out of the 67 counties in Pennsylvania. *Exhibit 15* shows Trumbull County health outcomes were unfavorable compared to the state of Ohio (ranking 67 on mortality and 64 on morbidity out of 88 counties). Each measure for both counties was at or worse than national benchmarks showing many opportunities for improvement.

Mercer County

Exhibit 14
Sharon Regional Health System Community
Mercer County Health Rankings - Health Outcomes (2012)

	Mercer County	Error Margin	National Benchmark	PA	Rank (of 67)
<i>Mortality</i>					
Premature death - Years of potential life lost before age 75 per 100,000 population (age-adjusted)	7,638	7,060-8,216	5,466	7,284	47
<i>Morbidity</i>					
Poor or fair health - Percent of adults reporting fair or poor health (age-adjusted)	18.0%	14.0-22.0%	10.0%	14.0%	51
Poor physical health days - Average number of physically unhealthy days reported in past 30 days (age-adjusted)	3.9	3.1-4.7	2.6	3.5	
Poor mental health days - Average number of mentally unhealthy days reported in past 30 days (age-adjusted)	3.3	2.5-4.0	2.3	3.6	
Low birth weight - Percent of live births with low birth weight (<2500 grams)	8.1%	7.5-8.7%	6.0%	8.3%	

Source: Countyhealthrankings.org

A number of different health factors shape a community's health outcomes. The County Health Rankings model includes four types of health factors: health behaviors, clinical care, social and economic and the physical environment.

Exhibit 14.1 summarizes the health factors for Mercer County. Areas for improvement include:

- Health Behavior/Adult Smoking
- Health Behavior/Adult Obesity
- Health Behavior/Motor Vehicle Crash Death Rate
- Clinical Care/ Primary Care Physicians
- Social & Economic Factors/Some College
- Social & Economic Factors/Children in Poverty

Exhibit 14.1
Sharon Regional Health System Community
Mercer County Health Rankings - Health Factors (2012)

	Mercer County	Error Margin	National Benchmark	PA	Rank (of 67)
<i>Health Behaviors</i>					34
Adult smoking - Percent of adults that report smoking at least 100 cigarettes and that they currently smoke	25.0%	20.0-29.0%	14.0%	21.0%	
Adult obesity - Percent of adults that report a BMI >= 30	30.0%	26.0-34.0%	25.0%	29.0%	
Excessive drinking - Percent of adults that report excessive drinking in the past 30 days	13.0%	10.0-17.0%	8%	18.0%	
Motor vehicle crash death rate - Motor vehicle deaths per 100K population	18.0	15.0-21.0	12.0	13.0	
Sexually transmitted infections - Chlamydia rate per 100K population	252.0		84.0	346.0	
Teen birth rate - Per 1,000 female population, ages 15-19	28.0	26.0-30.0	22.0	31.0	
<i>Clinical Care</i>					30
Uninsured adults - Percent of population under age 65 without health insurance	12.0%	11.0-13.0%	11.0%	12.0%	
Primary care physicians - Ratio of population to primary care physicians	1,620:1		631:1	838:1	
Preventable hospital stays - Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	69.0	64.0-73.0	49.0	72.0	
Diabetic screening - Percent of diabetic Medicare enrollees that receive HbA1c screening	83.0%	77.0-88%.0	89.0%	83.0%	
Mammography screening - Percent of female Medicare enrollees that receive mammography screening	69.0%	63.0-75.0%	74.0%	67.0%	
<i>Social & Economic Factors</i>					62
High school graduation - Percent of ninth grade cohort that graduates in 4 years	83.0%			79.0%	
Some college - Percent of adults aged 25-44 years with some post-secondary education	51.0%	48.0-54.0%	68.0%	59.0%	
Children in poverty - Percent of children under age 18 in poverty	27.0%	22.0-32.0%	13.0%	19.0%	
Inadequate social support - Percent of adults without social/emotional support	21.0%	17.0-26.0%	14.0%	21.0%	
Children in single-parent households - Percent of children that live in household headed by single parent	29.0%	26.0-32.0%	20.0%	32.0%	
Violent Crime rate - Violent crimes per 100,000 population (age-adjusted)	228.0		73.0	405.0	
<i>Physical Environment</i>					58
Air pollution-particulate matter days - Annual number of unhealthy air quality days due to fine particulate matter	1.0		-	10.0	
Air pollution-ozone days - Annual number of unhealthy air quality days due to ozone	8.0		-	8.0	
Access to healthy foods - Healthy food outlets include grocery stores and produce stands/farmers' markets	19.0%		0.0%	7.0%	
Access to recreational facilities - Rate of recreational facilities per 100,000 population	9.0		16.0	11.0	

Source: Countyhealthrankings.org

Trumbull County

Exhibit 15
Sharon Regional Health System Community
Trumbull County Health Rankings - Health Outcomes (2012)

	Trumbull County	Error Margin	National Benchmark	OH	Rank (of 88)
<i>Mortality</i>					
Premature death - Years of potential life lost before age 75 per 100,000 population (age-adjusted)	8,524	8,065-8,982	5,466	7,513	67
<i>Morbidity</i>					
Poor or fair health - Percent of adults reporting fair or poor health (age-adjusted)	16.0%	12.0-21.0%	10.0%	15.0%	64
Poor physical health days - Average number of physically unhealthy days reported in past 30 days (age-adjusted)	3.8	3.0-4.6	2.6	3.6	
Poor mental health days - Average number of mentally unhealthy days reported in past 30 days (age-adjusted)	4.0	3.1-4.9	2.3	3.8	
Low birth weight - Percent of live births with low birth weight (<2500 grams)	8.8%	8.3-9.2%	6.0%	8.6%	

Source: Countyhealthrankings.org

A number of different health factors shape a community's health outcomes. The County Health Rankings model includes four types of health factors: health behaviors, clinical care, social and economic and the physical environment.

Exhibit 15.1 summarizes the health factors for Trumbull County. Areas for improvement include:

- Health Behavior/Adult Smoking
- Health Behavior/Adult Obesity
- Health Behavior/Excessive Drinking
- Clinical Care/Preventable Hospital Stays
- Clinical Care/Primary Care Physicians
- Social & Economic Factors/Children in Poverty
- Social & Economic Factors/Some College
- Social & Economic Factors/Children in Single-Parent Households

Exhibit 15.1
Sharon Regional Health System Community
Trumbull County Health Rankings - Health Factors (2012)

	Trumbull County	Error Margin	National Benchmark	OH	Rank (of 88)
<i>Health Behaviors</i>					56
Adult smoking - Percent of adults that report smoking at least 100 cigarettes and that they currently smoke	26.0%	21.0-32.0%	14.0%	22.0%	
Adult obesity - Percent of adults that report a BMI >= 30	30.0%	26.0-34.0%	25.0%	30.0%	
Excessive drinking - Percent of adults that report excessive drinking in the past 30 days	18.0%	13.0-23.0%	8.0%	17.0%	
Motor vehicle crash death rate - Motor vehicle deaths per 100K population	13.0	12.0-15.0	12.0	12.0	
Sexually transmitted infections - Chlamydia rate per 100K population	348.0		84.0	420.0	
Teen birth rate - Per 1,000 female population, ages 15-19	39.0	38.0-41.0	22.0	40.0	
<i>Clinical Care</i>					53
Uninsured adults - Percent of population under age 65 without health insurance	15.0%	13.0-16.0%	11.0%	14.0%	
Primary care physicians - Ratio of population to primary care physicians	2,177:1		631:1	1,101:1	
Preventable hospital stays - Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	83.0	79.0-87	49.0	78.0	
Diabetic screening - Percent of diabetic Medicare enrollees that receive HbA1c screening	82.0%	79.0-85.0%	89.0%	83.0%	
Mammography screening - Percent of female Medicare enrollees that receive mammography screening	68.0%	64.0-71.0%	74.0%	66.0%	
<i>Social & Economic Factors</i>					75
High school graduation - Percent of ninth grade cohort that graduates in 4 years	89.0%			78.0%	
Some college - Percent of adults aged 25-44 years with some post-secondary education	49.0%	47.0-52.0%	68.0%	60.0%	
Children in poverty - Percent of children under age 18 in poverty	31.0%	27.0-36.0%	13.0%	23.0%	
Inadequate social support - Percent of adults without social/emotional support	20.0%	16.0-25.0%	14.0%	20.0%	
Children in single-parent households - Percent of children that live in household headed by single parent	38.0%	35.0-40.0%	20.0%	33.0%	
Violent Crime rate - Violent crimes per 100,000 population (age-adjusted)	331.0		73.0	360.0	
<i>Physical Environment</i>					77
Air pollution-particulate matter days - Annual number of unhealthy air quality days due to fine particulate matter	3.0		-	2.0	
Air pollution-ozone days - Annual number of unhealthy air quality days due to ozone	7.0		-	6.0	
Access to healthy foods - Healthy food outlets include grocery stores and produce stands/farmers' markets	13.0%		0.0%	7.0%	
Access to recreational facilities - Rate of recreational facilities per 100,000 population	12.0		16.0	10.0	

Source: Countyhealthrankings.org

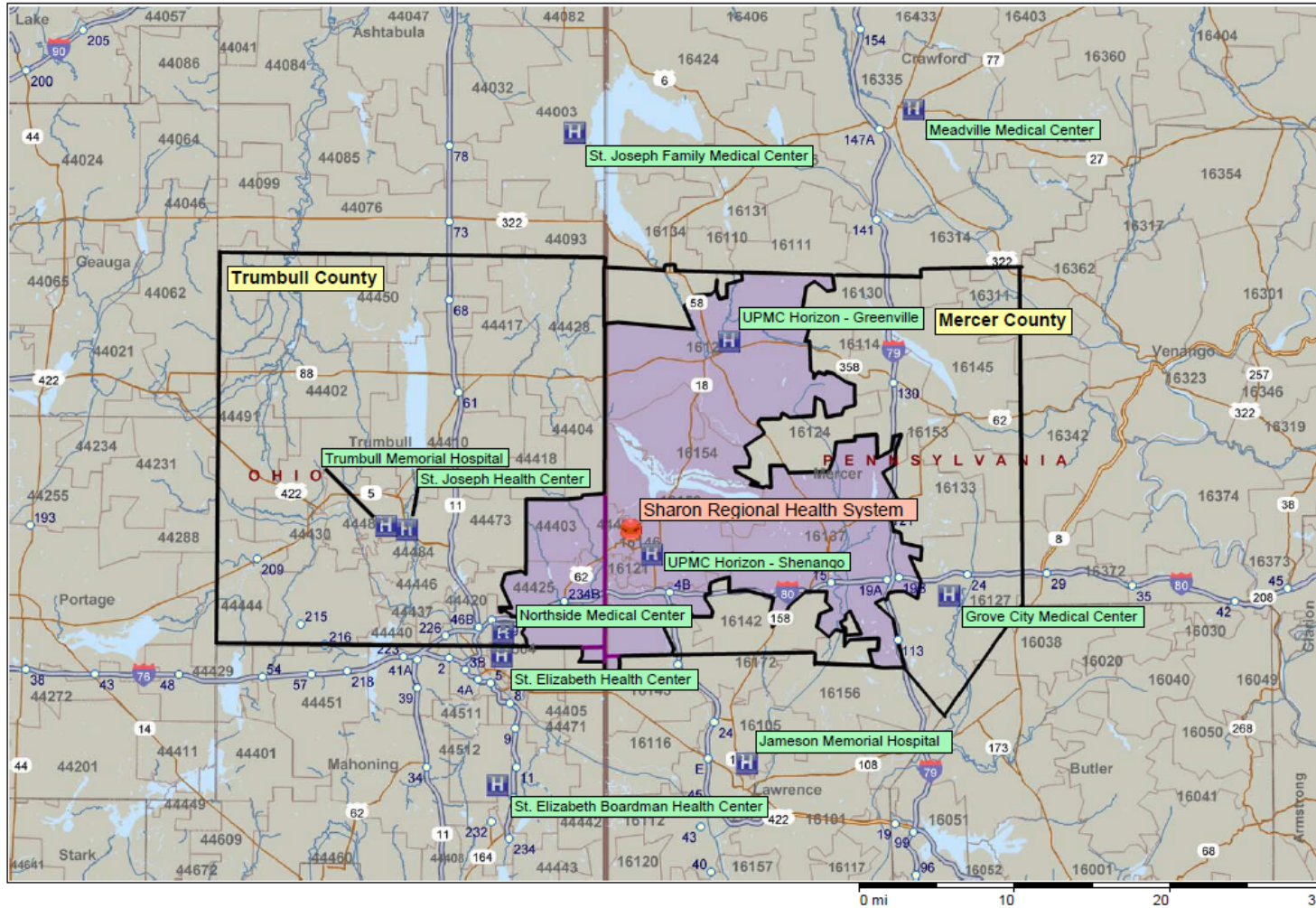
Mercer County Health Synopsis: Mercer County faces some serious health challenges. The six causes of death mortality rates are on average 53% above the national averages, with the overall death rate almost 46% above the national average. The county's premature death rate is higher than both the state and the nation. When compared to the state of Pennsylvania, the strengths for the county include: excessive drinking, sexually transmitted infections, teen birth rates, preventable hospital stays, mammography screenings, high school graduates, children in single-parent households and violent crimes. However, each of these strengths when compared to the national averages, are worse than the benchmarks. Significant challenges in this population are deaths from cancer and cerebrovascular disease (stroke). The county challenges include adult obesity, lack of primary care physicians, adult smoking and motor vehicle crashes. Improvement in health nutrition as well as improved exercise habits can lower the risk of cardiovascular disease, diabetes, cancer and other health conditions. Reducing smoking can help lower lung cancer mortality rates and lessen exposure to secondhand smoke, a particularly important goal for children and pregnant women. Increasing the number of physicians for the community will increase access to much needed health care.

Trumbull County Health Synopsis: Trumbull County faces some serious health challenges as well. The top six causes of death mortality rates are more in line with the United States averages, being on average only 12.7% higher than the nation. The county's premature death rate is higher than both the 2008 three-year average rate for the state of Ohio and the 2010 rate for the nation. Like Mercer County, when compared to the nation, none of the health factors measured favorably. When compared to Ohio, favorable health factors include a lower amount of sexually transmitted infections, a lower teen birth rate, higher rates of mammography screenings, higher rate of high school graduates, lower violent crime rate and more access to recreational facilities. The county does face challenges with risky health behaviors such as smoking, excessive drinking and motor vehicle crashes. Access to appropriate care is also an issue with higher rates of uninsured adults, a significantly high primary care physician-to-population ratio of 2,177:1 and higher rates of preventable hospital stays. Challenges exist for social and economic factors as well. The adults in post-secondary education, children in poverty and children in single-parent households are all worse than the state of Ohio averages. Increasing the number of physicians for the community will increase access to much needed health care. Increasing social programs and community support, along with improving education programs can help boost the population's social and economic factors.

Health Care Resources

The availability of health resources is a critical component to the health of a community and a measure of the soundness of the area's health care delivery system. An adequate number of health care facilities and health care providers are vital for sustaining a community's health status. Fewer health care facilities and health care providers can impact the timely delivery of services. A limited supply of health resources, especially providers, results in the limited capacity of the health care delivery system to absorb charity and indigent care as there are fewer providers upon which to distribute the burden of indigent care. This section will address the availability of health care resources to the residents of the Hospital's defined community and the surrounding 30 mile radius. The following is a map showing a geographical representation of the area facilities in relation to the defined zip code population.

Sharon Regional Health System Area Facilities



Hospitals and Health Centers

Residents of the community take advantage of services provided by the Hospital, but also use other hospitals in the area. *Exhibit 16* summarizes hospital services located in a 30 mile radius (driving distance may be greater) available to the residents of the community:

Exhibit 16
Sharon Regional Health System Community
Summary of Acute Care Hospitals

		Miles from the Hospital	Bed Size	Annual Discharges	Annual Patient Revenue
Sharon Regional Health System	740 East State Street, Sharon, PA 16146	-	184	9,558	\$ 431,319,936
Meadville Medical Center	1034 Grove St., Meadville, PA 16335	40.9	160	6,697	\$ 367,787,776
UPMC Horizon	110 N Main St., Greenville, PA 16125	15.2	150	6,952	\$ 425,240,224
Grove City Medical Center	631 North Broad St. Ext., Grove City, PA 16127	28.2	89	1,787	\$ 126,038,696
Jameson Memorial Hospital	1211 Wilmington Ave., New Castle, PA 16105	19.7	194	8,206	\$ 265,466,944
St. Elizabeth Boardman Health Center	8401 Market St., Youngstown, OH 44512	28.0	128	8,446	\$ 362,815,520
St. Elizabeth Health Center	1044 Belmont Ave., Youngstown, OH 44501	13.7	370	21,056	\$ 932,658,114
Northside Medical Center	500 Gypsy Lane, Youngstown, OH 44501	13.5	188	10,140	\$ 551,070,912
St. Joseph Health Center	667 Eastland Ave., Warren, OH 44484	16.5	139	8,673	\$ 490,735,936
Trumbull Memorial Hospital	1350 E. Market St., Warren, OH 44483	17.1	295	10,241	\$ 678,357,952

Source: Costreportdata.com 2011 data

The following is a brief description of the health care services available at each of these facilities:

Meadville Medical Center – is a community hospital located in Meadville, Pennsylvania. The medical staff consists of 37 medical/surgical specialties, with an extensive primary care foundation. The service area covers 75,000 individuals in Crawford County as well as an additional 150,000 persons from northwestern Pennsylvania.

UPMC Horizon – Has two hospital campuses, one in Greenville, Pennsylvania, and the other in Farrell, Pennsylvania. UPMC Horizon is comprised of two full-service, academic community hospitals. The Greenville campus is located approximately 25 minutes northwest of the Hospital, with the Farrell, Pennsylvania, campus much closer at approximately six minutes south of the Hospital.

Grove City Medical Center – is a not-for-profit hospital and is the result of a merger of two community hospitals: Bashline Memorial Hospital and United Community Hospital in 1978. Grove City Medical Center, in addition to being a full service hospital, operates two outpatient care centers as well as five lab draw sites.

Jameson Memorial Hospital – Jameson Memorial Hospital is the north campus of the Jameson Health System. It is located in New Castle, Pennsylvania, approximately 30 minutes southwest of the Hospital. Jameson Memorial Hospital is a 194 bed not-for-profit hospital served by over 220 physicians offering a spectrum of services representing over 40 medical specialties. The majority of Jameson Health System's employees practice at this campus.

St. Elizabeth Boardman Health Center – is a member of Humility of Mary Health Partners. St. Elizabeth Boardman opened in 2007 and currently has 128 beds. Construction to double its size began in 2012 and will be completed in 2014. Located in Youngstown, Ohio, area, it is approximately 40 minutes over the Ohio/Pennsylvania border, south east of the Hospital.

St. Elizabeth Health Center – is a member of Humility of Mary Health Partners. St. Elizabeth is a teaching hospital that is licensed for 550 beds and 60 bassinets. They provide advanced technology and services for the Mahoning Valley by offering medical/surgical, intensive, intermediate, maternity, neonatal intensive, pediatric and psychiatric inpatient care, as well as inpatient and outpatient surgery and emergency services. St. Elizabeth also serves as a regional referral center for high-risk maternity, cardiology, neurology and orthopedics. St. Elizabeth is located across the Pennsylvania/Ohio border, approximately 30 minutes southeast of the Hospital.

Northside Medical Center – is a university affiliated hospital that offers a wide range of personalized and comprehensive inpatient and outpatient care; emergency, medical and surgical services; and medical imaging. Northside is part of ValleyCare Health System of Ohio, which comprises Northside Medical Center, Trumbull Memorial Hospital and Hillside Rehabilitation Hospital. Northside Medical Center is located approximately 25 minutes southeast of the Hospital, across the Pennsylvania/Ohio border.

St. Joseph Health Center – is a member of Humility of Mary Health Partners. St. Joseph offers a full range of primary care and extensive diagnostic and therapeutic outpatient services, including an area emergency department and a comprehensive cancer center. St. Joseph also provides additional emergency, urgent care and minor emergency services in centers located in Andover, Howland, and Warren. St. Joseph is located across the Pennsylvania/Ohio border, approximately 30 minutes east of the Hospital.

Trumbull Memorial Hospital – is a member of ValleyCare Health System of Ohio. Trumbull Memorial Hospital has been in operation since 1907. They provide comprehensive inpatient and outpatient services, including programs in heart disease, orthopedics and oncology, along with a level III trauma center. Services also include a sleep center and a chest pain center with percutaneous cardiac intervention. Trumbull Memorial Hospital is located approximately 30 minutes east of the Hospital, across the Pennsylvania/Ohio border.

Hospital Market Share

The market share of a hospital relative to that of its competitors may be based largely on the services required by patients and the availability of those services at each facility. For this study, the market share of the Hospital was considered based on the type of services required by those patients in the community. The ability to attain a certain relative market share (percentage) of the community varies based on a number of factors, including the services provided, geographical location and accessibility of each competing facility. *Exhibit 17* presents the relative percentage of discharges of each hospital listed in the previous exhibit. Note, these discharges most likely include patients from other than Mercer and Trumbull counties. This table presents an analysis of data for the three most currently available years, showing the percentage of total discharges from each hospital. This information provides an excellent idea of summary market share as well as the outmigration of patients from the community. In 2011, the Hospital increased to just over 10 percent of all discharges with St. Elizabeth Health Center capturing the majority at nearly 23 percent.

Exhibit 17
Sharon Regional Health System Community
Patient Origin Analysis: Acute Care Discharges by Hospital

	2009		2010		2011	
	Total Discharges	%	Total Discharges	%	Total Discharges	%
Sharon Regional Health System	9,537	9.5%	9,037	9.5%	9,558	10.4%
Meadville Medical Center	6,156	6.1%	6,236	6.5%	6,697	7.3%
UPMC Horizon	7,514	7.5%	7,352	7.7%	6,952	7.6%
Grove City Medical Center	2,258	2.2%	2,012	2.1%	1,787	1.9%
Jameson Memorial Hospital	9,191	9.1%	8,812	9.2%	8,206	8.9%
St. Elizabeth Boardman Health Center	7,252	7.2%	8,311	8.7%	8,446	9.2%
St. Elizabeth Health Center	23,136	23.0%	21,056	22.0%	21,056	22.9%
Northside Medical Center	12,261	12.2%	10,441	10.9%	10,140	11.1%
St. Joseph Health Center	9,007	8.9%	8,431	8.8%	8,673	9.5%
Trumbull Memorial Hospital	14,394	14.3%	13,905	14.6%	10,241	11.2%
Total	100,706	100.0%	95,593	100.0%	91,756	100.0%

Source: www.costreportdata.com

Other Health Care Facilities and Providers

The Primary Health Network – with many locations in Mercer and neighboring counties, this network of Federally Qualified Health Centers is the largest community health center network in Western Pennsylvania. There is also one location located in Trumbull County, Ohio. They offer health education, free pregnancy tests, free blood pressure screenings, as well as providing services such as adult medicine, behavioral health, complimentary medicine, dental hygiene, nutrition counseling, obstetrics/gynecology, pediatrics, psychiatry, women’s healthcare and other services.

Sharon Community Health Center – Located in Sharon, Pennsylvania, this federally qualified health center provides various primary care services including stay well services, screenings and counseling.

Warren West Community Health Center – located in Warren, Ohio, this federally qualified health center provides dental care, enabling, mental health/substance abuse, obstetrical/gynecological, other professional and primary care medical services.

Lloyd Mccoy Community Health Center –located in Warren, Ohio, this federally qualified health center provides family practice, dental care, pediatrics, prenatal care, podiatry, lab testing, health screenings, employment physicals and health education.

Youngstown Community Health Center – along with Warren West and Lloyd McCoy Community Health Centers, this federally qualified health center is a member of One Health Ohio Community Medical and Dental Center Network. Other locations include East Market and Alliance.

Estimated Demand for Physician Office Visits and Hospital Services

In order to define existing services and develop future plans that may affect the operations of the Hospital, this study includes an analysis of estimated demand for physician office visits, hospital emergency room visits and hospital discharges using national averages and population estimates. Current and future unmet needs can be evaluated based on the changes in the size of the market for certain services as determined by applying these national average use rates to the population of the community. *Exhibit 18* summarizes estimated 2013 and projected 2018 physician office visits, emergency department visits and hospital discharges using 2009 national average use rates from the National Center for Health Statistics.

**Exhibit 18
Sharon Regional Health System Community
Physician Office Visits, Emergency Department Visits and Discharges**

Estimated 2013

Age	2013 Community Population	Physician Office Visits per Person	Estimated Physician Office Visits	Emergency Department Visits per Person	Estimated Emergency Department Visits	Hospital Discharges per Person	Estimated Hospital Discharges
0-18	21,449	2.47	52,979	0.45	9,652	0.0342	733
18-44	31,346	2.34	73,350	0.49	15,360	0.0886	2,776
45-64	31,112	4.01	124,759	0.37	11,511	0.1210	3,763
65+	21,470	7.37	158,234	0.52	11,164	0.3549	7,619
Total	105,377		409,322		47,687		14,891
Primary Care Visits		55.9%	228,811				
Specialty Care Visits		44.1%	180,511				
Total			409,322				

Projected 2018

Age	2018 Community Population	Physician Office Visits per Person	Projected Physician Office Visits	Emergency Department Visits per Person	Projected Emergency Department Visits	Hospital Discharges per Person	Projected Hospital Discharges
0-18	20,223	2.47	49,951	0.45	9,100	0.0342	691
18-44	31,028	2.34	72,606	0.49	15,204	0.0886	2,748
45-64	28,826	4.01	115,592	0.37	10,666	0.1210	3,487
65+	23,525	7.37	173,379	0.52	12,233	0.3549	8,349
Total	103,602		411,528		47,203		15,275
Primary Care Visits		55.9%	230,044				
Specialty Care Visits		44.1%	181,484				
Total			411,528				

Source: www.cdc.gov, community populations from The Nielsen Company

Examination of the population demographics suggests that the aging of the “baby boom” population will actually increase the overall utilization of hospital and primary care services within the community. For example, the projected change in the age category 65+ shows a significant increase. While the age category 65+ is projected to increase 9.6 percent from 2013 to 2018, the overall population of the community is projected to decrease by 1.7 percent.

Exhibit 19 illustrates the percentage change in the calculated utilization from *Exhibit 18* as an estimated percentage increase in utilization from 2013 to 2018.

Exhibit 19
Sharon Regional Health System Community
Estimated Difference in Utilization: Physician Office Visits, Emergency Room Visits and Hospital Discharges
Estimated 2013 and Projected 2018

	Estimated 2013	Projected 2018	Percent Difference
Primary Care Physician Office Visits	228,811	230,044	0.5%
Specialty Care Physician Office Visits	180,511	181,484	0.5%
Total Estimated Physician Office Visits	409,322	411,528	0.5%
Emergency Department Visits	47,687	47,203	-1.0%
Hospital Discharges	14,891	15,275	2.6%

Exhibits 20 and *21* provide detailed analysis of estimated acute care discharges, ambulatory procedures, hospital outpatient department visits and physician office visits. These exhibits categorize the utilization for estimated 2013 and projected 2018 by different age categories to assess possible growth areas. A review of each of the charts indicates that there is potential market growth in several of the acute care areas. The categories with highest percentage increase are operations on the respiratory system and cardiovascular system.

Exhibit 20
Sharon Regional Health System Community
Number of Ambulatory Surgery Procedures by Procedure Category and Age: Provider Service Area
Estimated 2013 and Projected 2018

Procedure Category	Total	Estimated 2013				Projected 2018				Market Difference Percent	
		Under 15 years	15-44 years	45-64 years	65 years and over	Under 15 years	15-44 years	45-64 years	65 years and over		
Total Provider Service Area Population	105,377	17,168	35,627	31,112	21,470	103,602	16,274	34,977	28,826	23,525	
All procedures	18,834	531	4,180	5,040	9,083	19,229	503	4,104	4,670	9,952	2.1%
Operations on the nervous system	478	54	95	131	198	483	51	93	121	217	1.0%
Operations on the eye	34	3	5	8	18	35	2	5	7	20	2.6%
Operations on the ear	13	6	3	0	4	12	6	3	0	4	-0.1%
Operations on the nose, mouth and pharynx	95	15	26	25	30	95	15	25	23	32	-0.3%
Operations on the respiratory system	495	0	44	147	303	512	0	43	137	332	3.5%
Operations on the cardiovascular system	3,228	0	207	1,023	1,998	3,341	0	203	948	2,190	3.5%
Operations on the digestive system	2,410	62	354	709	1,285	2,471	59	347	657	1,408	2.5%
Operations on the urinary system	441	7	61	141	233	452	7	59	131	255	2.4%
Operations on the male genital organs	105	6	5	36	58	107	6	5	34	63	2.3%
Operations on the female genital organs	631	3	291	225	111	619	3	286	208	122	-1.8%
Operations on the musculoskeletal system	1,887	41	263	630	954	1,925	39	258	584	1,045	2.0%
Operations on the integumentary system	587	0	133	207	246	593	0	131	192	270	1.0%
Miscellaneous diagnostic and therapeutic procedures	6,105	219	683	1,664	3,539	6,298	208	671	1,542	3,877	3.2%
Obstetrical procedures	1,995	3	1,986	6	0	1,958	3	1,950	5	0	-1.8%

Exhibit 21
Sharon Regional Health System Community
Number of Acute Care Discharges by Medical Diagnostic Category and Age: Provider Service Area
Estimated 2013 and Projected 2018

Procedure Category	Total	Estimated 2013				Total	Projected 2018				Market Difference Percent
		Under 15 years	15-44 years	45-64 years	65 years and over		Under 15 years	15-44 years	45-64 years	65 years and over	
Total Provider Service Area Population	105,377	17,168	35,627	31,112	21,470	103,602	16,274	34,977	28,826	23,525	
All Conditions	14,472	615	3,009	3,559	7,289	14,821	583	2,954	3,297	7,987	2.4%
Infectious and parasitic diseases	541	37	64	120	320	559	35	63	111	351	3.5%
Neoplasms	723	11	69	264	380	738	10	68	244	416	2.1%
Endocrine, nutritional and metabolic diseases and immunity disorders	796	43	104	222	427	816	41	102	206	468	2.6%
Diseases of the blood and blood-forming organs	212	0	36	47	128	220	0	36	44	140	3.8%
Mental disorders	839	42	356	302	138	821	40	350	280	152	-2.1%
Diseases of the nervous system and sense organs	336	29	50	91	167	343	27	49	84	183	2.1%
Diseases of the circulatory system	2,916	9	124	735	2,048	3,055	9	121	681	2,244	4.8%
Diseases of the respiratory system	1,496	154	94	317	930	1,552	146	93	294	1,019	3.7%
Diseases of the digestive system	1,409	57	233	423	696	1,437	54	229	392	763	2.0%
Diseases of the genitourinary system	929	20	149	223	537	960	19	146	207	588	3.4%
Complications of pregnancy, childbirth and puerperium	139	0	139	0	0	137	0	137	0	0	-1.8%
Diseases of the skin and subcutaneous tissue	309	24	55	98	134	313	22	54	91	147	1.1%
Diseases of the musculoskeletal system and connective tissue	869	8	77	285	499	894	8	76	264	546	2.9%
Congenital anomalies	28	0	8	12	8	28	0	8	11	9	-0.8%
Certain conditions originating in the perinatal period	48	48	0	0	0	45	45	0	0	0	-5.2%
Symptoms, signs and ill defined conditions	72	13	15	19	26	73	12	15	17	29	0.3%
Injury and poisoning	1,217	54	227	312	624	1,247	51	222	289	684	2.5%
Supplementary classifications	1,542	18	1,209	88	227	1,535	17	1,187	82	248	-0.5%

Source: CDC - National Health Statistic Report #29, October 26, 2010

Estimated Demand for Physician Services

Physician needs assessment data has become increasingly important to hospitals developing strategic physician recruitment plans and seeking to comply with federal recruiting regulations. There are several methodologies for estimating physician needs within a community using physician-to-population ratios. These methodologies have been applied to the population of the community to assist with the determination of future need for additional primary care and/or specialty care physicians.

Exhibit 22 provides four different need methodologies widely recognized in the health care industry. These rates serve as a useful starting point in assessing community need for physicians, but alone they should not constitute the basis for a comprehensive medical staff plan. While the rates of the four methodologies offer a general range of physicians needed per 100,000 population, they reflect national numbers.

- GMENAC (Graduate Medical Education National Advisory Committee) was a one-time, ad hoc committee of health care experts convened by Congress to assess U.S. health care manpower needs. In 1980, GMENAC issued estimates of the number of physicians needed per 100,000 population. The GMENAC numbers are over 30 years old and are considered dated by many.
- Writing in the December 11, 1996, issue of JAMA, David Goodman, MD, et al, projected needs based on three different types of service populations: the patient panel of a large HMO, the population of a community with a high level of managed care and the population of a mostly fee-for-service community. The numbers in this group of rates reflect a mostly fee-for-service community.
- Writing in an 1989 edition of the Journal of Health Care Management, Hicks and Glenn, projected needs based on the current rate of patient visits generated to particular specialists as determined by the Department of Health and Human Services' National Ambulatory Healthcare Administration report divided by the number of patient visits physicians typically handle, as determined by the Medical Group Management Association.
- Solucient is a health care consulting firm. Its numbers are based on a 2003 study and are, therefore, the most current of the figures provided. Solucient employed a methodology similar to Hicks & Glenn, which analyzed National Ambulatory Health Care Administration patient/physician visits data, Medical Group Management Association physician productivity data and private and public claims data showing patient/physician visit rates by age.

An average of all four methodologies was calculated and applied to the Hospital's estimated 2013 and projected 2018 community population to estimate the specific physician needs for the area. Aiding in calculating the estimated need populations, recommendations were taken from the Healthcare Strategy Group (HGS) Advanced Manpower Planning guide. Most physician to population methodologies do not consider technological advancements over time nor do they consider the differing healthcare needs of the local populations. Medicated stents and new imaging procedures are examples of advancements that have greatly impacted the demand for physician services, but are unaccounted for under the four provided models. HGS recommended making technology adjustments to the following specialties: cardiology, cardiac surgery, neurology, neurosurgery and orthopedics. These recommendations are built into the

estimated needs calculations that generate the numbers shown in *Exhibit 22*. In addition to technology adjustments, HGS also recommended making adjustments to models based on mortality rate variances by contrasting national and local mortality rates. Refer to the contrasts for Sharon Regional Health System at *Exhibit 13*. HGS recommended adjusting for 80% of the variance after the first 10% that recognizes potential annual fluctuations of community need that could be supported by the current complement of physicians in the community. The calculated average estimated need from the four methodologies after adjustments for mortality and technological advances was then compared to estimated current physician supply and an incremental difference was derived.

In rural and small metropolitan areas, general and family practice physicians often have internal medicine specialties. These physicians also may see children within their individual practices. Evaluation of potential need and supply for these physicians becomes more complicated to statistically measure since internal medicine and pediatric physicians' needs are often served by the general and family practice physicians. Therefore, the statistical analysis of general and family practice, internal medicine and pediatrics physician groups are presented individually as well as in combination to reflect the nature of these practices.

Exhibit 22 is organized among physician groups, defined by the four physician studies. The physician studies originally group OB/GYN and psychiatry in the medical specialty grouping. These were moved into primary care's grouping to provide a more comprehensive definition of primary care for this report. Primary care includes: general and family practice, internal medicine, pediatrics, OB/GYN and psychiatry. Medical specialties include: allergy/immunology, cardiology, dermatology, gastroenterology, hematology/oncology, neurology, pulmonology and other medical specialties. Surgical specialties include: general surgery, neurosurgery, ophthalmology, orthopedic surgery, plastic surgery, urology and other surgical specialties. Hospital-based includes: emergency, anesthesiology, radiology and pathology. Pediatric subspecialties include: pediatric cardiology, pediatric psychiatry and other pediatric subspecialties.

Exhibit 22
Sharon Regional Health System Community
Summary of Physician Need by Specialty: Provider Service Area

Physician Group	4 Studies Physician Need per 100,000 Population					Estimated Supply based on Health Resources & Svcs Admin. Average & National Supply of Total Active Physicians		Estimated Need based on Average Physician Need, Mortality, and Technological Advances		Physician Shortage (Excess)	
	GMENAC	Goodman	Hicks & Glenn	Solucient	Average	2013	2018	2013	2018	2013	2018
Primary Care Physicians											
General and Family Practice	25.2	0.0	16.2	22.5	21.3	24.6	24.3	29.1	28.6	4.5	4.3
Internal Medicine	28.8	0.0	11.3	19.0	19.7	18.8	18.5	26.9	26.4	8.1	7.9
Pediatrics	12.8	0.0	7.6	13.9	11.4	7.3	7.2	15.6	15.3	8.3	8.1
	66.8	0.0	35.1	55.4	52.4	50.7	50.0	71.6	70.3	20.9	20.3
OB/GYN	9.9	8.4	8.0	10.2	9.1	5.6	5.5	12.4	12.2	6.8	6.7
Psychiatry	15.9	7.2	3.9	5.7	8.2	3.8	3.7	11.2	11.0	7.4	7.3
Medical Specialties											
Allergy/Immunology	0.8	1.3	0.0	1.7	1.3	0.5	0.5	1.8	1.7	1.3	1.2
Cardiology	3.2	3.6	2.6	4.2	3.4	3.3	3.3	5.2	5.1	1.9	1.8
Dermatology	2.9	1.4	2.1	3.1	2.4	1.6	1.6	3.3	3.2	1.7	1.6
Gastroenterology	2.7	1.3	0.0	3.5	2.5	1.7	1.7	3.2	3.2	1.5	1.5
Hematology/Oncology	3.7	1.2	0.0	1.1	2.0	0.7	0.7	2.6	2.5	1.9	1.8
Neurology	2.3	2.1	1.4	1.8	1.9	2.4	2.3	2.8	2.7	0.4	0.4
Pulmonology	1.5	1.4	0.0	1.3	1.4	1.4	1.3	1.9	1.9	0.5	0.6
Other Medical Specialties	3.5	0.4	0.0	4.1	2.7	9.1	9.0	3.7	3.6	(5.4)	(5.4)
Total	20.6	12.7	6.1	20.8	17.6	20.7	20.4	24.4	24.0	3.7	3.6

Exhibit 22
Sharon Regional Health System Community
Summary of Physician Need by Specialty: Provider Service Area

Physician Group	4 Studies Physician Need per 100,000 Population					Estimated Supply based on Health Resources & Svcs Admin. Average & National Supply of Total Active Physicians		Estimated Need based on Average Physician Need, Mortality, and Technological Advances		Physician Shortage (Excess)	
	GMENAC	Goodman	Hicks & Glenn	Solucient	Average	2013	2018	2013	2018	2013	2018
Surgical Specialties											
General Surgery	9.7	9.7	4.1	6.0	7.4	6.6	6.5	10.1	9.9	3.5	3.4
Neurosurgery	1.1	0.7	-	-	0.9	0.8	0.7	1.3	1.3	0.5	0.6
Ophthalmology	4.8	3.5	3.2	4.7	4.1	2.7	2.7	5.5	5.4	2.8	2.7
Orthopedic Surgery	6.2	5.9	4.2	6.1	5.6	3.6	3.5	7.9	7.8	4.3	4.3
Plastic Surgery	1.1	1.1	2.3	2.2	1.7	0.9	0.9	2.3	2.3	1.4	1.4
Urology	3.2	2.6	1.9	2.9	2.6	1.4	1.4	3.6	3.5	2.2	2.1
Other Surgical Specialties	-	-	-	2.2	2.2	3.1	3.1	2.7	2.6	(0.4)	(0.5)
Total	26.1	23.5	15.7	24.1	24.5	19.1	18.8	33.4	32.9	14.3	14.1
Hospital-Based											
Emergency	8.5	2.7	-	12.4	7.9	4.7	4.6	10.7	10.6	6.0	6.0
Anesthesiology	8.3	7.0	-	-	7.7	6.5	6.4	10.5	10.3	4.0	3.9
Radiology	8.9	8.0	-	-	8.5	5.2	5.2	11.6	11.4	6.4	6.2
Pathology	5.6	4.1	-	-	4.9	2.9	2.9	6.7	6.6	3.8	3.7
Total	31.3	21.8	-	12.4	29.0	19.3	19.1	39.5	38.9	20.2	19.8
Pediatric Subspecialties											
Pediatric Cardiology	-	-	-	0.2	0.2	0.3	0.3	0.3	0.3	0.0	(0.0)
Pediatric Psychiatry	-	-	-	0.5	0.5	1.2	1.2	0.6	0.6	(0.6)	(0.6)
Other Pediatric Subspecialties	-	-	-	1.0	1.0	2.2	2.1	1.4	1.4	(0.8)	(0.7)
Total	-	-	-	1.7	1.7	3.7	3.6	2.3	2.3	(1.4)	(1.3)
Total Physicians	170.6	73.6	68.8	130.3	142.5	122.9	121.1	194.9	191.5	72.0	70.4

* Sources: www.arf.hrsa.gov, US Dept. of Health and Human Serv. Physician Supply and Demand Projections

Observations

Based on the statistical analysis of physician need presented in *Exhibit 22*, physician shortages appear to exist in nearly all physician group classifications. Most notable are the physician shortages in the primary care and hospital-based physician groups. Both emergency and radiology areas of care are showing a shortage of approximately six physicians each. Internal medicine and pediatrics areas of care are showing a shortage of approximately eight physicians each. The analysis of the primary care physician group appears to suggest that general and family practice physicians are attempting to satisfy current demand for internal medicine and pediatric physicians. A significant opportunity to meet unmet need appears to exist within the OB/GYN and psychiatry areas of care with unmet needs of approximately seven physicians each.

Additionally, *Exhibits 14.1* and *15.1* support the observation that a general physician shortage exists for the community. The two counties for which parts of compose the community reflect physician-to-population ratios higher than the national benchmark with physician to population ratios of 1,620:1 for Mercer County and 2,177:1 for Trumbull County. The above exhibit is based on the zip code populations as defined in *Exhibit 1*. The national study averages have been applied to the zip code population to calculate the estimated need. Even with the overall decrease in population, combined with the increase to the age category 65 and over, as seen in *Exhibit 2.1*; the shortages identified appear to be in line.

Key Informant Interviews

Interviewing key informants (community stakeholders) is a technique employed to assess public perceptions of the county's health status and unmet needs that represent the broad interests of the Community with knowledge of or expertise in public health. These interviews are intended to ascertain opinions among individuals likely to be knowledgeable about the community and influential over the opinions of others about health concerns in the community.

Methodology

Interviews with 29 key informants were conducted over a brief time period in February 2013. Informants were determined based on their a) specialized knowledge or expertise in public health, b) their affiliation with local government, schools and industry or c) their involvement with underserved and minority populations.

A representative from the Hospital contacted all individuals nominated for interviews. If the respective key informant agreed to an interview, an interview time and place was scheduled. Most of the interviews were conducted at the Hospital.

All interviews were conducted using a standard questionnaire. A copy of the interview instrument is included in the Appendices. A summary of their opinions is reported without judging the truthfulness or accuracy of their remarks. Community leaders provided comments on the following issues:

- Health and quality of life for residents of the community
- Barriers to improving health and quality of life for residents of the community

- Opinions regarding the important health issues that affect Mercer and Trumbull County residents and the types of services that are important for addressing these issues
- Delineation of the most important health care issues or services discussed and actions necessary for addressing those issues

Interview data was initially recorded in narrative form. Themes in the data were identified and representative quotes have been drawn from the data to illustrate the themes. Informants were assured that personal identifiers such as name or organizational affiliations would not be connected in any way to the information presented in this report. Therefore, quotes included in the report may have been altered slightly to preserve confidentiality.

This technique does not provide a quantitative analysis of the leaders' opinions, but reveals community input for some of the factors affecting the views and sentiments about overall health and quality of life within the community.

Key Informant Profiles

Key informants from the community (see the Appendices for a list of key informants) worked for the following types of organizations and agencies:

- Social service agencies
- Local school system and community college
- Local city and county government
- Public health agencies
- Industry
- Faith community
- Medical providers

Key Informant Interview Results

The interview questions for each key informant were identical. The questions on the interview instrument are grouped into four major categories for discussion:

1. General opinions regarding health and quality of life in the community
2. Underserved populations and communities of need
3. Barriers
4. Most important health and quality of life issues

A summary of the leaders' responses by each of these categories follows. Paraphrased quotes are included to reflect some commonly held opinions and direct quotes are employed to emphasize strong feelings associated with the statements. This section of the report summarizes what the key informants said without assessing the credibility of their comments.

1. General Opinions Regarding Health and Quality of Life in the Community

The key informants were asked to rate the health and quality of life in their respective county. They were also asked to provide their opinion whether the health and quality of life had improved, declined or stayed the same over the past few years. Lastly, key informants were asked to provide support for their answers.

Most of the key informants rated the health and quality of life in their county somewhere between a 7 to a 9 on a 10 point scale. There were a few responses that were less favorable. Interviewees repeatedly noted that there were extreme diversities in health and quality of life for certain residents within the community. Economic circumstances are seen to contribute largely to the dichotomy between the two groups.

When asked whether the health and quality of life had improved, declined, or stayed the same, the responses were split evenly across the board with 12 saying it had improved, 10 staying the same and 7 saying it had declined. Growing retail and other businesses, geographical location of the area, low cost of living, increase in food bank programs, expanded medical services due to area hospital competition and expansion of shale and potential energy investments are reasons listed by interviewees for improvement of quality of life and health in the area. The interviewees that see an overall decline in the quality of life and health are seeing more cancer, more COPD, less jobs for younger people, fewer people with insurance, corporations that have left the area, more substance abuse, higher need for behavioral health services and an aging population.

With a large number of health resources in the area, competition is high. This has led to facilities offering more specialized services to bring patients in. Expansion of services at Sharon Regional Health System, along with other facilities in the area, has greatly impacted the options for the community to serve their healthcare needs, which is critically important for the aging population as discussed in previous sections of this report. Corporations leaving the area and lack of jobs for young people can be very detrimental for a community. The young people with young families to support will leave the area to seek employment options elsewhere. This may lead to more corporations having to leave the area. This also results in a higher rate of an aging population. There is some optimism in the air for the community with the recent expansion of shale and other potential energy investments.

Overall, key informants value the Hospital's impact on community health and recognize the Hospital as an asset to the community. Lack of health education as well as motivation and affordability of care were generally seen as the reasons behind poor health and poor quality of life. Poor economic conditions and lack of jobs are seen as detriments to community health.

“The area hospitals do all they can to promote health and offer services. It’s the people that are lacking in making good choices.”

“Sharon is very active in outreach programs...very impressed with the assistance they offer.”

“Sharon does a great job of education. Behavioral health services at the hospital has been creative and shown ability to recreate, redesign, and re-tool programs to address the ever changing needs. They have a ‘whatever it takes’ attitude.”

2. Underserved Populations and Communities of Need

Key informants were asked to provide their opinions regarding specific populations or groups of people whose health or quality of life may not be as good as others. They were also asked to provide their opinions as to why they thought these populations were underserved or in need. Each key informant was asked to consider the specific populations they serve or those with which they usually work. They identified the elderly and those lacking jobs as having the largest needs.

A high concentration in a population of elderly people contributes to the rise in health care costs. This in turn causes economic strain for the community, and especially the elderly that need the increased care. When the elderly and others like those without jobs have to choose between eating and paying for their care, this puts more demand on local charities and community centers. Even with expanded resources, the high demand of needs from the elderly increases the difficulty of providing quality care to the population as a whole. Those that avoid their health problems due to lack of insurance and/or affordability and only seek care in emergent situations increase the strain on medical facilities.

Uninsured/underinsured are considered to have issues accessing care. Although services are available, some of the uninsured/underinsured do not have necessary knowledge to effectively access care. Additionally, there are those that would qualify for services at an FQHC, but feel there is a stigma attached to those services.

The key informants were asked what could improve the health and quality of life in the area. The main responses were based on ideas for education and providing the community with ways to improve their health habits. The following were included:

- Change the mindset of people to include more healthy habits in their lives
- Improve unemployment in the area as well as offer more training and education
- Provide more education on resources available for those that are struggling
- Improve public transportation system
- Provide programs in schools to educate the young on drugs and living healthy lives
- Increase trails and outdoor recreational opportunities

“The hospitals do a good job of working together through community health partnership organization which offers services and programs to the community. The problem is getting people to utilize the services offered.”

“Get unemployment down. People have a better sense of community and worth if they are working for their money.”

“Improve public transportation services. Currently, services stop at 3pm. Get people to work. There are jobs but people can’t keep them or want them. Improve the welfare system. It is difficult for some to get assistance.”

“We need more coordination with the various not-for-profits that provide services...much duplication between agencies. More coordination with churches since most people are involved with one.”

3. Barriers

The key informants were asked what barriers or problems keep community residents from obtaining necessary health services in their community. Responses from key informants included jobs/insurance, children learning bad habits from parents, education on availability of services, public transportation and affordability of care.

Lack of quality jobs, hence low incomes and lack of health insurance, is seen as a primary barrier to health services. Education surrounding access to health services for the newly uninsured or underinsured persons is also identified as a community need. People do not understand how to access services and there is limited media access for the local community to receive information regarding education and screenings offered.

The public transportation system is viewed as a barrier to accessing regular health care for those without personal transportation. It is also inhibiting to those trying to get to the jobs they do have. Those interviewed believe it is difficult to reach out to isolated or marginalized people in the community. There is a lack of transportation for low-income residents to receive services and a lack of personal “know-how” of the medically indigent for accessing needed services.

Lack of education and communication surrounding health issues and the availability of health resources is also seen as a primary barrier to health services. The overall perception is that people are not motivated to make the necessary changes to improve their lives. There is also a sense that health agencies need to improve services. Several respondents feel another community need is to provide more outlets for exercise and healthy activities.

As previously noted, people’s attitudes and culture and surrounding health and lifestyle choices are seen as a barrier. Bad habits are passed down from generation to generation and there are not enough resources to bring about a change.

“Townships are ‘pockets’ of wealthy/poor. Communities need to do better at working together to provide overall programs/resources.”

“SRHS has done a lot, adequate resources in Shenango Valley. Maybe some shortage in outlying areas. FQHC’s may have a stigma attached.”

4. Most Important Health and Quality of Life Issues

Key informants were asked to provide their opinion as to the most critical health and quality of life issues facing the community.

The issues identified most frequently were:

1. Cancer
2. Heart disease
3. Mental health

Other issues that were reported are diabetes, drug abuse, obesity, lung disease/smoking, care for the elderly, healthy living and associated education, young parents, child wellness, shortage of physicians, accidents and dental health.

“During a visit to a local school to provide dental services, a 6th grader had to have teeth removed because they were past the point of being able to be fixed.”

“When you don’t have a house or gas money, wellness is not a priority.”

“Cultural differences between northern part of the county and rest of the county is extreme.”

Key Findings

A summary of themes and key findings provided by the key informants follows:

- Information and education on health issues is a problem. There is a significant need to inform, educate and counsel specific categories of the community.
- Drug and alcohol abuse are seen as a health and quality of life issue.
- Transportation is an issue for rural residents and low income households.
- There is a significant need for better employment opportunities along with better benefits.
- There is a significant need for improved behavioral health services regarding drug abuse, alcohol abuse, depression, etc.

Community Health Input Questionnaire

The Hospital circulated community health input questionnaires, in order to gather broad community input regarding health issues. The input process was launched on December 12, 2012, and was closed on March 5, 2013.

The Community Health Questionnaire survey was intended to gather information regarding the overall health of the community. The results are intended to provide information on different health and community factors. Requested community input included demographics and socioeconomic characteristics, behavioral risk factors, health conditions and access to health resources.

Methodology

A web-based tool, Question Pro, was utilized to conduct the community input process. Paper questionnaires, which were identical to the electronic questionnaire, were also distributed to populations who may not have access to the internet or generationally are more likely to complete a paper questionnaire. Electronic and paper questionnaires were circulated to the residents of the community. Scheduled below is the survey distribution report.

There were 180 questionnaires completed and returned which comprised of 122 electronic questionnaires and 58 paper questionnaires. Sociodemographic characteristics such as age, education, income and employment status were fairly comparable to the most recent census data. Over 72 percent of the questionnaire respondents were female which is more than the 51 percent of the population of the community. Additionally, representation of those individuals 65 and older is significantly less than that reported in the latest census data.

Community Health Input Questionnaire

The instrument used for this input process was based largely on the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), as well as various other public health surveys and customized questions. The final instrument was developed by the Hospital representatives in conjunction with BKD.

Community Health Input Results

The questionnaire was quite detailed in nature, including many specific questions regarding general health, satisfaction with specific and general providers and demographic information. A compilation of the actual results are included in the Appendices to allow for a detailed analysis. Health needs indicated include:

- **Assessment of Personal Health**

When asked to assess their personal health status, 35 percent of the respondents described their health as being “excellent,” while 54 percent stated that their overall health was “good.”

When asked to rate their community as a “healthy community,” approximately 9 percent of the respondents indicated their community was healthy or very healthy. More than 36 percent of the respondents indicated their community was unhealthy or very unhealthy.

- **Health Care Access Issues**

Over 37 percent of the respondents reported having health insurance with over 70 percent of health insurance being provided by private insurance companies. Health care access issues are primarily related to costs. Respondents noted the following reasons for not receiving medical care:

1. Cannot afford it
2. Employer does not offer it
3. Have never applied for Medical Assistance

The other respondents either did not qualify for employer plans or for Medical Assistance.

- **Lifestyle Behavioral Risk Factors**

Proper diet and nutrition seem to be a challenge as only 22 percent of the respondents report eating the daily recommended servings of fruits and vegetables and 20 percent of the respondents report that they never exercise. Of the respondents, 44 percent report exercising at least three times per week. When asked about exercising at least five times per week, nearly 36 percent of the respondents answered “never.” Nearly 11 percent of the respondents always smoke cigarettes. Use of seat belts is high (over 86 percent) and when applicable, respondents’ children use seat belts and/or child safety seats, with only 1% using them only sometimes.

- **Social and Mental Health**

Over 13 percent of the respondents reported always being stressed out with over 71 percent responding that they were sometimes stressed out. Almost 28 percent of the respondents rated their stress level as High or Very High. Almost 17 percent of the respondents reported that they did less than they would like because of mental health or emotional issues.

Approximately 31 percent of respondents reported that their current employment is stressful, while almost 26 percent reported that finances are stressful. Nearly 58 percent of the respondents worry about losing their job.

- **Barriers to Medical Care**

Over 20 percent of respondents reported they travel outside the area for medical care because the quality of care is better elsewhere. Over 33 percent reported the costs of medical care as the largest barrier to receiving health care. Ranked second, at nearly 22 percent of respondents was the barrier of the doctors' office hours. Over 43 percent of respondents suggested the best way to address the health needs of the community was to lower the cost of health care and prescription drugs.

What do Citizens say about the Health of their Community?

The five most important "health problems:"

1. Obesity (adult)
2. Heart disease and stroke
3. Cancer
4. Aging problems
5. Diabetes

The three most "risky behaviors:"

1. Drug abuse (prescription)
2. Alcohol abuse
3. Poor eating habits

The five most important factors for a "healthy community:"

1. Affordable and available health care
2. Job availability
3. Job security
4. Healthy behaviors and lifestyles and healthy food sources
5. Low crime/safe neighborhoods

Prioritization of Identified Health Needs

The Hospital has accomplished much over the past several years and continues to work on the development and implementation of programs and initiatives that work toward the improvement of community health and wellness. Primary and secondary data from this assessment process will be a valuable resource for future planning. The community input findings obtained through interviews and the community input questionnaire should be especially useful in understanding residents' health needs. The findings provide the Hospital a lot of information to act on. In order to facilitate prioritization of identified health needs, a ranking and prioritization process was used and is described in the section below.

Analysis of community health information, key informant interviews and the community health input questionnaire were all used to assess the health needs of the community in *Exhibit 23*:

Exhibit 23
Sharon Regional Health System
Ranking of Community Health Needs

Health Problem	What are the				Sub Total	Ability of the Hospital to Impact Change	Total Score
	Ability to evaluate and measure outcomes based on data	How many people are affected by the issue?	consequences of not addressing this problem?	Prevalence of common themes			
Diseases of the Heart	4	4	4	4	16	12	28
Cancer	4	4	4	4	16	10	26
Mental Health	4	4	3	4	15	11	26
Adult Smoking	4	4	3	3	14	10	24
Drug Abuse	4	3	3	4	14	7	21
Respiratory	4	3	3	2	12	9	21
Adult Obesity	4	4	4	4	16	4	20
Alcohol Abuse	4	3	3	3	13	7	20
Diabetes	4	3	3	3	13	7	20
Shortage of Physicians	3	4	3	2	12	7	19
Access to Specialists	3	4	3	2	12	6	18
Affordable Healthcare	3	4	4	4	15	2	17
Children in Poverty	4	4	3	3	14	2	16
Uninsured Residents	3	3	4	4	14	2	16
Transportation	2	3	3	3	11	1	12
Access to Healthy Foods	2	4	2	2	10	2	12
Access to Recreational Facilities/ Limited Physical Activity	2	3	3	2	10	1	11
Sexually Transmitted Disease	4	2	2	2	10	1	11
Teen Birth Rate	4	2	2	2	10	1	11
Dental Health	2	3	2	3	10	1	11
Diabetic Screening	3	2	2	2	9	2	11
Motor Vehicle Crashes	3	2	2	2	9	2	11
Low Birth Weight	3	2	2	2	9	2	11

Health needs were ranked based on five factors:

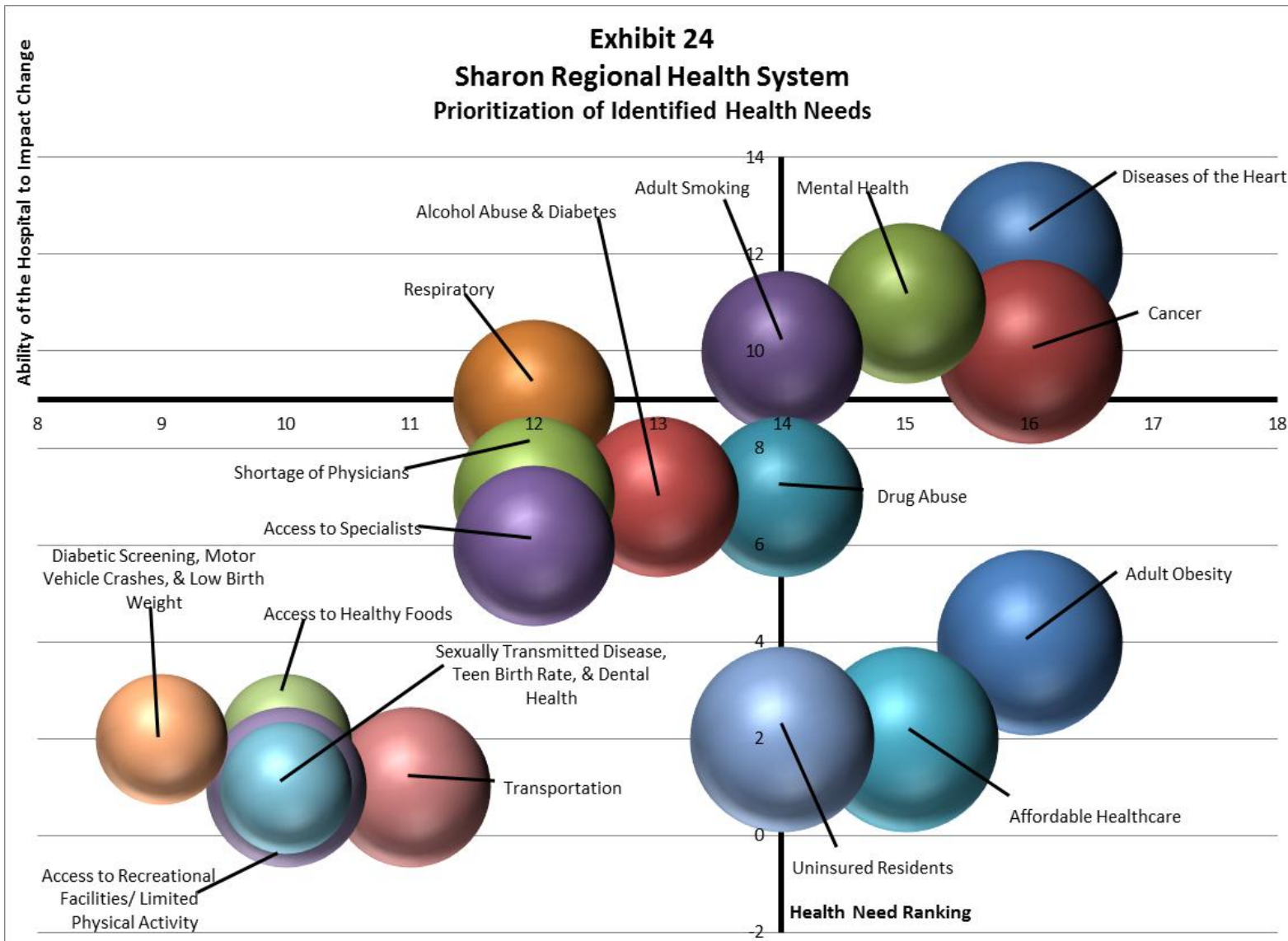
1. The ability of the Hospital to evaluate and measure outcomes.
2. How many people are affected by the issue or size of the issue?
3. What are the consequences of not addressing this problem?
4. Prevalence of common themes.
5. The ability of the Hospital to impact change.

Health needs were then prioritized and charted on *Exhibit 24* taking into account their overall ranking, the degree to which the Hospital can impact long-term change and the identified health needs impact on overall health.

Utilizing the statistical median (7) as the horizontal axis, the overall ranking based on subtotal score was plotted on *Exhibit 24*. Next, each identified health need was assigned a value by Hospital management between 1 and 12 representing the perceived degree of impact the Hospital has on changing health outcomes related to the identified health need. Utilizing the statistical median (9) as the vertical axis, this value was charted.

Lastly, each health need was evaluated and assigned a rating between 1 and 4 regarding the health needs consequences of not being addressed. Those health needs receiving the highest rating are represented by the largest spheres.

The graphical representation included as *Exhibit 24* is intended to aid in identifying health priorities for the Community. By addressing those needs in the upper right quadrant, overall community health will likely improve as these needs have the greatest impact on overall health and the Hospital is more likely to influence a positive impact on these needs.



Considerations for Meeting Identified Health Needs

After compiling and analyzing all of the data in this assessment, we recommend that management consider the following benchmarking, targets, ideas and strategies in its implementation strategy plans. Some of the strategies will address multiple needs. These lists are not intended to be exhaustive and do not imply there is only one way to address the identified health needs.

Diseases of the Heart

Diseases of the heart is the highest ranked health need in the community. Changes in this area can have a high impact to the overall health of the community.

Hypertension prevention includes following a healthy eating pattern, reducing salt and sodium in the diet, maintaining a healthy weight, being physically active, limiting alcohol intake and quitting smoking if a smoker. Research has shown that following a healthy eating plan can both reduce the risk of developing high blood pressure and lower an already elevated blood pressure. To reduce salt and sodium in the diet, it is best to reduce intake to the recommendation of less than 2.4 grams (2,400 milligrams) of sodium a day. Being overweight increases the risk of developing high blood pressure. Blood pressure rises as body weight increases. Lack of physical activity, poor dietary choices and obesity are linked with the increased risk of several medical conditions in addition to diseases of the heart. Physical activity can help reduce blood pressure as well as reduce the risk of other types of heart disease.

Exhibit 25
Sharon Regional Health System
Diseases of the Heart
Leading Health Indicators

	County Health Rankings		Healthy People 2020 Targets
	Sharon Regional Community	US Benchmark	
County	Cause of Death Rates		Reduce coronary heart disease deaths per 100,000 persons
Mercer County, PA	293.2	192.9	100.8
Trumbull County, OH	462.3	192.9	100.8
County			Increase the proportion of adults with hypertension whose blood pressure is under control
	N/A	N/A	61.2%
County			Increase proportion of adults who have had their blood cholesterol checked within the preceding 5 years
	N/A	N/A	82.1%

Community and US Benchmark Source: County Health Rankings

Strategies that address this priority area should consider the following:

- A community-wide fitness initiative led by the Hospital focusing on fitness, nutrition and physical activity.
- Community education about the available options for outdoor physical fitness.
- Education on nutrition and cooking for healthy hearts.

Sharon Regional has the following resources or programs that may help address this need:

- Partnership with Lifeline screenings throughout the region
- A-fib and ABI screenings
- BP screenings
- Cholesterol screenings
- Ongoing extensive advertising
- Community education programming
- CPR training center
- EMS linkages
- Heartsaver classes
- PALS/ACLS
- Hands Only CPR community education
- Walk with a Doc at Shenango Valley Mall
- Expansion of Corporate Health Services

Cancer

Cancer as a leading cause of death is only 2nd to Heart Disease in both counties of the defined community. The most common risk factors for cancer are growing older, tobacco use, sunlight, ionizing radiation, certain chemicals and other substances, some viruses and bacteria, certain hormones, family history of cancer, alcohol use, poor diet, lack of physical activity and being overweight. Although cancer may strike at any age, it is more commonly a disease of middle and older age.

Many cancers are preventable by reducing risk factors. Other cancers can be prevented by getting vaccinated against human papillomavirus and hepatitis B virus. Screening is effective in identifying some types of cancers including breast cancer, cervical cancer and colorectal cancer. It is critical to assess whether people understand and remember the information they receive about cancer screening. Research shows that a recommendation from a health care provider is the most important reason patients cite for having cancer screening tests.

Exhibit 26
Sharon Regional Health System
Cancer
Leading Health Indicators

County	County Health Rankings		Healthy People 2020 Targets
	Sharon Regional Community	US Benchmarks	
County	Cancer Death Rate		Reduce the overall cancer death rate
Mercer County, PA	196.5	185.9	160.6
Trumbull County, OH	200.3	185.9	160.6
County			Increase the proportion of adults who receive a colorectal cancer screening based on the most recent guidelines
	N/A	N/A	70.5%
County			Increase the proportion of women who receive a breast cancer screening based on the most recent guidelines
	N/A	N/A	81.1%

Community and US Benchmark Source: County Health Rankings

Strategies that address this priority area should consider the following:

- Provision of increased clinical preventive services
- Logistical factors such as transportation
- The challenges faced by the elderly population should be considered

Sharon Regional has the following resources or programs that may help address this need:

- Recruitment of new Cancer Care Center medical director
- Selection of a new Cancer Care Center administrative director
- Partnership with American Cancer Society
- Angel Fund – Cancer Care Center
- Expansion of Corporate Health Services
- Breast Care Center
- Walk-In Wednesdays for no appointment mammograms
- Breast and lung cancer screenings
- Prostate cancer screenings
- Genetics clinic

Mental and Emotional Well-Being

The Hospital’s assessment indicated the lack of access for mental health services in the community.

**Exhibit 27
Sharon Regional Health System
Mental and Emotional Well Being
Leading Health Indicators**

	County Health Rankings		Healthy
	Sharon Regional Community	US Benchmarks	People 2020 Targets
County	Poor Mental Health Days		
Mercer County, PA	3.7	2.30	N/A
Trumbull County, OH	3.6	2.30	N/A
County	Suicide Death Rate		Reduce suicide rate
Mercer County, PA	14.9	12.2	10.2
Trumbull County, OH	12.8	12.2	10.2
County			Reduce the proportion of adolescents aged 12 to 17 years who experience major depressive episodes
	N/A	N/A	7.40%

Community and US Benchmark Sources: County Health Rankings, Missouri Department of Health & Senior Services, KS Department of health & Environment

Strategies that address this priority area should consider the following:

- Increase the number of mental health providers
- Increase depression screenings by primary care physicians

Sharon Regional has the following resources or programs that may help address this need:

- Development/expansion of services within area school districts
- Recruitment of additional psychiatrist and mid-levels
- Community/Professional autism symposium
- Partnership with Behavioral Health Commission
- Development of alcohol detox unit?
- Expansion of Corporate Health Services/EAP Program

Tobacco and Substance Abuse

The Healthy People 2020 goal for tobacco use is to reduce illness, disability and death related to the use as well as secondhand smoke exposure. Tobacco use causes cancer, heart disease, lung diseases, premature birth, low birth weight, stillbirth and infant death. There is no risk-free level of exposure to secondhand smoke. It can cause the same health issues as smoking, but in addition can cause severe asthma attacks, respiratory infections, ear infections and Sudden Infant Death Syndrome. Tobacco use is the single most preventable cause of death and disease in the United States.

Substance abuse includes the use of legal and illegal substances. The problem likely impacts every member of the community. Prescription drug abuse was highlighted during the key informant interview process. Key informant interviews reflected drug and alcohol abuse as a health and quality of life issue impacting the community. The community health input questionnaire indicated that drug abuse was one of the top three most risky behaviors impacting the community.

Exhibit 28
Sharon Regional Health System
Tobacco & Substance Abuse
Leading Health Indicators

County	County Health Rankings		Healthy People 2020 Targets
	Sharon Regional Community	US Benchmarks	
	Adult Smoking		Reduce cigarette smoking by adults
Mercer County, PA	25.00%	14.00%	12.00%
Trumbull County, OH	26.00%	14.00%	12.00%
			Reduce use of cigarettes by adolescents (past month)
County	N/A	N/A	16.00%
			Reduce the proportion of children aged 3 to 11 years exposed to secondhand smoke
County	N/A	N/A	47.00%
	Excessive Drinking		Reduce the proportion of adults engaging in binge drinking during the past 30 days
Mercer County, PA	13.00%	27.10%	24.40%
Trumbull County, OH	18.00%	27.10%	24.40%
			Reduce the proportion of adolescents reporting use of alcohol or any illicit drugs during the past 30 days
County	N/A	N/A	16.60%

Community and US Benchmark Source: County Health Rankings

Recommendations to improve substance abuse include:

- Education and monitoring of prescription drug abuse. Physicians should focus on decreasing prescription drug abuse. Improve controls and protocols associated with abused drugs.
- Increased education and training in the school-based programs regarding substance abuse.
- Increased outpatient programs for substance abuse.
- Adopt policies and strategies to increase access, affordability and use of smoking cessation services and treatments.
- Establish policies to reduce exposure to secondhand smoke.

Sharon Regional has the following resources or programs that may help address this need:

- Ongoing smoking cessation classes
- Increase promotion of class availability
- Growth in Corporate Health Services
- Adult program in conjunction with Corporate Health Services
- Ready for growth
- Streamlined intake and assessment process
- Teen education/intervention program
- Intensive Outpatient Program (IOP)

Health Issues of Uninsured Persons, Low-Income Persons and Minority Groups

Certain key informants were selected due to their positions working with low-income and uninsured populations. Several key informants were selected due to their work with minority populations. Based on information obtained through key informant interviews and the community health survey, the following chronic diseases and health issues were identified:

- Uninsured/low income population/elderly
 - ✓ Access to healthy foods
 - ✓ Dental care
 - ✓ Mental and emotional health
 - ✓ Education on access to health services
 - ✓ Obesity
 - ✓ Substance abuse

- African American population
 - ✓ Dental care
 - ✓ Prenatal care
 - ✓ Access to care
 - ✓ Preventative care
 - ✓ Drug abuse

APPENDICES

Acknowledgements

The project Steering Committee was the convening body for this project. Many other individuals including community residents, key informants and community-based organizations contributed to this community health needs assessment.

Project Steering Committee

Special thanks to all of the following committee members for their time and commitment to this project:

Ed Newmeyer, Director of Marketing
Mickey Gula, Director of Women's Services
Jeff Chrobak, Chief Financial Officer

Key Informants

Thank you to the following individuals who participated in our key informant interview process:

Sam Bellich, Mercer County Area Agency on Aging
Riley Smoot, SW Regional Police Chief
Cpt. Slanders, Marta Nagel, Salvation Army
Wendy Karlovich, Nugent Group – Nursing Homes and Health Careers
Janet Thomas, Executive Director/Finance Manager, Community Development
Olive McKeithan, Mayor, City of Farrell
April Brown, Crisis Manager, Prince of Peace
Gary Hinkson, Hermitage City Manager
Natalie Higbee, Homeless Advocate, Prince of Peace
Karen McGonigle Murphy, McGonigle Ambulance and Funeral Home
Lt. Col. Sheetz, Director, Veteran Affairs
Kimberly Anglin, Mercer County Behavioral Health Commission
Terry Harrison, Neighborhood Based Intervention and Farrell School Board Member and Minister
Lizette Olsen, AWARE
Bob Beach, ARC of Mercer County
Larry Haynes, Shenango Valley Foundation
Brian Beader, Mercer County Commissioner
Bob McCracken, Executive Director, Shenango Valley Chamber of Commerce
Michael Wright, CEO, Shenango Valley Urban League
Charles Johnson, Pastor, Cedar Avenue Church of God
Angie Palumbo, Administrator, PA Career Link/Board member SRHS and United Way
Craig McKinney, SHRS General Surgeon, President of Mercer County Medical Society
Jim Micsky, Executive Director, United Way of Mercer County
Mimi Prada, Public Relations Coordinator, Community Food Warehouse
Claudia Leyde, Executive Director, Children's Aide Society
Dawnie Scheetz, Department of Defense
Mark Longiotti, State Representative
Dennis Fapore, Brenda Wallace, Whitney McAnils, Jodie Dubrasky, Department of Health
Robert Kockems, District Attorney, Mercer County

KEY INFORMANT INTERVIEW PROTOCOL

KEY INFORMANT INTERVIEW

Community Health Needs Assessment for:

Sharon Regional Health System

Interviewer's Initials:

Date: _ Start Time: End Time:

Name: Title:

Agency/Organization:

of years living in County: # of years in current position:

E-mail address:

Introduction: Good morning/afternoon. My name is [interviewer's name]. Thank you for taking time out of your busy day to speak with me. I'll try to keep our time to approximately 40 minutes, but we may find that we run over – up to 50 minutes total - once we get into the interview. **(Check to see if this is okay).**

[Name of Organization] is gathering local data as part of developing a plan to improve health and quality of life in County. Community input is essential to this process. A combination of surveys and key informant interviews are being used to engage community members. You have been selected for a key informant interview because of your knowledge, insight, and familiarity with the community. The themes that emerge from these interviews will be summarized and made available to the public; however, individual interviews will be kept strictly confidential.

To get us started, can you tell me briefly about the work that you and your organization do in the community?

Thank you. Next I'll be asking you a series of questions about health and quality of life in County. As you consider these questions, keep in mind the broad definition of health adopted by the World Health Organization: 'Health is a state of complete physical, mental and social well-being and not merely the

b. Why do you think their health/quality of life is not as good as others?

6. What barriers, if any, exist to improving health and quality of life in County?

7. In your opinion, what are the most critical health and quality of life issues in County?

8. What needs to be done to address these issues?

9. In your opinion, what else will improve health and quality of life in _____ County?

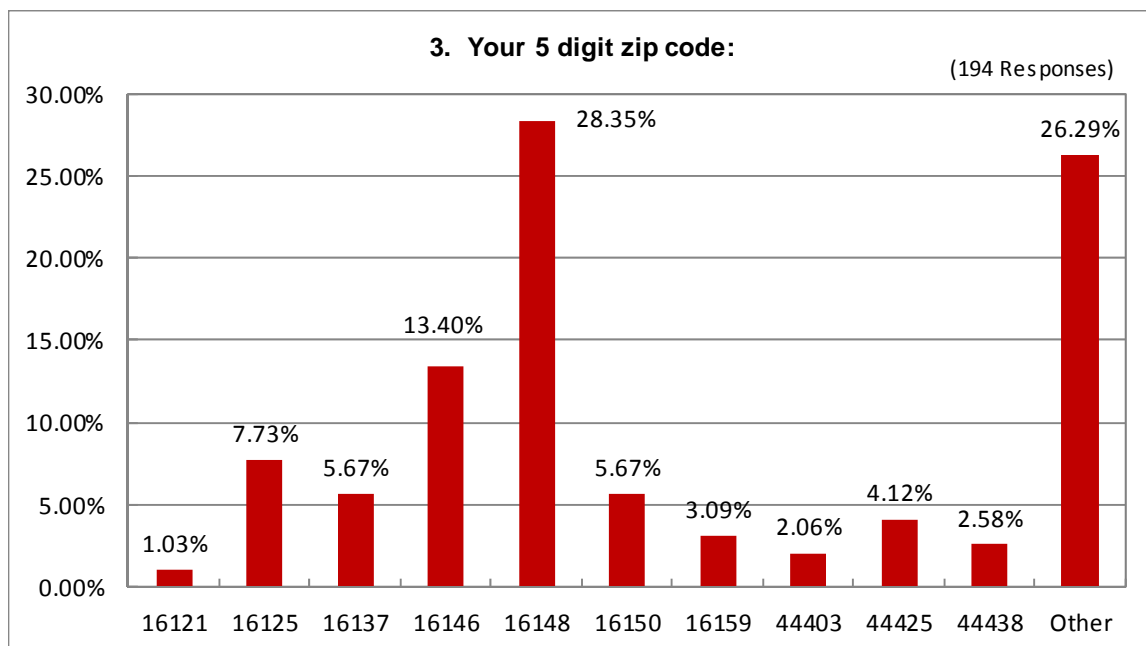
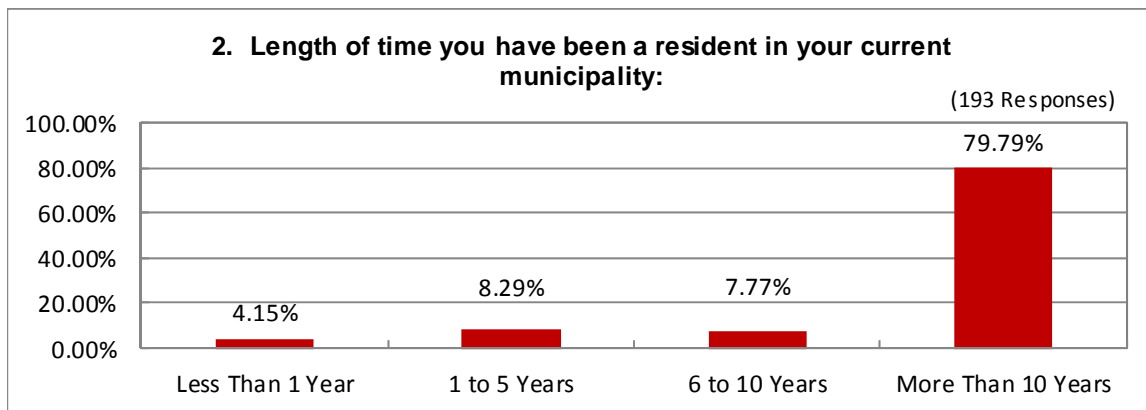
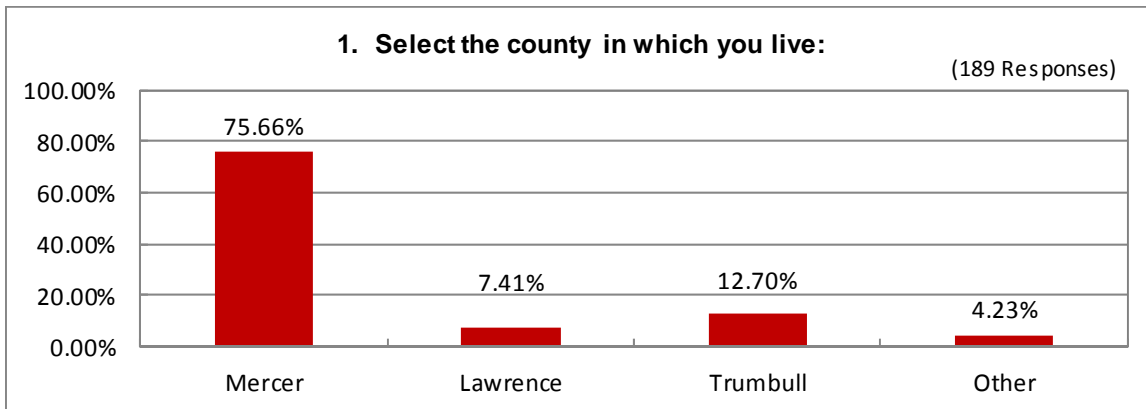
10. Is there someone (who) you would recommend as a “key informant” for this assessment?

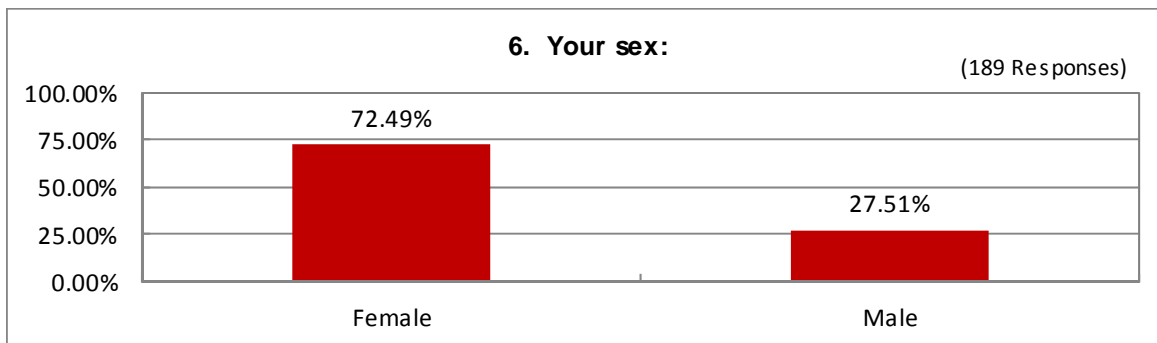
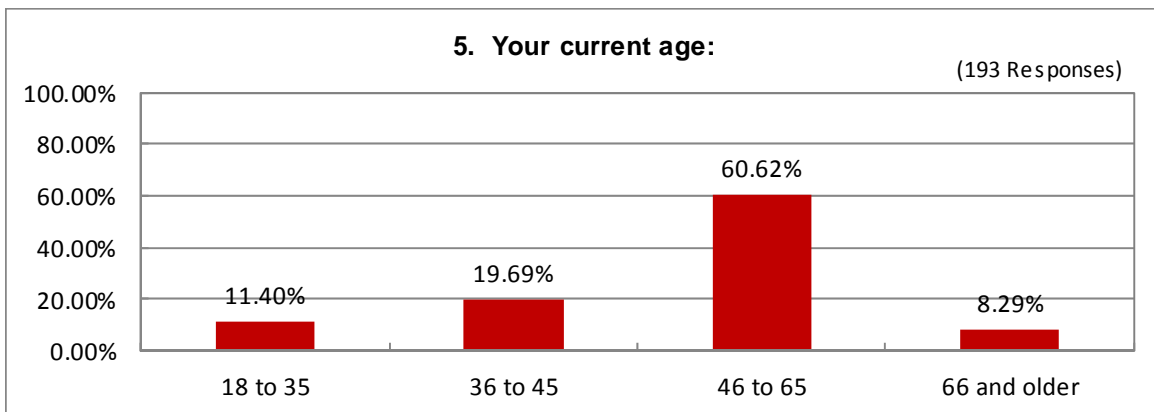
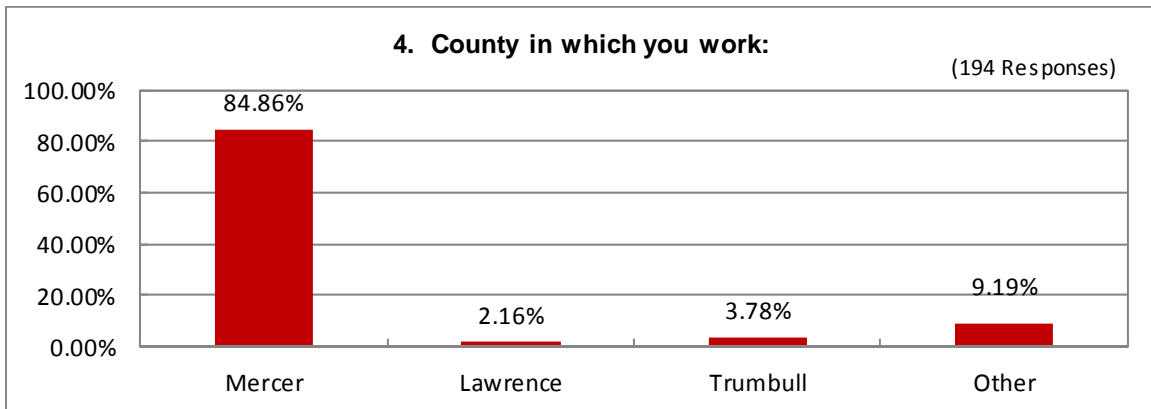
Close: Thanks so much for sharing your concerns and perspectives on these issues. The information you have provided will contribute to develop a better understanding about factors impacting health and quality of life in County. Before we conclude the interview,

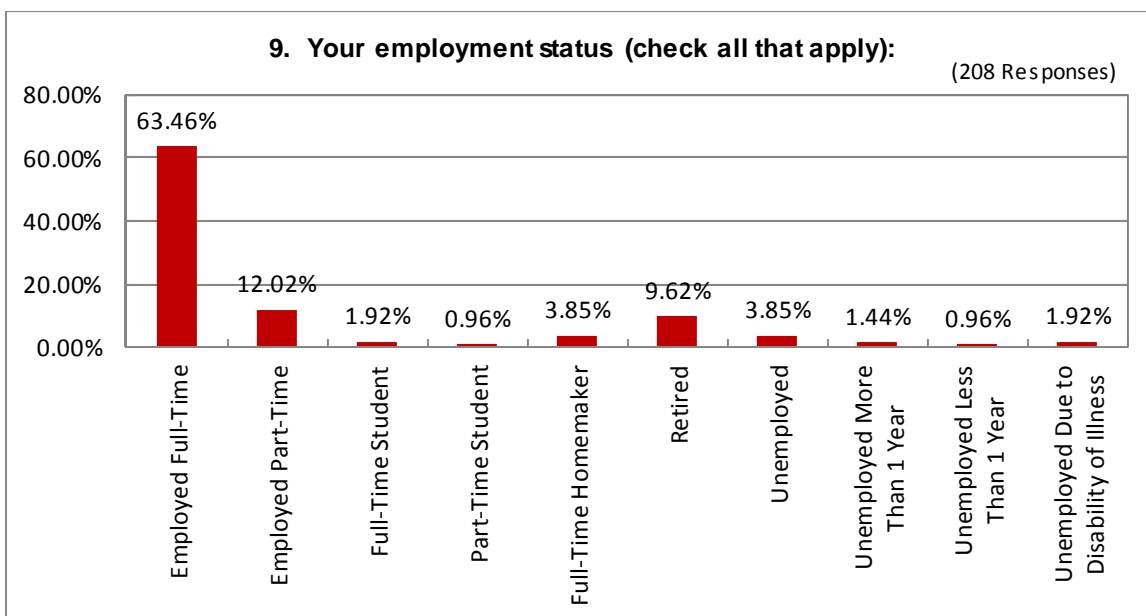
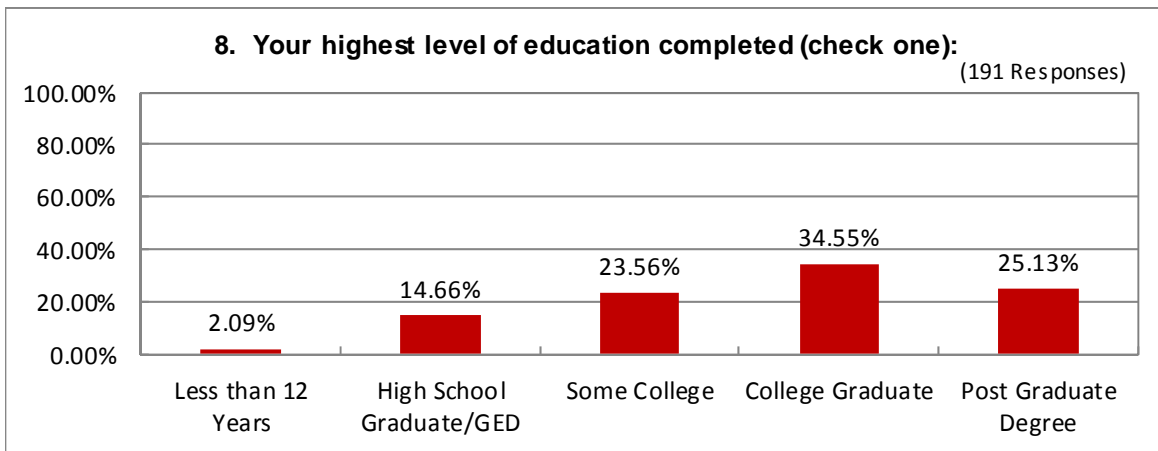
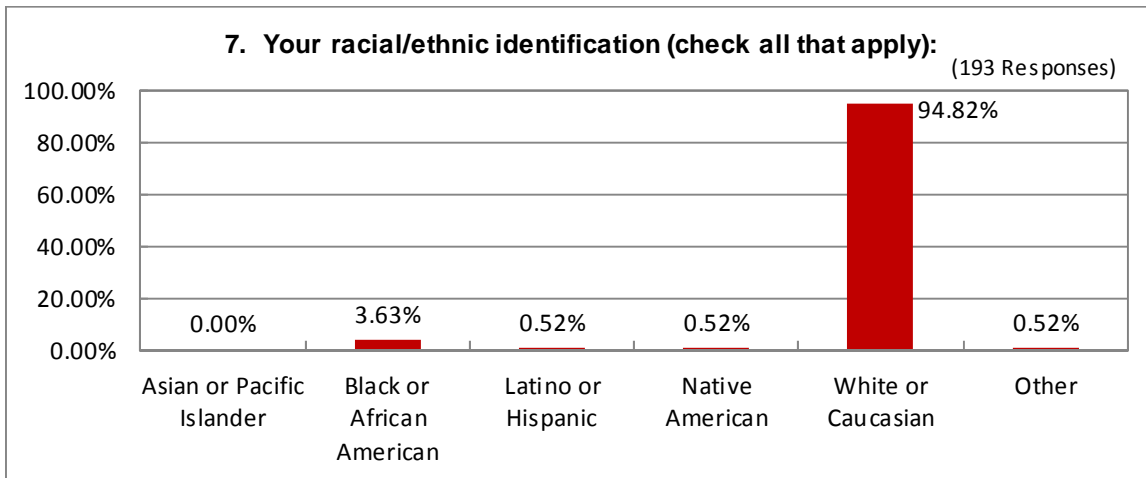
Is there anything you would like to add?

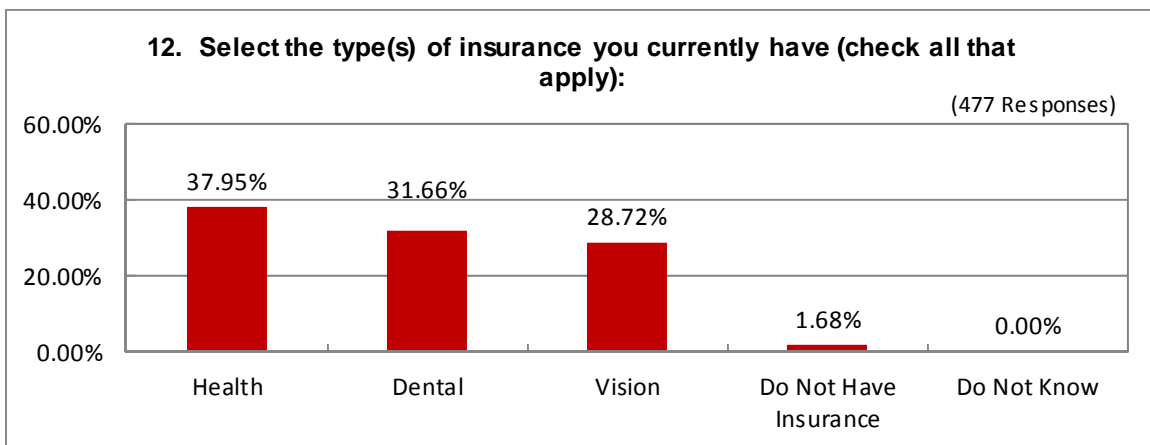
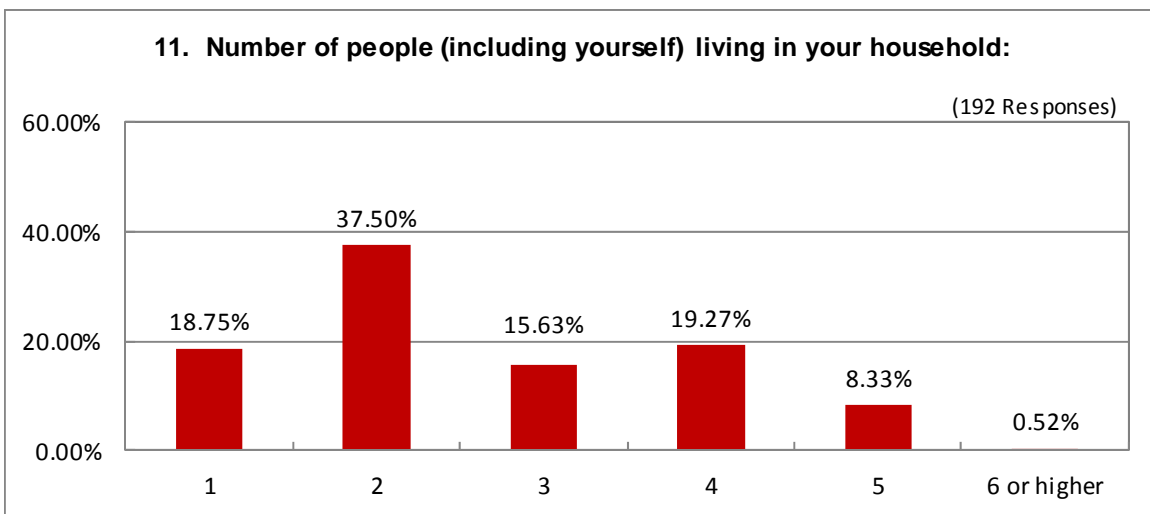
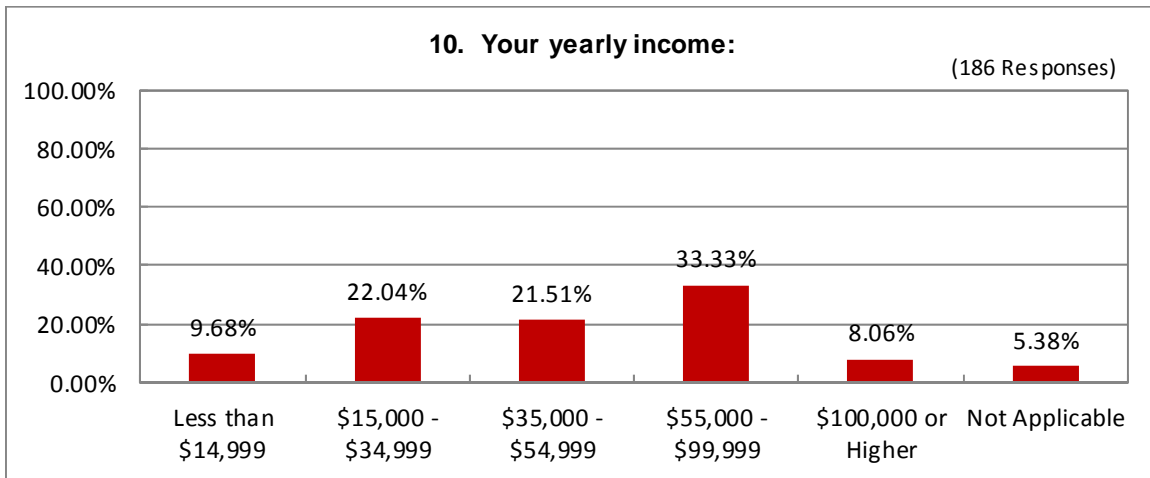
As a reminder, summary results will be made available by the **[Name of organization]** and used to develop a community-wide health improvement plan. Should you have any questions, please feel free to contact _____ at **[Name of organization]**. Here is his/her contact information [provide business card]. Thanks once more for your time. It's been a pleasure to meet you.

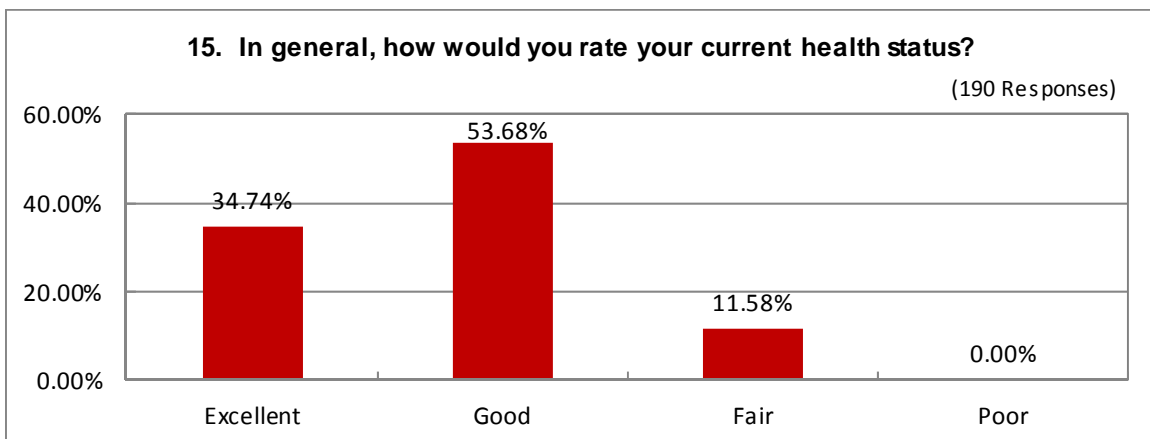
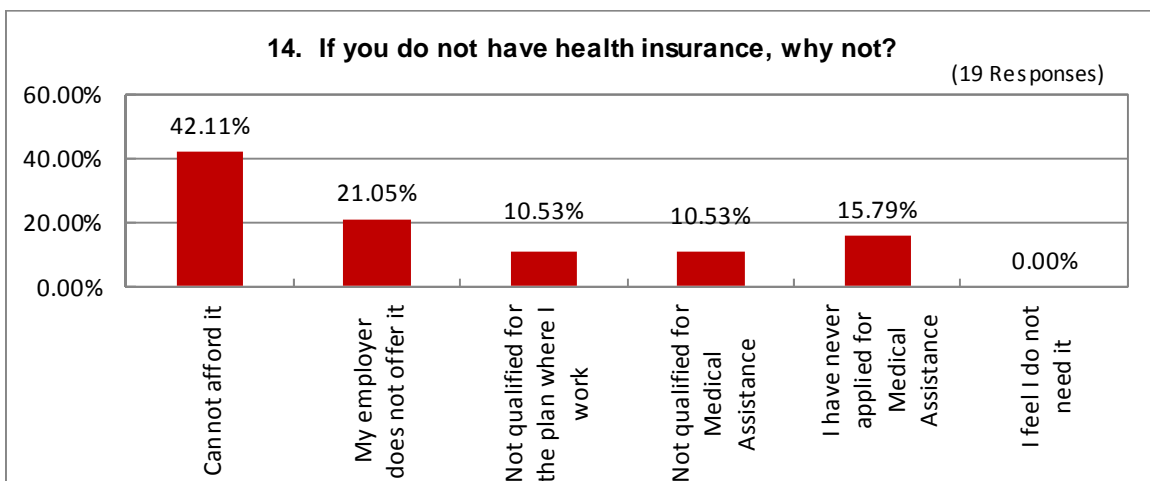
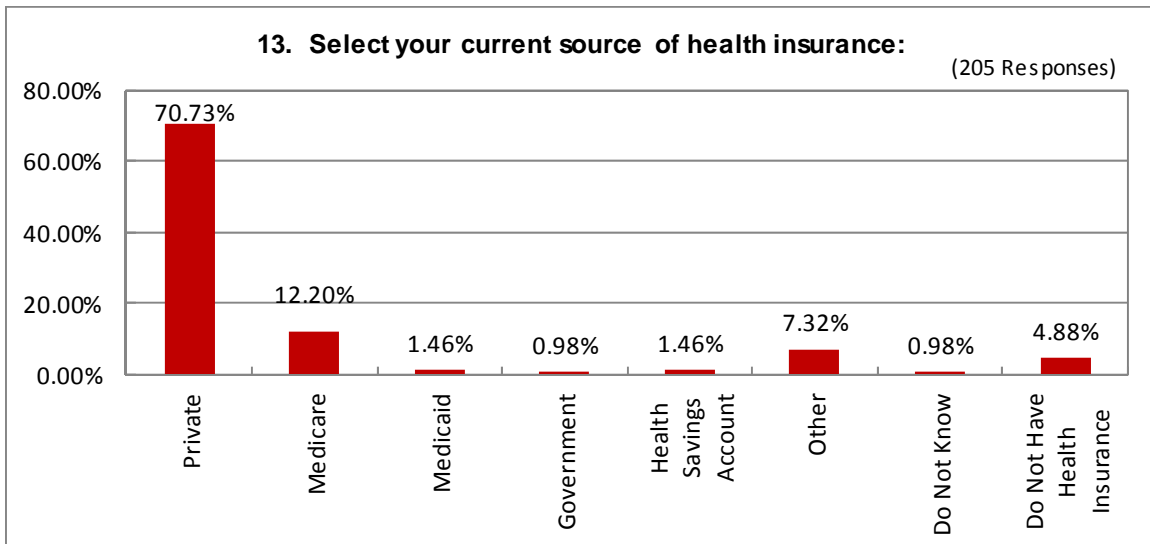
**COMMUNITY HEALTH INPUT QUESTIONNAIRE
DETAIL RESULTS**

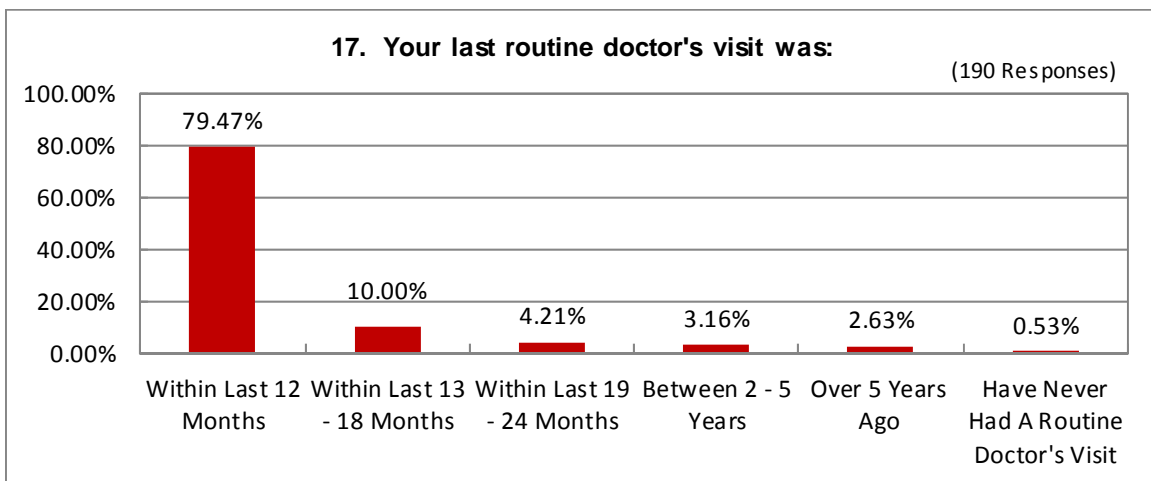
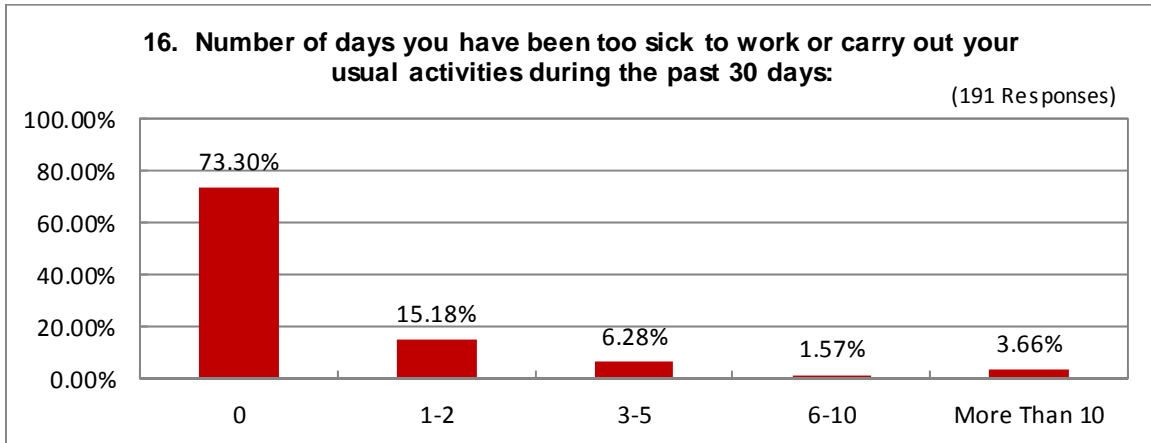


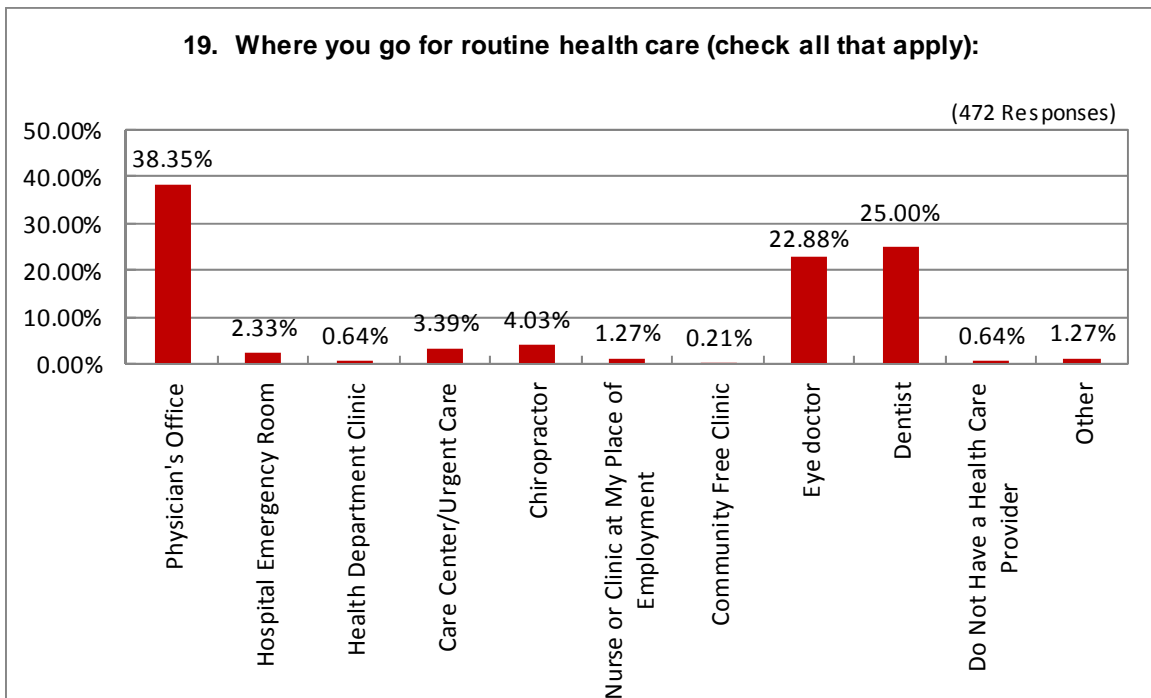
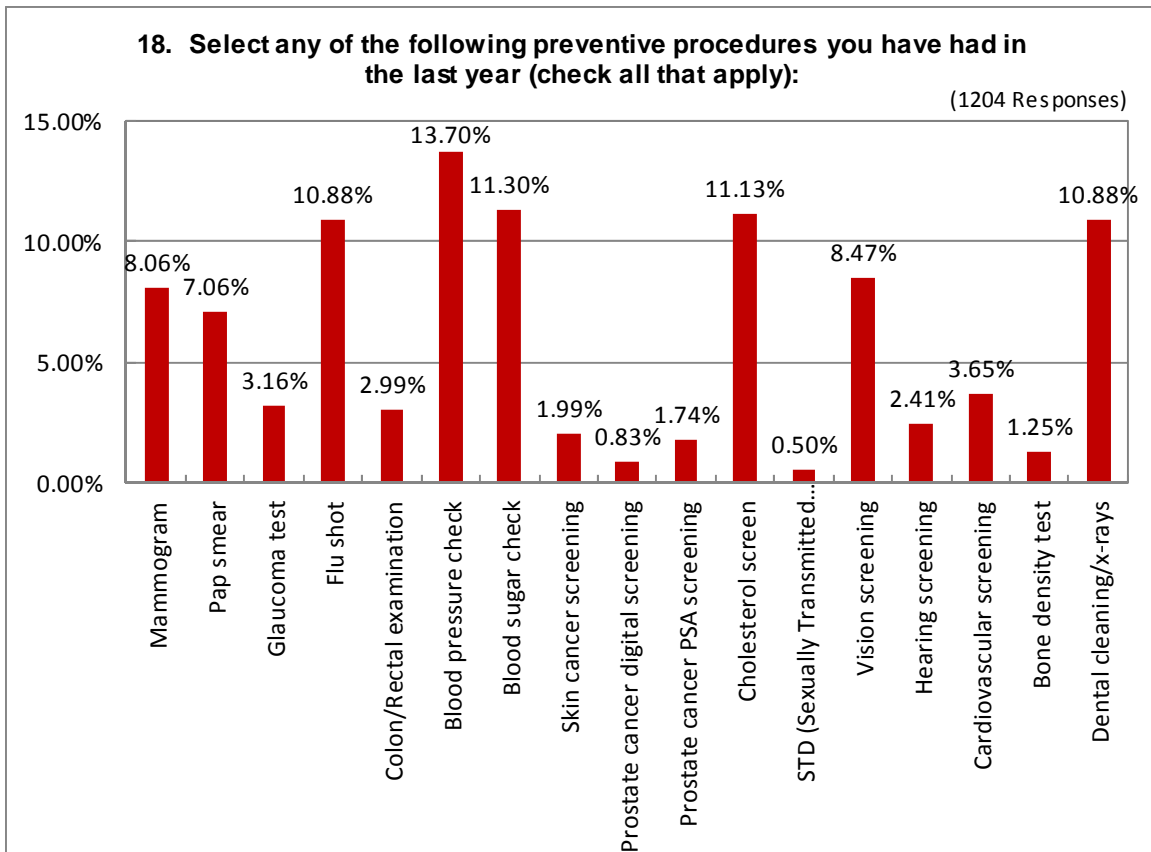


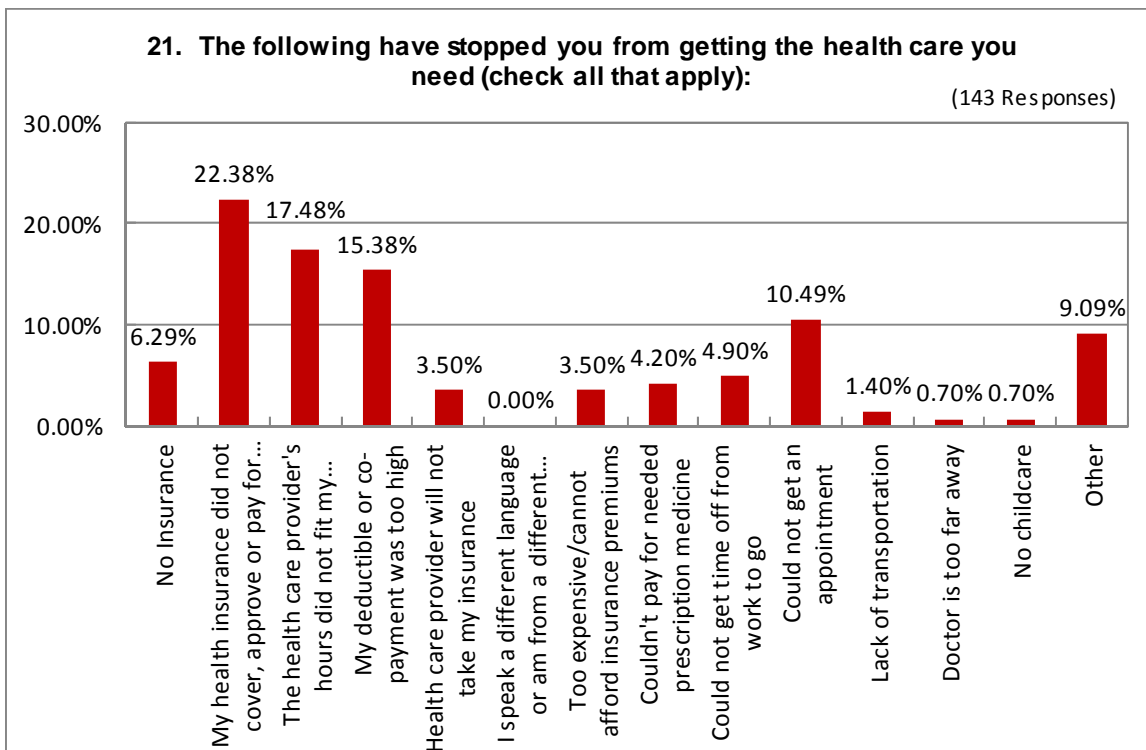
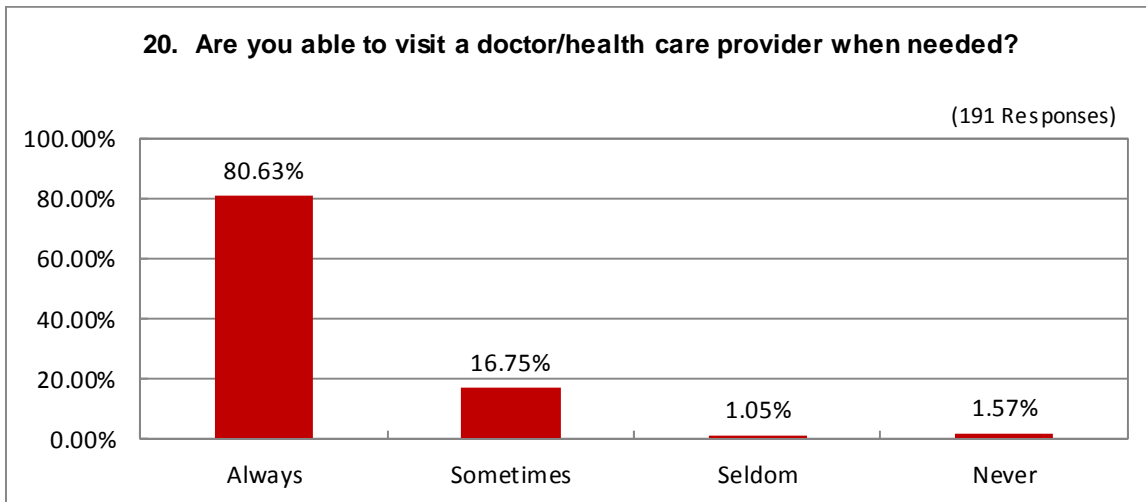


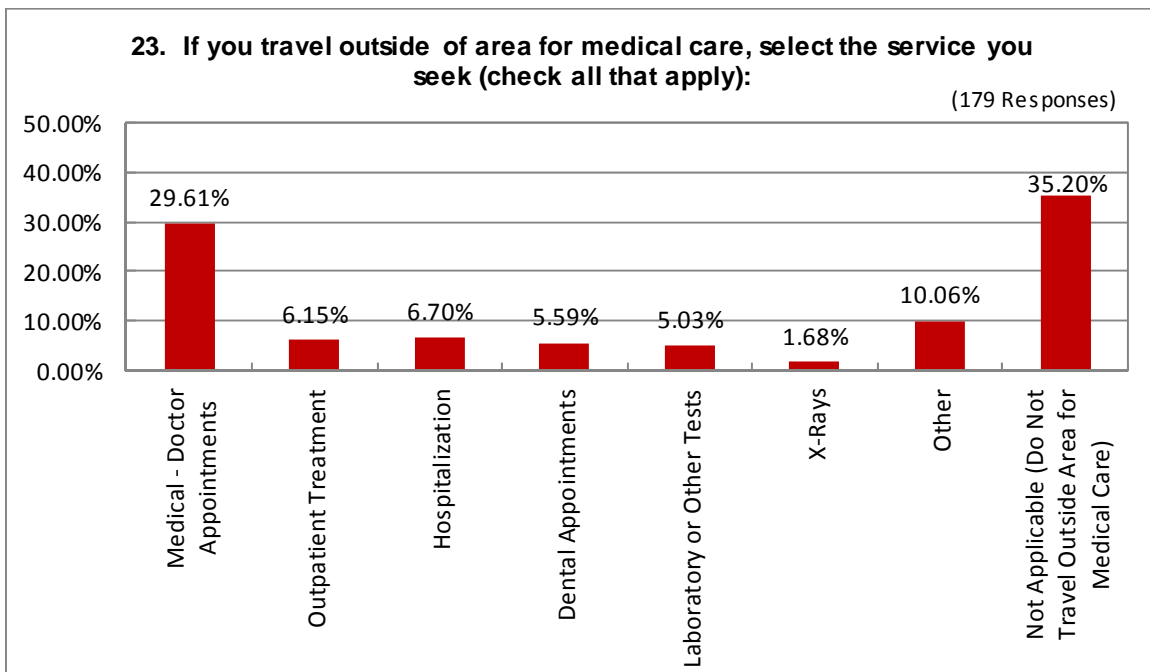
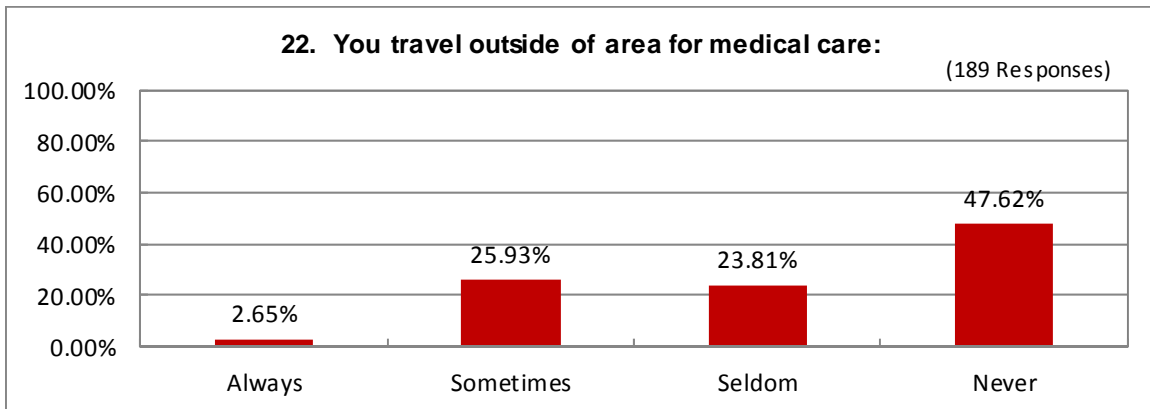


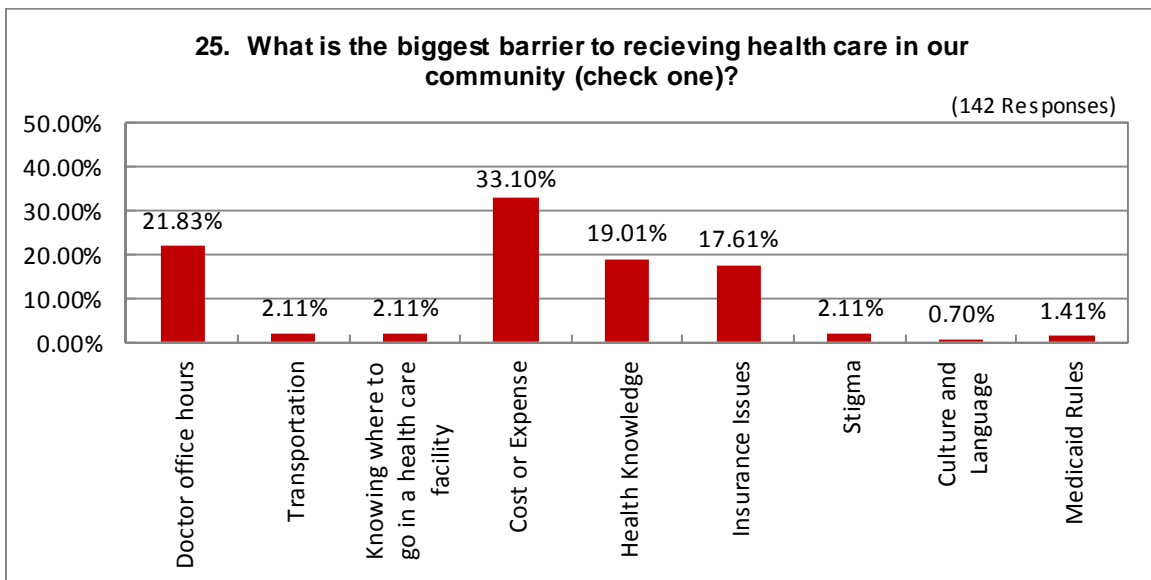
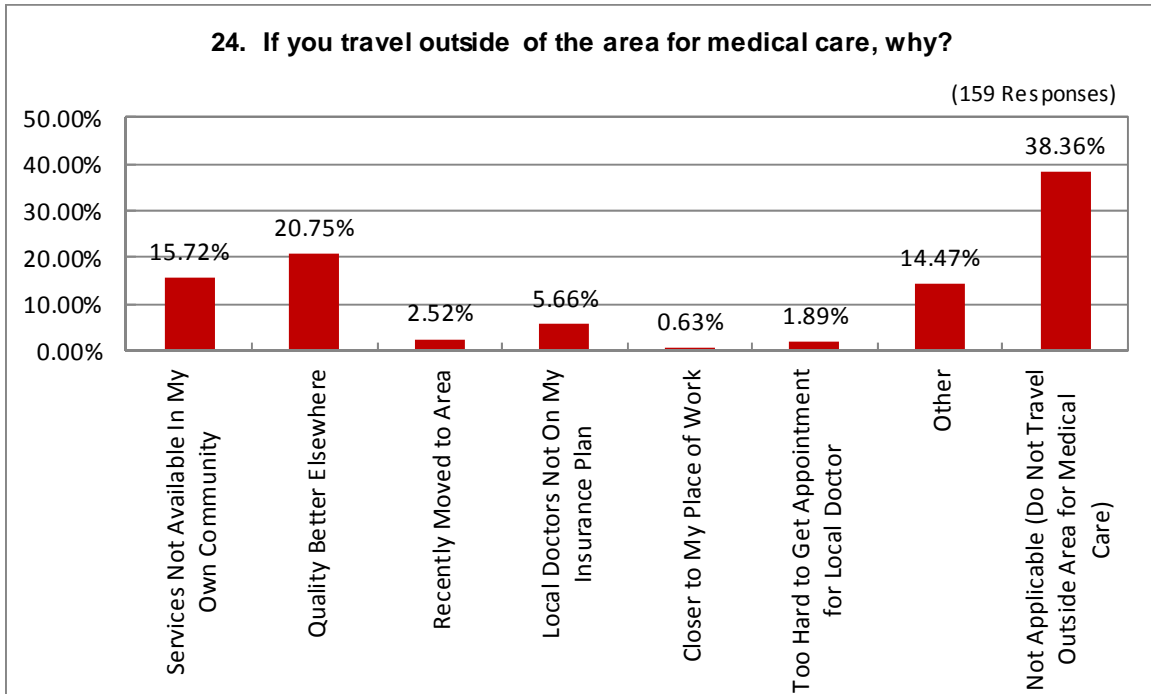


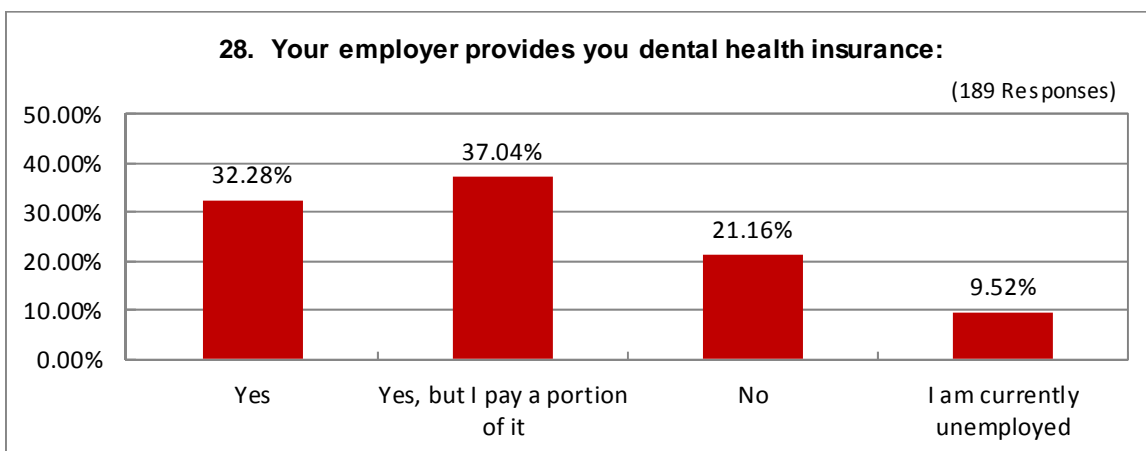
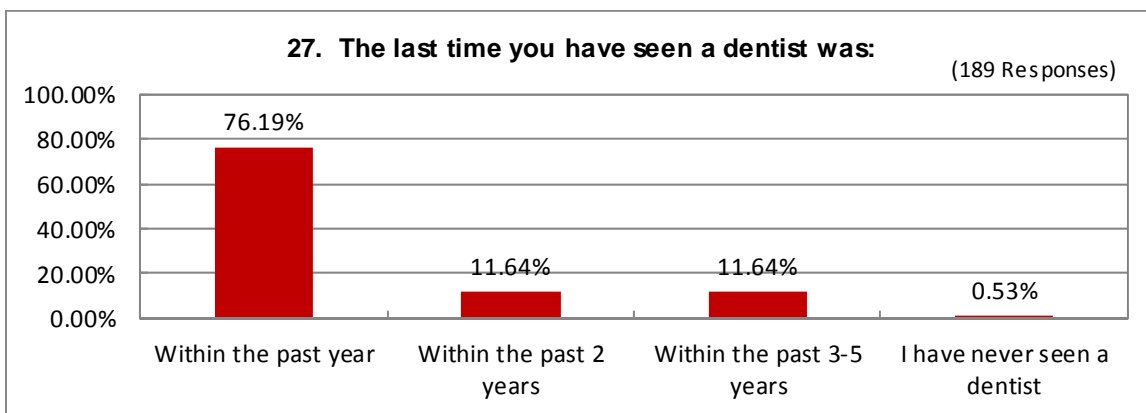
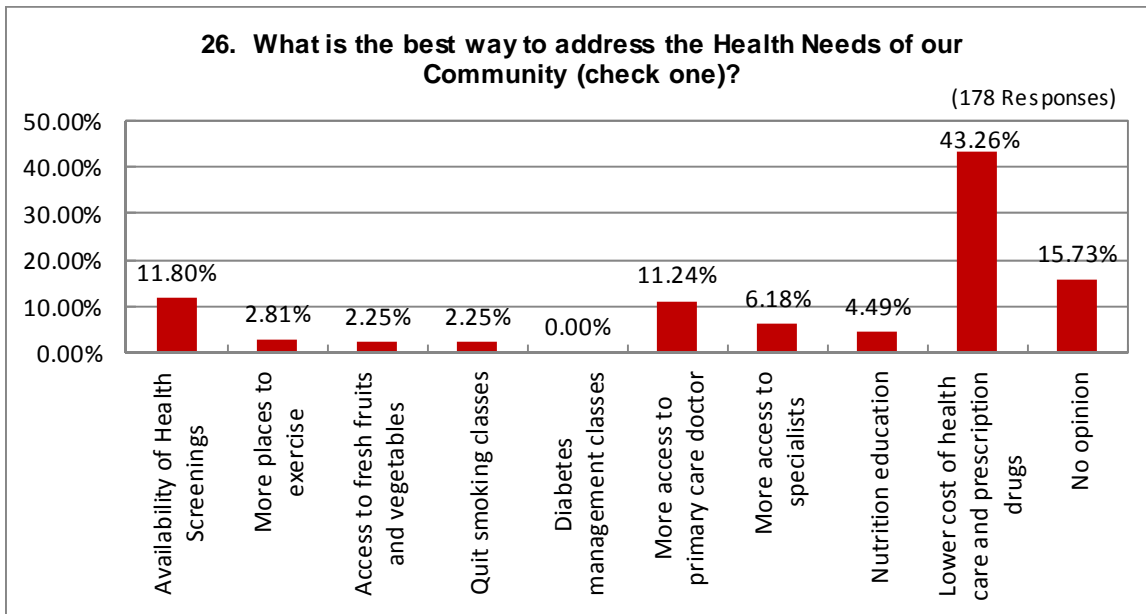


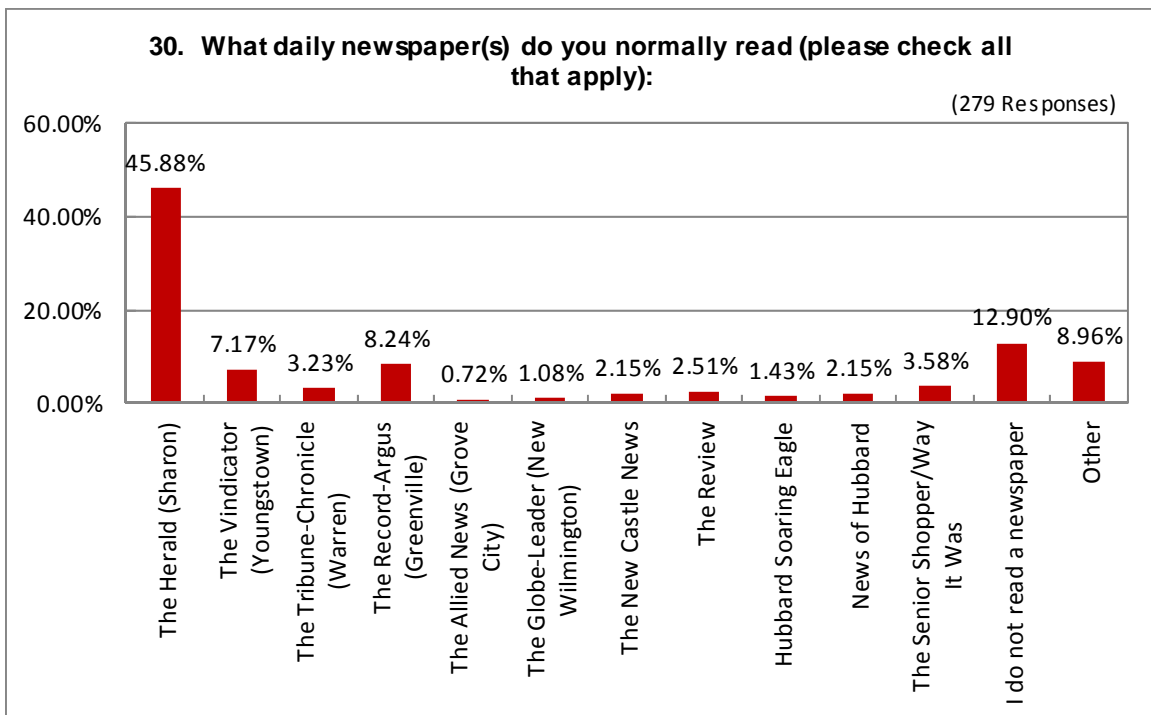
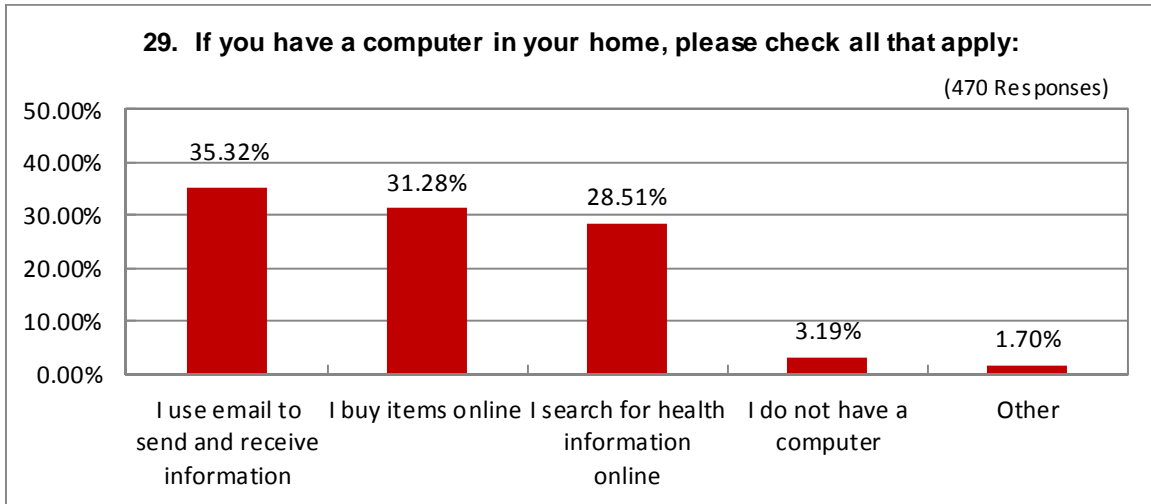


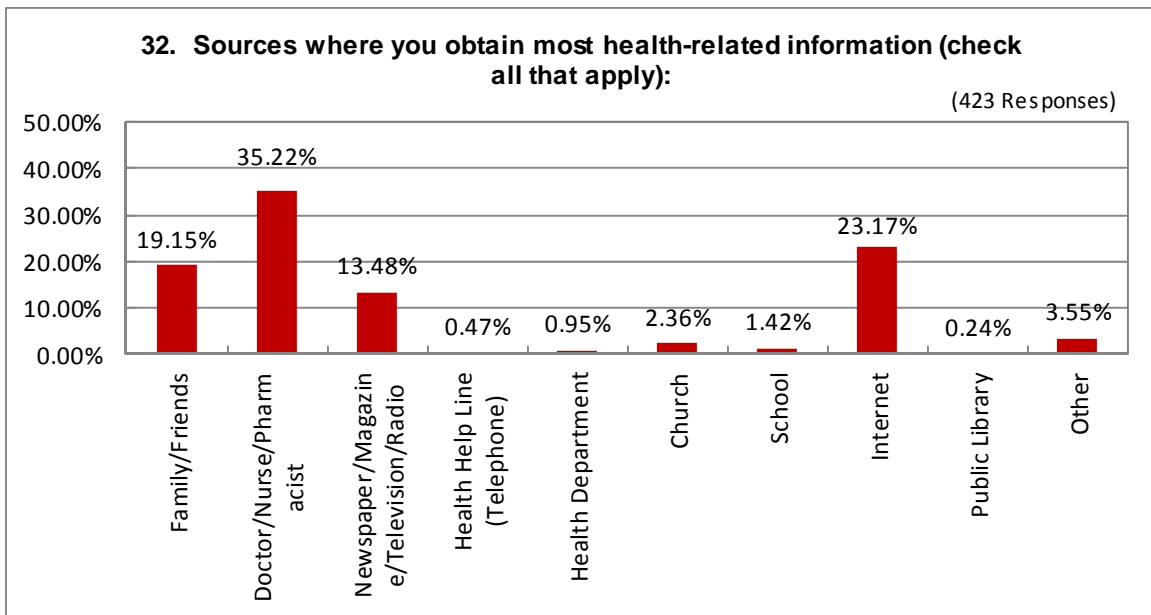
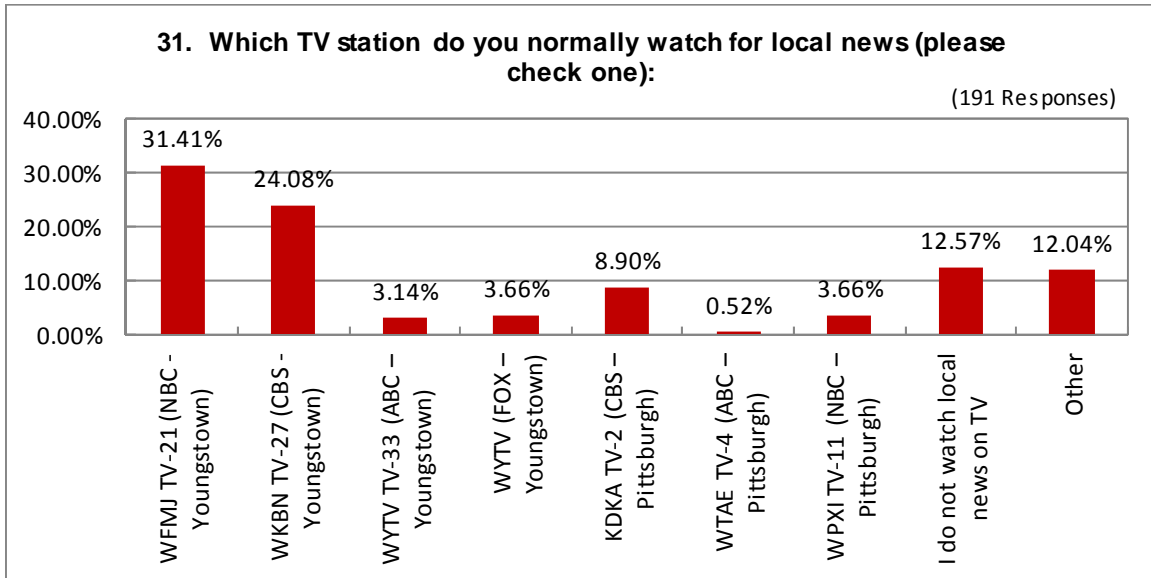


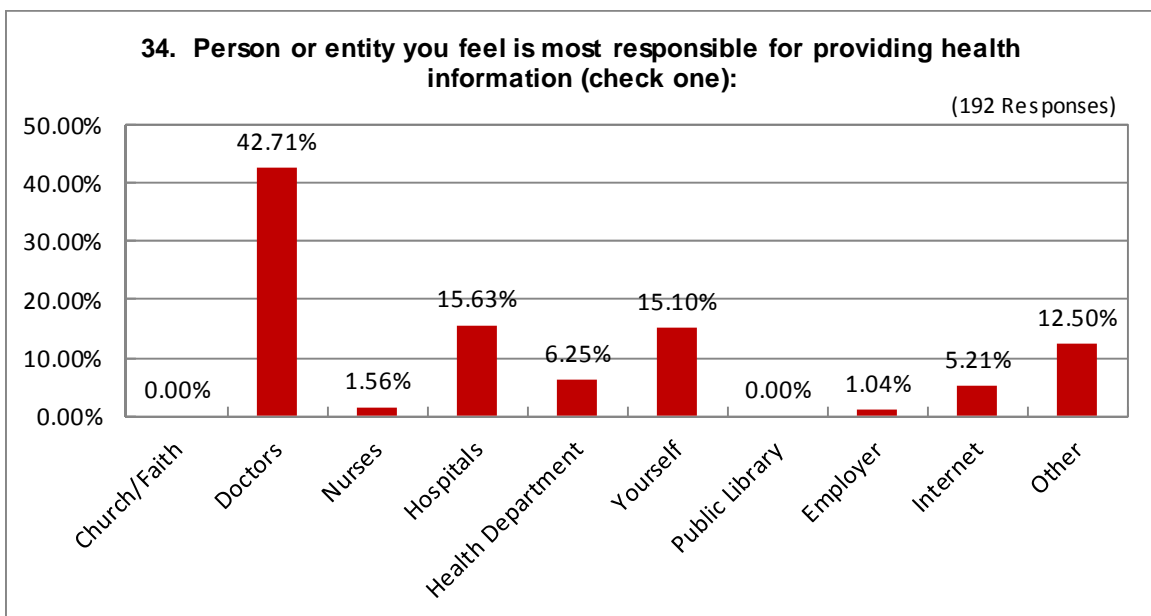
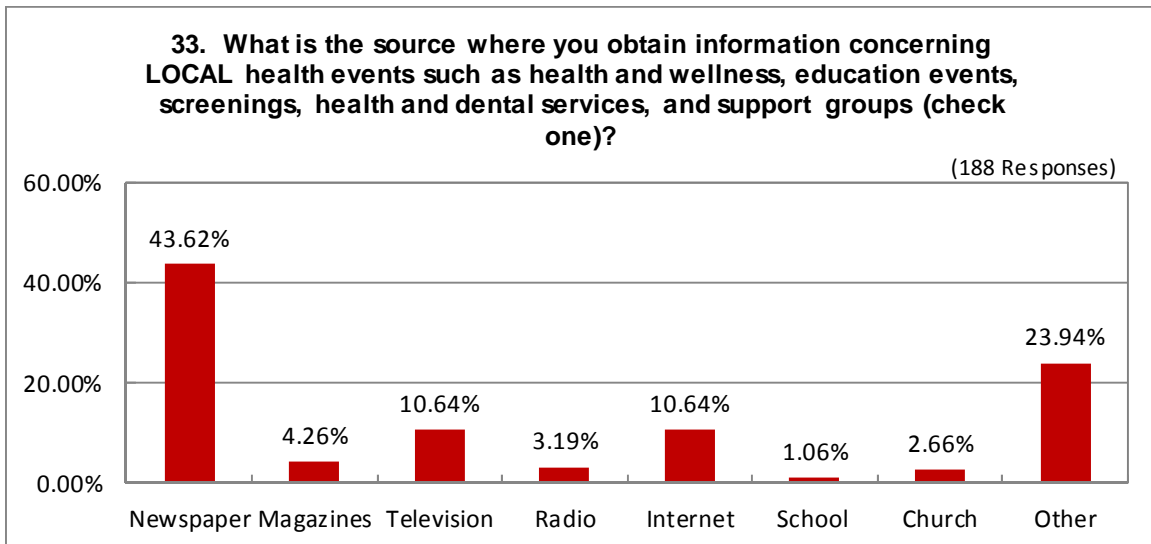


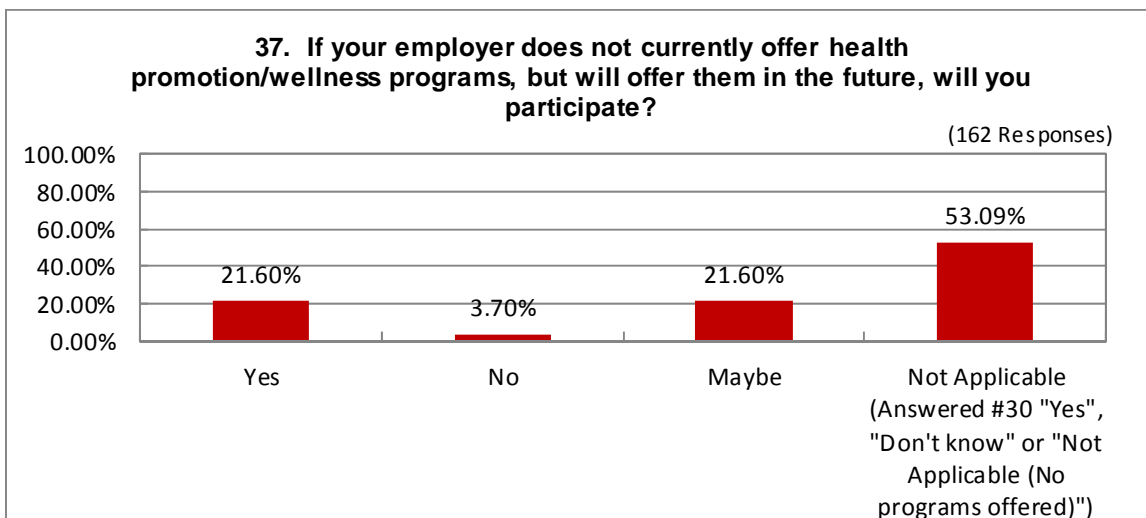
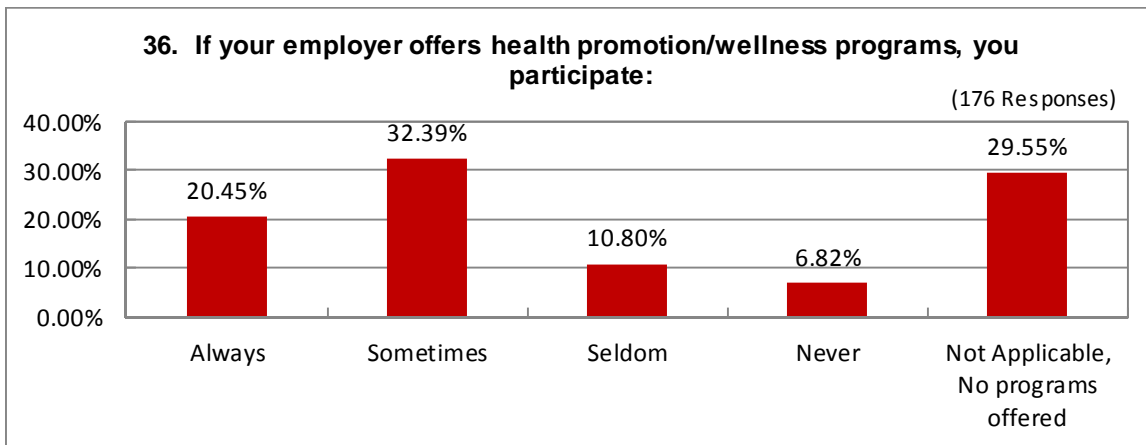
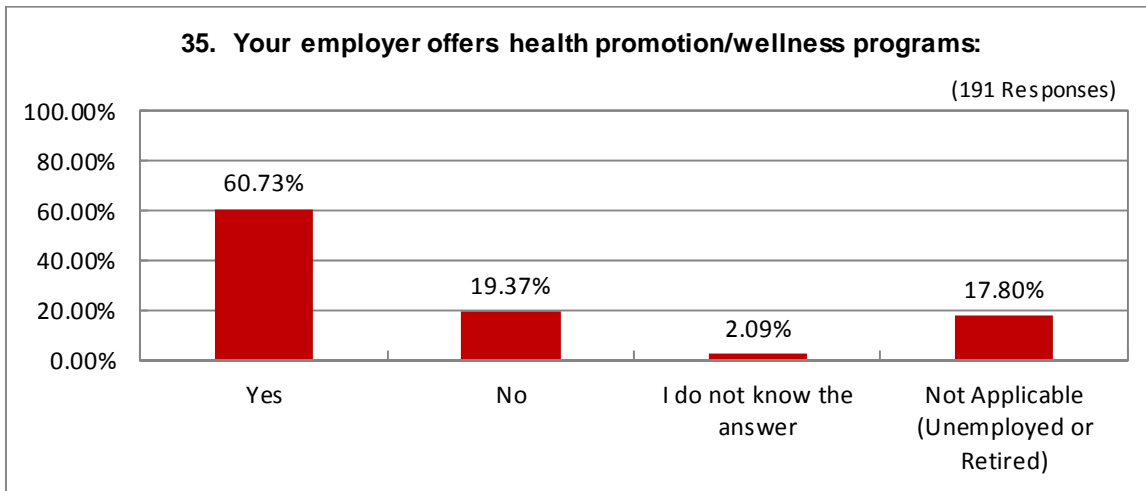


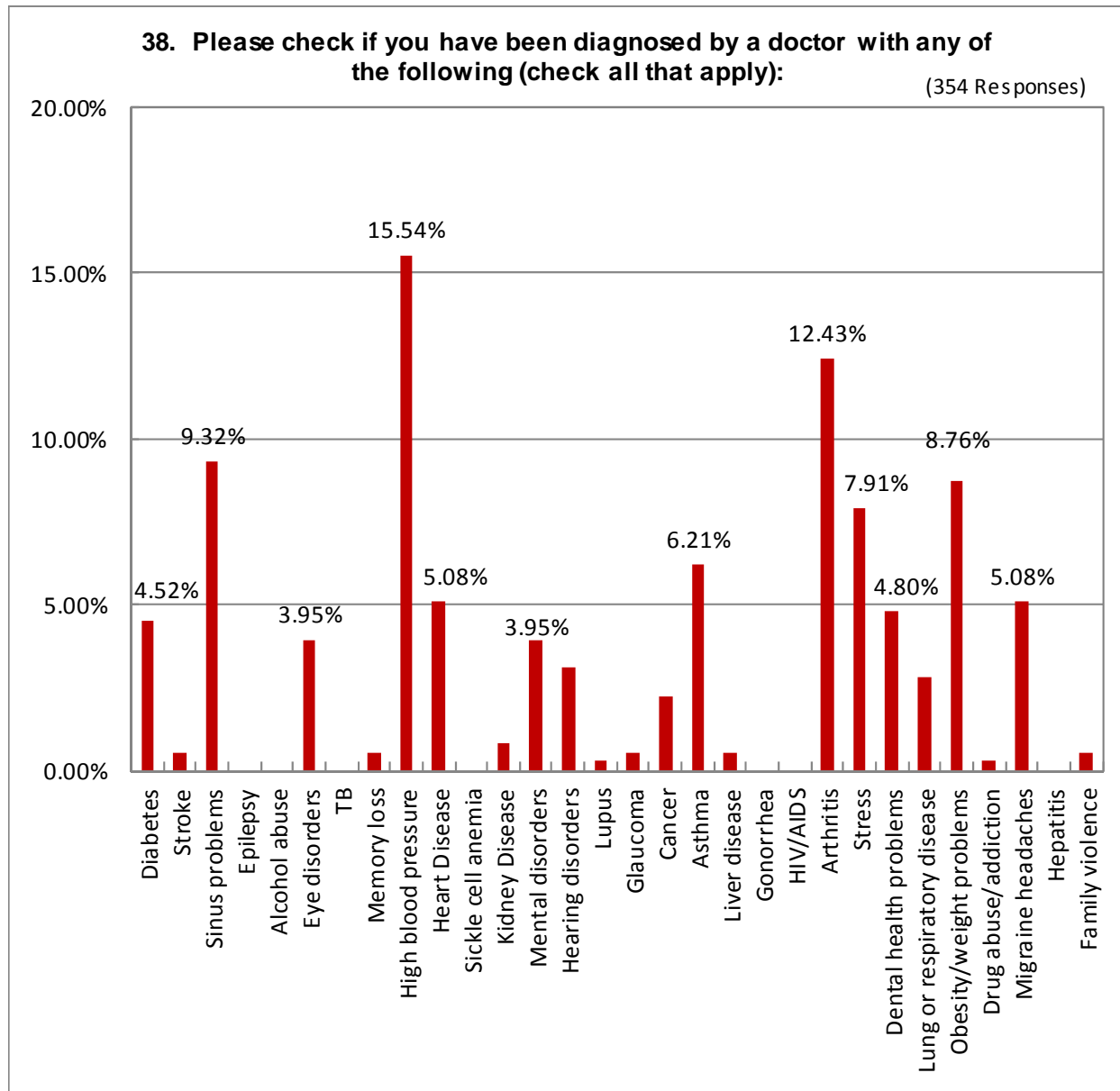


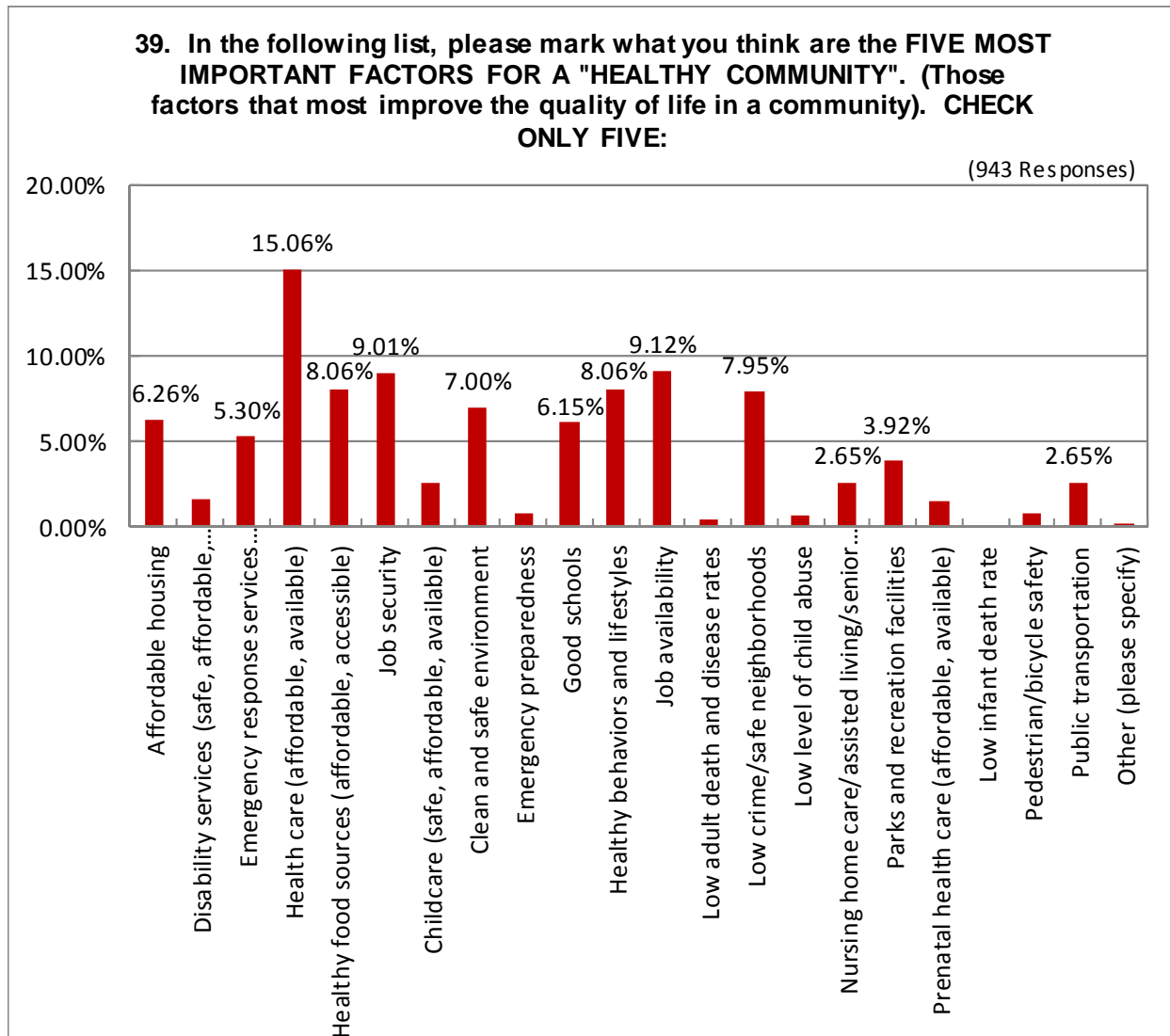


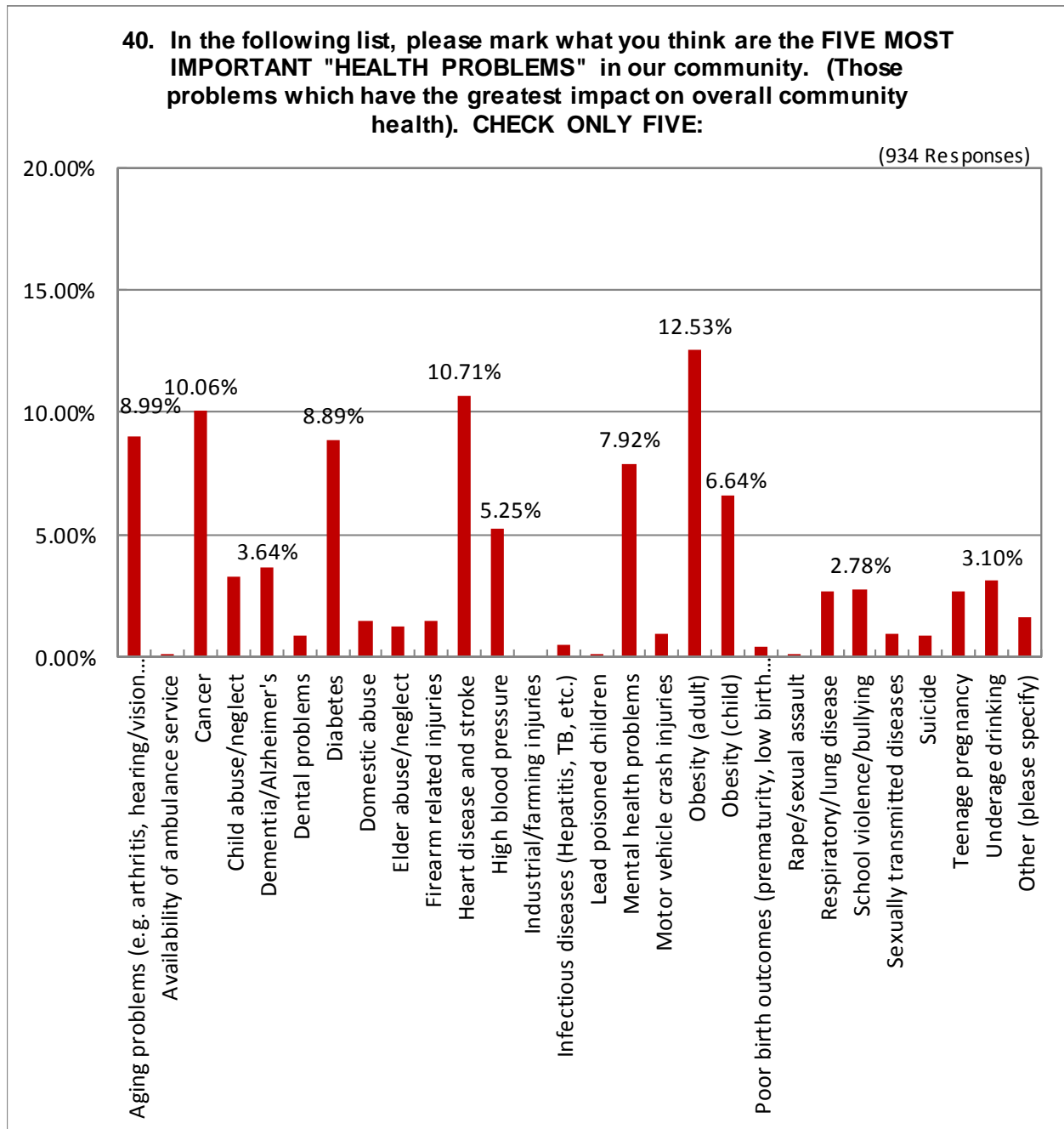


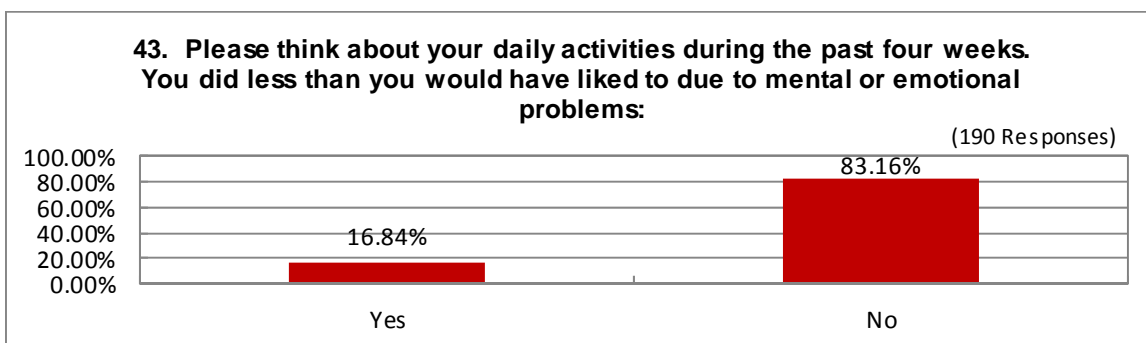
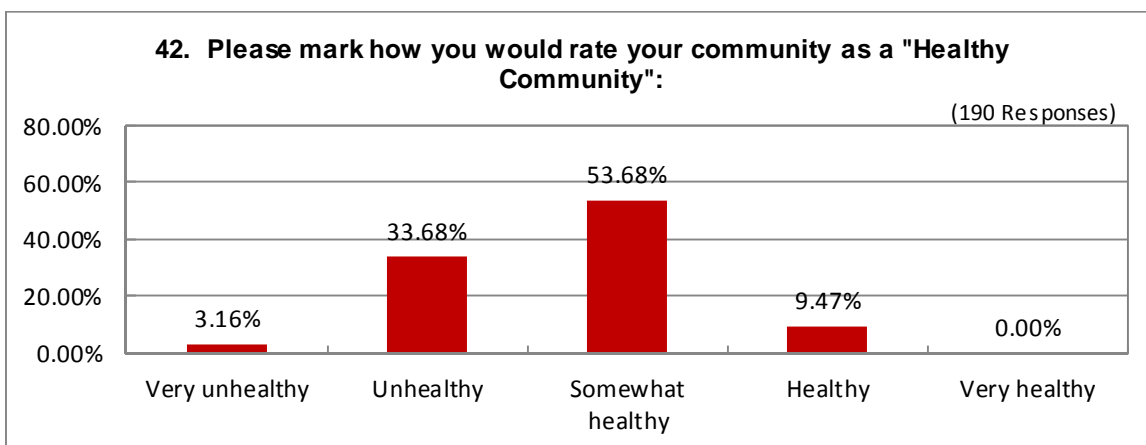
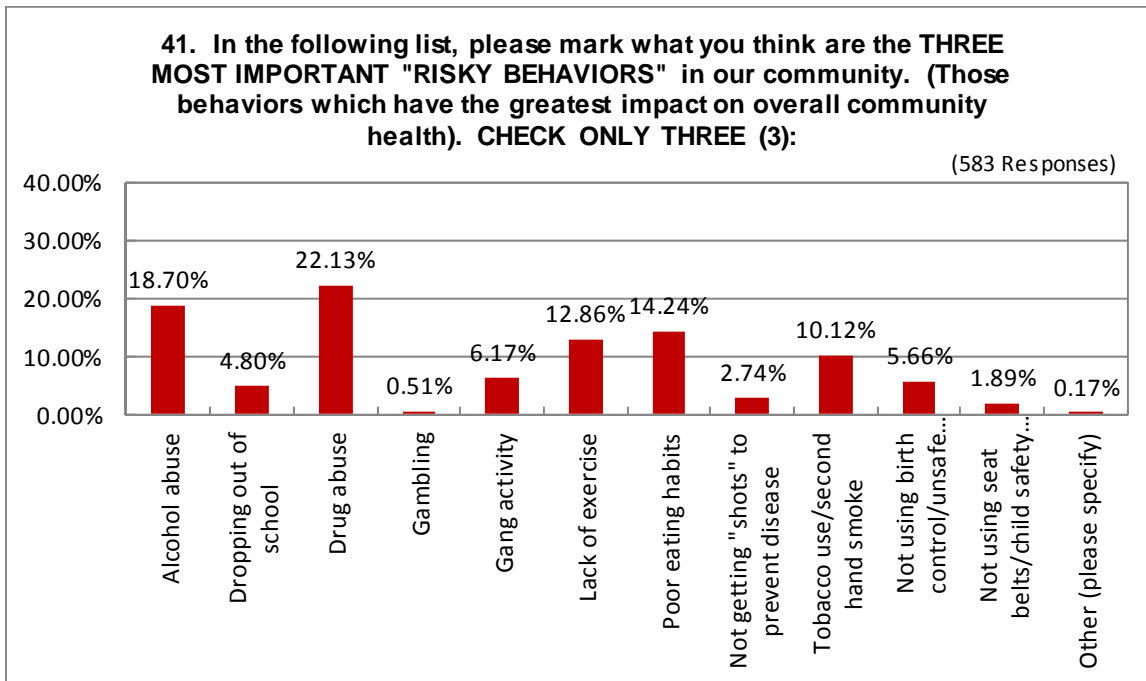


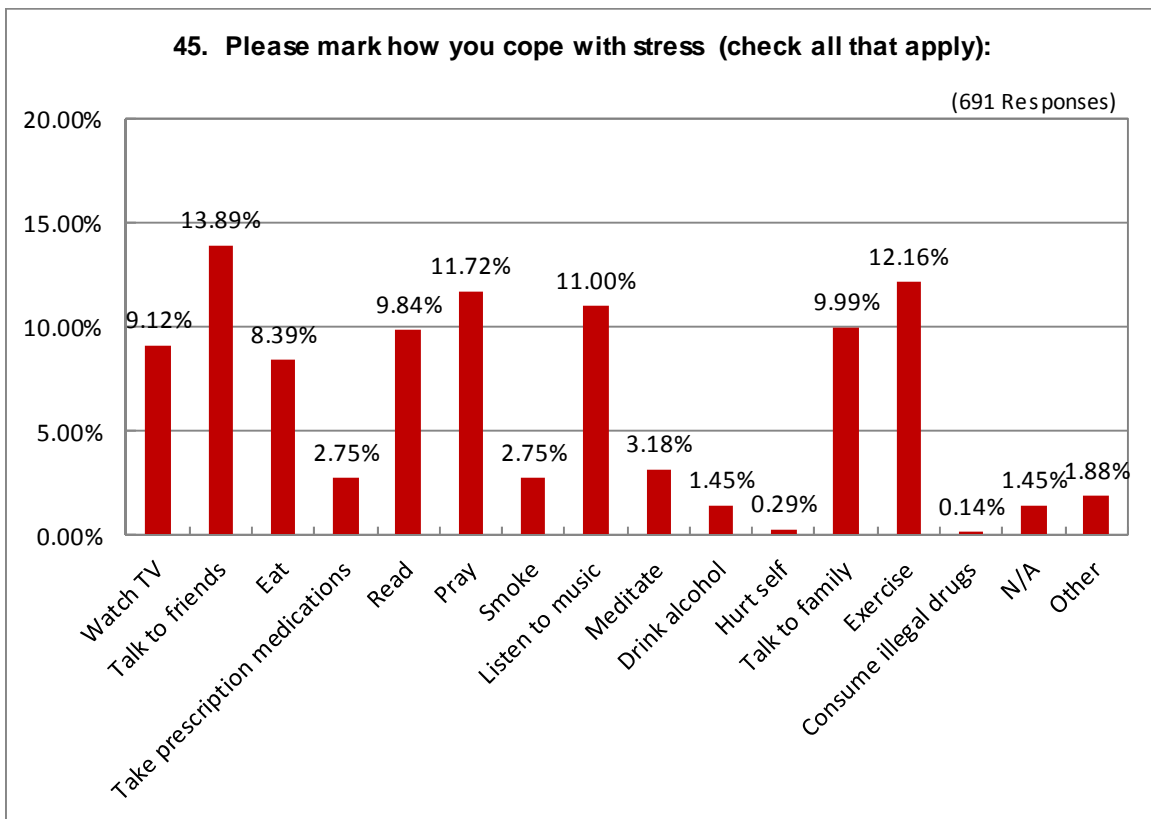
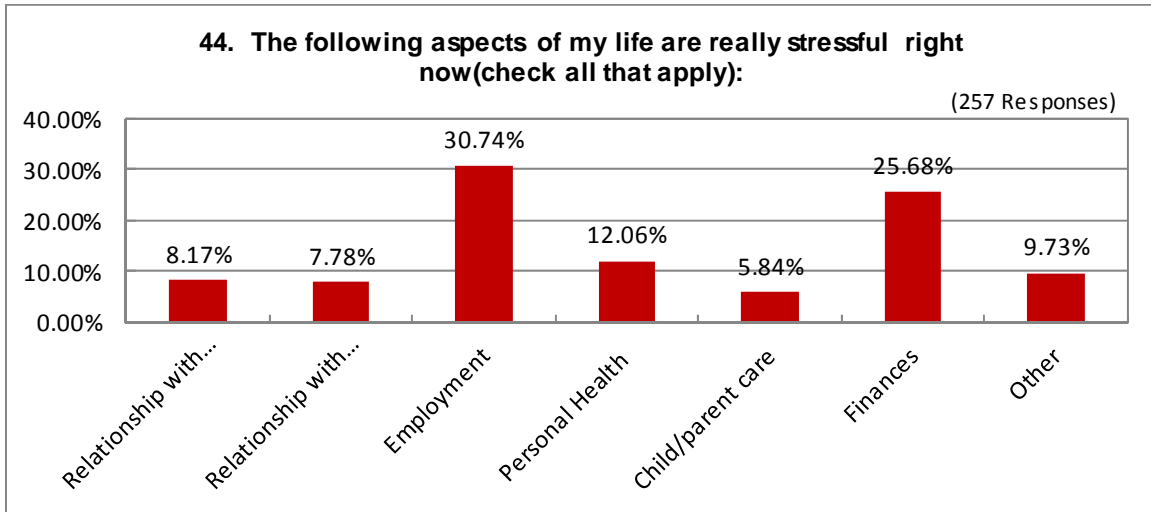


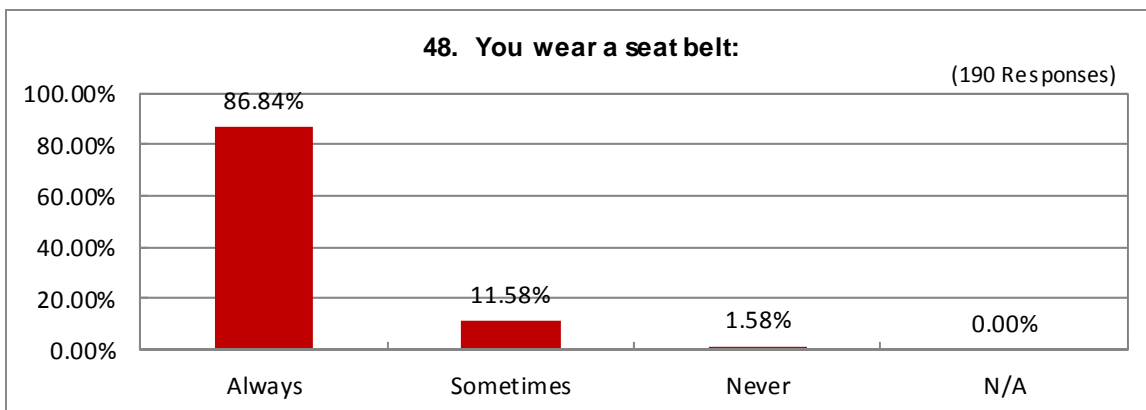
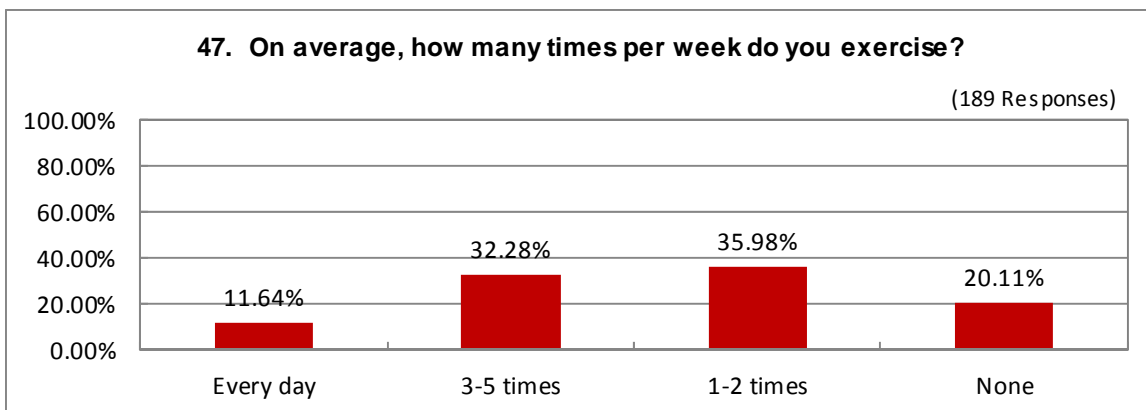
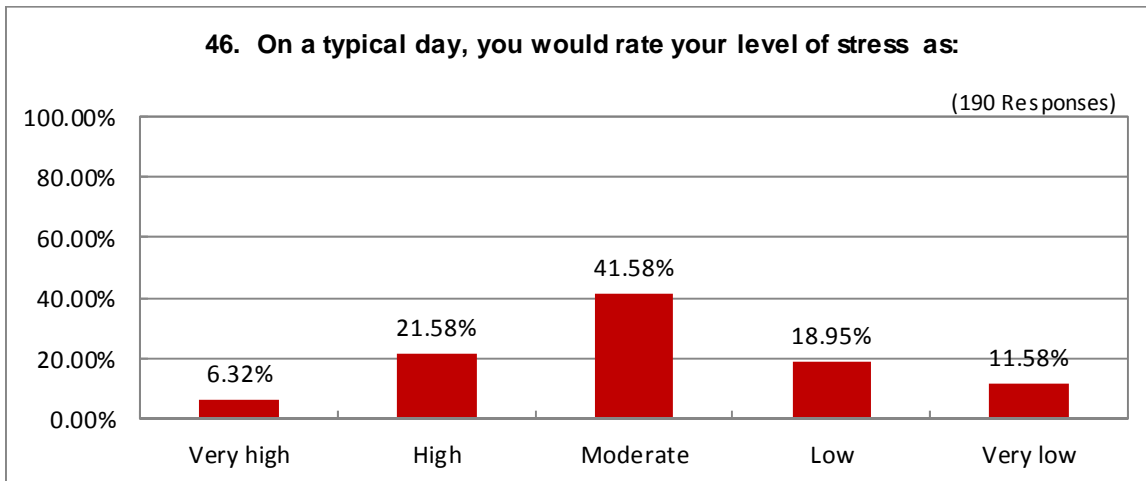


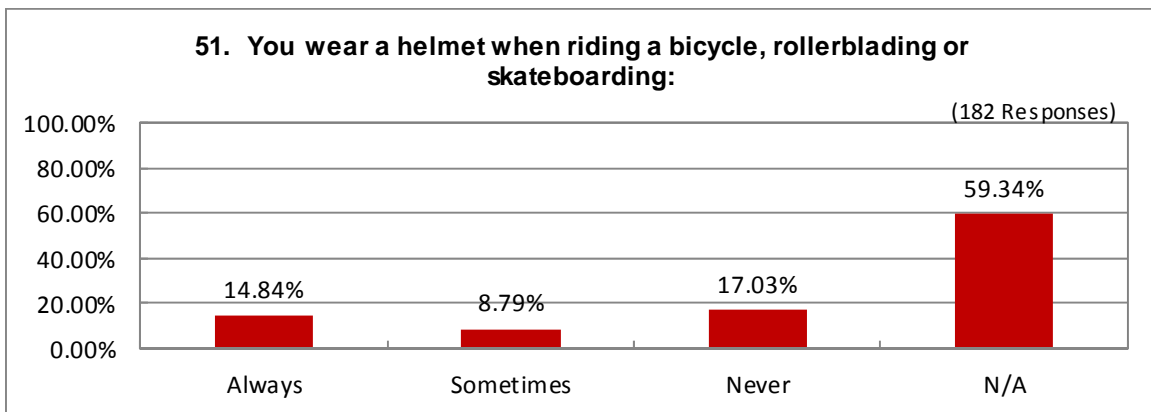
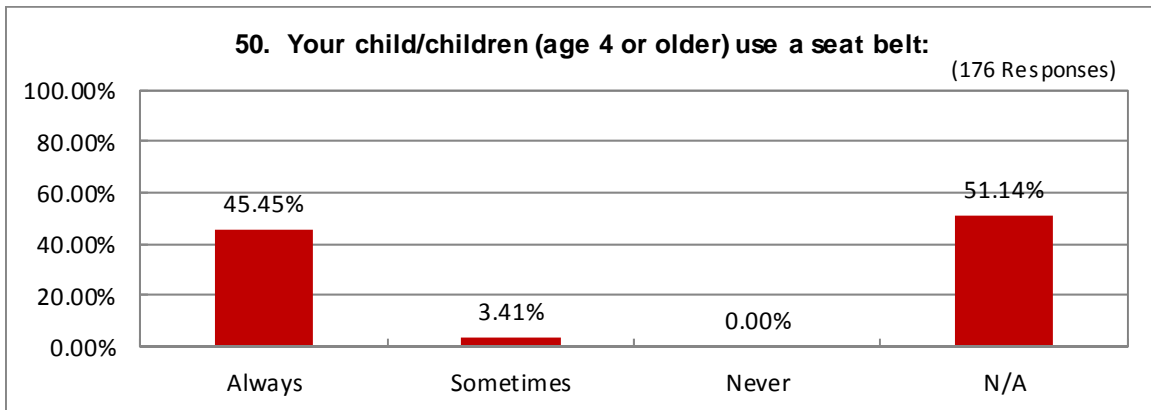
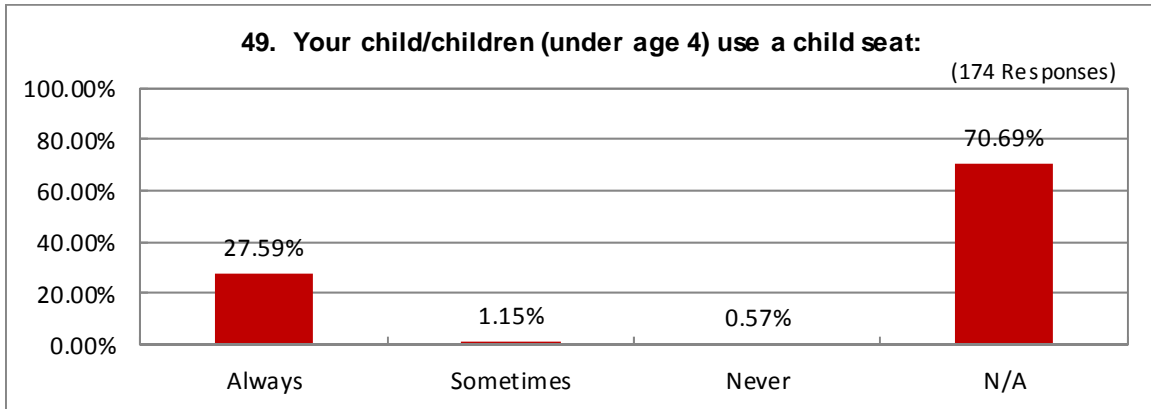


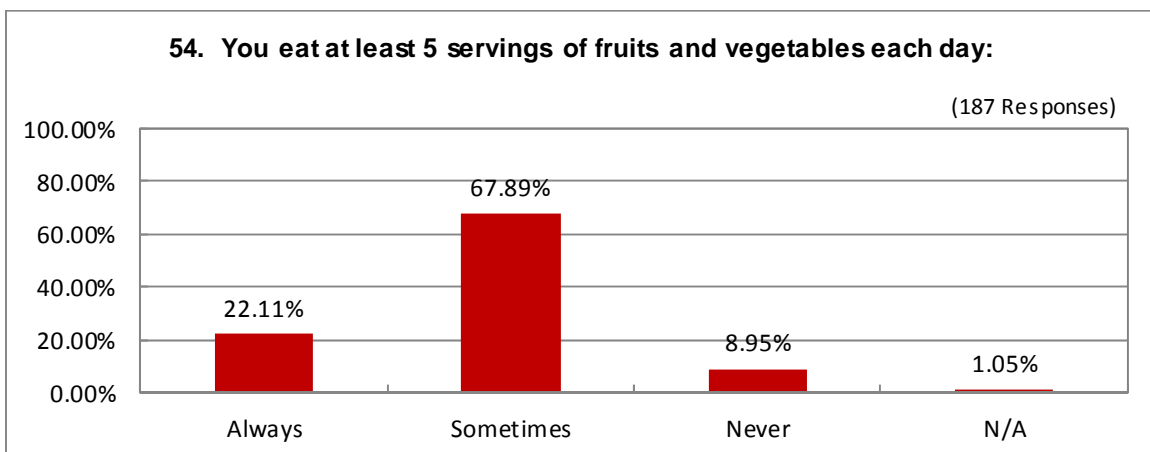
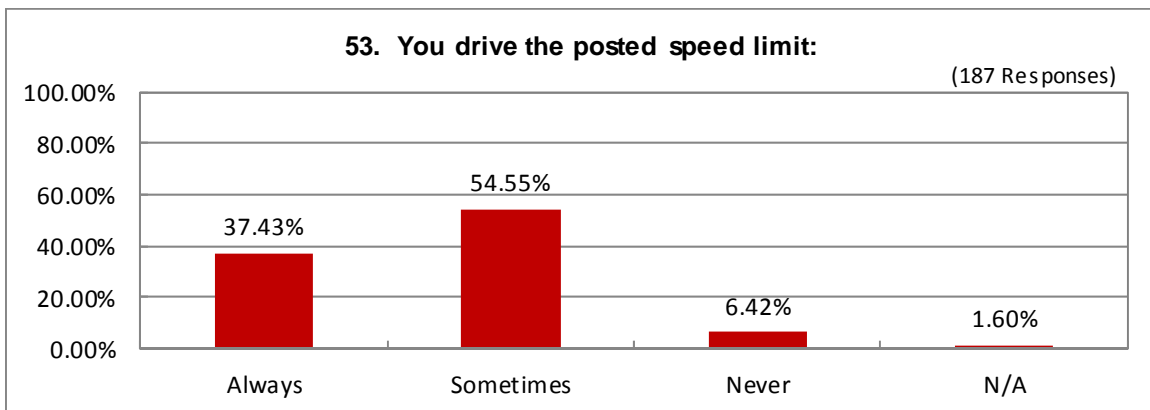
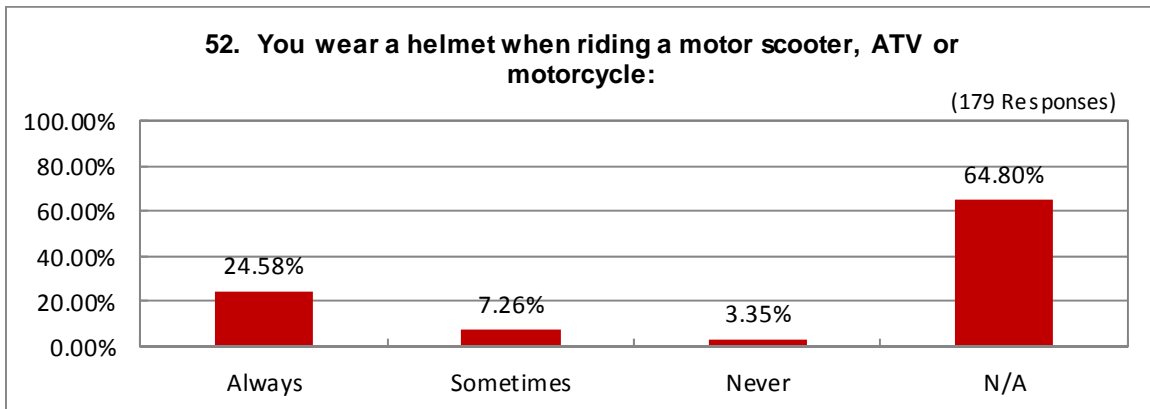


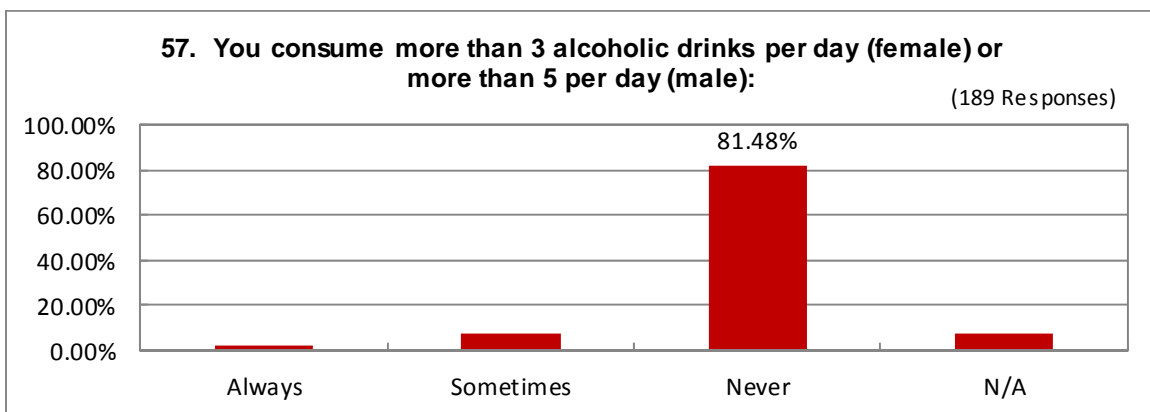
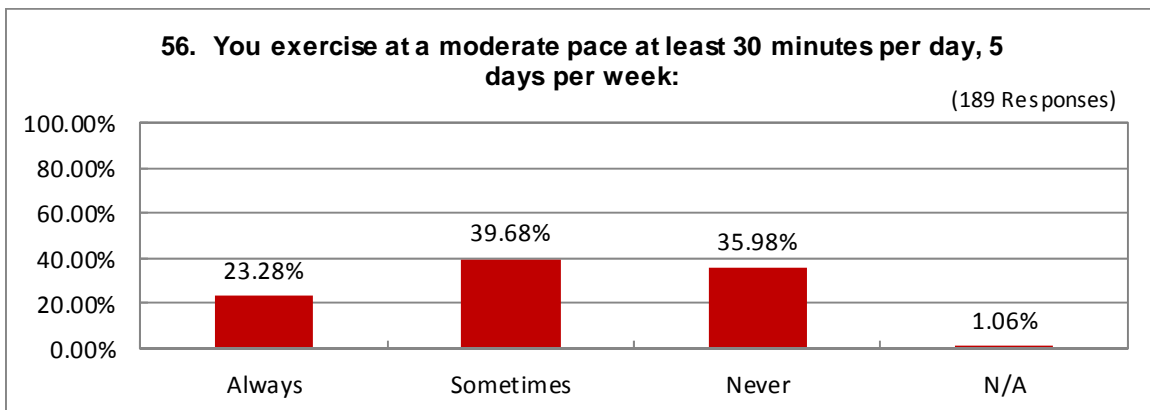
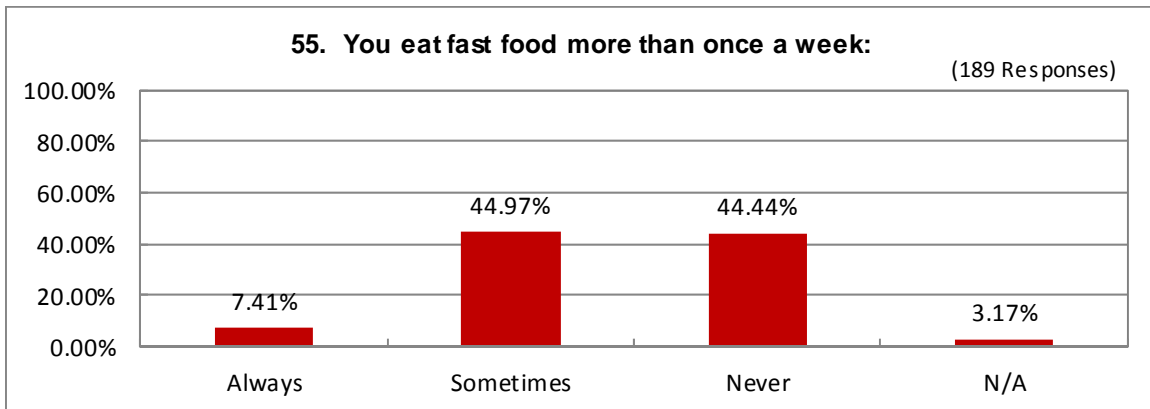


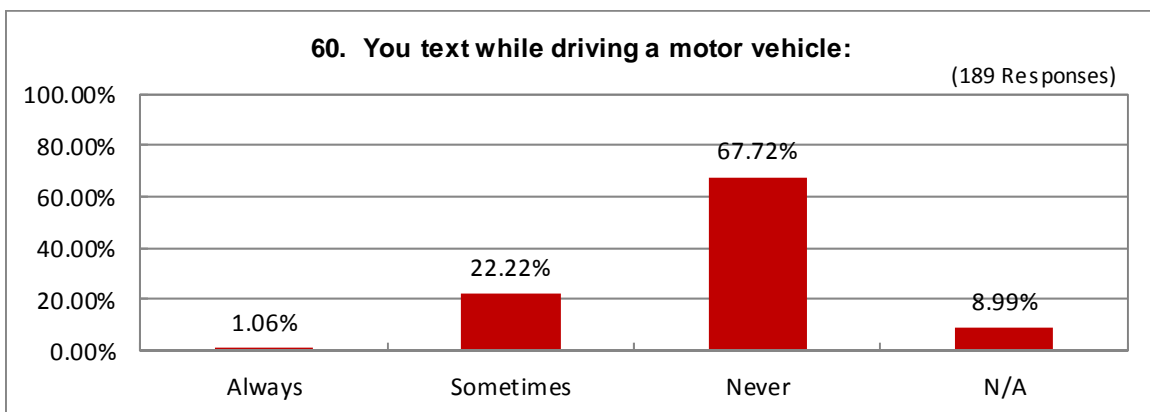
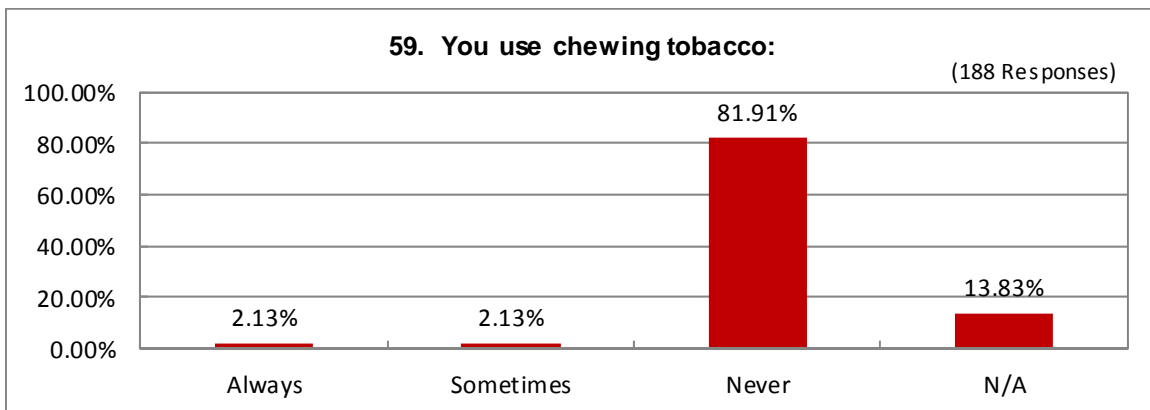
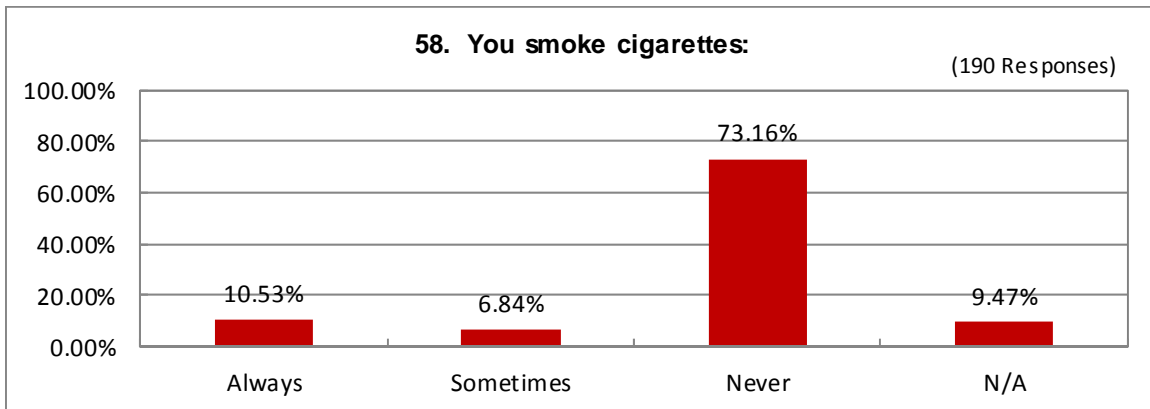


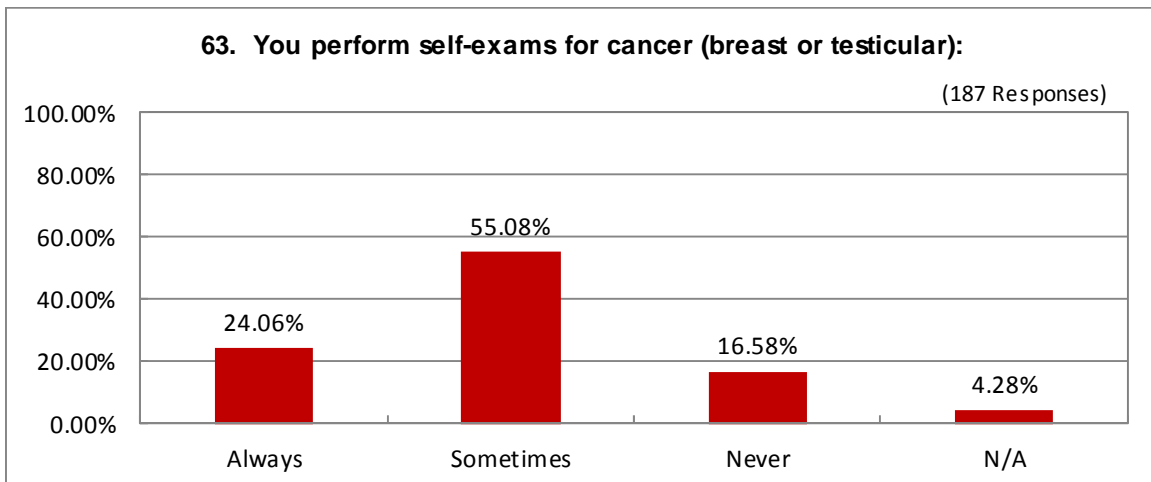
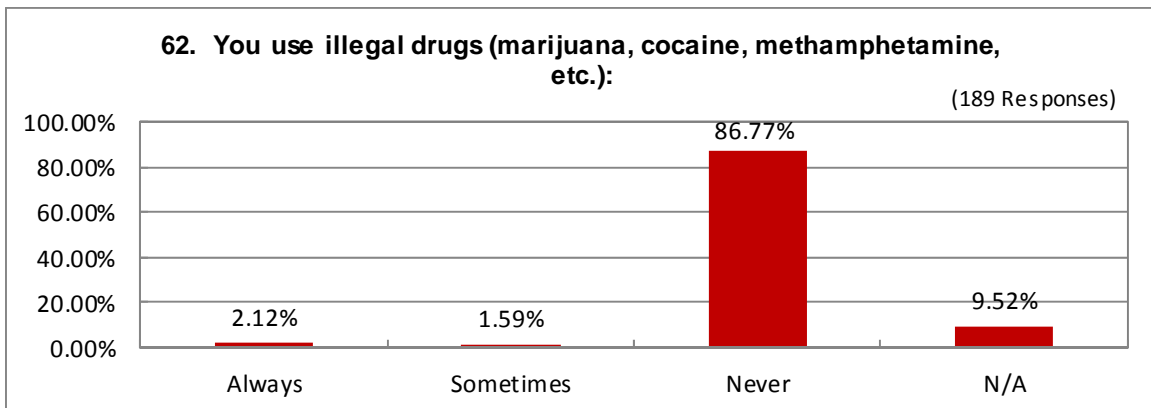
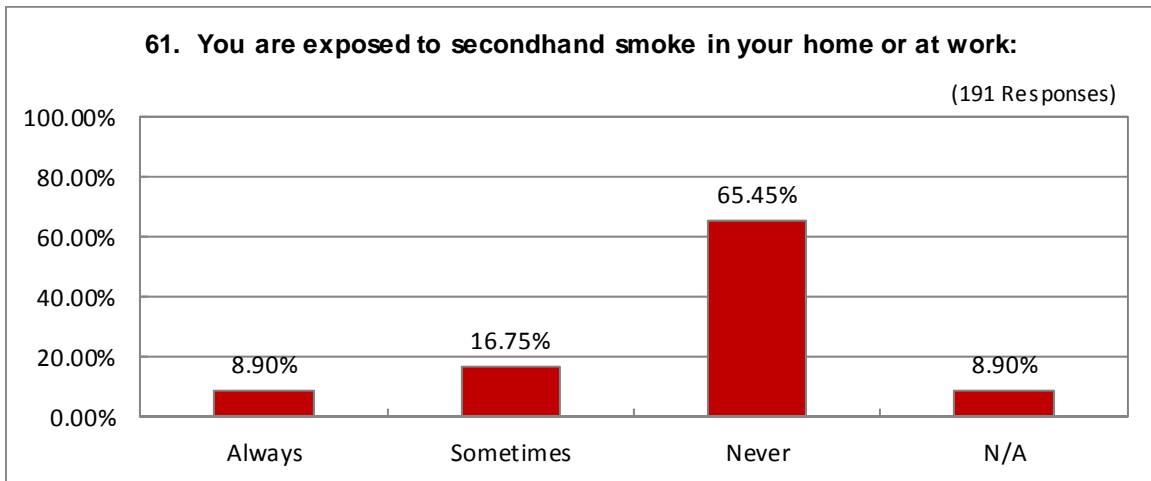


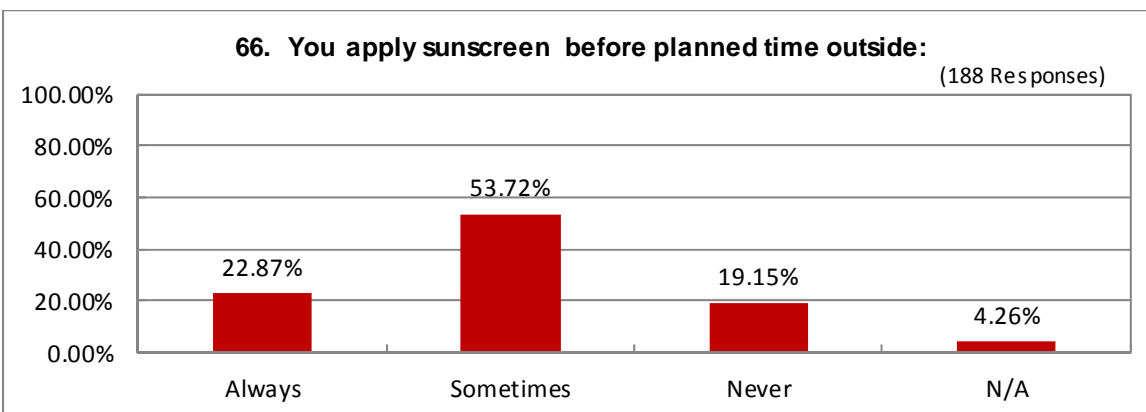
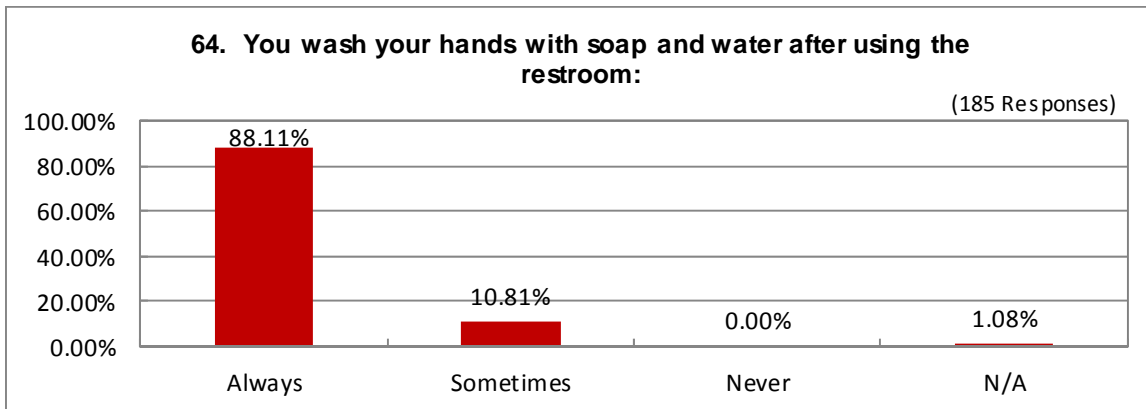


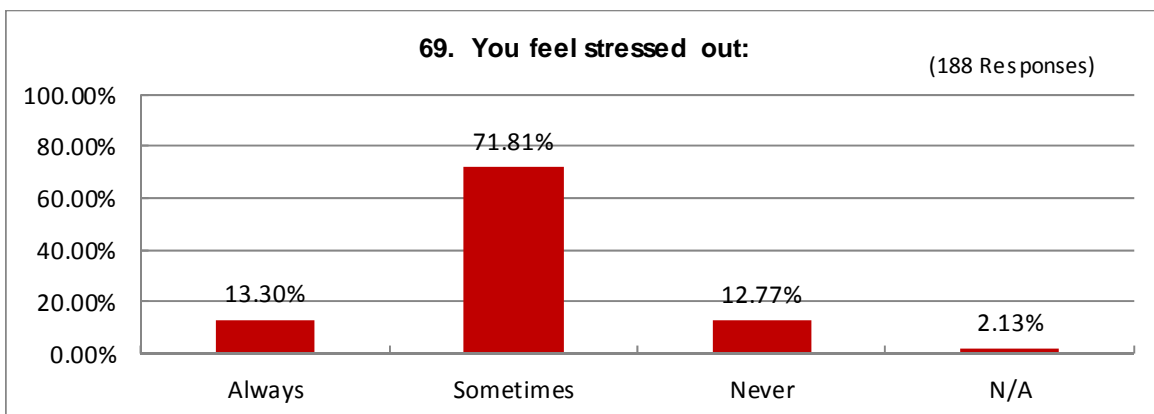
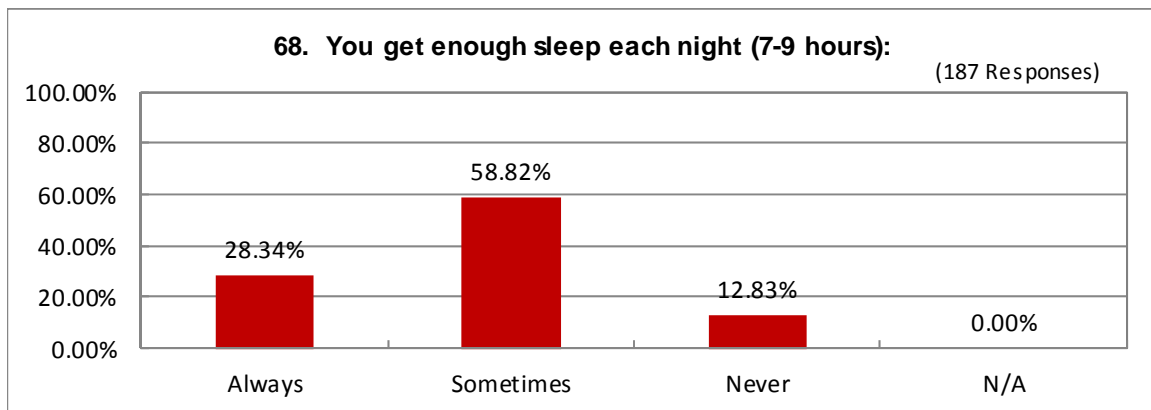
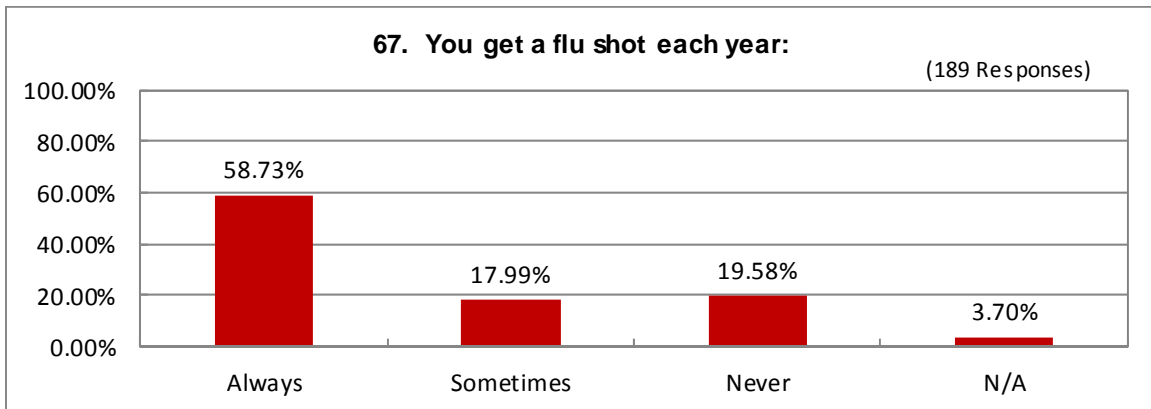


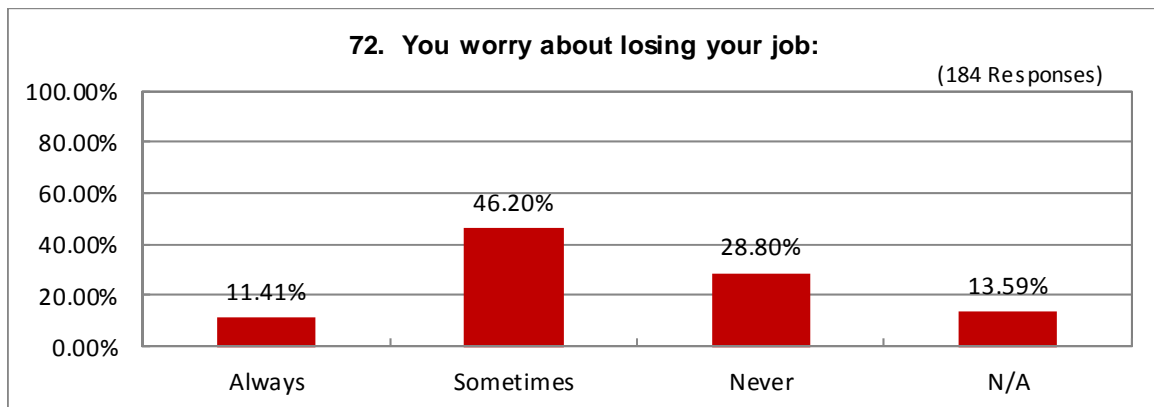
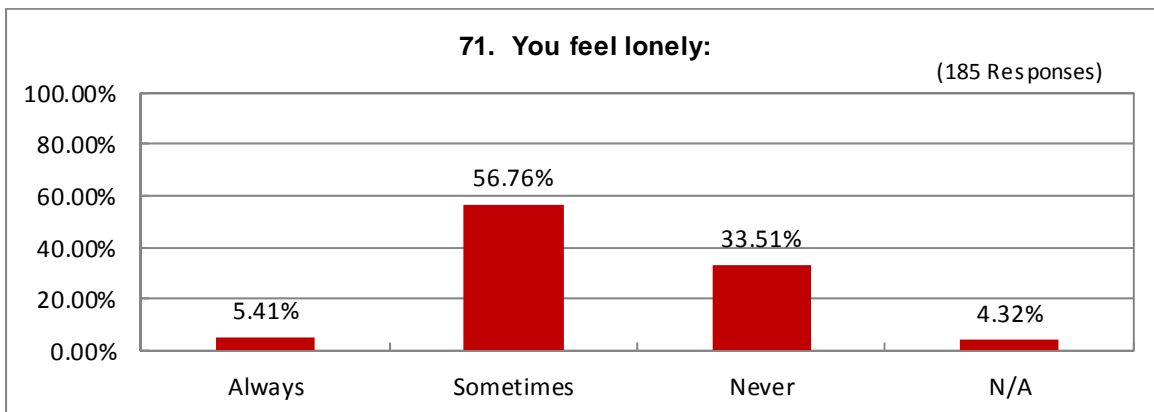
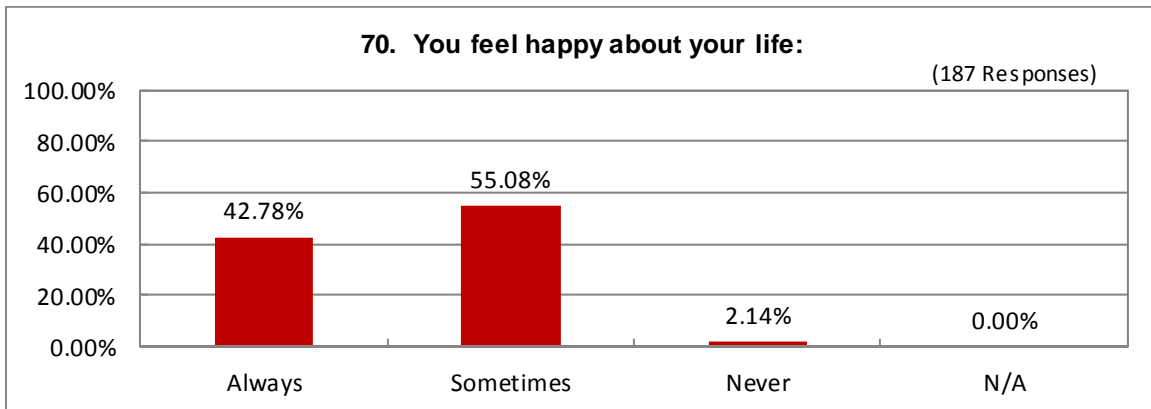


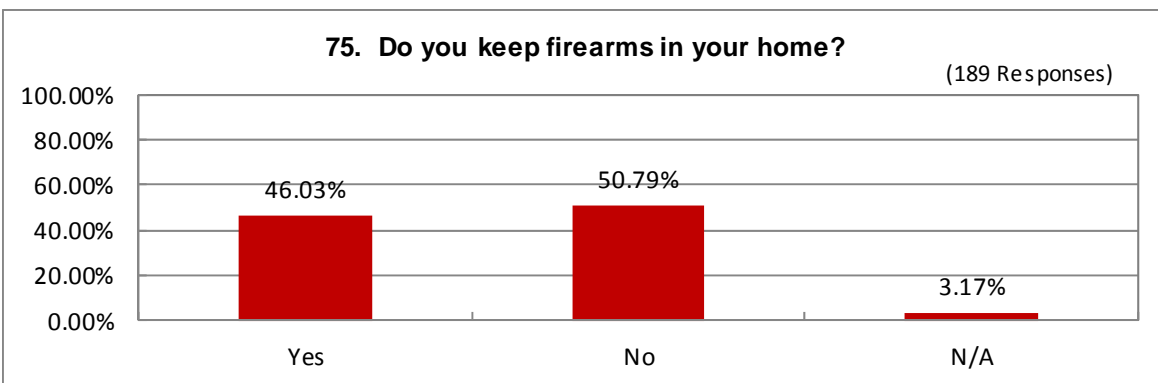
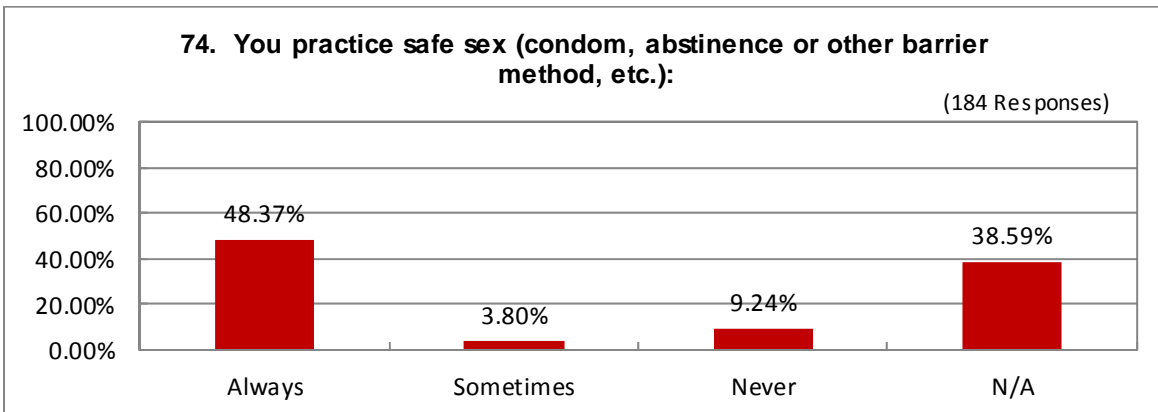
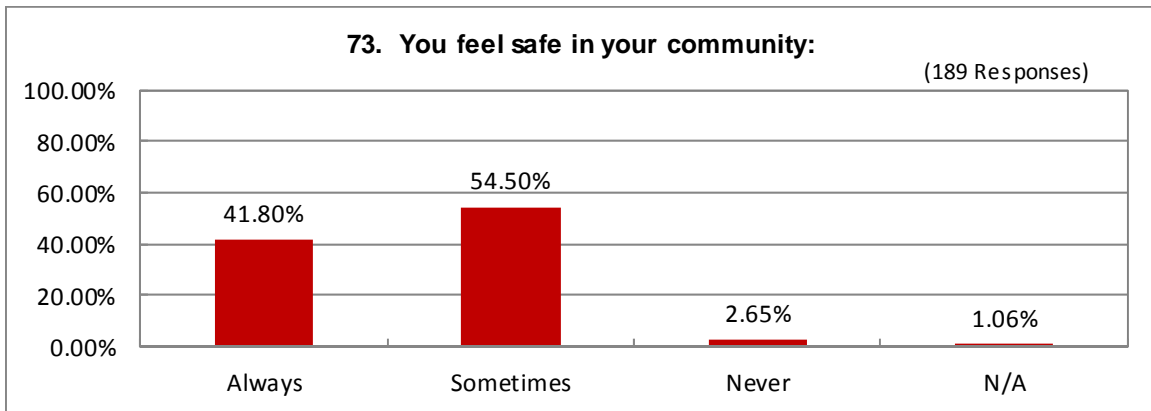


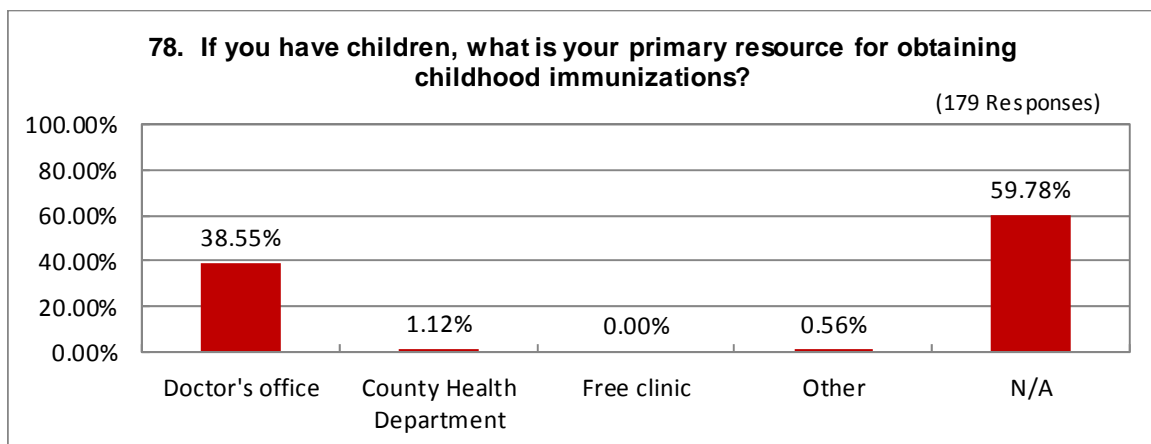
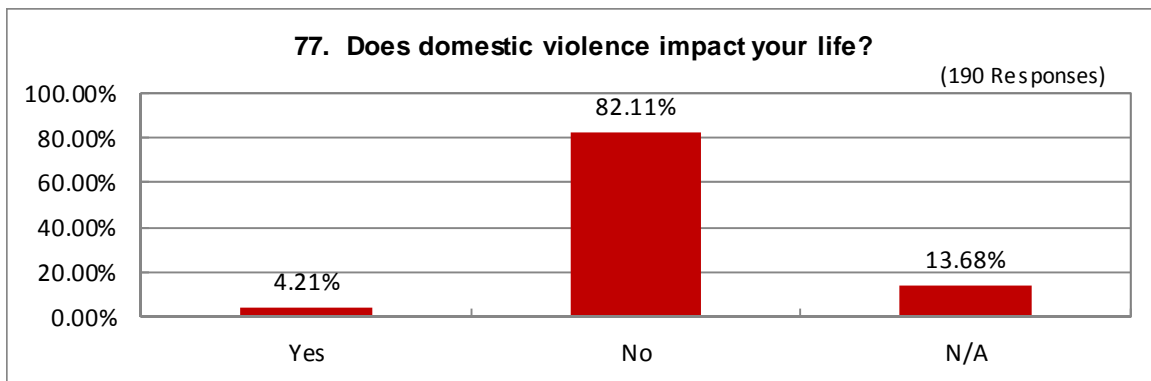
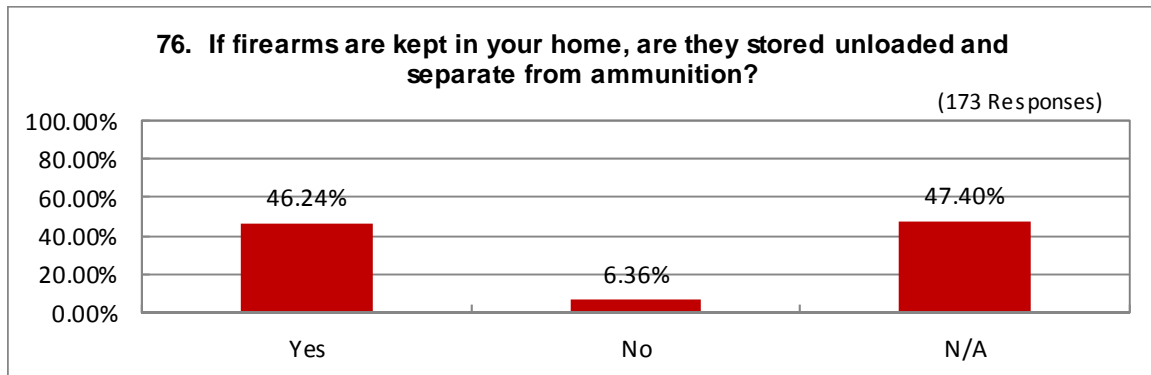












SOURCES

Sources

2011.1 Nielsen Demographic Update, the Nielsen Company, February 2013

Regional Economic Conditions (RECON). 2006-2010, Federal Deposit Insurance Corporation, 27 Sept. 2012 <<http://www2.fdic.gov/recon/index.asp>>

United States Department of Labor: Bureau of Labor Statistics. 2010. U.S. Department of Census. 8 Nov. 2011 <<http://www.bls.gov/cew/>>.

County Health Rankings: Mobilizing Action Toward Community Health. 2012. Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. Feb. 2013 <<http://www.countyhealthrankings.org>>.

Community Health Status Indicators: CHSI 2009. U.S. Department of Health & Human Services. 8 Nov. 2011 <<http://communityhealth.hhs.gov/>>.

HealthyPeople.gov. 2011. U.S. Department of Health and Human Services. 30 Nov. 2011 <<http://www.healthypeople.gov/>>.

Cost Report Data. Single Cost Reports. <http://www.costreportdata.com/search.php>. Feb 2013.

Health, United States, 2011 with Special Feature on Socioeconomic Status and Health. Table 96. Visits to Physician Offices, Hospital Outpatient Departments, and Hospital Emergency Departments, by Age, Sex, and Race: United States, selected years 1995-2009. [http://www.cdc.gov/nchs/data/11.pdf#096](http://www.cdc.gov/nchs/data/hus/11.pdf#096)

Healthcare Strategy Group. Physician Strategy News: June 2008. http://www.healthcarestragetygroup.com/newsletters/articl.php?show=advanced_manpower. October 18, 2012.

Merritt Hawkins, an AMN Healthcare Company. A Review of Physician-To-Populations Ratios. <http://www.merrithawkins.com/pdf/a-review-of-physician-to-population-ratios.pdf>. October 18, 2012.

Physician Supply and Demand: Projections to 2020. U.S. Department of Health and Human Services Health Resources and Services Administration Bureau of Health Professions October 2006. Exhibit 11. <http://ftp.hrsa.gov/migrated/bhpr/workforce/PhysicianSupplyDemand.pdf>. October 18, 2012.

<http://www.sharonregional.com/> About Us information retrieved 2/6/2013.

Regional Chamber Youngstown-Warren. Top Employers data. <http://regionalchamber.com/EconomicDevelopment/FactsFigures/LocalEconomy/LargestEmployers.aspx>. Retrieved 2/6/2013.

Ohio Department of Health, Death Statistics. <http://www.odh.ohio.gov/healthstats/vitalstats/deathstat.aspx>. Retrieved 2/6/2013.

St. Elizabeth Health Center. http://www.hmpartners.org/ho_sehc.aspx. Retrieved 2/8/2013.

St. Elizabeth Boardman Health Center. http://www.hmpartners.org/ho_sebhc.aspx. Retrieved 2/8/2013.

Meadville Medical Center. <http://www.mmchs.org/>. Retrieved 2/8/2013.

- St. Joseph Health Center. http://www.hmpartners.org/ho_sjhc.aspx. Retrieved 2/8/2013.
- Northside Medical Center. <http://www.northsidemedicalcenter.net/Pages/home.aspx>. Retrieved 2/8/2013.
- Trumbull Memorial Hospital. <http://www.trumbullmemorial.net/Pages/home.aspx>. Retrieved 2/8/2013.
- PASiteSearch. Top 50 Employers by County, Mercer County. 2012. Pennsylvania State of Innovation 27 Sept. 2012 <http://www.pasitesearch.com/topEmp.aspx>.
- 2011 American Community Survey, Selected Characteristics, Mercer County, Pennsylvania, Trumbull County, Ohio, U.S. Census Bureau, 2011.
- Commonwealth of Pennsylvania – Department of Health, Health statistics and Research. Selected Causes of Death by Age, Race, Sex, and County, Pennsylvania Residents, 2010. 27 Sept. 2012. <http://www.portal.state.pa.us>.
- Health Resources County Comparison Tool. U.S. Department of Health & Human Services. Feb 2013. http://www.arf.hrsa.gov/arfwebtool/Counties_search.asp.