

# Community Health Needs Assessment

2019



Bottineau County, North Dakota

*Brad Gibbens, MPA  
Deputy Director and Assistant Professor*

*Lynette Dickson, MS, RD, LRD  
Associate Director*

*Shawn Larson, BA  
Project Coordinator*



**Center for Rural Health**  
University of North Dakota  
School of Medicine & Health Sciences

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This project was supported, in part, by the Federal Office of Rural Health, Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS), Medicare Rural Flexibility Hospital Grant program. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS, or the U.S. Government.

# Executive Summary

To help inform future decisions and strategic planning, St. Andrew's Health Center (SAHC) conducted a community health needs assessment (CHNA) in 2019, the previous CHNA having been conducted in 2016. The Center for Rural Health (CRH) at the University of North Dakota School of Medicine & Health Sciences (UNDSMHS) facilitated the assessment process, which solicited input from area community members and healthcare professionals as well as analysis of community health-related data.



To gather feedback from the community, residents of the area were given the opportunity to participate in a survey. Forty-five service area residents completed the survey. Additional information was collected through six key informant interviews with community members. The input from the residents, who primarily reside in Bottineau County, represented the broad interests of the communities in the service area. Together with secondary data gathered from a wide range of sources, the survey presents a snapshot of the health needs and concerns in the community.

With regard to demographics, Bottineau County's population from 2010 to 2018 decreased 0.3%. The average age of residents under 18 years (20.9%) for the county is slightly less than the state average of 23.5%. The percentage of residents ages 65 and older is roughly 8.5% higher for Bottineau County (23.8) than the North Dakota average (15.3%), and the rates of education are marginally lower for the county (91.5%) than the North Dakota average (92.3%). The median household income in Bottineau County (\$58,767) is slightly lower than the state average for North Dakota (\$61,285).

Data compiled by County Health Rankings show Bottineau County is doing better than North Dakota in health outcomes/factors for 13 categories, while performing poorly relative to the rest of the state in 16 outcome/factor categories.

Of the 82 potential community and health needs set forth in the survey, the 45 SAHC service area residents who completed the survey indicated the following 10 needs as the most important:

- Alcohol use and abuse – youth and adults
- Assisted living options
- Attracting and retaining young families
- Availability of home health
- Bullying/cyber-bullying
- Child abuse/neglect
- Cost of long-term/nursing home care
- Depression/anxiety – adults
- Drug use and abuse – youth
- Smoking and tobacco use or vaping/juuling

The survey also revealed the biggest barriers to receiving healthcare (as perceived by community members). The barriers included not being able to get appointments/limited hours (N=16), not being able to see the same provider over time (N=13), and having no or limited insurance (N=13).

When asked what the best aspects of the community were, respondents indicated the top community assets were:

- Active faith community
- Family friendly
- Feeling connected to people who live here
- Healthcare
- Local events and festivals
- Recreational and sports activities
- Safe place to live, little/no crime



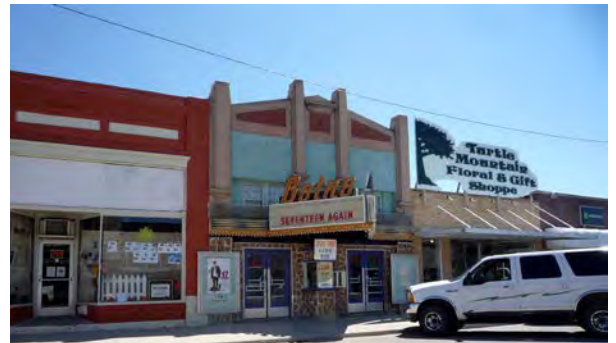
Input from community leaders, provided via key informant interviews and the community focus group, echoed many of the concerns raised by survey respondents. Concerns emerging from these sessions were:

- Attracting and retaining young families
- Cancer – adults
- Cost of long-term/nursing home care
- Depression/anxiety
- Not enough jobs with livable wages
- Smoking and tobacco use, exposure to second-hand smoke, or vaping/juuling – youth

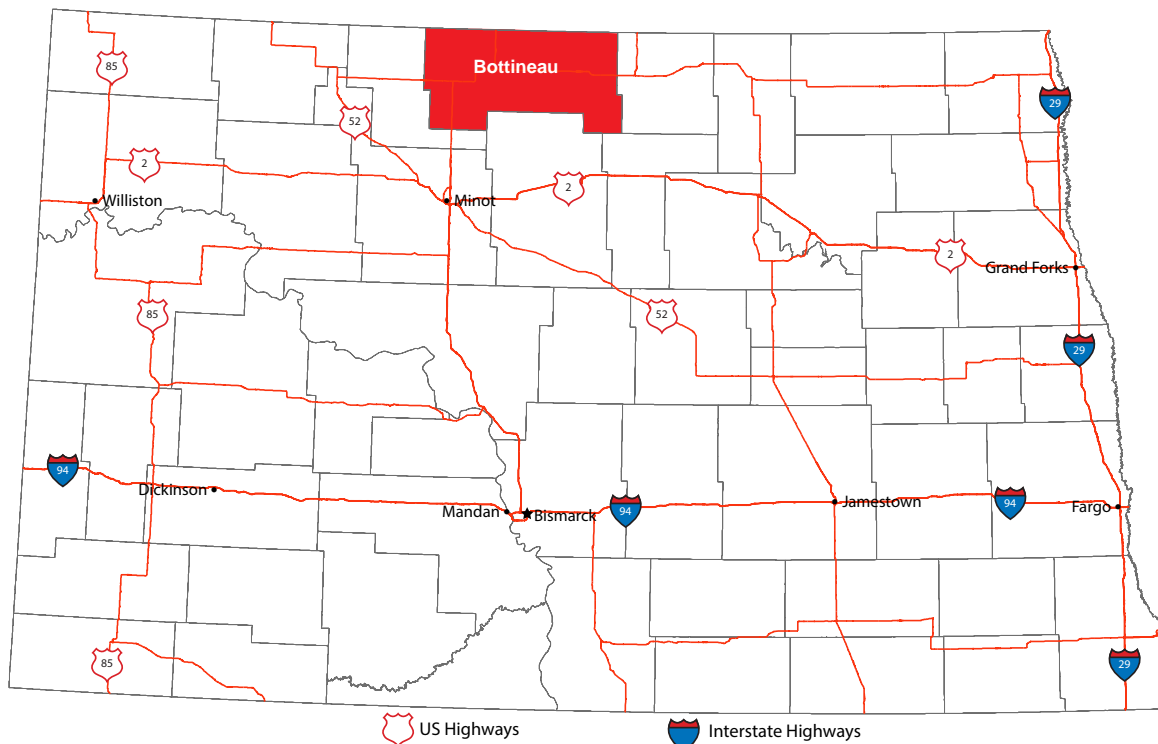
## Overview and Community Resources

With assistance from the CRH at the UNDSMHS, St. Andrew's Health Center completed a community health needs assessment of the SAHC service area.

Many community members and stakeholders worked together on the assessment. Located in the Turtle Mountains, Bottineau is the "Four Seasons Playground." Fishing; hunting both water fowl and upland game; snowmobiling; ice fishing; downhill, cross country, and water skiing; trails for hiking, biking, and horseback riding; boating; and canoeing are just some of the outdoor activities to enjoy in the hills or at Lake Metigoshe. Bottineau also offers a volunteer ambulance and fire department, several cafes, a movie theater, outdoor swimming pool, shooting range, baseball diamonds, city park, and two 9-hole golf courses. They have numerous churches, a K-12 public school, a two-year junior college, and many organizations such as Jaycees, Kiwanis, Rodeo Club, 4-H, summer baseball, American Legion, Auxiliary, and Wildlife Club. Bottineau is close to the International Peace Gardens and has an active racing circuit at the Thunder Mountain Speedway. In addition, Bottineau offers opportunities to see theater productions and to visit the Bottineau County Historical Museum.



**Figure 1: Bottineau County**



## St. Andrew's Health Center

SAHC is a 25 bed acute care Critical Access Hospital in Bottineau, North Dakota sponsored by the Sisters of Mary of the Presentation.

With a professional staff of over 100 employees, SAHC values their patients and employees and is committed to providing the best quality healthcare available to all who come to them for services.



St. Andrew's Health Center was founded in 1911 by Father Joseph L. Andrieux, Pastor of St. Mark's Church, in collaboration with Dr. J.A. Johnson, Dr. Alexander Russell MacKay, and other community leaders. He obtained a building from the School of Forestry located on the bank of Oak Creek. Fr. Andrieux made arrangements with the Provincial Superior of the Sisters of Mary of the Presentation to employ sisters for the facility. The first of these sisters arrived in September, 1913, and the hospital opened on October 10, 1913 and was staffed by seven sisters.

In 1918, a new hospital building was erected. At that time, the authorities believed that the problem of construction was permanently solved. However, after only ten years, the hospital facilities were again inadequate and its size was doubled by the addition of a new wing in 1928. With this addition, there were 22 rooms and two large wards permitting accommodations for over 40 patients.

In six months' time, between 1920 and 1921, three of the founding sisters died. They were Sr. Olympe, Sr. Marie Gildas, and Sr. Gilbert. A hospital staffed by the sisters in Spring Valley, Illinois provided much needed assistance by sending two nurses, Sr. Marie Rosaire (Mother Rose) and Sr. Joseph. In 1938, a four-story nurse's dormitory was built with accommodations for 50 students. In 1956, a grant from the Ford Foundation was used in the construction of a new wing that housed new obstetrics, central service, and laundry departments. An ambulance entrance was also added.

To invite greater community involvement in the operation of St. Andrew's, an advisory board was organized in 1959. In 1960 the facility, in need of a new x-ray machine and boiler equipment, held its first fund drive. The goal was \$35,000, and the fund drive netted \$29,613.

In 1966, the facility again needed more room and another fund drive was launched. The total project cost was \$2.2 million dollars and was completed in 1970, which is the present St. Andrew's. The hospital that Father Andrieux initiated in 1913 has been completely replaced. However, change and progress has continued over the years. In 1986, the 1957 addition was renovated into 14 apartments and in 1993, St. Andrew's changed its name from St. Andrew's Hospital and Nursing Home to St. Andrew's Health Center.

In 1996, the nurse's dorm was demolished and apartments were constructed on the southeast side of the facility. In 1999, St. Andrew's remodeled the former ambulance garage and conference room on the northwest side of the facility into St. Andrew's Clinic. The clinic includes nine exam rooms and a minor surgery room. In July of 2000, St. Andrew's was designated as both a Level IV Trauma and a Critical Access Hospital. A number of changes were made to meet requirements of Critical Access designation.

On September 30, 2001, St. Andrew's de-certified its nursing home beds. In December of 2002, the 1986 apartment space was allocated into offices and storage space.

As of July 1, 2004, St. Andrew's has been designated as a Trauma Level V Hospital. On October 1, 2004, St. Andrew's Clinic changed its designation to a rural health clinic. St. Andrew's is currently licensed as a 25 bed, Critical Access Hospital, with a rural health clinic and 14 apartments attached.

## Our Mission:

*St. Andrew's Health Center, in union with the Sisters of Mary of the Presentation, works for the glory of God by bringing the Word and Healing of Jesus Christ to all, with a special concern for the poor and elderly. Through the shared ministry with the laity, St. Andrew's Health Center participates in the health care mission in the work of healing which is the work of God. Our individual inspiration is Jesus and His Gospel message. Permeated with the Charism of the Sisters of Mary of the Presentation, we minister to one another and to all who come to us for care.*

Services offered locally by SAHC include:

### General and Acute Services

- Allergy, flu & pneumonia shots
- Blood pressure checks
- Cardiology (visiting physician)
- Cardiac rehab
- Clinic
- Emergency room
- Gynecology / prenatal care up to 32 weeks
- Hospital (acute care)
- Independent St. Andrew's apartments
- Mole / wart / skin lesion removal
- Obstetrics postnatal and up to 32 weeks prenatal
- Ophthalmology evaluation and surgery services
- Orthopedics (visiting physician)
- Pharmacy
- Podiatry – evaluation and surgery
- Physicals: annuals, D.O.T., sports & insurance
- Surgical services – biopsies
- Surgical services – outpatient
- Swing bed services
- Well-child checks

### Screening/Therapy Services

- Chronic disease management
- Holter monitoring
- Laboratory services
- Occupational therapy
- Pediatric services
- Physical therapy
- Social services

### Radiology Services

- CT scan
- Digital mammography
- Echocardiograms
- EKG
- General x-ray
- Nuclear medicine
- Mammograms
- MRI (mobile unit)
- Ultrasound (mobile unit)

### Laboratory Services

- Blood types
- Chemistry
- Clot times
- Hematology
- Urine testing

# Assessment Process

The purpose of conducting a CHNA is to describe the health of local people, identify areas for health improvement, identify use of local healthcare services, determine factors that contribute to health issues, identify and prioritize community needs, and help healthcare leaders identify potential action to address the community's health needs.

A CHNA benefits the community by:

- 1) Collecting timely input from the local community members, providers, and staff;
- 2) Providing an analysis of secondary data related to health-related behaviors, conditions, risks, and outcomes;
- 3) Compiling and organizing information to guide decision making, education, and marketing efforts, and to facilitate the development of a strategic plan;
- 4) Engaging community members about the future of healthcare; and
- 5) Allowing the community hospital to meet the federal regulatory requirements of the Affordable Care Act, which requires not-for-profit hospitals to complete a CHNA at least every three years, as well as helping the local public health unit meet accreditation requirements.

This assessment examines health needs and concerns in the greater Bottineau area.

The CRH, in partnership with SAHC, facilitated the CHNA process. Community representatives met regularly in-person, by telephone conference, and email. A CHNA liaison was selected locally, who served as the main point of contact between the CRH and Bottineau. A steering committee (see Figure 2) was formed that was responsible for planning and implementing the process locally. Representatives from the CRH met and corresponded regularly by teleconference and /or via the eToolkit with the CHNA liaison. The community group (described in more detail below) provided in-depth information and informed the assessment process in terms of community perceptions, community resources, community needs, and ideas for improving the health of the population and healthcare services. Fourteen people, representing a cross section demographically, attended the focus group meeting. The meeting was highly interactive with good participation. SAHC staff and board members were in attendance as well, but largely played a role of listening and learning.

**Figure 2: Steering Committee**

Steve Gorder	Chairman, SAHC
Koni Hahn	Public Relations/Foundation Director, SAHC
Steve Lindeman	CFO, SAHC
Jerome Migler	President, Dakota College at Bottineau
Alfred Sams	CEO, SAHC

The original survey tool was developed and used by the CRH. In order to revise the original survey tool to ensure the data gathered met the needs of hospitals and public health, the CRH worked with the North Dakota Department of Health's public health liaison. CRH representatives also participated in a series of meetings that garnered input from the state's health officer, local North Dakota public health unit professionals, and representatives from North Dakota State University.



As part of the assessment's overall collaborative process, the CRH spearheaded efforts to collect data for the assessment in a variety of ways:

- A survey solicited feedback from area residents;
- Community leaders representing the broad interests of the community took part in one-on-one key informant interviews;
- The community group, comprised of community leaders and area residents, was convened to discuss area health needs and inform the assessment process; and
- A wide range of secondary sources of data were examined, providing information on a multitude of measures, including demographics, health conditions, indicators, outcomes, rates of preventive measures; rates of disease; and at-risk behavior.

The CRH is one of the nation's most experienced organizations committed to providing leadership in rural health. Its mission is to connect resources and knowledge to strengthen the health of people in rural communities. The CRH is the designated State Office of Rural Health and administers the Medicare Rural Hospital Flexibility (Flex) program, funded by the Federal Office of Rural Health Policy, Health Resources Services Administration, and Department of Health and Human Services. The CRH connects the UNDSMHS and other necessary resources, to rural communities and their healthcare organizations in order to maintain access to quality care for rural residents. In this capacity, the CRH works at a national, state, and community level.

Detailed below are the methods undertaken to gather data for this assessment by convening a Community Group, conducting key informant interviews, soliciting feedback about health needs via a survey, and researching secondary data.

## Community Group

A community group consisting of 14 community members was convened and first met on September 9, 2019. During this first community group meeting, group members were introduced to the needs assessment process, reviewed basic demographic information about the community, and served as a focus group. Focus group topics included community assets and challenges, the general health needs of the community, community concerns, and suggestions for improving the community's health.

The community group met again on September 23, 2019 with 11 community members in attendance. At this second meeting the community group was presented with survey results, findings from key informant interviews and the focus group, and a wide range of secondary data relating to the general health of the population in Bottineau County. The group was then tasked with identifying and prioritizing the community's health needs.

Members of the community group represented the broad interests of the community served by SAHC. They included representatives of the health community, business community, public health, law enforcement, education, and faith community. Not all members of the group were present at both meetings.

## Interviews

One-on-one interviews with four key informants were conducted in person in Bottineau on September 10, 2019. Two additional key informant interviews were conducted over the phone in September of 2019. A representative from the CRH conducted the interviews. Interviews were held with selected members of the community who could provide insights into the community's health needs. Included among the informants were public health professionals with special knowledge in public health acquired through several years of direct experience in the community, including working with medically underserved, low income, and minority populations, as well as with populations with chronic diseases.

Topics covered during the interviews included the general health needs of the community, the general health of the community, community concerns, delivery of healthcare by local providers, awareness of health services



offered locally, barriers to receiving health services, and suggestions for improving collaboration within the community.

## Survey

A survey was distributed to solicit feedback from the community and was not intended to be a scientific or statistically valid sampling of the population. It was designed to be an additional tool for collecting qualitative data from the community at large – specifically, information related to community-perceived health needs. A copy of the survey instrument is included in Appendix A and a full listing of direct responses provided for the questions that included “Other” as an option are included in Appendix D.

The community member survey was distributed to various residents of Bottineau County, which is included in the SAHC service area.

The survey tool was designed to:

- Learn of the good things in the community and the community’s concerns;
- Understand perceptions and attitudes about the health of the community and hear suggestions for improvement; and
- Learn more about how local health services are used by residents.

Specifically, the survey covered the following topics:

- Residents’ perceptions about community assets;
- Broad areas of community and health concerns;
- Awareness of local health services;
- Barriers to using local healthcare;
- Basic demographic information;
- Suggestions to improve the delivery of local healthcare; and
- Suggestions for capital improvements.

To promote awareness of the assessment process, press releases led to published articles in the community newspaper in Bottineau County. Additionally, information was published on SAHC’s website and Facebook page.

Approximately 75 community member surveys were available for distribution in Bottineau County. The surveys were distributed by community group members and at SAHC, St. Andrew’s Clinic, and local businesses.

To help ensure anonymity, included with each survey was a postage-paid return envelope to the CRH. In addition, to help make the survey as widely available as possible, residents also could request a survey by calling SAHC. The survey period ran from August 19, 2019 to September 9, 2019. Nineteen completed paper surveys were returned.

Area residents also were given the option of completing an online version of the survey, which was publicized in the community newspaper and website and Facebook page of SAHC. Twenty-six online surveys were completed. One of those online respondents used the QR code to complete the survey. In total, counting both paper and online surveys, 45 community member surveys were completed, equating to a 2.5% response rate. This response rate is below average for this type of unsolicited survey methodology and indicates a less-engaged community.

## Secondary Data

Secondary data was collected and analyzed to provide descriptions of: (1) population demographics, (2) general health issues (including any population groups with particular health issues), and (3) contributing causes of community health issues. Data was collected from a variety of sources, including the U. S. Census Bureau; Robert Wood Johnson Foundation's County Health Rankings, which pulls data from 20 primary data sources ([www.countyhealthrankings.org](http://www.countyhealthrankings.org)); the National Survey of Children's Health, which touches on multiple intersecting aspects of children's lives ([www.childhealthdata.org/learn/NSCH](http://www.childhealthdata.org/learn/NSCH)); and North Dakota KIDS COUNT, which is a national and state-by-state effort to track the status of children, sponsored by the Annie E. Casey Foundation ([www.ndkidscount.org](http://www.ndkidscount.org)).

## Social Determinants of Health

According to the World Health Organization, social determinants of health are, *"The circumstances in which people are born, grow up, live, work, and age and the systems put in place to deal with illness. These circumstances are in turn shaped by wider set of forces: economics, social policies and politics."*

Income-level, educational attainment, race/ethnicity, and health literacy all impact the ability of people to access health services. Basic needs such as clean air and water and safe and affordable housing are all essential to staying healthy and are also impacted by the social factors listed previously. The barriers already present in rural areas, such as limited public transportation options and fewer choices to acquire healthy food can compound the impact of these challenges.

Healthy People 2020, (<https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>) illustrates that health and healthcare, while vitally important, play only one small role (approximately 20%) in the overall health of individuals, and ultimately of a community. Social and community context, education, economic stability, neighborhood and built environment play a much larger part (80%) in impacting health outcomes. Therefore, as needs or concerns were raised through this community health needs assessment process, it was imperative to keep in mind how they impact the health of the community and what solutions can be implemented. See Figure 3.

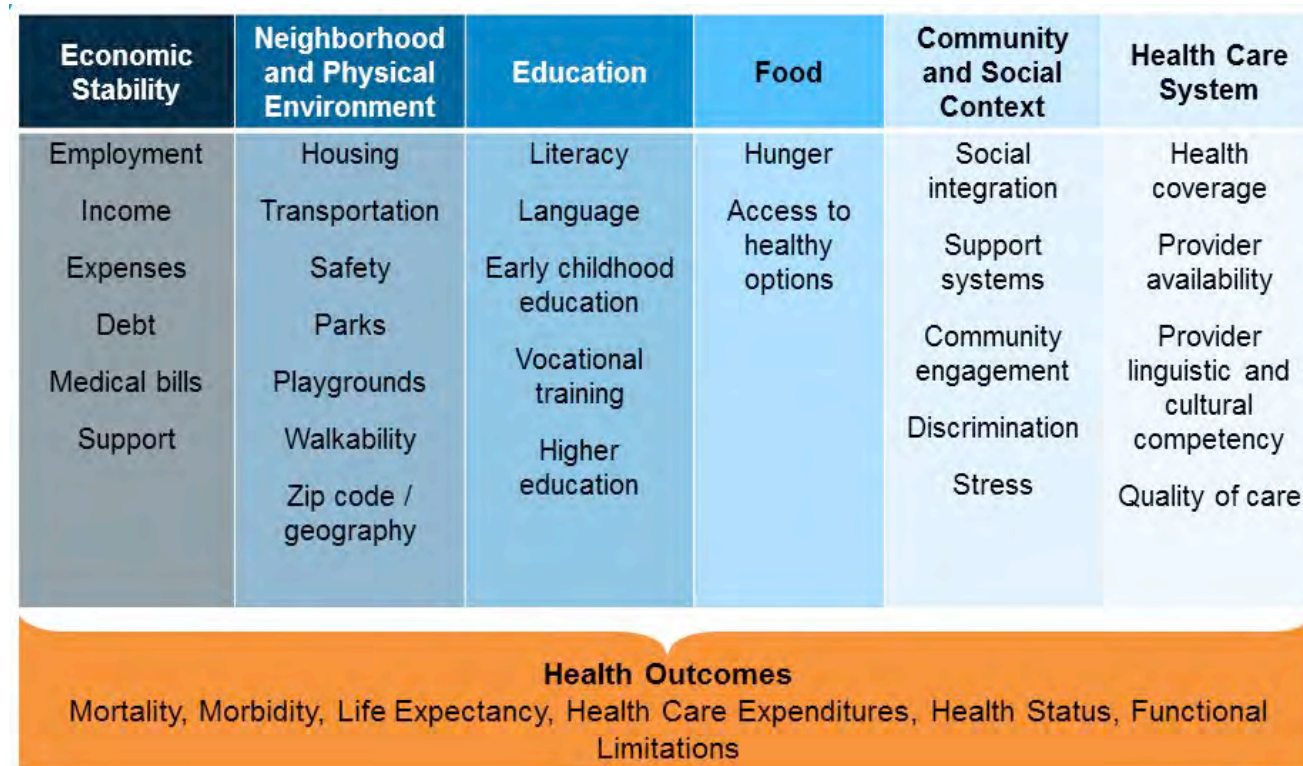
**Figure 3: Social Determinants of Health**



Figure 4 (Henry J. Kaiser Family Foundation, <https://www.kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>), provides examples of factors that are included in each of the social determinants of health categories that lead to health outcomes.

For more information and resources on social determinants of health, visit the Rural Health Information Hub website, <https://www.ruralhealthinfo.org/topics/social-determinants-of-health>.

**Figure 4: Social Determinants of Health**



## Demographic Information

**TABLE 1: Bottineau County: INFORMATION AND DEMOGRAPHICS**

	Bottineau County	North Dakota
Population (2018)	6,411	760,077
Population change (2010-2018)	-0.3%	13.0%
People per square mile (2010)	3.9	9.7
Persons 65 years or older (2018)	23.8%	15.3%
Persons under 18 years (2018)	20.9%	23.5%
Median age (2017 est.)	45.2	35.4
White persons (2017)	93.1%	87.0%
Non-English speaking (2017)	3.2%	5.6%
High school graduates (2017)	91.5%	92.3%
Bachelor's degree or higher (2017)	21.9%	28.9%
Live below poverty line (2016)	10.0%	10.3%
Persons without health insurance, under age 65 years (2016)	10.4%	8.8%

Source: <https://www.census.gov/quickfacts/fact/table/ND,US/INC910216#viewtop> and [https://factfinder.census.gov/faces/nav/jsf/pages/community\\_facts.xhtml#](https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml#)

While the population of North Dakota has grown in recent years, Bottineau County has seen a slight decrease in population since 2010. The U.S. Census Bureau estimates show that the county’s population decreased from 6,429 (2010) to 6,411 (2018).

## County Health Rankings

The Robert Wood Johnson Foundation, in collaboration with the University of Wisconsin Population Health Institute, has developed County Health Rankings to illustrate community health needs and provide guidance for actions toward improved health. In this report, Bottineau County is compared to North Dakota rates and national benchmarks on various topics ranging from individual health behaviors to the quality of healthcare.

The data used in the 2019 County Health Rankings are pulled from more than 20 data sources and then are compiled to create county rankings. Counties in each of the 50 states are ranked according to summaries of a variety of health measures. Those having high ranks, such as 1 or 2, are considered to be the “healthiest.” Counties are ranked on both health outcomes and health factors. Following is a breakdown of the variables that influence a county’s rank.

A model of the 2019 County Health Rankings – a flow chart of how a county’s rank is determined – may be found in Appendix B. For further information, visit the County Health Rankings website at [www.countyhealthrankings.org](http://www.countyhealthrankings.org).

Health Outcomes	Health Factors (continued)
<ul style="list-style-type: none"> <li>• Length of life</li> <li>• Quality of life</li> </ul>	<ul style="list-style-type: none"> <li>• Clinical care <ul style="list-style-type: none"> <li>- Access to care</li> <li>- Quality of care</li> </ul> </li> <li>• Social and Economic Factors <ul style="list-style-type: none"> <li>- Education</li> <li>- Employment</li> <li>- Income</li> <li>- Family and social support</li> <li>- Community safety</li> </ul> </li> <li>• Physical Environment <ul style="list-style-type: none"> <li>- Air and water quality</li> <li>- Housing and transit</li> </ul> </li> </ul>
Health Factors	
<ul style="list-style-type: none"> <li>• Health behavior <ul style="list-style-type: none"> <li>- Smoking</li> <li>- Diet and exercise</li> <li>- Alcohol and drug use</li> <li>- Sexual activity</li> </ul> </li> </ul>	

Table 2 summarizes the pertinent information gathered by County Health Rankings as it relates to Bottineau County. It is important to note that these statistics describe the population of a county, regardless of where county residents choose to receive their medical care. In other words, all of the following statistics are based on the health behaviors and conditions of the county’s residents, not necessarily the patients and clients of SAHC or of any particular medical facility.

For most of the measures included in the rankings, the County Health Rankings’ authors have calculated the “Top U.S. Performers” for 2019. The Top Performer number marks the point at which only 10% of counties in the nation do better, i.e., the 90th percentile or 10th percentile, depending on whether the measure is framed positively (such as high school graduation) or negatively (such as adult smoking).

Bottineau County’s rankings within the state are included in the summary following. For example, the county ranks 36th out of 49 ranked counties in North Dakota on health outcomes and 29th on health factors. The measures marked with a with a bullet point (•) are those where a county is not measuring up to the state rate/percentage; a square (■) indicates that the county is not meeting the U.S. Top 10% rate on that measure. Measures that are not marked with a colored checkmark but are marked with a plus sign (+) indicate that the county is doing better than the U.S. Top 10%.



The data from County Health Rankings shows that Bottineau County is doing better than many counties compared to the rest of the state on all but one of the outcomes, landing at or above rates for other North Dakota counties. The county is also performing well in many areas when it comes to the U.S. Top 10% ratings with the exception of two: premature deaths and poor or fair health. On health factors, Bottineau County performs below the North Dakota average for counties in several areas.

Data compiled by County Health Rankings show Bottineau County is doing better than or equal to North Dakota in health outcomes and factors for the following indicators:

- Poor or fair health
- Poor physical health days
- Poor mental health days
- Low birth weight
- Adult smoking
- Excessive drinking
- Sexually transmitted infections
- Teen birth rate
- Preventable hospital stays
- Children in single-parent household
- Social associations
- Violent crime
- Severe housing problems

Outcomes and factors in which Bottineau County was performing poorly relative to the rest of the state include:

- Premature deaths
- Adult obesity
- Food environment index
- Physical inactivity
- Access to exercise opportunities
- Alcohol-impaired driving deaths
- Uninsured individuals
- Primary care physician ratio
- Dentist ratio
- Mammography screenings
- Flu vaccinations
- Unemployment
- Children in poverty
- Income inequality
- Injury deaths
- Air pollution – particulate matter

**TABLE 2: SELECTED MEASURES FROM COUNTY HEALTH RANKINGS 2019 –Wells County**

● = Not meeting North Dakota average

■ = Not meeting U.S. Top 10% Performers

+ = Meeting or exceeding U.S. Top 10% Performers

*Blank values reflect unreliable or missing data*

TABLE 2: SELECTED MEASURES FROM COUNTY HEALTH RANKINGS 2019 – BOTTINEAU COUNTY			
	Bottineau County	U.S. Top 10%	North Dakota
<b>Ranking: Outcomes</b>	<b>36<sup>th</sup></b>		<b>(of 49)</b>
Premature death	9,900 ● ■	5,400	6,700
Poor or fair health	13% ■	12%	14%
Poor physical health days (in past 30 days)	2.9 +	3.0	3.0
Poor mental health days (in past 30 days)	2.8 +	3.1	3.1
Low birth weight	6% +	6%	6%
<b>Ranking: Factors</b>	<b>29<sup>th</sup></b>		<b>(of 49)</b>
<i>Health Behaviors</i>			
Adult smoking	16% ■	14%	20%
Adult obesity	34% ● ■	26%	32%
Food environment index (10=best)	8.4 ● ■	8.7	9.1
Physical inactivity	30% ● ■	19%	22%
Access to exercise opportunities	56% ● ■	91%	74%
Excessive drinking	22% ■	13%	26%
Alcohol-impaired driving deaths	56% ● ■	13%	46%
Sexually transmitted infections	104.2 +	152.8	456.5
Teen birth rate	15 ■	14	23
<i>Clinical Care</i>			
Uninsured	10% ● ■	6%	8%
Primary care physicians	3,290:1 ● ■	1,050:1	1,320:1
Dentists	3,270:1 ● ■	1,260:1	1,530:1
Mental health providers		310:1	570:1
Preventable hospital stays	3,528 ■	2,765	4,452
Mammography screening (% of Medicare enrollees ages 67-69 receiving screening)	53% ● ■	49%	50%
<i>Social and Economic Factors</i>			
Unemployment	3.3% ● ■	2.9%	2.6%
Children in poverty	12% ● ■	11%	11%
Income inequality	4.9 ● ■	3.7	4.4
Children in single-parent households	15% +	20%	27%
Violent crime	82 ■	63	258
Injury deaths	87 ● ■	57	69
<i>Physical Environment</i>			
Air pollution – particulate matter	5.7 ● +	6.1	5.4
Drinking water violations	No +	NA	
Severe housing problems	8% +	9%	11%

Source: <http://www.countyhealthrankings.org/app/north-dakota/2018/rankings/outcomes/overall>

## Children's Health

The National Survey of Children's Health touches on multiple intersecting aspects of children's lives. Data are not available at the county level; listed below is information about children's health in North Dakota. The full survey includes physical and mental health status, access to quality healthcare, and information on the child's family, neighborhood, and social context. Data is from 2016-17. More information about the survey may be found at [www.childhealthdata.org/learn/NSCH](http://www.childhealthdata.org/learn/NSCH).

Key measures of the statewide data are summarized below. The rates highlighted in red signify that the state is faring worse on that measure than the national average.

**Table 3: Selected Measures Regarding Children's Health (For children aged 0-17 unless noted otherwise)**

Source: <http://childhealthdata.org/browse/data-snapshots/nsch-profiles?geo=1&geo2=36&rpt=16>

Health Status	North Dakota	National
Children born premature (3 or more weeks early)	10.8%	11.6%
Children 10-17 overweight or obese	35.8%	31.3%
Children 0-5 who were ever breastfed	79.4%	79.2%
Children 6-17 who missed 11 or more days of school	4.6%	6.2%
<b>Healthcare</b>		
Children currently insured	93.5%	94.5%
Children who had preventive medical visit in past year	78.6%	84.4%
Children who had preventive dental visit in past year	74.6%	77.2%
Young children (10 mos.-5 yrs.) receiving standardized screening for developmental or behavioral problems	20.7%	30.8%
Children aged 2-17 with problems requiring counseling who received needed mental healthcare	86.3%	61.0%
<b>Family Life</b>		
Children whose families eat meals together 4 or more times per week	83.0%	78.4%
Children who live in households where someone smokes	29.8%	24.1%
<b>Neighborhood</b>		
Children who live in neighborhood with a parks, recreation centers, sidewalks and a library	58.9%	54.1%
Children living in neighborhoods with poorly kept or rundown housing	12.7%	16.2%
Children living in neighborhood that's usually or always safe	94.0%	86.6%

The data on children's health and conditions reveal that while North Dakota is doing better than the national averages on a few measures, it is not measuring up to the national averages with respect to:

- Obese or overweight children ages 10-17;
- Children with health insurance;
- Preventive primary care and dentist visits;
- Developmental/behavioral screening for children 10 months to 5 years of age;

- Children ages 2-17 years who have received needed mental healthcare; and
- Children living in smoking households.

Table 4 includes selected county-level measures regarding children's health in North Dakota. The data come from North Dakota KIDS COUNT, a national and state-by-state effort to track the status of children, sponsored by the Annie E. Casey Foundation. KIDS COUNT data focuses on the main components of children's well-being; more information about KIDS COUNT is available at [www.ndkidscount.org](http://www.ndkidscount.org). The measures highlighted in blue in the table are those in which the counties are doing worse than the state average. The year of the most recent data is noted.

The data show that Bottineau County is performing better than the North Dakota average on all of the examined measures except the percentage of uninsured children. The most marked difference was on the measure of 4-year high school cohort graduation rate (almost 9% higher rate in Bottineau County).

**Table 4: Selected County-Level Measures Regarding children's Health**

	<b>Bottineau County</b>	<b>North Dakota</b>
Uninsured children (% of population age 0-18), 2016	10.3%	9.0%
Uninsured children below 200% of poverty (% of population), 2016	38.9%	41.9%
Medicaid recipient (% of population age 0-20), 2017	25.8%	28.3%
Children enrolled in Healthy Steps (% of population age 0-18), 2013	2.1%	2.5%
Supplemental Nutrition Assistance Program (SNAP) recipients (% of population age 0-18), 2017	19.2%	20.1%
Licensed childcare capacity (% of population age 0-13), 2018	52.8%	41.9%
4-Year High School Cohort Graduation Rate, 2017	95.9%	87.0%

Source: <https://datacenter.kidscount.org/data#ND/5/0/char/0>

Another means for obtaining data on the youth population is through the Youth Risk Behavior Survey (YRBS). The YRBS was developed in 1990 by the Centers for Disease Control and Prevention (CDC) to monitor priority health risk behaviors that contribute markedly to the leading causes of death, disability and social problems among youth and adults in the United States. The YRBS was designed to monitor trends, compare state health risk behaviors to national health risk behaviors and intended for use to plan, evaluate and improve school and community programs. North Dakota began participating in the YRBS survey in 1995. Students in grades, 7-8 & 9-12 are surveyed in the spring of odd years. The survey is voluntary and completely anonymous.

North Dakota has two survey groups, selected and voluntary. The selected school survey population is chosen using a scientific sampling procedure which ensures that the results can be generalized to the state's entire student population. The schools that are part of the voluntary sample, selected without scientific sampling procedures, will only be able to obtain information on the risk behavior percentages for their school and not in comparison to all the schools.

Table 5 depicts some of the YRBS data that has been collected in 2013, 2015, and 2017. At this time, the North Dakota-specific data for 2017 is not available, so data for 2013 and 2015 are shown for North Dakota. They are further broken down by rural and urban percentages. The trend column shows a "=" for statistically insignificant change (no change), "↑" for an increased trend in the data changes from 2013 to 2015, and "↓" for a decreased trend in the data changes from 2013 to 2015. The final column shows the 2017 national average percentage. For a more complete listing of the YRBS data, see Appendix C.



**TABLE 5: Youth Behavioral Risk Survey Results**

North Dakota High School Survey

Sources: <https://www.nd.gov/dpi/uploads/1298/2015NDHStatewideYRBSReport20151110FINAL2NoCover.pdf>;<https://www.nd.gov/dpi/uploads/1298/2015NDHTrendReportUpdated42016.pdf>; <https://www.cdc.gov/healthyyouth/data/yrbs/results.htm>

	ND 2013	ND 2015*	ND Trend ↑, ↓, =	Rural ND Town Average	Urban ND Town Average	National Average 2017
<b>Injury and Violence</b>						
% of students who rarely or never wore a seat belt.	11.6	8.5	↓	10.5	7.5	5.9
% of students who rode in a vehicle with a driver who had been drinking alcohol (one or more times during the 30 prior to the survey)	21.9	17.7	↓	21.1	15.2	16.5
% of students who talked on a cell phone while driving (on at least 1 day during the 30 days before the survey)	67.9	61.4	↓	60.7	58.8	NA
% of students who texted or e-mailed while driving a car or other vehicle (on at least 1 day during the 30 days before the survey)	59.3	57.6	=	56.7	54.4	39.2
% of students who were in a physical fight on school property (one or more times during the 12 months before the survey)	8.8	5.4	↓	6.9	6.1	8.5
% of students who were ever physically forced to have sexual intercourse (when they did not want to)	7.7	6.3	=	6.5	7.4	7.4
% of students who were bullied on school property (during the 12 months before the survey)	25.4	24.0	=	27.5	22.4	19.0
% of students who were electronically bullied (includes e-mail, chat rooms, instant messaging, websites, or texting during the 12 months before the survey)	17.1	15.9	=	17.7	15.8	14.9
% of students who made a plan about how they would attempt suicide (during the 12 months before the survey)	13.5	13.5	=	12.8	13.7	13.6
<b>Tobacco, Alcohol, and Other Drug Use</b>						
% of students who currently use an electronic vapor product (e-cigarettes, vape e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens at least 1 day during the 30 days before the survey)	NA	22.3	↑	19.7	22.8	13.2
% of students who currently used cigarettes, cigars, or smokeless tobacco (on at least 1 day during the 30 days before the survey)	27.5	20.9	↓	22.9	19.8	14.0
% of students who drank five or more drinks of alcohol in a row (within a couple of hours on at least 1 day during the 30 days before the survey)	21.9	17.6	↓	19.8	17.0	13.5
% of students who currently used marijuana (one or more times during the 30 days before the survey)	15.9	15.2	=	13.2	17.1	19.8
% of students who ever took prescription drugs without a doctor's prescription (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax, one or more times during their life)	17.6	14.5	↓	13.2	16.0	14.0

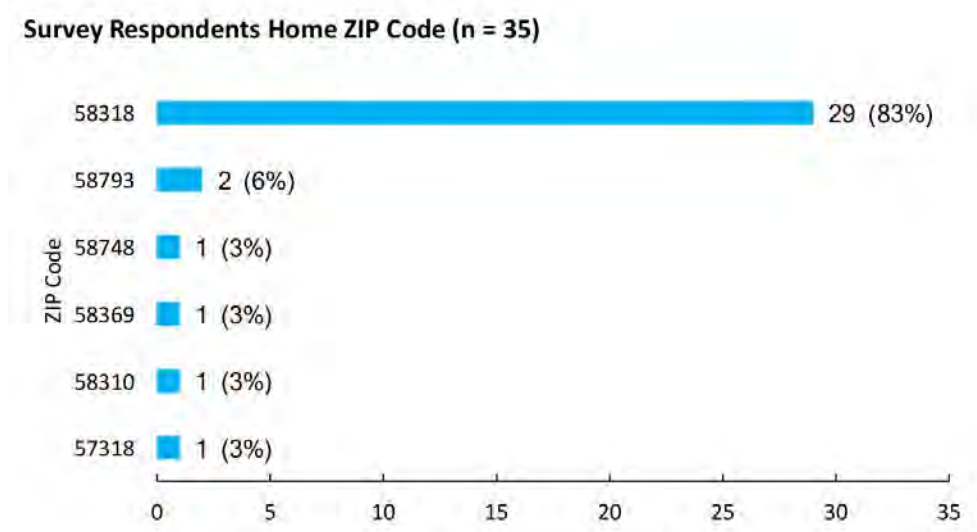
<b>Weight Management, Dietary Behaviors, and Physical Activity</b>						
% of students who were overweight ( $\geq$ 85th percentile but $<95^{\text{th}}$ percentile for body mass index)	15.1	14.7	=	15.4	14.6	15.6
% of students who were obese ( $\geq$ 95th percentile for body mass index)	13.5	14.0	=	16.3	12.9	14.8
% of students who did not eat fruit or drink 100% fruit juices (during the 7 days before the survey)	3.4	3.9	=	4.3	4.1	5.6
% of students who did not eat vegetables (green salad, potatoes [excluding French fries, fried potatoes, or potato chips], carrots, or other vegetables, during the 7 days before the survey)	6.0	4.7	=	4.5	5.2	7.2
% of students who drank a can, bottle, or glass of soda or pop one or more times per day (not including diet soda or diet pop, during the 7 days before the survey)	23.4	18.7	=	21.4	18.0	18.7
% of students who did not drink milk (during the 7 days before the survey)	11.1	13.9	↑	11.6	13.7	26.7
% of students who did not eat breakfast (during the 7 days before the survey)	10.5	11.9	=	10.7	11.8	14.1
% of students who most of the time or always went hungry because there was not enough food in their home (during the 30 days before the survey)	3.1	2.2	=	2.4	2.8	NA
% of students who were physically active at least 60 minutes per day on 5 or more days (doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time during the 7 days before the survey)	50.6	51.3	=	51.7	50.1	46.5
% of students who watched television 3 or more hours per day (on an average school day)	21.0	18.9	=	20.7	18.2	20.7
% of students who played video or computer games or used a computer 3 or more hours per day (for something that was not school work on an average school day)	34.4	38.6	↑	39.4	38.0	43.0
<b>Other</b>						
% of students who ever had sexual intercourse	44.9	38.9	↓	39.3	39.1	39.5
% of students who had 8 or more hours of sleep (on an average school night)	30.0	29.5	=	34.5	28.7	25.4
% of students who brushed their teeth on seven days (during the 7 days before the survey)	71.5	71.0	=	67.8	70.1	NA

# Survey Results

As noted previously, 45 community members completed the survey in communities throughout the SAHC service area. The survey requested that respondents list their home zip code. While not all respondents provided a zip code, 35 did, revealing that the large majority of respondents (83%, N=29) lived in Bottineau. These results are shown in Figure 5. For all questions that contained an “Other” response, all of those direct responses may be found in Appendix D. In some cases, a summary of those comments is additionally included in the report narrative.

**Figure 5: Survey Respondents’ Home Zip Code**

**Total respondents: 35**



Survey results are reported in six categories: demographics; healthcare access; community assets, challenges; community concerns; delivery of healthcare; and other concerns or suggestions to improve health.

## Survey Demographics

To better understand the perspectives being offered by survey respondents, survey-takers were asked a few demographic questions. Throughout this report, numbers (N) instead of just percentages (%) are reported because percentages can be misleading with smaller numbers. Survey respondents were not required to answer all questions.

With respect to demographics of those who chose to complete the survey:

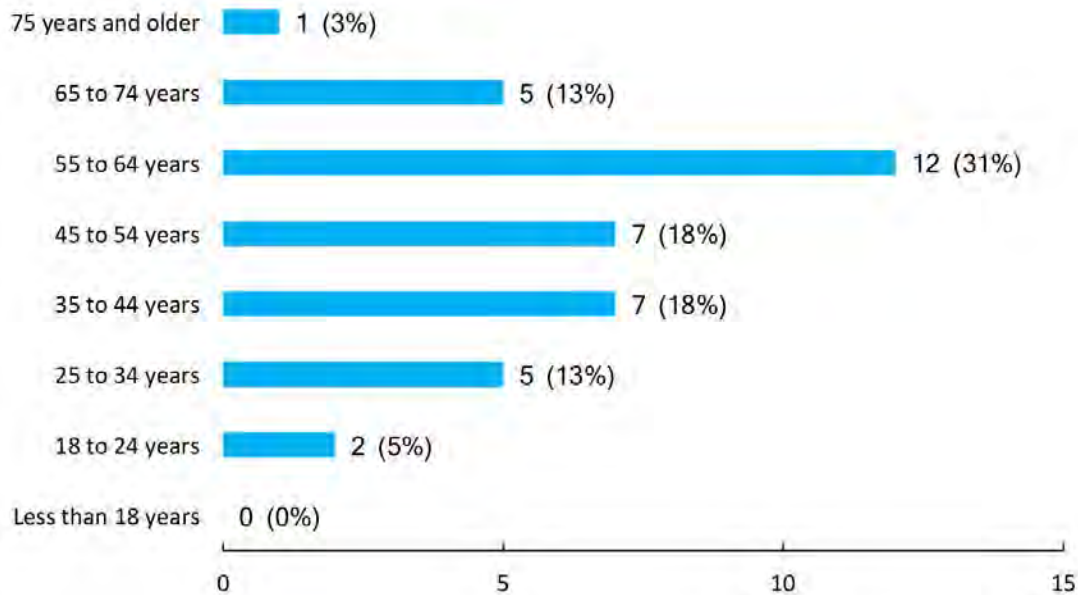
- 47% (N=18) were age 55 or older.
- The majority (82%, N=32) were female.
- Slightly less than half of the respondents (45%, N=17) had bachelor’s degrees or higher.
- The number of those working full time (77%, N=30) was just over five times higher than those who were retired (15%, N=6).
- 100% (N=39) of those who reported their ethnicity / race were white / Caucasian.
- 24% of the population (N=9) had household incomes of less than \$50,000.

Figures 6 through 12 show these demographic characteristics. It illustrates the range of community members’ household incomes and indicates how this assessment took into account input from parties who represent the varied interests of the community served, including a balance of age ranges, those in diverse work situations, and community members with lower incomes.



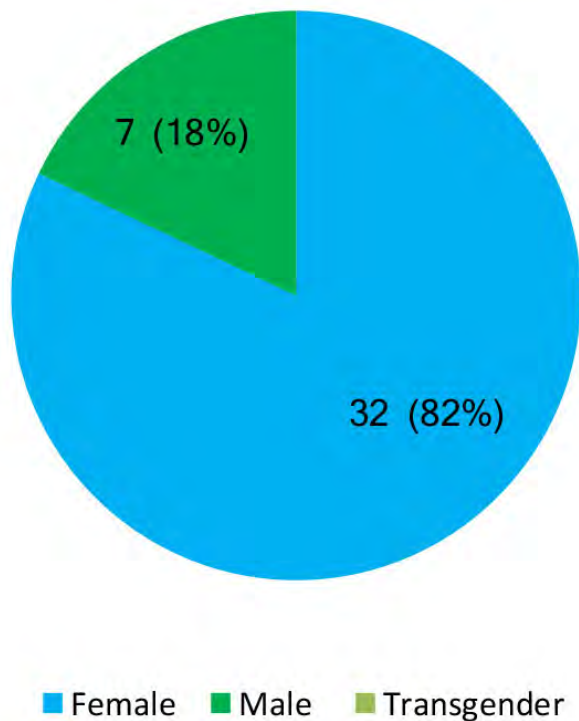
**Figure 6: Age Demographics of Survey Respondents**

**Total respondents = 39**



**Figure 7: Gender Demographics of Survey Respondents**

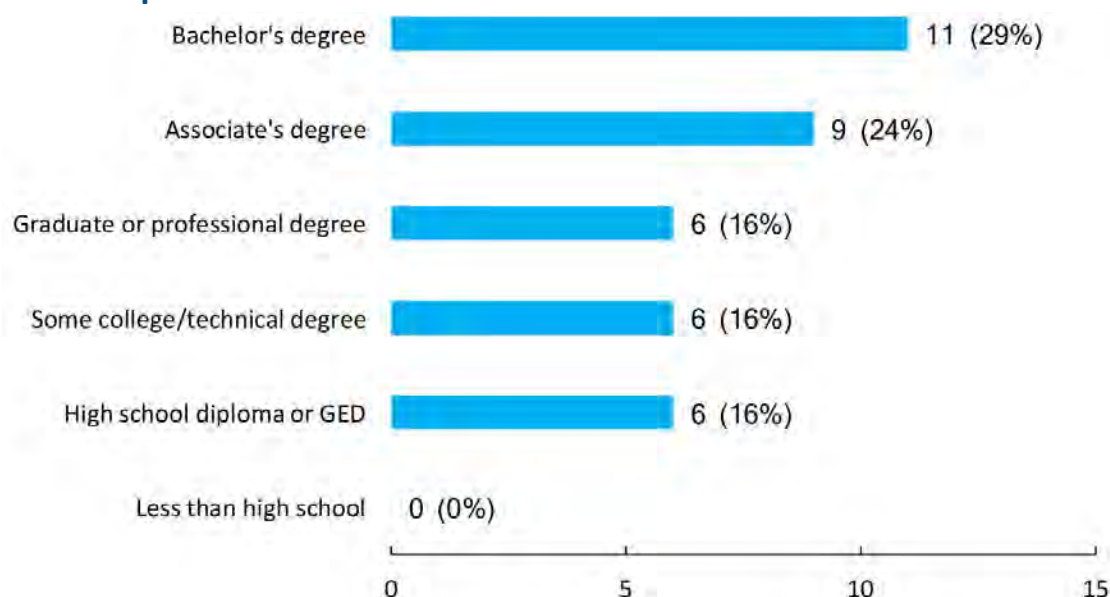
**Total respondents = 39**





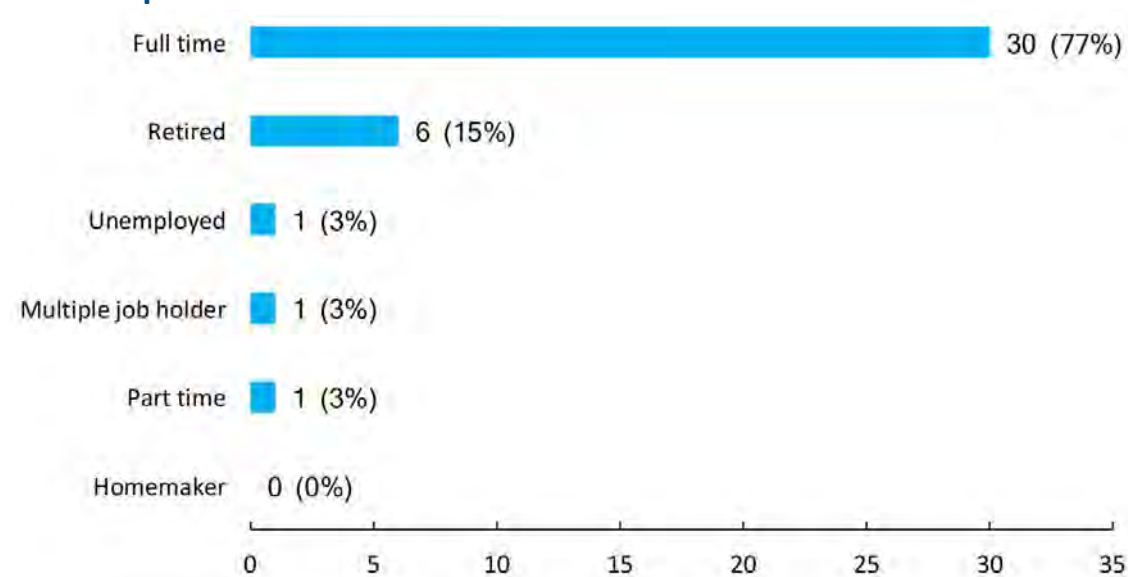
**Figure 8: Educational Level Demographics of Survey Respondents**

**Total respondents = 38**



**Figure 9: Employment Status Demographics of Survey Respondents**

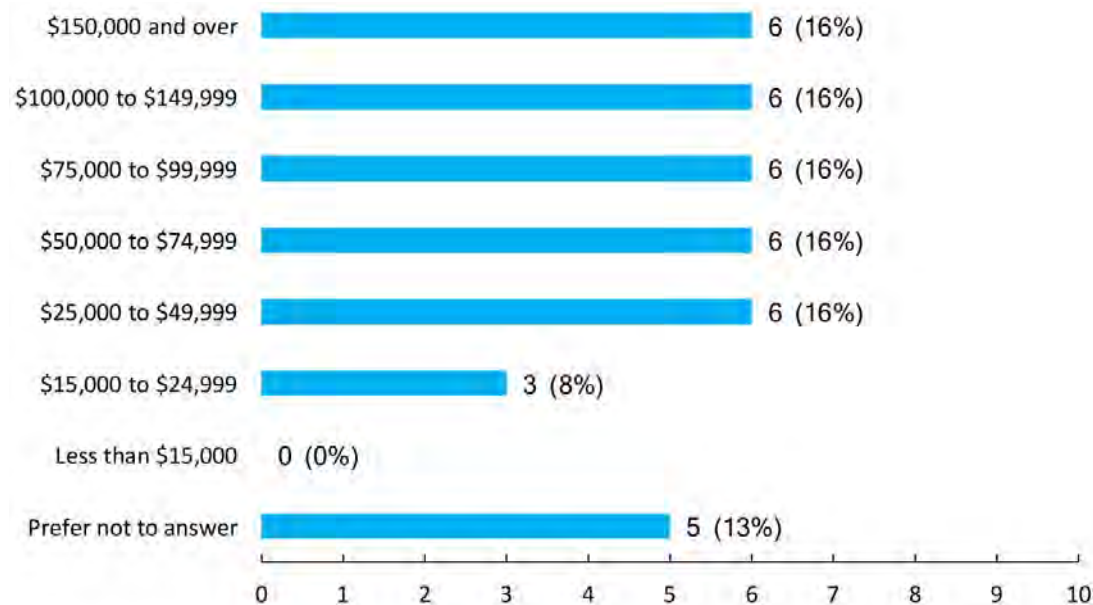
**Total respondents = 39**



Of those who provided a household income, 8% (N=3) community members reported a household income of less than \$25,000. 32% (N=12) indicated a household income of \$100,000 or more. This information is show in Figure 10.

**Figure 10: Household Income Demographics of Survey Respondents**

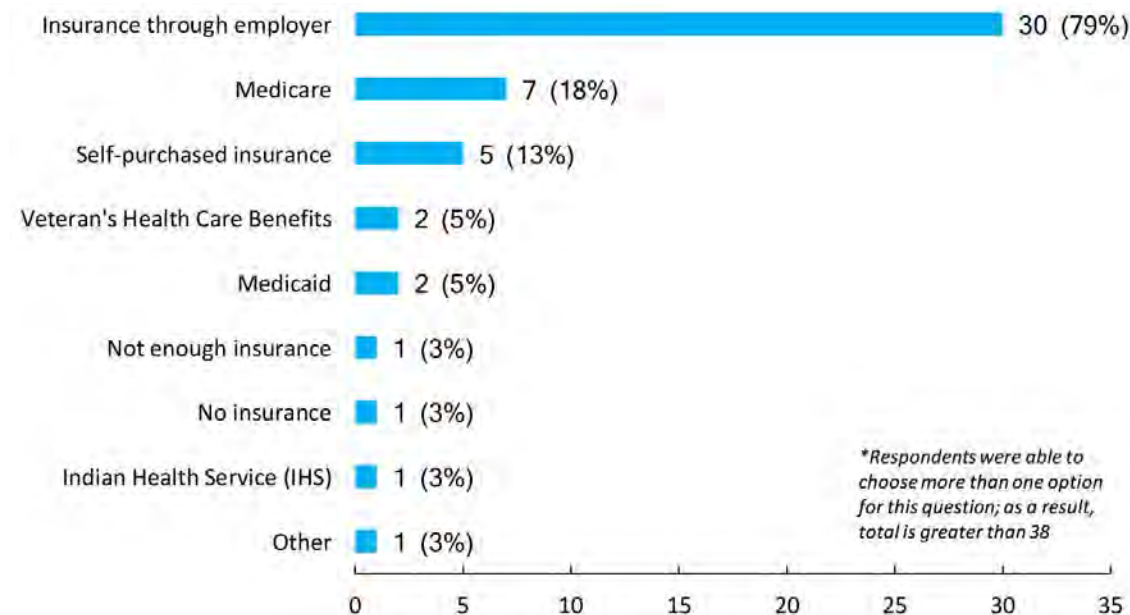
**Total respondents = 38**



Community members were asked about their health insurance status, which is often associated with whether people have access to healthcare. Six percent (N=2) of the respondents reported having no health insurance or being under-insured. The most common insurance types were insurance through one's employer (N=30), Medicare (N=7) and self-purchased insurance (N=5).

**Figure 11: Health Insurance Coverage Status of Survey Respondents**

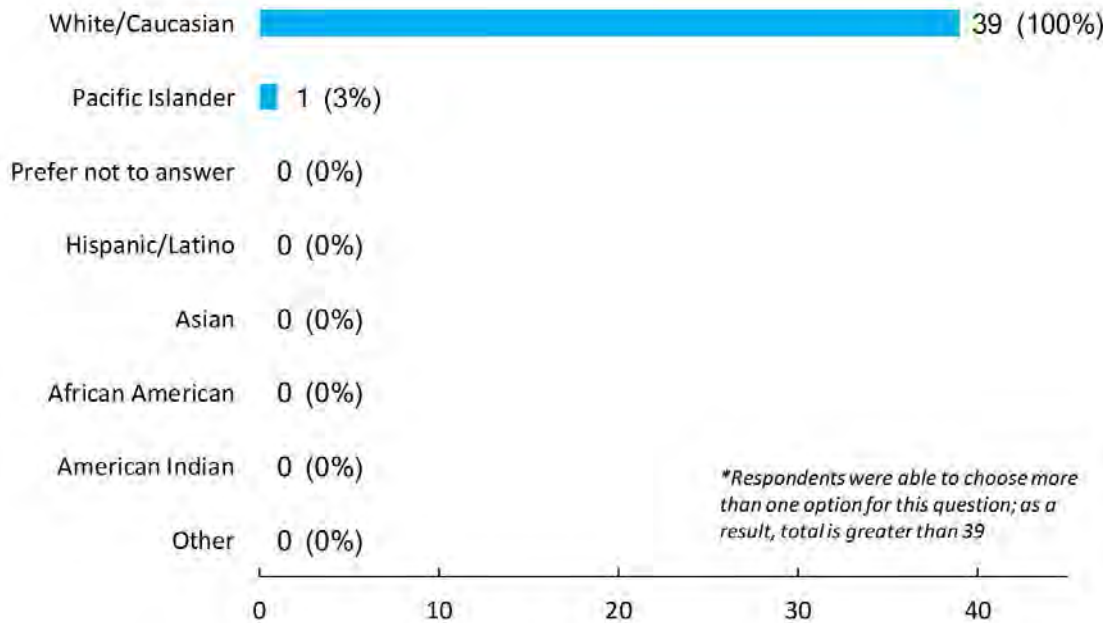
**Total responses = 50**



As shown in Figure 12, all of the respondents were white /Caucasian (100%), although one respondent also marked Pacific Islander. This was higher than the race /ethnicity of the overall population of Bottineau County, with the US Census indicating that 93.1% of the population is white.

**Figure 12: Race/Ethnicity Demographics of Survey Respondents**

**Total respondents = 40**



## Community Assets and Challenges

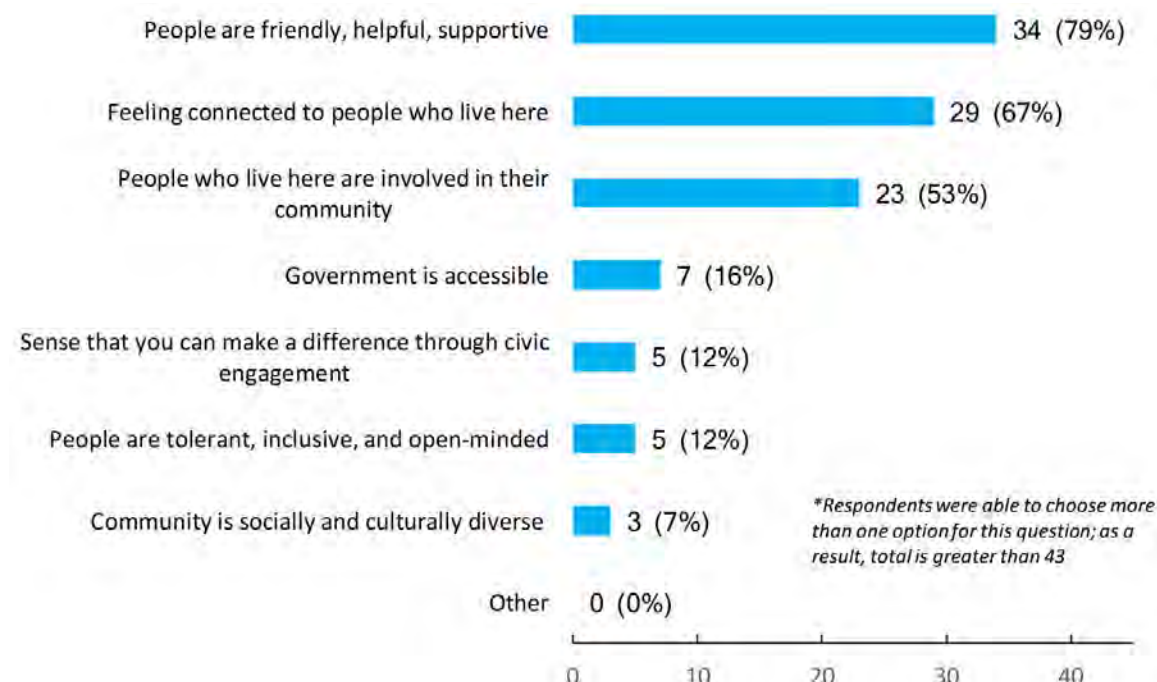
Survey-respondents were asked what they perceived as the best things about their community in four categories: people, services and resources, quality of life, and activities. In each category, respondents were given a list of choices and asked to pick the three best things. Respondents occasionally chose less than three or more than three choices within each category. If more than three choices were selected, their responses were not included. The results indicate there is consensus (with at least 25 respondents agreeing) that community assets include:

- Safe place to live, little/no crime (N=38);
- Family-friendly (N=34);
- People are friendly, helpful, supportive (N=34);
- Feeling connected to the people who live here (N=29)
- Local events and festivals (N=27);
- Active faith community (N=26); and
- Recreational and sports activities (N=26).

Figures 13 to 16 illustrate the results of these questions.

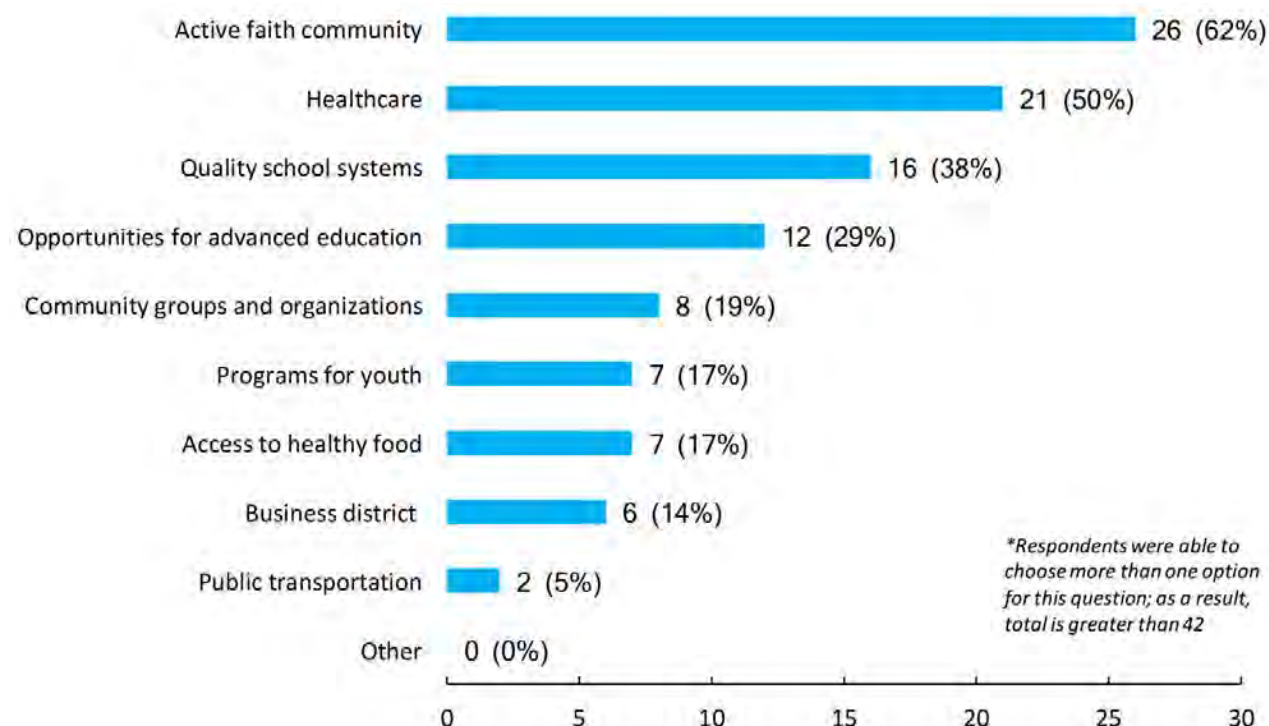
**Figure 13: Best Things about the PEOPLE in Your Community**

**Total responses = 106**



**Figure 14: Best Things about the SERVICES AND RESOURCES in Your Community**

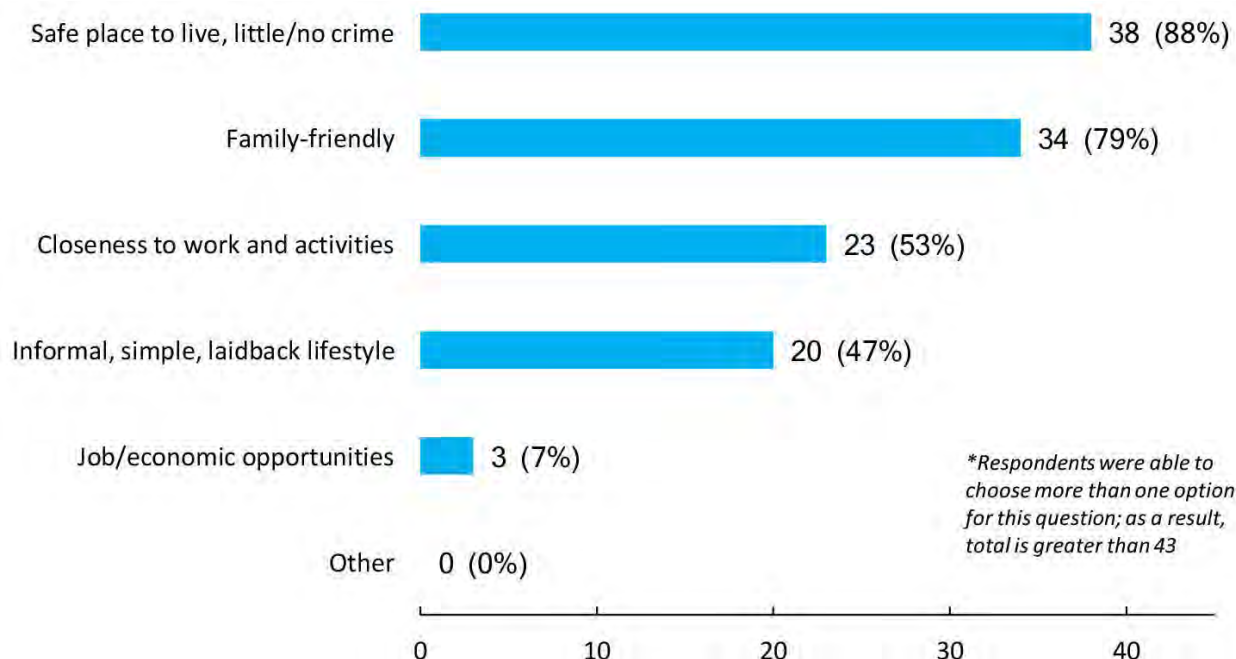
**Total responses = 105**





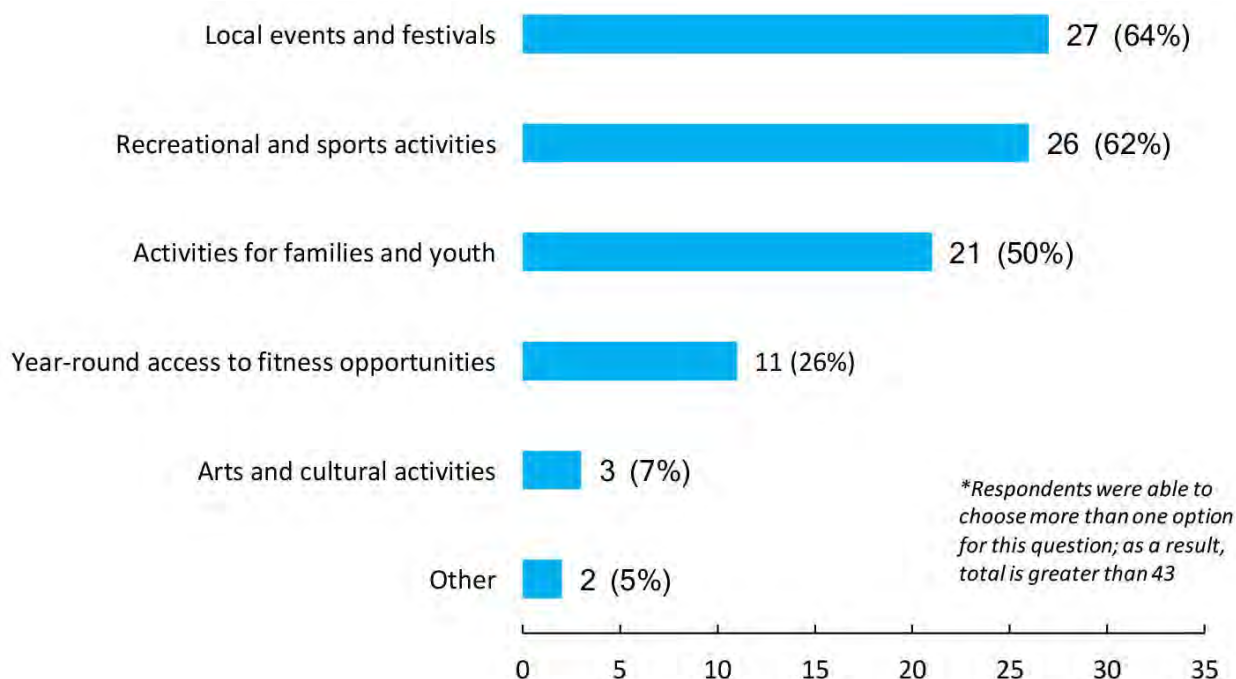
**Figure 15: Best Things about the QUALITY OF LIFE in Your Community**

**Total responses = 118**



**Figure 16: Best Thing about the ACTIVITIES in Your Community**

**Total responses = 90**



One of the “Other” responses indicated that volunteer opportunities are some of the best activities in the community.

## Community Concerns

At the heart of this community health assessment was a section on the survey asking survey respondents to review a wide array of potential community and health concerns in six categories and pick their top three concerns. The six categories of potential concerns were:

- Community / environmental health;
- Availability / delivery of health services;
- Youth population;
- Adult population;
- Senior population; and
- Violence.

With regard to responses about community challenges, the most highly voiced concerns (those having at least 15 respondents) were:

- Bullying / cyber-bullying (N=27)
- Assisted living options (N=19)
- Cost of long-term / nursing home care (N=19)
- Smoking and tobacco use, exposure to second-hand smoke, or vaping / juuling – youth (N=19)
- Alcohol use and abuse – youth (N=18)
- Attracting and retaining young families (N=18)
- Drug use and abuse – youth (N=18)
- Alcohol use and abuse – adults (N=17)
- Availability of home health (N=17)
- Depression / anxiety – adults (N=16)
- Not enough jobs with livable wages, not enough to live on (N=16)
- Child abuse or neglect (N=15)

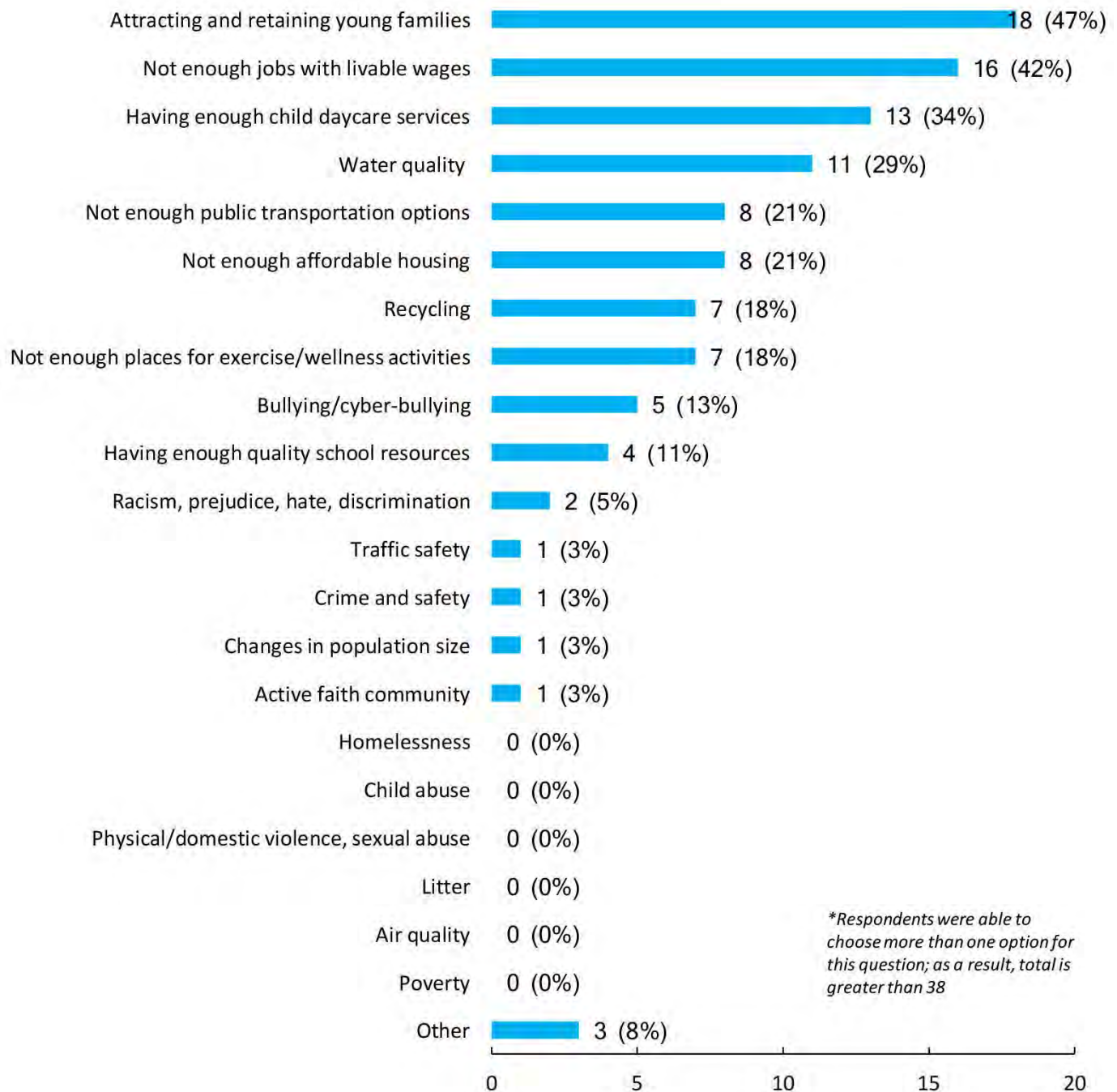
The other issues that had at least 10 votes included:

- Depression / anxiety – youth (N=14)
- Availability of resources to help the elderly stay in their homes (N=13)
- Cancer – adults (N=13)
- Having enough child daycare services (N=13)
- Not getting enough exercise / physical activity – adults (N=13)
- Availability of specialists (N=12)
- Availability of transportation for seniors (N=11)
- Water quality (well water, lakes, streams, rivers) (N=11)
- Ability to retain primary care providers (MD, DO, NP, PA) and nurses in the community (N=10)
- Obesity / overweight – adults (N=10)

Figures 17 through 22 illustrate these results

**Figure 17: Community/Environmental Health Concerns**

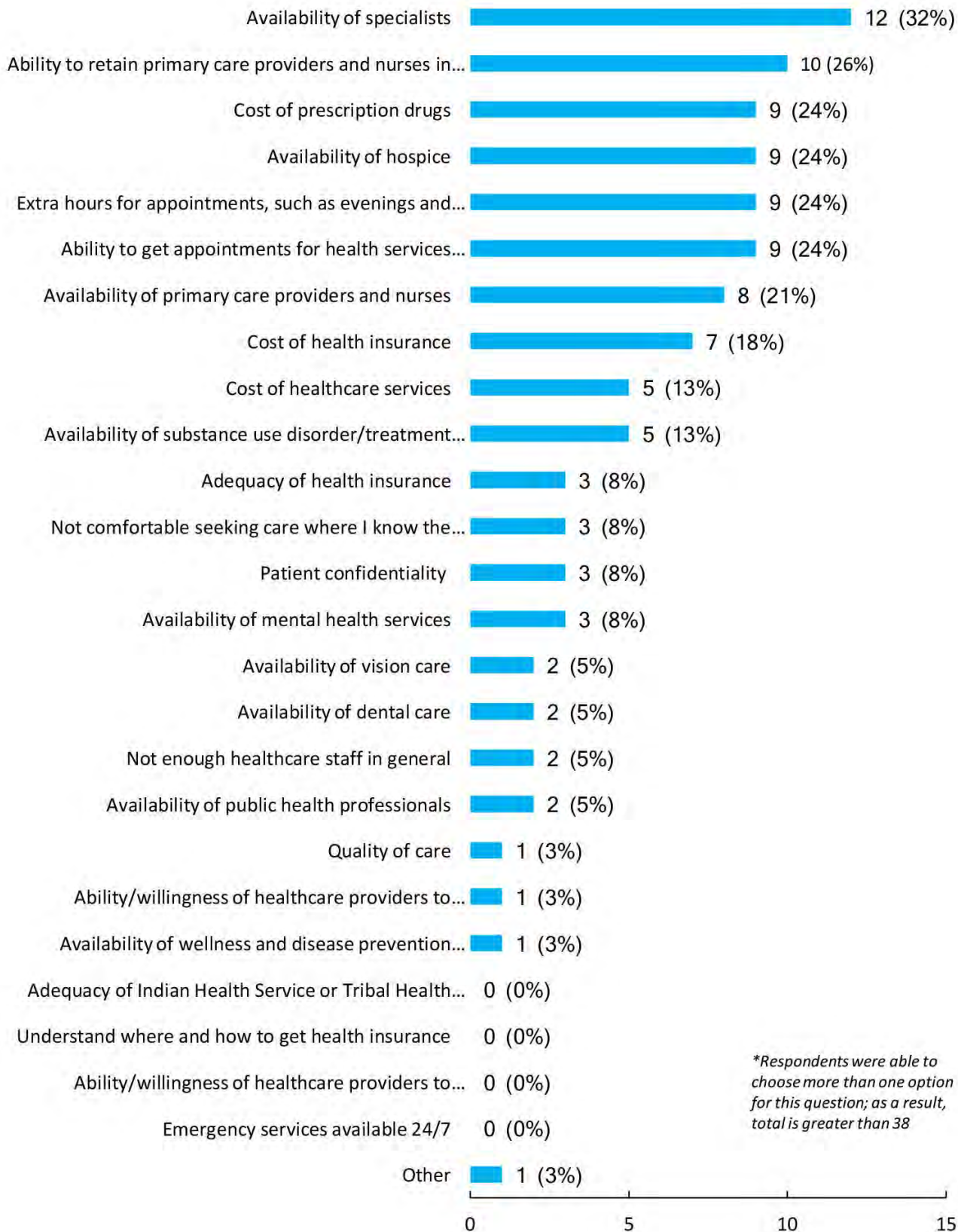
**Total responses = 106**



In the “Other” category for community and environmental health concerns, the following were listed: Ice arena conditions, not enough access to specialized healthcare, and substance issues.

**Figure 18: Availability/Delivery of Health Services Concerns**

**Total responses = 107**

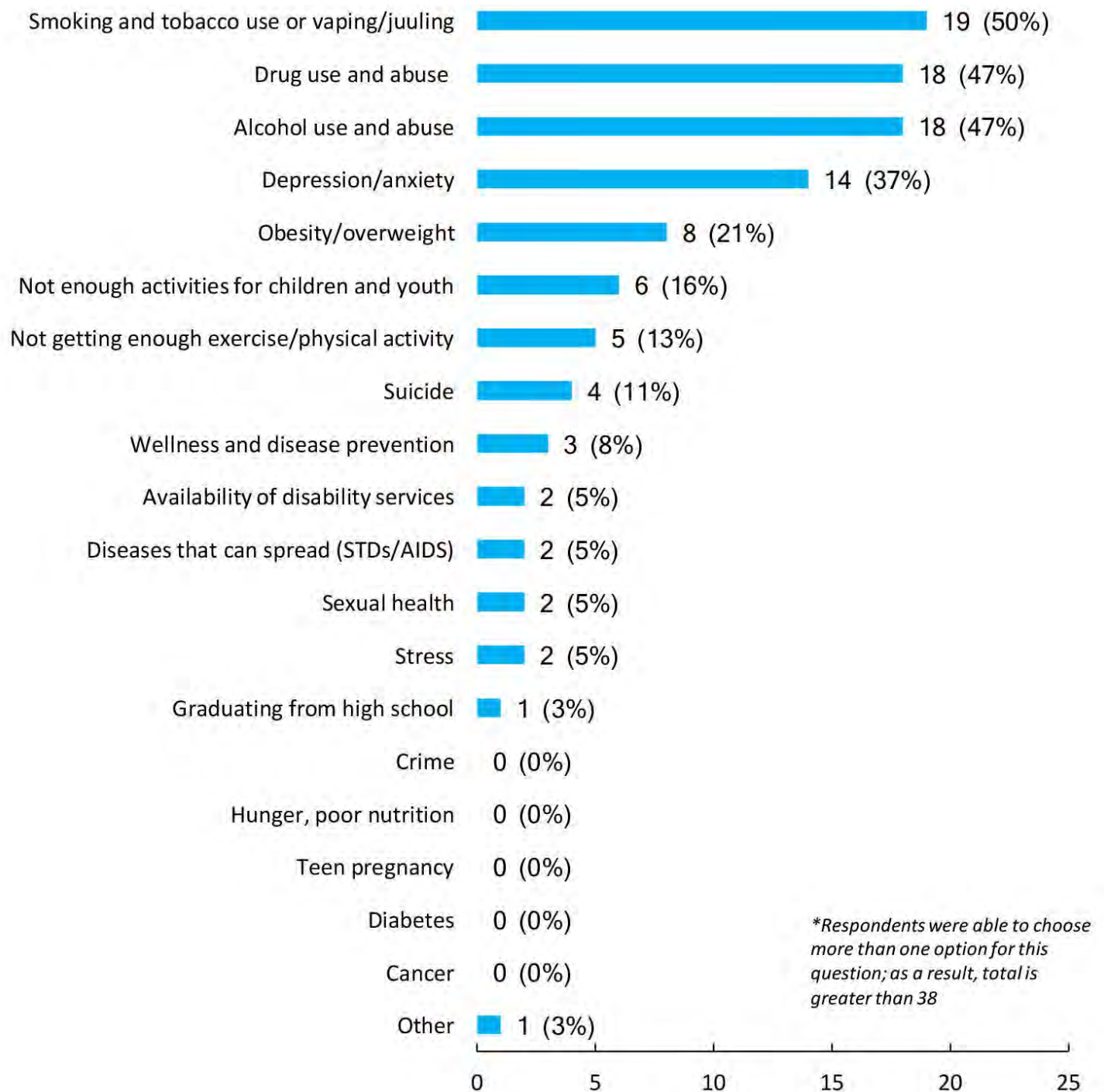


The only “Other” response for this category stated availability of vision care that accepts insurance.



**Figure 19: Youth Population Health Concerns**

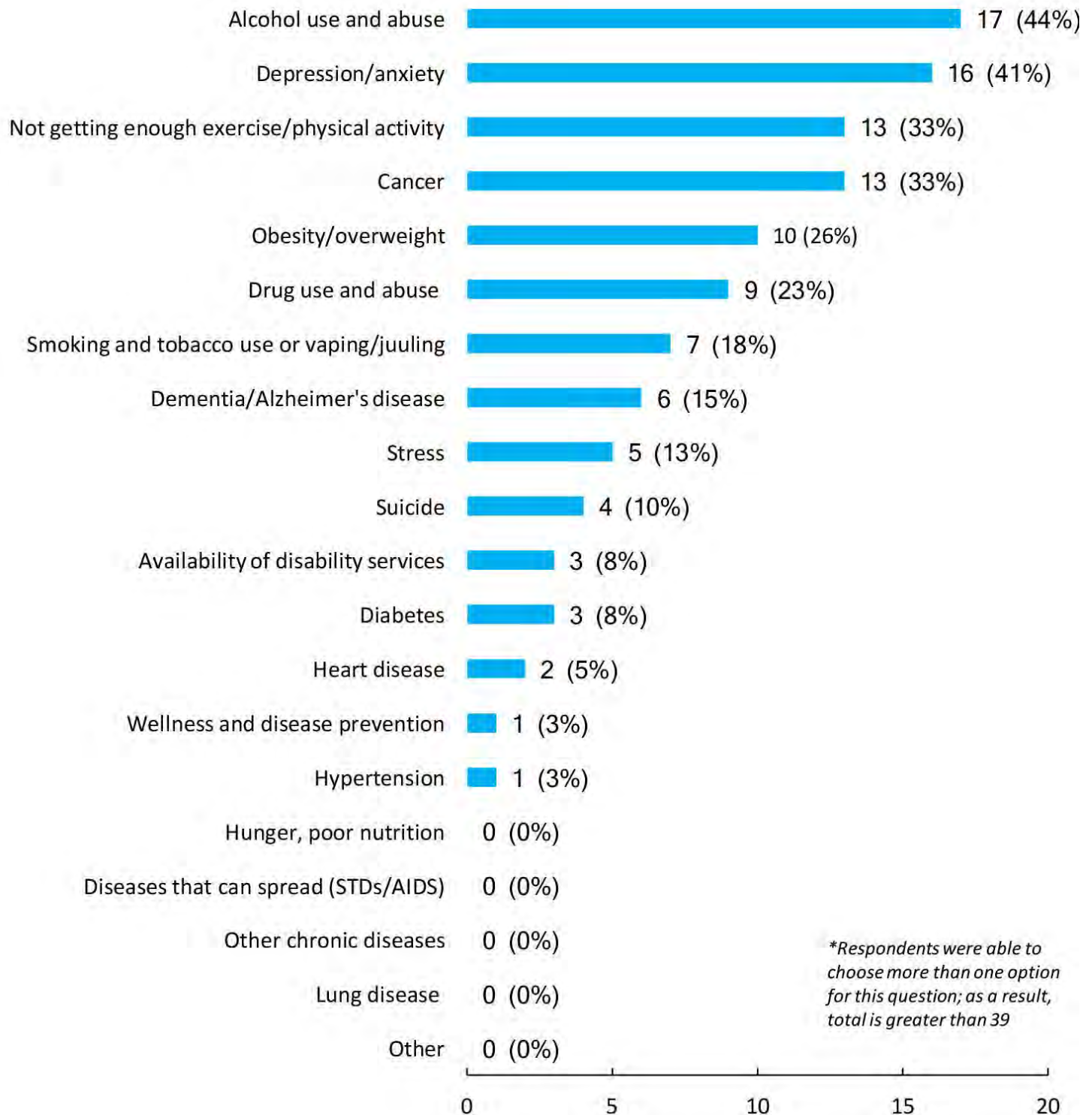
**Total responses = 105**



There was only one “Other” response for concerns about the youth population, which requested more indoor activity options for children.

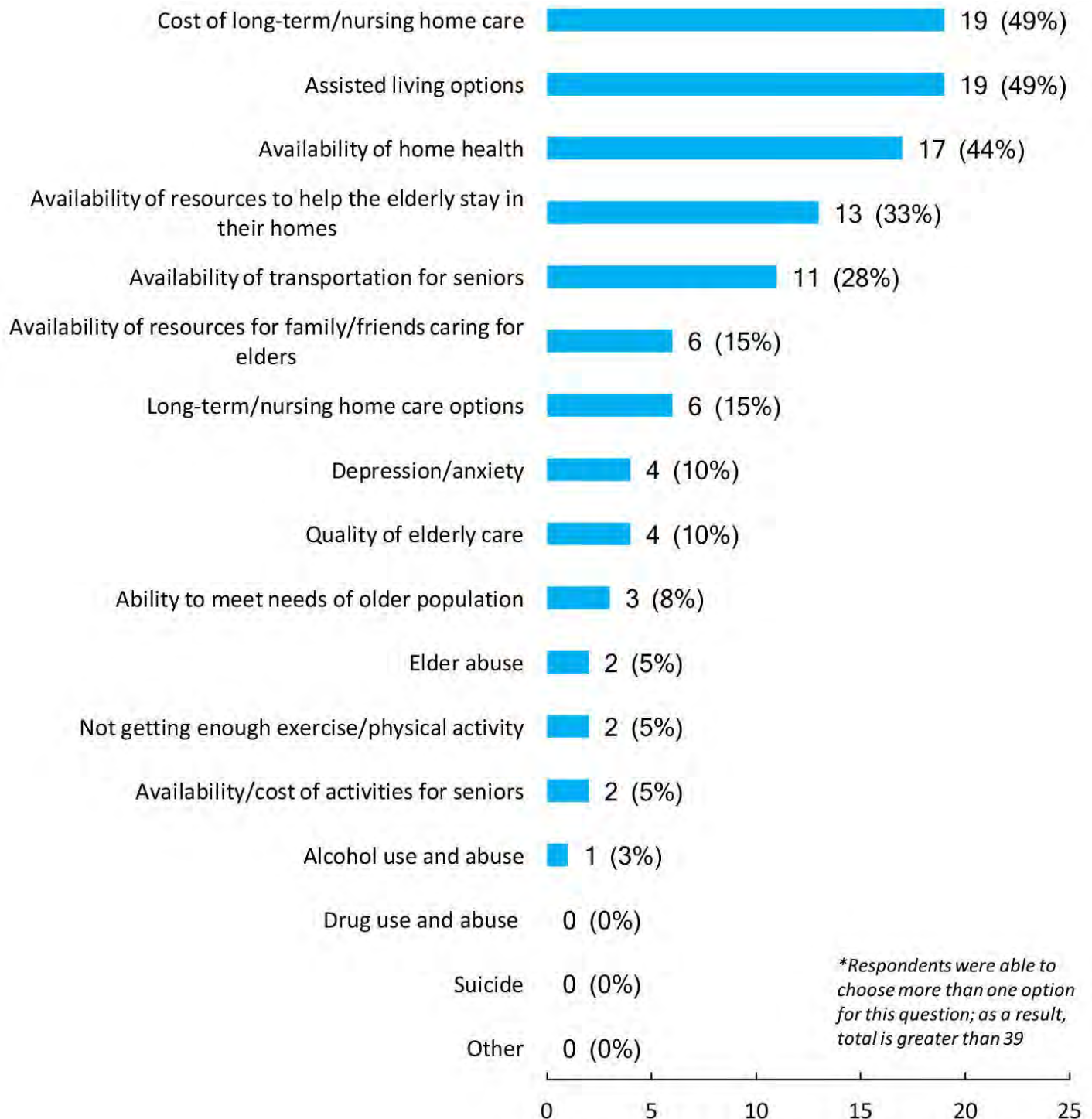
**Figure 20: Adult Population Concerns**

**Total responses = 110**



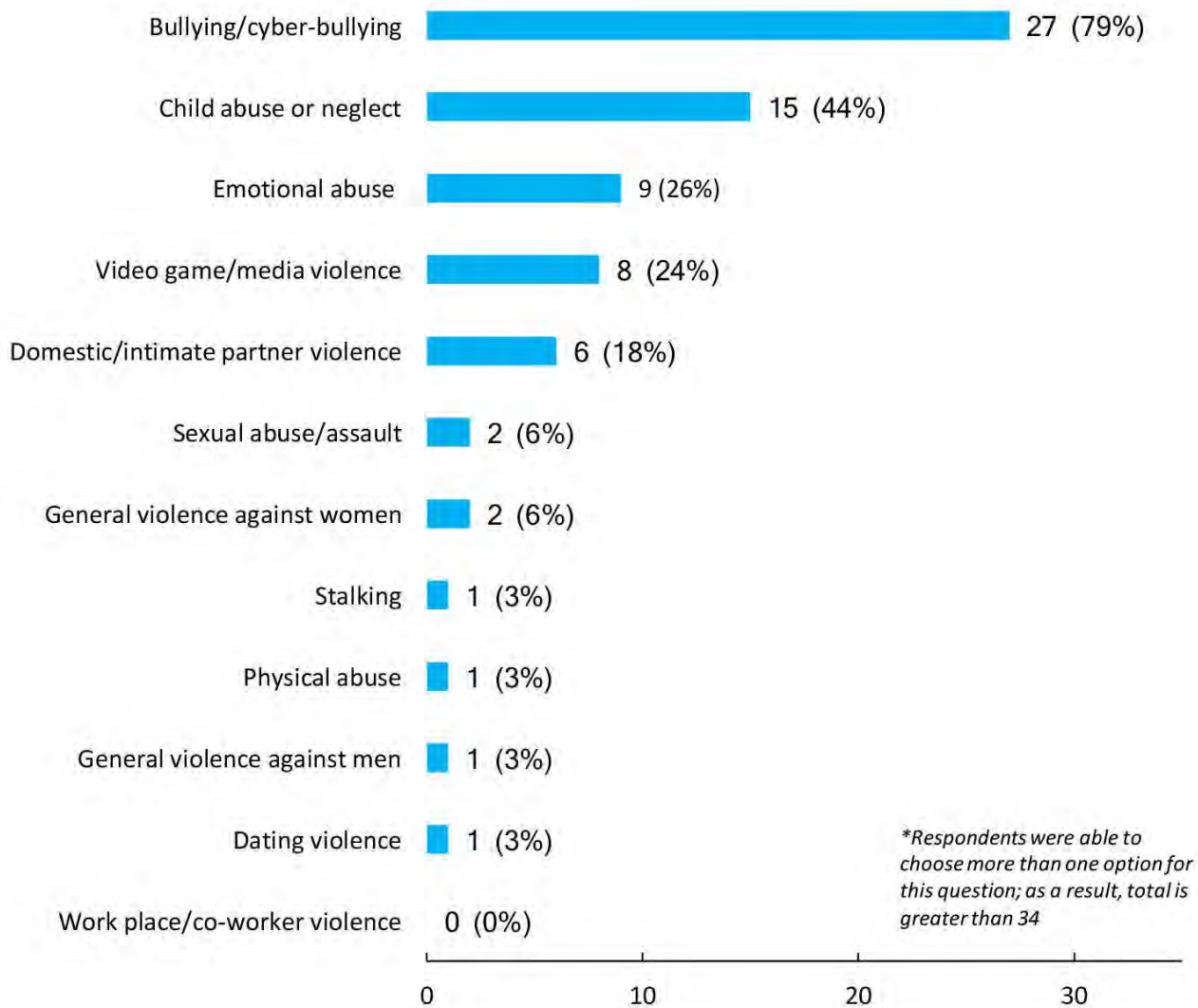
**Figure 21: Senior Population Concerns**

**Total responses = 109**



## Figure 22: Violence Concerns

Total responses = 73



In an open-ended question, respondents were asked what single issue they feel is the biggest challenge facing their community. Two categories emerged above all others as the top concerns:

1. Cost of healthcare
2. Recruiting healthcare professionals

Other biggest challenges identified were having an aging population in need of assisted living facilities, a growing substance abuse issue with young adults, a need for hospice services, not having enough child daycare facilities, a lack of professional jobs to attract young families, drinking, smoking and/or vaping among teenagers, and the lack of a wellness center.

## Delivery of Healthcare

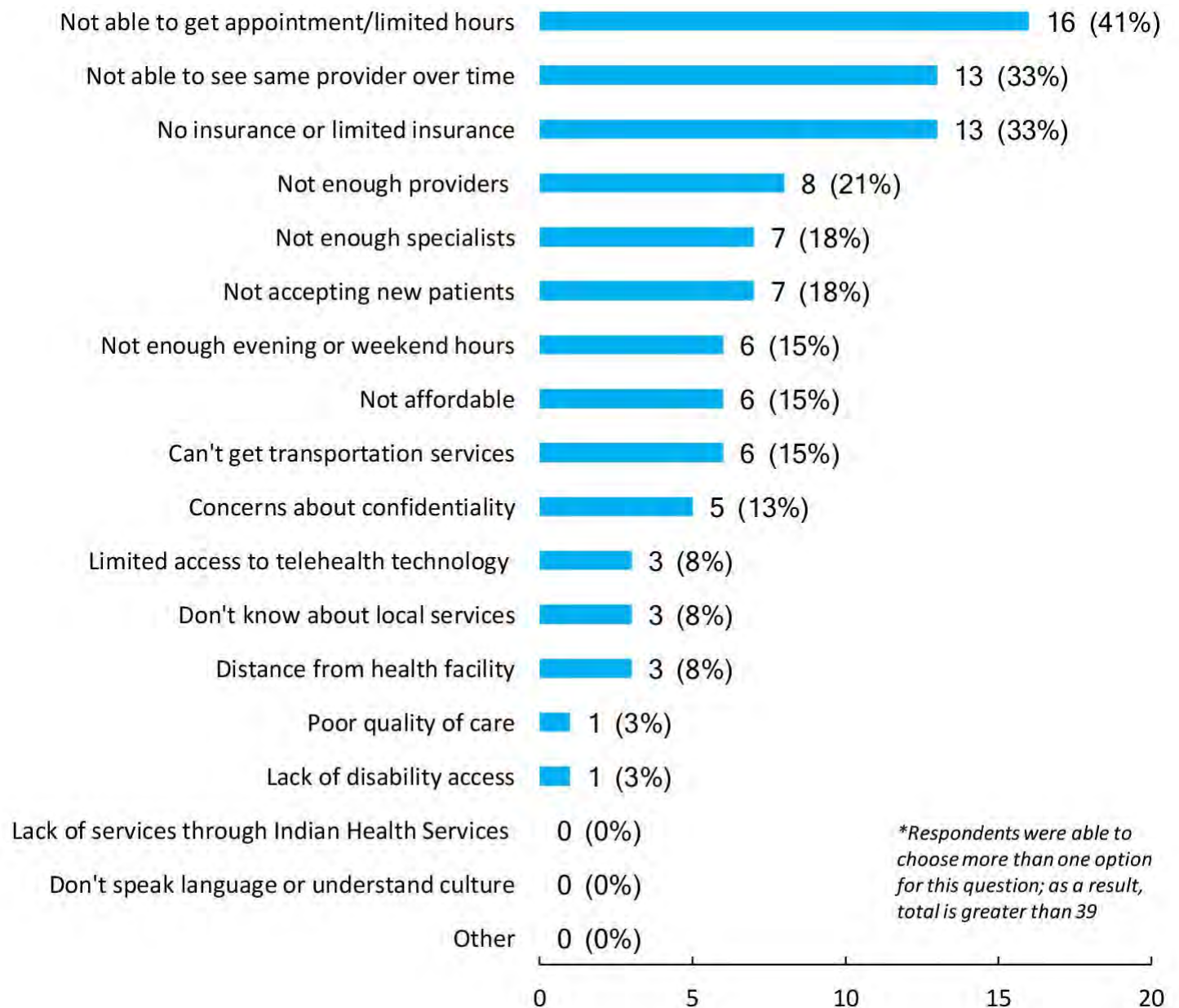
The survey asked residents what they see as barriers that prevent them, or other community residents, from receiving healthcare. The most prevalent barrier perceived by residents was the inability to get appointments or having limited hours (N=16) with the next highest being not able to see the same provider over time (N=13) and having limited or no insurance (N=13). After these, the next most commonly identified barriers were not enough providers (N=8), not enough specialists (N=7) and not accepting new patients (N=7).

Figure 23 illustrates these results.



**Figure 23: Perceptions about Barriers to Care**

**Total responses = 321**



Respondents were asked where they go to for trusted health information. Primary care providers (N=32) received the highest response rate, followed by other healthcare professionals (N=23), and then web / Internet searches (N=22).

Results are shown in Figure 24.

**Figure 24: Sources of Trusted Health Information**

**Total responses = 87**

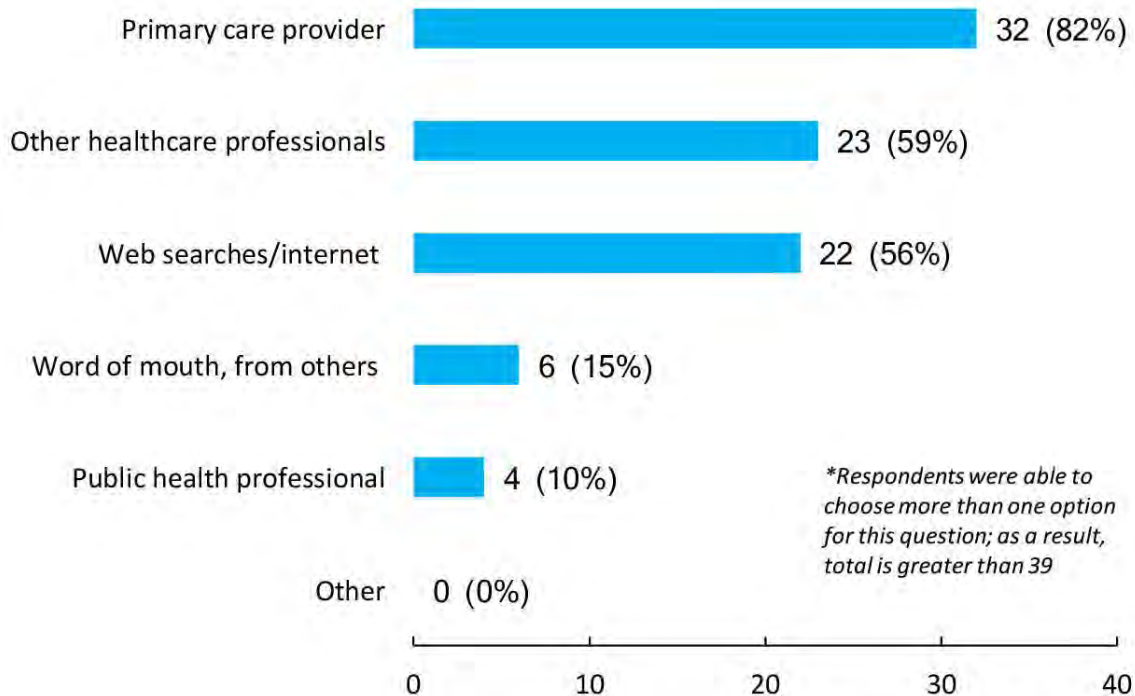
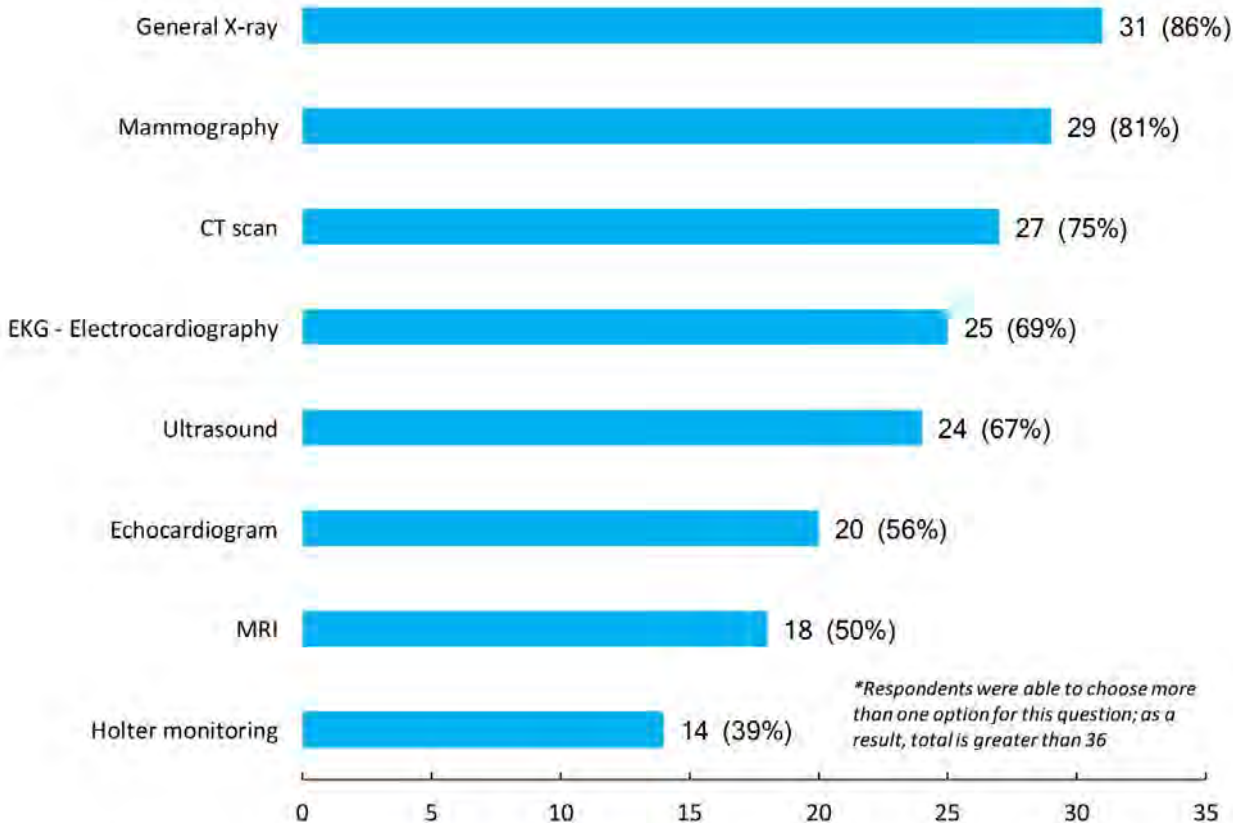


Figure 25 shows the results of respondents being asked of their awareness and/or utilization of radiology services offered at SACH.

**Figure 25: Awareness/Utilization of Radiology Services**

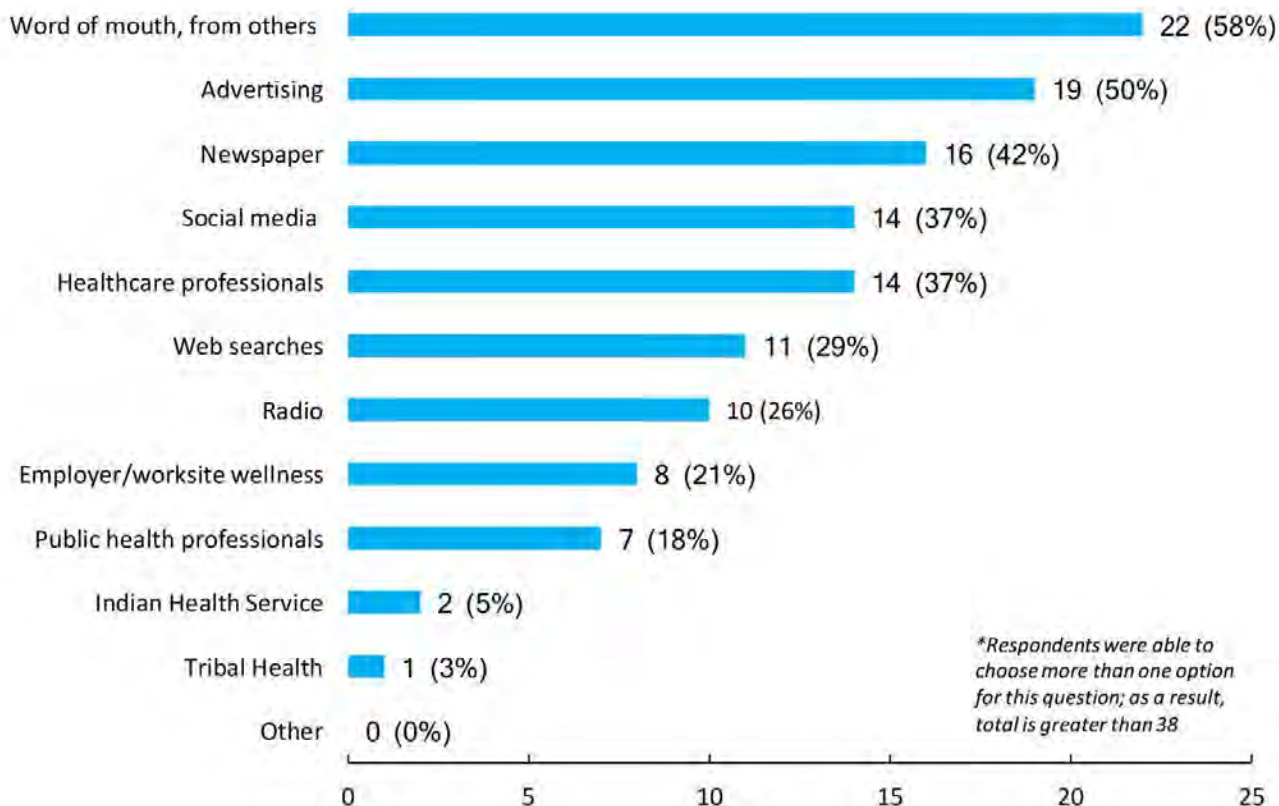
**Total responses = 188**



In order to gauge the most effective channels for disseminating information about services offered by SAHC, respondents were asked where they find out about local health services available in their area (Figure 26).

**Figure 26: Sources for Information on Availability of Health Services**

**Total responses = 124**



In an open-ended question, respondents were asked what specific healthcare services, if any, they thing should be added locally. The number one desired service to add locally was pediatric services.

- Assisted living
- Cardiology
- Ear, Nose, Throat (ENT) services
- Hospice
- Mental health
- More clinic appointments
- Orthodontics
- Walk-in labs

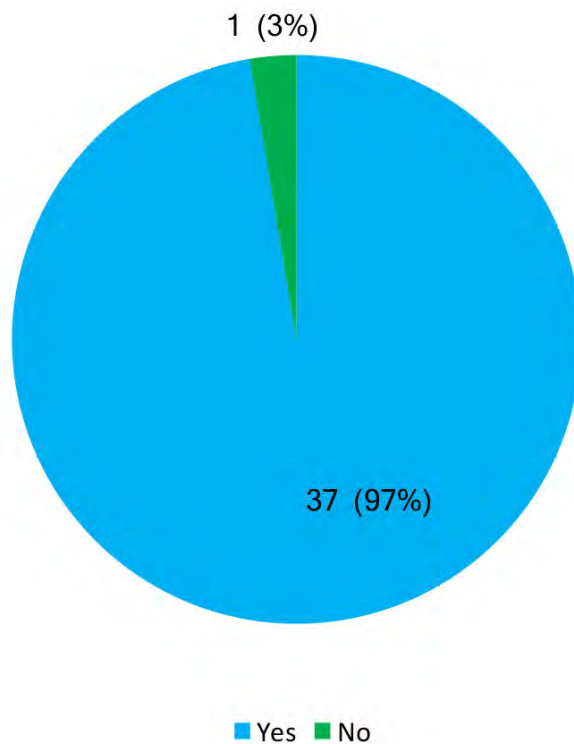
While not a service, one respondent indicated a need for more family physicians, stating that patients want a doctor—not a NP or PA—that they can establish care with.

The key informant and focus group members felt that St. Andrew’s does a satisfactory job of promoting their services, but suggested educating the community on checking with SAHC for availability of services instead of going directly to a larger community, as what individuals need is likely offered locally.

For Figures 27 and 28, respondents were asked if they were aware of and/or have supported SAHC’s foundation in certain ways. Some of the “Other” responses for ways respondents have supported SAHC’s foundation included having attended events, donating to auction events, and supported fundraising events.

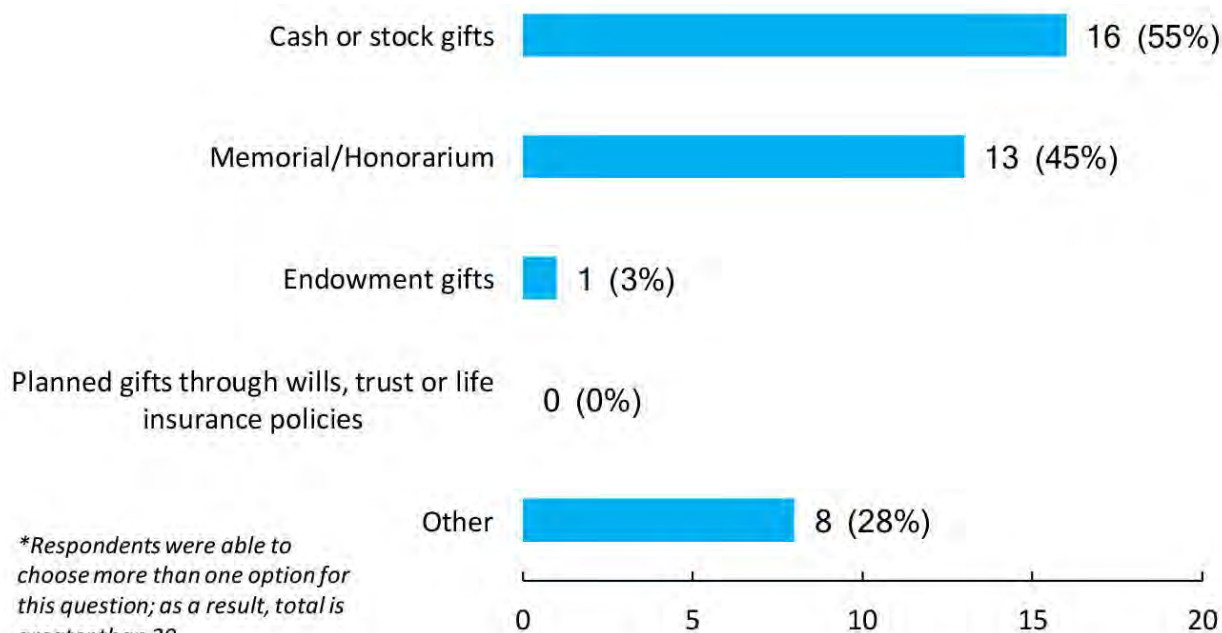
**Figure 27: Awareness of SAHC's Foundation**

Total responses = 38



**Figure 28: Methods of Contributions to the Foundation**

Total responses = 38

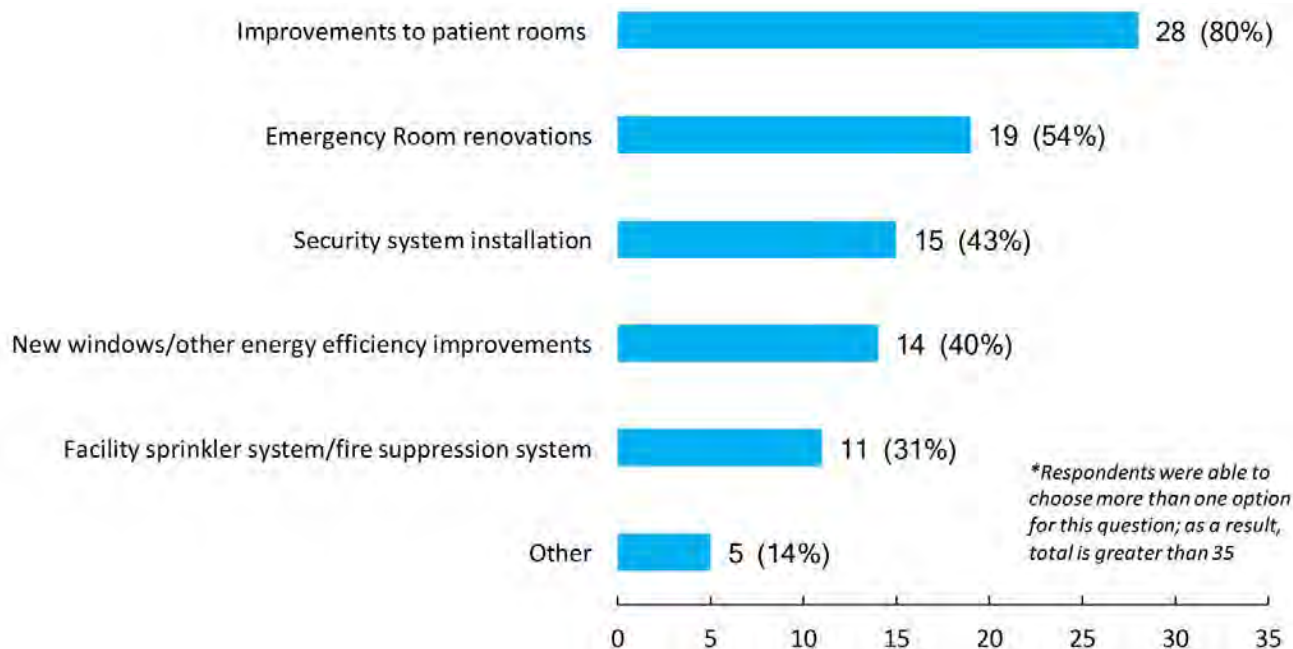


In an effort to gauge community backing for facility improvements, a question was asked to indicate which capital improvements to SAHC respondents would be most likely to support (Figure 29). The majority of comments in the "Other" section stated they would support a new hospital entirely.



**Figure 29: Community Support for Capital Improvements to SAHC**

**Total responses = 92**



The final question on the survey asked respondents to share concerns and suggestions to improve the delivery of local healthcare. The majority of comments stated concerns over the difficulty of making clinic appointments. While most of these respondents felt that the clinic hours were not convenient, some specified that same-day appointments are extremely rare, and also reported their inability to see the same provider repeatedly.

On the topic of providers, there was mention of a lack of staffing, resulting in being sent to the ER for issues that are not severe enough for that department, such as prescription refills. There is also concern about being able to replace retiring personnel on the staff with not being able to attract new providers to the area. Confidentiality was also brought up as an issue, with members worrying that staff are not always keeping confidential information to themselves.

## Findings from Key Informant Interviews & the Community Meeting

Questions about the health and well-being of the community, similar to those posed in the survey, were explored during key informant interviews with community leaders and health professionals and with the community group at the first meeting. The themes that emerged from these sources were wide-ranging, with some directly associated with healthcare and others more rooted in broader social and community matters.

Generally, overarching issues that developed during the interviews and community meeting can be grouped into five categories (listed in alphabetical order):

- Attracting and retaining young families
- Depression/anxiety – youth and adults
- Drug use and abuse
- Not enough jobs with livable wages
- Smoking and tobacco use, exposure to second-hand smoke, or vaping/juuling

To provide context for the identified needs, the following are some of the comments made by those interviewed about these issues:

## Attracting and retaining young families

- Workers are retiring and we need people working, but the community is aging so we don't have replacements for those jobs.
- Need more people to bring families into the area.
- Services aren't here for young people, so why live here when you can go elsewhere?

## Depression/anxiety

- Help for these areas, as well as suicide, are severely lacking in the community and other rural areas.
- It isn't talked about so much, but we see too many young people struggling with these issues and nobody seems to know what to do about it.
- Cyber-bullying has contributed quite a bit to kids being depressed.

## Drug use and abuse

- If we don't get a handle on this with our young people, there won't be a need to increase jobs to keep them here because they'll be dead.
- Drug use is increasing in the school, and it's a constant battle to keep kids on a good path.

## Not enough jobs with livable wages

- Jobs aren't available to youth because the positions are held by the older population, so you have to wait until they retire or leave.
- Local area doesn't offer much for professional jobs with livable wages, so young families are moving on to bigger and better things.
- There just isn't enough to raise a family on.

## Smoking and tobacco use, exposure to second-hand smoke, or vaping/juuling

- The number of kids in school vaping is out of hand, and we hear a lot of bad reports coming from the schools.
- This sort of goes hand-in-hand with drug use, but the vaping has become quite a problem in the community, especially in the schools.

## Community Engagement and Collaboration

Key informants and focus group participants were asked to weigh in on community engagement and collaboration of various organizations and stakeholders in the community. Specifically, participants were asked, "On a scale of 1 to 5, with 1 being no collaboration/community engagement and 5 being excellent collaboration/community engagement, how would you rate the collaboration/engagement in the community among these various organizations?" This was not intended to rank services provided. They were presented with a list of 13 organizations or community segments to rank. According to these participants, the hospital, pharmacy, public health, and other long-term care (including nursing homes/assisted living) are the most engaged in the community. The averages of these rankings (with 5 being "excellent" engagement or collaboration) were:

- Hospital (healthcare system) (4.0)
- Public Health (4.0)

- Emergency services, including ambulance and fire (4.0)
- Business and industry (4.0)
- Pharmacy (3.75)
- Faith-based (3.75)
- Other local health providers, such as dentists and chiropractors (3.75)
- Economic development organizations (3.75)
- Long-term care, including nursing homes and assisted living (3.75)
- Schools (3.5)
- Law enforcement (3.5)
- Clinics not affiliated with the main health system (3.5)
- Social Services (3.25)
- Human services agencies (3.25)

## Priority of Health Needs

A community group met on September 23, 2019. Eleven community members attended the meeting. Representatives from the CRH presented the group with a summary of this report's findings, including background and explanation about the secondary data, highlights from the survey results (including perceived community assets and concerns and barriers to care), and findings from the key informant interviews.

Following the presentation of the assessment findings, and after considering and discussing the findings, all members of the group were asked to identify what they perceived as the top four community health needs. All of the potential needs were listed on large poster boards and each member was given four stickers to place next to each of the four needs they considered the most significant.

The results were totaled and the concerns most often cited were:

- Depression/anxiety – youth (7 votes)
- Not enough jobs with livable wages (6 votes)
- Cancer – adults (4 votes)
- Cost of long-term/nursing home options (4 votes)
- Depression/anxiety – youth (4 votes)

From those top five priorities, each person put one sticker on the item they felt was the most important. The rankings were:

1. Not enough jobs with livable wages (6 votes)
2. Depression and anxiety (5 votes)
3. Cancer – adults (0 votes)
4. Cost of long-term/nursing home care (0 votes)
5. Depression/anxiety – adults (0 votes)

Following the prioritization process during the second meeting of the community group and key informants, the number one identified need was not enough jobs with livable wages. A summary of this prioritization may be found in Appendix D.

## Comparison of Needs Identified Previously

Top Needs Identified 2016 CHNA Process	Top Needs Identified 2019 CHNA Process
<ul style="list-style-type: none"> <li>• Availability of mental health services</li> <li>• Availability of resources to help the elderly stay in their homes</li> <li>• Attracting and retaining young families</li> <li>• Adequate childcare services</li> </ul>	<ul style="list-style-type: none"> <li>• Not enough jobs with livable wages</li> <li>• Depression and anxiety</li> <li>• Depression and anxiety - youth</li> <li>• Cancer – adults</li> <li>• Cost of long-term/nursing home care</li> <li>• Depression/anxiety – adults</li> </ul>

While the current process did not identify any of the same needs from the previous assessment, the concern of not enough jobs with livable wages can be linked as an overarching cause of some of the previous needs. Many young families may choose not to move to the area because of a lack of well-paying jobs and daycare, and depression and anxiety are directly related to mental health, which could be a result of not having mental health services available.

## Hospital and Community Projects and Programs Implemented to Address Needs Identified in 2016

In response to the needs identified in the 2016 CHNA process, the following actions were taken:

*Need 1:* Availability of mental health services – SAHC has worked not only toward increasing awareness of the Rural Mental Health Consortium in Kenmare, but also increasing services by providing education on behavioral health to school districts in the community, holding depression screenings, and helping parents obtain information on child behavioral health.

*Need 2:* Availability of resources to help the elderly stay in their homes – SAHC drafted and published a pamphlet for use by seniors and/or their loved ones with contact resources to aid in staying in their homes. These pamphlets are published and made available to the community free of charge. The addition of in-home care and home health expansion has also been explored.

*Need 3:* Attracting and retaining young families – SAHC worked with the Bottineau Economic Development Corporation (EDC) and the Chamber of Commerce to develop a marketing plan for the region, aimed at attracting young families. Several events have been held in order to build community engagement and help newer families network. A number of internships have also been developed within the community in order to retain young adults.

*Need 4:* Adequate childcare services – SAHC worked with the Bottineau EDC to make known that the EDC will provide up to \$5,000 for a daycare startup in the community.



# Next Steps – Strategic Implementation Plan

Although a CHNA and strategic implementation plan are required by hospitals and local public health units considering accreditation, it is important to keep in mind the needs identified, at this point, will be broad community-wide needs along with healthcare system-specific needs. This process is simply a first step to identify needs and determine areas of priority. The second step will be to convene the steering committee, or other community group, to select an agreed upon prioritized need on which to begin working. The strategic planning process will begin with identifying current initiatives, programs, and resources already in place to address the identified community need(s). Additional steps include identifying what is needed and feasible to address (taking community resources into consideration) and what role and responsibility the hospital, clinic, and various community organizations play in developing strategies and implementing specific activities to address the community health need selected. Community engagement is essential for successfully developing a plan and executing the action steps for addressing one or more of the needs identified.

*“If you want to go fast, go alone. If you want to go far, go together.” Proverb*

## Community Benefit Report

While not required, the CRH strongly encourages a review of the most recent Community Benefit Report to determine how/if it aligns with the needs identified, through the CHNA, as well as the Implementation Plan.

The community benefit requirement is a long-standing requirement of nonprofit hospitals and is reported in Part I of the hospital's Form 990. The strategic implementation requirement was added as part of the ACA's CHNA requirement. It is reported on Part V of the 990. Not-for-profit healthcare organizations demonstrate their commitment to community service through organized and sustainable community benefit programs providing:

- Free and discounted care to those unable to afford healthcare.
- Care to low-income beneficiaries of Medicaid and other indigent care programs.
- Services designed to improve community health and increase access to healthcare.

Community benefit is also the basis of the tax-exemption of not-for-profit hospitals. The Internal Revenue Service (IRS), in its Revenue Ruling 69-545, describes the community benefit standard for charitable tax-exempt hospitals. Since 2008, tax-exempt hospitals have been required to report their community benefit and other information related to tax-exemption on the IRS Form 990 Schedule H.

## What Are Community Benefits?

Community benefits are programs or activities that provide treatment and/or promote health and healing as a response to identified community needs. They increase access to healthcare and improve community health. A community benefit must respond to an identified community need and meet at least one of the following criteria:

- Improve access to healthcare services.
- Enhance health of the community.
- Advance medical or health knowledge.
- Relieve or reduce the burden of government or other community efforts.

A program or activity should not be reported as community benefit if it is:

- Provided for marketing purposes.
- Restricted to hospital employees and physicians.

Community Health Needs Assessment providers by rules or standards.

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• Questionable as to whether it should be reported.

# Appendix A – CHNA Survey Instrument



## Bottineau Community Area Health Survey

St. Andrew's Health Center is interested in hearing from you about community health concerns.

The focus of this effort is to:

- Learn of the good things in your community as well as concerns in the community
- Understand perceptions and attitudes about the health of the community, and hear suggestions for improvement
- Learn more about how local health services are used by you and other residents



If you prefer, you may take the survey online at <http://tinyurl.com/Bottineau2019> or by scanning on the QR Code at the right.

Surveys will be tabulated by the Center for Rural Health at the University of North Dakota School of Medicine and Health Sciences. Your responses are anonymous, and you may skip any question you do not want to answer. Your answers will be combined with other responses and reported only in total. If you have questions about the survey, you may contact Kylie Nissen at 701.777.5380.

***Surveys will be accepted through September 2, 2019. Your opinion matters – thank you in advance!***

**Community Assets:** Please tell us about your community by **choosing up to three options** you most agree with in each category below.

1. Considering the **PEOPLE** in your community, the best things are (choose up to THREE):

- |  |  |
|--|--|
| <input type="checkbox"/> Community is socially and culturally diverse or becoming more diverse | <input type="checkbox"/> People who live here are involved in their community          |
| <input type="checkbox"/> Feeling connected to people who live here                             | <input type="checkbox"/> People are tolerant, inclusive, and open-minded               |
| <input type="checkbox"/> Government is accessible  | <input type="checkbox"/> Sense that you can make a difference through civic engagement |
| <input type="checkbox"/> People are friendly, helpful, supportive                              | <input type="checkbox"/> Other: (please specify) _____                                 |

2. Considering the **SERVICES AND RESOURCES** in your community, the best things are (choose up to THREE):

- |   |   |
|---|---|
| <input type="checkbox"/> Access to healthy food                                 | <input type="checkbox"/> Opportunities for advanced education |
| <input type="checkbox"/> Active faith community                                 | <input type="checkbox"/> Public transportation                |
| <input type="checkbox"/> Business district (restaurants, availability of goods) | <input type="checkbox"/> Programs for youth                   |
| <input type="checkbox"/> Community groups and organizations                     | <input type="checkbox"/> Quality school systems               |
| <input type="checkbox"/> Healthcare   | <input type="checkbox"/> Other: (please specify) _____        |

3. Considering the **QUALITY OF LIFE** in your community, the best things are (choose up to THREE):

- |  |  |
|--|--|
| <input type="checkbox"/> Closeness to work and activities          | <input type="checkbox"/> Job opportunities or economic opportunities |
| <input type="checkbox"/> Family-friendly; good place to raise kids | <input type="checkbox"/> Safe place to live, little/no crime         |
| <input type="checkbox"/> Informal, simple, laidback lifestyle      | <input type="checkbox"/> Other: (please specify) _____               |

4. Considering the **ACTIVITIES** in your community, the best things are (choose up to THREE):

- |  |   |
|--|---|
| <input type="checkbox"/> Activities for families and youth | <input type="checkbox"/> Recreational and sports activities         |
| <input type="checkbox"/> Arts and cultural activities      | <input type="checkbox"/> Year-round access to fitness opportunities |
| <input type="checkbox"/> Local events and festivals        | <input type="checkbox"/> Other: (please specify) _____              |

**Community Concerns:** Please tell us about your community by choosing up to three options you most agree with in each category.

5. Considering the **COMMUNITY /ENVIRONMENTAL HEALTH** in your community, concerns are (choose up to THREE):

- |  |  |
|--|--|
| <input type="checkbox"/> Active faith community                                    | <input type="checkbox"/> Having enough quality school resources  |
| <input type="checkbox"/> Attracting and retaining young families                   | <input type="checkbox"/> Not enough places for exercise and wellness activities                                      |
| <input type="checkbox"/> Not enough jobs with livable wages, not enough to live on | <input type="checkbox"/> Not enough public transportation options, cost of public transportation                     |
| <input type="checkbox"/> Not enough affordable housing                             | <input type="checkbox"/> Racism, prejudice, hate, discrimination   |
| <input type="checkbox"/> Poverty   | <input type="checkbox"/> Traffic safety, including speeding, road safety, seatbelt use, and drunk/distracted driving |
| <input type="checkbox"/> Changes in population size (increasing or decreasing)     | <input type="checkbox"/> Physical violence, domestic violence, sexual abuse  |
| <input type="checkbox"/> Crime and safety, adequate law enforcement personnel      | <input type="checkbox"/> Child abuse   |
| <input type="checkbox"/> Water quality (well water, lakes, streams, rivers)        | <input type="checkbox"/> Bullying/cyber-bullying   |
| <input type="checkbox"/> Air quality   | <input type="checkbox"/> Recycling   |
| <input type="checkbox"/> Litter (amount of litter, adequate garbage collection)    | <input type="checkbox"/> Homelessness  |
| <input type="checkbox"/> Having enough child daycare services                      | <input type="checkbox"/> Other: (please specify) _____   |

6. Considering the **AVAILABILITY/DELIVERY OF HEALTH SERVICES** in your community, concerns are (choose up to THREE):

- |   |   |
|---|---|
| <input type="checkbox"/> Ability to get appointments for health services within 48 hours.                   | <input type="checkbox"/> Emergency services (ambulance & 911) available 24/7  |
| <input type="checkbox"/> Extra hours for appointments, such as evenings and weekends                        | <input type="checkbox"/> Ability/willingness of healthcare providers to work together to coordinate patient care within the health system.    |
| <input type="checkbox"/> Availability of primary care providers (MD,DO,NP,PA) and nurses                    | <input type="checkbox"/> Ability/willingness of healthcare providers to work together to coordinate patient care outside the local community. |
| <input type="checkbox"/> Ability to retain primary care providers (MD,DO,NP,PA) and nurses in the community | <input type="checkbox"/> Patient confidentiality (inappropriate sharing of personal health information)                                       |
| <input type="checkbox"/> Availability of public health professionals  | <input type="checkbox"/> Not comfortable seeking care where I know the employees at the facility on a personal level                          |
| <input type="checkbox"/> Availability of specialists  | <input type="checkbox"/> Quality of care  |
| <input type="checkbox"/> Not enough health care staff in general  | <input type="checkbox"/> Cost of health care services   |
| <input type="checkbox"/> Availability of wellness and disease prevention services                           | <input type="checkbox"/> Cost of prescription drugs   |
| <input type="checkbox"/> Availability of mental health services   | <input type="checkbox"/> Cost of health insurance   |
| <input type="checkbox"/> Availability of substance use disorder/treatment services                          | <input type="checkbox"/> Adequacy of health insurance (concerns about out-of-pocket costs)  |
| <input type="checkbox"/> Availability of hospice  | <input type="checkbox"/> Understand where and how to get health insurance   |
| <input type="checkbox"/> Availability of dental care  | <input type="checkbox"/> Adequacy of Indian Health Service or Tribal Health Services  |
| <input type="checkbox"/> Availability of vision care  | <input type="checkbox"/> Other: (please specify) _____  |

7. Considering the **YOUTH POPULATION** in your community, concerns are (choose up to THREE):

- |  |  |
|--|--|
| <input type="checkbox"/> Alcohol use and abuse   | <input type="checkbox"/> Diseases that can spread, such as sexually transmitted diseases or AIDS |
| <input type="checkbox"/> Drug use and abuse (including prescription drug abuse)                    | <input type="checkbox"/> Wellness and disease prevention, including vaccine-preventable diseases |
| <input type="checkbox"/> Smoking and tobacco use, exposure to second-hand smoke, or vaping/juuling | <input type="checkbox"/> Not getting enough exercise/physical activity                           |
| <input type="checkbox"/> Cancer  | <input type="checkbox"/> Obesity/overweight  |
| <input type="checkbox"/> Diabetes  | <input type="checkbox"/> Hunger, poor nutrition  |
| <input type="checkbox"/> Depression/anxiety  | <input type="checkbox"/> Crime   |
| <input type="checkbox"/> Stress  | <input type="checkbox"/> Graduating from high school   |
| <input type="checkbox"/> Suicide   | <input type="checkbox"/> Availability of disability services                                     |
| <input type="checkbox"/> Not enough activities for children and youth                              | <input type="checkbox"/> Other: (please specify) _____   |
| <input type="checkbox"/> Teen pregnancy  |  |
| <input type="checkbox"/> Sexual health   |  |

8. Considering the **ADULT POPULATION** in your community, concerns are (choose up to THREE):

- |   |  |
|---|--|
| <input type="checkbox"/> Alcohol use and abuse                                  | <input type="checkbox"/> Stress  |
| <input type="checkbox"/> Drug use and abuse (including prescription drug abuse) | <input type="checkbox"/> Suicide   |
| <input type="checkbox"/> Smoking and tobacco use, exposure to second-hand smoke | <input type="checkbox"/> Diseases that can spread, such as sexually transmitted diseases or AIDS |
| <input type="checkbox"/> Cancer   | <input type="checkbox"/> Wellness and disease prevention, including vaccine-preventable diseases |
| <input type="checkbox"/> Lung disease (i.e. emphysema, COPD, asthma)            | <input type="checkbox"/> Not getting enough exercise/physical activity                           |
| <input type="checkbox"/> Diabetes   | <input type="checkbox"/> Obesity/overweight  |
| <input type="checkbox"/> Heart disease  | <input type="checkbox"/> Hunger, poor nutrition  |
| <input type="checkbox"/> Hypertension   | <input type="checkbox"/> Availability of disability services                                     |
| <input type="checkbox"/> Dementia/Alzheimer's disease                           | <input type="checkbox"/> Other: (please specify) _____   |
| <input type="checkbox"/> Other chronic diseases: _____                          |  |
| <input type="checkbox"/> Depression/anxiety                                     |  |

9. Considering the **SENIOR POPULATION** in your community, concerns are (choose up to THREE):

- |   |   |
|---|---|
| <input type="checkbox"/> Ability to meet needs of older population                          | <input type="checkbox"/> Availability of transportation for seniors             |
| <input type="checkbox"/> Long-term/nursing home care options                                | <input type="checkbox"/> Availability of home health                            |
| <input type="checkbox"/> Assisted living options  | <input type="checkbox"/> Not getting enough exercise/physical activity          |
| <input type="checkbox"/> Availability of resources to help the elderly stay in their homes  | <input type="checkbox"/> Depression/anxiety                                     |
| <input type="checkbox"/> Availability/cost of activities for seniors                        | <input type="checkbox"/> Suicide  |
| <input type="checkbox"/> Availability of resources for family and friends caring for elders | <input type="checkbox"/> Alcohol use and abuse                                  |
| <input type="checkbox"/> Quality of elderly care  | <input type="checkbox"/> Drug use and abuse (including prescription drug abuse) |
| <input type="checkbox"/> Cost of long-term/nursing home care                                | <input type="checkbox"/> Availability of activities for seniors                 |
|   | <input type="checkbox"/> Elder abuse  |
|   | <input type="checkbox"/> Other: (please specify) _____                          |

10. Regarding various forms of **VIOLENCE** in your community, concerns are (choose up to THREE):

- |  |   |
|--|---|
| <input type="checkbox"/> Bullying/cyber-bullying   | <input type="checkbox"/> General violence against men |
| <input type="checkbox"/> Child abuse or neglect  | <input type="checkbox"/> Physical abuse               |
| <input type="checkbox"/> Dating violence   | <input type="checkbox"/> Stalking                     |
| <input type="checkbox"/> Domestic/intimate partner violence  | <input type="checkbox"/> Sexual abuse/assault         |
| <input type="checkbox"/> Emotional abuse (intimidation, isolation, verbal threats, withholding of funds) | <input type="checkbox"/> Video game violence          |
| <input type="checkbox"/> General violence against women  | <input type="checkbox"/> Workplace/co-worker violence |



11. What single issue do you feel is the biggest challenge facing your community?

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## Delivery of Healthcare

12. What **PREVENTS** community residents from receiving healthcare? (Choose ALL that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Can't get transportation services  | <input type="checkbox"/> Not able to get appointment/limited hours |
| <input type="checkbox"/> Concerns about confidentiality   | <input type="checkbox"/> Not able to see same provider over time   |
| <input type="checkbox"/> Distance from health facility  | <input type="checkbox"/> Not accepting new patients                |
| <input type="checkbox"/> Don't know about local services  | <input type="checkbox"/> Not affordable                            |
| <input type="checkbox"/> Don't speak language or understand culture   | <input type="checkbox"/> Not enough providers (MD, DO, NP, PA)     |
| <input type="checkbox"/> Lack of disability access  | <input type="checkbox"/> Not enough evening or weekend hours       |
| <input type="checkbox"/> Lack of services through Indian Health Services  | <input type="checkbox"/> Not enough specialists                    |
| <input type="checkbox"/> Limited access to telehealth technology (patients seen by providers at another facility through a monitor/TV screen) | <input type="checkbox"/> Poor quality of care                      |
| <input type="checkbox"/> No insurance or limited insurance  | <input type="checkbox"/> Other: (please specify) _____             |

13. Where do you turn for trusted health information? (Choose ALL that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Other healthcare professionals (nurses, chiropractors, dentists, etc.)  | <input type="checkbox"/> Web searches/internet (WebMD, Mayo Clinic, Healthline, etc.)      |
| <input type="checkbox"/> Primary care provider (doctor, nurse practitioner, physician assistant) | <input type="checkbox"/> Word of mouth, from others (friends, neighbors, co-workers, etc.) |
| <input type="checkbox"/> Public health professional  | <input type="checkbox"/> Other: (please specify) _____                                     |

14. Considering **RADIOLOGY SERVICES** at St. Andrew's Health Center, which services are you aware of (or have you used in the past year)? (Choose ALL that apply)

- |  |  |                                     |
|--|--|-------------------------------------|
| <input type="checkbox"/> EKG – Electrocardiography | <input type="checkbox"/> General x-ray     | <input type="checkbox"/> MRI        |
| <input type="checkbox"/> CT Scan                   | <input type="checkbox"/> Holter monitoring | <input type="checkbox"/> Ultrasound |
| <input type="checkbox"/> Echocardiogram            | <input type="checkbox"/> Mammography       |                                     |

15. Where do you find out about **LOCAL HEALTH SERVICES** available in your area? (Choose ALL that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Advertising                 | <input type="checkbox"/> Radio                                  |
| <input type="checkbox"/> Employer/worksites wellness | <input type="checkbox"/> Social media (Facebook, Twitter, etc.) |
| <input type="checkbox"/> Healthcare professionals    | <input type="checkbox"/> Tribal Health                          |
| <input type="checkbox"/> Indian Health Services      | <input type="checkbox"/> Web searches                           |
| <input type="checkbox"/> Newspaper                   | <input type="checkbox"/> Word of mouth                          |
| <input type="checkbox"/> Public Health professionals | <input type="checkbox"/> Other: (please specify) _____          |

16. What specific healthcare services, if any, do you think should be added locally?

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17. Are you aware of St. Andrew's Health Center's Foundation, which exists to financially support St. Andrew's Health Center?

☐ Yes

☐ No

18. Have you supported the St. Andrew's Health Center Foundation in any of the following ways? (Choose ALL that apply)

☐ Cash or stock gifts

☐ Endowment gifts

☐ Memorial/Honorarium

☐ Planned gifts through wills,  
trust or life insurance policies

☐ Other: (please specify)

19. Do you believe individuals in the community would financially support any of the following capital improvements by St. Andrew's Health Center? (Choose ALL that apply)

☐ Emergency room renovations

☐ Security system installation

☐ New windows/other energy  
efficiency improvements

☐ Facility sprinkler system/fire  
suppression system

☐ Improvements to patient  
rooms (e.g., larger bathrooms)

☐ Other: (please specify)

**Demographic Information:** Please tell us about yourself.

20. Do you work for the hospital, clinic, or public health unit?

☐ Yes

☐ No

21. Health insurance or health coverage status (choose ALL that apply):

☐ Indian Health Service (IHS)

☐ Insurance through employer

☐ Self-purchased insurance

☐ Medicaid

☐ Medicare

☐ No insurance

☐ Veteran's Healthcare Benefits

☐ Other: (please specify)

22. Age:

☐ Less than 18 years

☐ 18 to 24 years

☐ 25 to 34 years

☐ 35 to 44 years

☐ 45 to 54 years

☐ 55 to 64 years

☐ 65 to 74 years

☐ 75 years and older

23. Highest level of education:

☐ Less than high school

☐ High school diploma or GED

☐ Some college/technical degree

☐ Associate's degree

☐ Bachelor's degree

☐ Graduate or professional degree

24. Gender:

☐ Female

☐ Male

☐ Transgender

25. Employment status:

☐ Full time

☐ Part time

☐ Homemaker

☐ Multiple job holder

☐ Unemployed

☐ Retired

26. Your zip code: \_\_\_\_\_

27. Race/Ethnicity (choose ALL that apply):

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> American Indian  | <input type="checkbox"/> Hispanic/Latino  | <input type="checkbox"/> Other: _____         |
| <input type="checkbox"/> African American | <input type="checkbox"/> Pacific Islander | <input type="checkbox"/> Prefer not to answer |
| <input type="checkbox"/> Asian            | <input type="checkbox"/> White/Caucasian  |   |

28. Annual household income before taxes:

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Less than \$15,000   | <input type="checkbox"/> \$50,000 to \$74,999   | <input type="checkbox"/> \$150,000 and over   |
| <input type="checkbox"/> \$15,000 to \$24,999 | <input type="checkbox"/> \$75,000 to \$99,999   | <input type="checkbox"/> Prefer not to answer |
| <input type="checkbox"/> \$25,000 to \$49,999 | <input type="checkbox"/> \$100,000 to \$149,999 |   |

29. Overall, please share concerns and suggestions to improve the delivery of local healthcare.

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***Thank you for assisting us with this important survey!***

# Appendix B – County Health Rankings Explained

Source: <http://www.countyhealthrankings.org/>

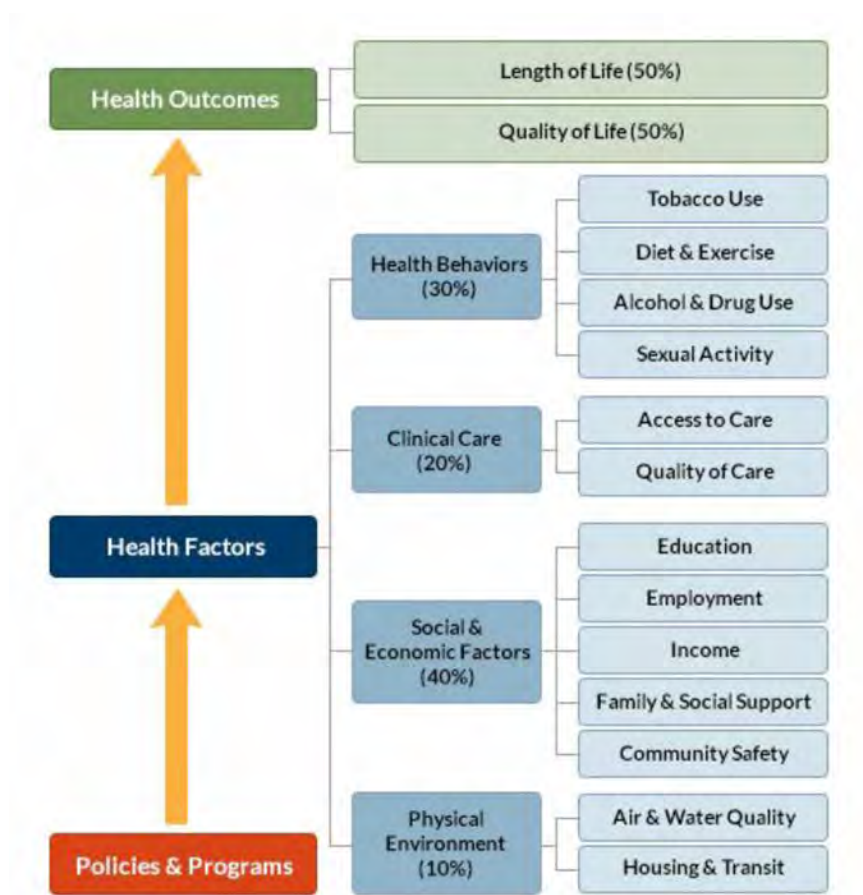
## Methods

The County Health Rankings, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, measure the health of nearly all counties in the nation and rank them within states. The Rankings are compiled using county-level measures from a variety of national and state data sources. These measures are standardized and combined using scientifically-informed weights.

## What is Ranked

The County Health Rankings are based on counties and county equivalents (ranked places). Any entity that has its own Federal Information Processing Standard (FIPS) county code is included in the Rankings. We only rank counties and county equivalents within a state. The major goal of the Rankings is to raise awareness about the many factors that influence health and that health varies from place to place, not to produce a list of the healthiest 10 or 20 counties in the nation and only focus on that.

## Ranking System





The County Health Rankings model (shown above) provides the foundation for the entire ranking process.

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. We calculate and rank eight summary composite scores:

1. **Overall Health Outcomes**
2. Health Outcomes – **Length of life**
3. Health Outcomes – **Quality of life**
4. **Overall Health Factors**
5. Health Factors – **Health behaviors**
6. Health Factors – **Clinical care**
7. Health Factors – **Social and economic factors**
8. Health Factors – **Physical environment**

## Data Sources and Measures

The County Health Rankings team synthesizes health information from a variety of national data sources to create the Rankings. Most of the data used are public data available at no charge. Measures based on vital statistics, sexually transmitted infections, and Behavioral Risk Factor Surveillance System (BRFSS) survey data were calculated by staff at the National Center for Health Statistics and other units of the Centers for Disease Control and Prevention (CDC). Measures of healthcare quality were calculated by staff at The Dartmouth Institute.

## Data Quality

The County Health Rankings team draws upon the most reliable and valid measures available to compile the Rankings. Where possible, margins of error (95% confidence intervals) are provided for measure values. In many cases, the values of specific measures in different counties are not statistically different from one another; however, when combined using this model, those various measures produce the different rankings.

## Calculating Scores and Ranks

The County Health Rankings are compiled from many different types of data. To calculate the ranks, they first standardize each of the measures. The ranks are then calculated based on weighted sums of the standardized measures within each state. The county with the lowest score (best health) gets a rank of #1 for that state and the county with the highest score (worst health) is assigned a rank corresponding to the number of places we rank in that state.

# Health Outcomes and Factors

Source: <http://www.countyhealthrankings.org/explore-health-rankings/what-and-why-we-rank>

## Health Outcomes

### Premature Death (YPLL)

Premature death is the years of potential life lost before age 75 (YPLL-75). Every death occurring before the age of 75 contributes to the total number of years of potential life lost. For example, a person dying at age 25 contributes 50 years of life lost, whereas a person who dies at age 65 contributes 10 years of life lost to a county's YPLL. The YPLL measure is presented as a rate per 100,000 population and is age-adjusted to the 2000 US population.

#### *Reason for Ranking*

Measuring premature mortality, rather than overall mortality, reflects the County Health Rankings' intent to focus attention on deaths that could have been prevented. Measuring YPLL allows communities to target resources to high-risk areas and further investigate the causes of premature death.

### Poor or Fair Health

Self-reported health status is a general measure of health-related quality of life (HRQoL) in a population. This measure is based on survey responses to the question: "In general, would you say that your health is excellent, very good, good, fair, or poor?" The value reported in the County Health Rankings is the percentage of adult respondents who rate their health "fair" or "poor." The measure is modeled and age-adjusted to the 2000 US population. Please note that the methods for calculating this measure changed in the 2016 Rankings.

#### *Reason for Ranking*

Measuring HRQoL helps characterize the burden of disabilities and chronic diseases in a population. Self-reported health status is a widely used measure of people's health-related quality of life. In addition to measuring how long people live, it is important to also include measures that consider how healthy people are while alive.

### Poor Physical Health Days

Poor physical health days is based on survey responses to the question: "Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?" The value reported in the County Health Rankings is the average number of days a county's adult respondents report that their physical health was not good. The measure is age-adjusted to the 2000 US population. Please note that the methods for calculating this measure changed in the 2016 Rankings.

#### *Reason for Ranking*

Measuring health-related quality of life (HRQoL) helps characterize the burden of disabilities and chronic diseases in a population. In addition to measuring how long people live, it is also important to include measures of how healthy people are while alive – and people's reports of days when their physical health was not good are a reliable estimate of their recent health.

### Poor Mental Health Days

Poor mental health days is based on survey responses to the question: "Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" The value reported in the County Health Rankings is the average number of days a county's adult respondents report that their mental health was not good. The measure is age-adjusted to the 2000 US population. Please note that the methods for calculating this measure changed in the 2016 Rankings.

### *Reason for Ranking*

Overall health depends on both physical and mental well-being. Measuring the number of days when people report that their mental health was not good, i.e., poor mental health days, represents an important facet of health-related quality of life.

### **Low Birth Weight**

Birth outcomes are a category of measures that describe health at birth. These outcomes, such as low birthweight (LBW), represent a child's current and future morbidity — or whether a child has a “healthy start” — and serve as a health outcome related to maternal health risk.

### *Reason for Ranking*

LBW is unique as a health outcome because it represents multiple factors: infant current and future morbidity, as well as premature mortality risk, and maternal exposure to health risks. The health associations and impacts of LBW are numerous.

In terms of the infant's health outcomes, LBW serves as a predictor of premature mortality and/or morbidity over the life course.[1] LBW children have greater developmental and growth problems, are at higher risk of cardiovascular disease later in life, and have a greater rate of respiratory conditions.[2-4]

From the perspective of maternal health outcomes, LBW indicates maternal exposure to health risks in all categories of health factors, including her health behaviors, access to healthcare, the social and economic environment the mother inhabits, and environmental risks to which she is exposed. Authors have found that modifiable maternal health behaviors, including nutrition and weight gain, smoking, and alcohol and substance use or abuse can result in LBW.[5]

LBW has also been associated with cognitive development problems. Several studies show that LBW children have higher rates of sensorineural impairments, such as cerebral palsy, and visual, auditory, and intellectual impairments.[2,3,6] As a consequence, LBW can “impose a substantial burden on special education and social services, on families and caretakers of the infants, and on society generally.”[7]

## **Health Factors**

### **Adult Smoking**

Adult smoking is the percentage of the adult population that currently smokes every day or most days and has smoked at least 100 cigarettes in their lifetime. Please note that the methods for calculating this measure changed in the 2016 Rankings.

### *Reason for Ranking*

Each year approximately 443,000 premature deaths can be attributed to smoking. Cigarette smoking is identified as a cause of various cancers, cardiovascular disease, and respiratory conditions, as well as low birthweight and other adverse health outcomes. Measuring the prevalence of tobacco use in the population can alert communities to potential adverse health outcomes and can be valuable for assessing the need for cessation programs or the effectiveness of existing programs.

### **Adult Obesity**

Adult obesity is the percentage of the adult population (age 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m<sup>2</sup>.

### *Reason for Ranking*

Obesity is often the result of an overall energy imbalance due to poor diet and limited physical activity. Obesity increases the risk for health conditions such as coronary heart disease, type 2 diabetes, cancer, hypertension, dyslipidemia, stroke, liver and gallbladder disease, sleep apnea and respiratory problems, osteoarthritis, and poor health status.[1,2]

## Food Environment Index

The food environment index ranges from 0 (worst) to 10 (best) and equally weights two indicators of the food environment:

- 1) Limited access to healthy foods estimates the percentage of the population that is low income and does not live close to a grocery store. Living close to a grocery store is defined differently in rural and nonrural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in nonrural areas, it means less than 1 mile. "Low income" is defined as having an annual family income of less than or equal to 200 percent of the federal poverty threshold for the family size.
- 2) Food insecurity estimates the percentage of the population who did not have access to a reliable source of food during the past year. A two-stage fixed effects model was created using information from the Community Population Survey, Bureau of Labor Statistics, and American Community Survey.

More information on each of these can be found among the additional measures.

### *Reason for Ranking*

There are many facets to a healthy food environment, such as the cost, distance, and availability of healthy food options. This measure includes access to healthy foods by considering the distance an individual lives from a grocery store or supermarket; there is strong evidence that food deserts are correlated with high prevalence of overweight, obesity, and premature death.[1-3] Supermarkets traditionally provide healthier options than convenience stores or smaller grocery stores.[4]

Additionally, access in regards to a constant source of healthy food due to low income can be another barrier to healthy food access. Food insecurity, the other food environment measure included in the index, attempts to capture the access issue by understanding the barrier of cost. Lacking constant access to food is related to negative health outcomes such as weight-gain and premature mortality.[5,6] In addition to asking about having a constant food supply in the past year, the module also addresses the ability of individuals and families to provide balanced meals further addressing barriers to healthy eating. It is important to have adequate access to a constant food supply, but it may be equally important to have nutritious food available.

## Physical Inactivity

Physical inactivity is the percentage of adults age 20 and over reporting no leisure-time physical activity. Examples of physical activities provided include running, calisthenics, golf, gardening, or walking for exercise.

### *Reason for Ranking*

Decreased physical activity has been related to several disease conditions such as type 2 diabetes, cancer, stroke, hypertension, cardiovascular disease, and premature mortality, independent of obesity. Inactivity causes 11% of premature mortality in the United States, and caused more than 5.3 million of the 57 million deaths that occurred worldwide in 2008.[1] In addition, physical inactivity at the county level is related to healthcare expenditures for circulatory system diseases.[2]

## Access to Exercise Opportunities

Change in measure calculation in 2018: Access to exercise opportunities measures the percentage of individuals in a county who live reasonably close to a location for physical activity. Locations for physical activity are defined as parks or recreational facilities. Parks include local, state, and national parks. Recreational facilities include YMCAs as well as businesses identified by the following Standard Industry Classification (SIC) codes and include a wide variety of facilities including gyms, community centers, dance studios and pools: 799101, 799102, 799103, 799106, 799107, 799108, 799109, 799110, 799111, 799112, 799201, 799701, 799702, 799703, 799704, 799707, 799711, 799717, 799723, 799901, 799908, 799958, 799969, 799971, 799984, or 799998.

Individuals who:

- reside in a census block within a half mile of a park or
- in urban census blocks: reside within one mile of a recreational facility or



- in rural census blocks: reside within three miles of a recreational facility
- are considered to have adequate access for opportunities for physical activity.

### *Reason for Ranking*

Increased physical activity is associated with lower risks of type 2 diabetes, cancer, stroke, hypertension, cardiovascular disease, and premature mortality, independent of obesity. The role of the built environment is important for encouraging physical activity. Individuals who live closer to sidewalks, parks, and gyms are more likely to exercise.[1-3]

### **Excessive Drinking**

Excessive drinking is the percentage of adults that report either binge drinking, defined as consuming more than 4 (women) or 5 (men) alcoholic beverages on a single occasion in the past 30 days, or heavy drinking, defined as drinking more than one (women) or 2 (men) drinks per day on average. Please note that the methods for calculating this measure changed in the 2011 Rankings and again in the 2016 Rankings.

### *Reason for Ranking*

Excessive drinking is a risk factor for a number of adverse health outcomes, such as alcohol poisoning, hypertension, acute myocardial infarction, sexually transmitted infections, unintended pregnancy, fetal alcohol syndrome, sudden infant death syndrome, suicide, interpersonal violence, and motor vehicle crashes. [1] Approximately 80,000 deaths are attributed annually to excessive drinking. Excessive drinking is the third leading lifestyle-related cause of death in the United States.[2]

### **Alcohol-Impaired Driving Deaths**

Alcohol-impaired driving deaths is the percentage of motor vehicle crash deaths with alcohol involvement.

### *Reason for Ranking*

Approximately 17,000 Americans are killed annually in alcohol-related motor vehicle crashes. Binge/heavy drinkers account for most episodes of alcohol-impaired driving.[1,2]

### **Sexually Transmitted Infection Rate**

Sexually transmitted infections (STI) are measured as the chlamydia incidence (number of new cases reported) per 100,000 population.

### *Reason for Ranking*

Chlamydia is the most common bacterial STI in North America and is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease, and chronic pelvic pain.[1,2] STIs are associated with a significantly increased risk of morbidity and mortality, including increased risk of cervical cancer, infertility, and premature death.[3] STIs also have a high economic burden on society. The direct medical costs of managing sexually transmitted infections and their complications in the US, for example, was approximately 15.6 billion dollars in 2008.[4]

### **Teen Births**

Teen births are the number of births per 1,000 female population, ages 15-19.

### *Reason for Ranking*

Evidence suggests teen pregnancy significantly increases the risk of repeat pregnancy and of contracting a sexually transmitted infection (STI), both of which can result in adverse health outcomes for mothers, children, families, and communities. A systematic review of the sexual risk among pregnant and mothering teens concludes that pregnancy is a marker for current and future sexual risk behavior and adverse outcomes [1]. Pregnant teens are more likely than older women to receive late or no prenatal care, have eclampsia, puerperal endometritis, systemic infections, low birthweight, preterm delivery, and severe neonatal conditions [2, 3]. Pre-term delivery and low birthweight babies have increased risk of child developmental delay, illness, and mortality [4]. Additionally, there are strong ties between teen birth and poor socioeconomic, behavioral, and mental outcomes. Teenage women who bear a child are much less likely to achieve an education level at or

beyond high school, much more likely to be overweight/obese in adulthood, and more likely to experience depression and psychological distress [5-7].

## **Uninsured**

Uninsured is the percentage of the population under age 65 that has no health insurance coverage. The Small Area Health Insurance Estimates uses the American Community Survey (ACS) definition of insured: Is this person CURRENTLY covered by any of the following types of health insurance or health coverage plans: Insurance through a current or former employer or union, insurance purchased directly from an insurance company, Medicare, Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability, TRICARE or other military healthcare, Indian Health Services, VA or any other type of health insurance or health coverage plan? Please note that the methods for calculating this measure changed in the 2012 Rankings.

### *Reason for Ranking*

Lack of health insurance coverage is a significant barrier to accessing needed healthcare and to maintaining financial security.

The Kaiser Family Foundation released a report in December 2017 that outlines the effects insurance has on access to healthcare and financial independence. One key finding was that “Going without coverage can have serious health consequences for the uninsured because they receive less preventative care, and delayed care often results in serious illness or other health problems. Being uninsured can also have serious financial consequences, with many unable to pay their medical bills, resulting in medical debt.”[1]

## **Primary Care Physicians**

Primary care physicians is the ratio of the population to total primary care physicians. Primary care physicians include non-federal, practicing physicians (M.D.’s and D.O.’s) under age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics. Please note this measure was modified in the 2011 Rankings and again in the 2013 Rankings.

### *Reason for Ranking*

Access to care requires not only financial coverage, but also access to providers. While high rates of specialist physicians have been shown to be associated with higher (and perhaps unnecessary) utilization, sufficient availability of primary care physicians is essential for preventive and primary care, and, when needed, referrals to appropriate specialty care.[1,2]

## **Dentists**

Dentists are measured as the ratio of the county population to total dentists in the county.

### *Reason for Ranking*

Untreated dental disease can lead to serious health effects including pain, infection, and tooth loss. Although lack of sufficient providers is only one barrier to accessing oral healthcare, much of the country suffers from shortages. According to the Health Resources and Services Administration, as of December 2012, there were 4,585 Dental Health Professional Shortage Areas (HPSAs), with 45 million people total living in them.[1]

## **Mental Health Providers**

Mental health providers is the ratio of the county population to the number of mental health providers including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, mental health providers that treat alcohol and other drug abuse, and advanced practice nurses specializing in mental healthcare. In 2015, marriage and family therapists and mental health providers that treat alcohol and other drug abuse were added to this measure.

### *Reason for Ranking*

Thirty percent of the population lives in a county designated as a Mental Health Professional Shortage Area. As the mental health parity aspects of the Affordable Care Act create increased coverage for mental health services, many anticipate increased workforce shortages.

## **Preventable Hospital Stays**

Preventable hospital stays is the hospital discharge rate for ambulatory care-sensitive conditions per 1,000 fee-for-service Medicare enrollees. Ambulatory care-sensitive conditions include: convulsions, chronic obstructive pulmonary disease, bacterial pneumonia, asthma, congestive heart failure, hypertension, angina, cellulitis, diabetes, gastroenteritis, kidney / urinary infection, and dehydration. This measure is age-adjusted.

### *Reason for Ranking*

Hospitalization for diagnoses treatable in outpatient services suggests that the quality of care provided in the outpatient setting was less than ideal. The measure may also represent a tendency to overuse hospitals as a main source of care.

## **Diabetes Monitoring**

Diabetes monitoring is the percentage of diabetic fee-for-service Medicare patients ages 65-75 whose blood sugar control was monitored in the past year using a test of their glycated hemoglobin (HbA1c) levels.

### *Reason for Ranking*

Regular HbA1c monitoring among diabetic patients is considered the standard of care. It helps assess the management of diabetes over the long term by providing an estimate of how well a patient has managed his or her diabetes over the past two to three months. When hyperglycemia is addressed and controlled, complications from diabetes can be delayed or prevented.

## **Mammography Screening**

Mammography screening is the percentage of female fee-for-service Medicare enrollees age 67-69 that had at least one mammogram over a two-year period.

### *Reason for Ranking*

Evidence suggests that mammography screening reduces breast cancer mortality, especially among older women.[1] A physician's recommendation or referral—and satisfaction with physicians—are major factors facilitating breast cancer screening. The percent of women ages 40-69 receiving a mammogram is a widely endorsed quality of care measure.

## **Unemployment**

Unemployment is the percentage of the civilian labor force, age 16 and older, that is unemployed but seeking work.

### *Reason for Ranking*

The unemployed population experiences worse health and higher mortality rates than the employed population.[1-4] Unemployment has been shown to lead to an increase in unhealthy behaviors related to alcohol and tobacco consumption, diet, exercise, and other health-related behaviors, which in turn can lead to increased risk for disease or mortality, especially suicide.[5] Because employer-sponsored health insurance is the most common source of health insurance coverage, unemployment can also limit access to healthcare.

## **Children in Poverty**

Children in poverty is the percentage of children under age 18 living in poverty. Poverty status is defined by family; either everyone in the family is in poverty or no one in the family is in poverty. The characteristics of the family used to determine the poverty threshold are: number of people, number of related children under 18, and whether or not the primary householder is over age 65. Family income is then compared to the poverty threshold; if that family's income is below that threshold, the family is in poverty. For more information, please see Poverty Definition and/or Poverty.

In the data table for this measure, we report child poverty rates for black, Hispanic and white children. The rates for race and ethnic groups come from the American Community Survey, which is the major source of data used by the Small Area Income and Poverty Estimates to construct the overall county estimates. However, estimates for race and ethnic groups are created using combined five year estimates from 2012-2016.

### *Reason for Ranking*

Poverty can result in an increased risk of mortality, morbidity, depression, and poor health behaviors. A 2011 study found that poverty and other social factors contribute a number of deaths comparable to leading causes of death in the US like heart attacks, strokes, and lung cancer.[1] While repercussions resulting from poverty are present at all ages, children in poverty may experience lasting effects on academic achievement, health, and income into adulthood. Low-income children have an increased risk of injuries from accidents and physical abuse and are susceptible to more frequent and severe chronic conditions and their complications such as asthma, obesity, and diabetes than children living in high income households.[2]

Beginning in early childhood, poverty takes a toll on mental health and brain development, particularly in the areas associated with skills essential for educational success such as cognitive flexibility, sustained focus, and planning. Low income children are more susceptible to mental health conditions like ADHD, behavior disorders, and anxiety which can limit learning opportunities and social competence leading to academic deficits that may persist into adulthood.[2,3] The children in poverty measure is highly correlated with overall poverty rates.

### **Income Inequality**

Income inequality is the ratio of household income at the 80th percentile to that at the 20th percentile, i.e., when the incomes of all households in a county are listed from highest to lowest, the 80th percentile is the level of income at which only 20% of households have higher incomes, and the 20th percentile is the level of income at which only 20% of households have lower incomes. A higher inequality ratio indicates greater division between the top and bottom ends of the income spectrum. Please note that the methods for calculating this measure changed in the 2015 Rankings.

### *Reason for Ranking*

Income inequality within US communities can have broad health impacts, including increased risk of mortality, poor health, and increased cardiovascular disease risks. Inequalities in a community can accentuate differences in social class and status and serve as a social stressor. Communities with greater income inequality can experience a loss of social connectedness, as well as decreases in trust, social support, and a sense of community for all residents.

### **Children in Single-Parent Households**

Children in single-parent households is the percentage of children in family households where the household is headed by a single parent (male or female head of household with no spouse present). Please note that the methods for calculating this measure changed in the 2011 Rankings.

### *Reason for Ranking*

Adults and children in single-parent households are at risk for adverse health outcomes, including mental illness (e.g. substance abuse, depression, suicide) and unhealthy behaviors (e.g. smoking, excessive alcohol use).[1-4] Self-reported health has been shown to be worse among lone parents (male and female) than for parents living as couples, even when controlling for socioeconomic characteristics. Mortality risk is also higher among lone parents.[4,5] Children in single-parent households are at greater risk of severe morbidity and all-cause mortality than their peers in two-parent households.[2,6]

### **Violent Crime Rate**

Violent crime is the number of violent crimes reported per 100,000 population. Violent crimes are defined as offenses that involve face-to-face confrontation between the victim and the perpetrator, including homicide, rape, robbery, and aggravated assault. Please note that the methods for calculating this measure changed in the 2012 Rankings.

### *Reason for Ranking*

High levels of violent crime compromise physical safety and psychological well-being. High crime rates can also deter residents from pursuing healthy behaviors, such as exercising outdoors. Additionally, exposure to crime and violence has been shown to increase stress, which may exacerbate hypertension and other stress-related disorders and may contribute to obesity prevalence.[1] Exposure to chronic stress also contributes to the



increased prevalence of certain illnesses, such as upper respiratory illness, and asthma in neighborhoods with high levels of violence.[2]

## **Injury Deaths**

Injury deaths is the number of deaths from intentional and unintentional injuries per 100,000 population. Deaths included are those with an underlying cause of injury (ICD-10 codes \*U01-\*U03, V01-Y36, Y85-Y87, Y89).

### *Reason for Ranking*

Injuries are one of the leading causes of death; unintentional injuries were the 4th leading cause, and intentional injuries the 10th leading cause, of US mortality in 2014.[1] The leading causes of death in 2014 among unintentional injuries, respectively, are: poisoning, motor vehicle traffic, and falls. Among intentional injuries, the leading causes of death in 2014, respectively, are: suicide firearm, suicide suffocation, and homicide firearm. Unintentional injuries are a substantial contributor to premature death. Among the following age groups, unintentional injuries were the leading cause of death in 2014: 1-4, 5-9, 10-14, 15-24, 25-34, 35-44.[2] Injuries account for 17% of all emergency department visits, and falls account for over 1/3 of those visits.[3]

## **Air Pollution-Particulate matter**

Air pollution-particulate matter is the average daily density of fine particulate matter in micrograms per cubic meter (PM2.5) in a county. Fine particulate matter is defined as particles of air pollutants with an aerodynamic diameter less than 2.5 micrometers. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

### *Reason for Ranking*

The relationship between elevated air pollution (especially fine particulate matter and ozone) and compromised health has been well documented.[1,2,3] Negative consequences of ambient air pollution include decreased lung function, chronic bronchitis, asthma, and other adverse pulmonary effects.[1] Long-term exposure to fine particulate matter increases premature death risk among people age 65 and older, even when exposure is at levels below the National Ambient Air Quality Standards.[3]

## **Drinking Water Violations**

Change in measure calculation in 2018: Drinking Water Violations is an indicator of the presence or absence of health-based drinking water violations in counties served by community water systems. Health-based violations include Maximum Contaminant Level, Maximum Residual Disinfectant Level and Treatment Technique violations. A “Yes” indicates that at least one community water system in the county received a violation during the specified time frame, while a “No” indicates that there were no health-based drinking water violations in any community water system in the county. Please note that the methods for calculating this measure changed in the 2016 Rankings.

### *Reason for Ranking*

Recent studies estimate that contaminants in drinking water sicken 1.1 million people each year. Ensuring the safety of drinking water is important to prevent illness, birth defects, and death for those with compromised immune systems. A number of other health problems have been associated with contaminated water, including nausea, lung and skin irritation, cancer, kidney, liver, and nervous system damage.

## **Severe Housing Problems**

Severe housing problems is the percentage of households with at least one or more of the following housing problems:

- housing unit lacks complete kitchen facilities;
- housing unit lacks complete plumbing facilities;
- household is severely overcrowded; or

- household is severely cost burdened.
- Severe overcrowding is defined as more than 1.5 persons per room. Severe cost burden is defined as monthly housing costs (including utilities) that exceed 50% of monthly income.

#### *Reason for Ranking*

Good health depends on having homes that are safe and free from physical hazards. When adequate housing protects individuals and families from harmful exposures and provides them with a sense of privacy, security, stability and control, it can make important contributions to health. In contrast, poor quality and inadequate housing contributes to health problems such as infectious and chronic diseases, injuries and poor childhood development.

# Appendix C – Youth Behavioral Risk Survey Results

North Dakota High School Survey

\*2017 YRBS North Dakota Data is not yet available, so the 2015 data was used.

Rate Increase ↑, rate decrease ↓, or no statistical change = in rate.

	ND 2013	ND 2015*	ND Trend ↑, ↓, =	Rural ND Town Average	Urban ND Town Average	National Average 2017
<b>Injury and Violence</b>						
Percentage of students who rarely or never wore a seat belt.	11.6	8.5	↓	10.5	7.5	5.9
Percentage of students who rode in a vehicle with a driver who had been drinking alcohol (one or more times during the 30 prior to the survey)	21.9	17.7	↓	21.1	15.2	16.5
Percentage of students who talked on a cell phone while driving (on at least 1 day during the 30 days before the survey, among students who drove a car or other vehicle)	67.9	61.4	↓	60.7	58.8	NA
Percentage of students who texted or e-mailed while driving a car or other vehicle (on at least 1 day during the 30 days before the survey, among students who had driven a car or other vehicle during the 30 days before the survey)	59.3	57.6	=	56.7	54.4	39.2
Percentage of students who never or rarely wore a helmet (during the 12 months before the survey, among students who rode a motorcycle)	29.8	28.7	=	32.8	24.7	NA
Percentage of students who carried a weapon on school property (such as a gun, knife, or club on at least 1 day during the 30 days before the survey)	6.4	5.2	=	6.6	4.5	3.8
Percentage of students who were in a physical fight on school property (one or more times during the 12 months before the survey)	8.8	5.4	↓	6.9	6.1	8.5
Percentage of students who were ever physically forced to have sexual intercourse (when they did not want to)	7.7	6.3	=	6.5	7.4	7.4
Percentage of students who experienced physical dating violence (one or more times during the 12 months before the survey, including being hit, slammed into something, or injured with an object or weapon on purpose by someone they were dating or going out with among students who dated or went out with someone during the 12 months before the survey)	9.7	7.6	=	6.9	8.0	8.0
Percentage of students who have been the victim of teasing or name calling because someone thought they were gay, lesbian, or bisexual (during the 12 months before the survey)	9.6	9.7	=	10.4	9.7	NA
Percentage of students who were bullied on school property (during the 12 months before the survey)	25.4	24.0	=	27.5	22.4	19.0
Percentage of students who were electronically bullied (including being bullied through e-mail, chat rooms, instant messaging, websites, or texting during the 12 months before the survey)	17.1	15.9	=	17.7	15.8	14.9
Percentage of students who felt sad or hopeless (almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the 12 months before the survey)	25.4	27.2	=	24.9	28.9	31.5
Percentage of students who seriously considered attempting suicide (during the 12 months before the survey)	16.1	16.2	=	15.8	16.7	17.2
Percentage of students who made a plan about how they would attempt suicide (during the 12 months before the survey)	13.5	13.5	=	12.8	13.7	13.6
Percentage of students who attempted suicide (one or more times during the 12 months before the survey)	11.5	9.4	↓	10.3	11.3	7.4



	ND 2013	ND 2015*	ND Trend ↑, ↓, =	Rural ND Town Average	Urban ND Town Average	National Average 2017
<b>Tobacco Use</b>						
Percentage of students who ever tried cigarette smoking (even one or two puffs)	41.4	35.1	↓	37.3	32.5	28.9
Percentage of students who smoked a whole cigarette before age 13 years (for the first time)	7.9	7.2	=	7.3	6.7	9.5
Percentage of students who currently smoked cigarettes (on at least 1 day during the 30 days before the survey)	19.0	11.7	↓	13.2	11.8	8.8
Percentage of students who currently frequently smoked cigarettes (on 20 or more days during the 30 days before the survey)	6.6	4.3	↓	4.3	4.7	2.6
Percentage of students who currently smoked cigarettes daily (on all 30 days during the 30 days before the survey)	3.9	3.2	=	3.2	3.2	2.0
Percentage of students who usually obtained their own cigarettes by buying them in a store or gas station (during the 30 days before the survey among students who currently smoked cigarettes and who were aged <18 years)	7.8	16.9	↑	0.2	1.0	NA
Percentage of students who tried to quit smoking cigarettes (among students who currently smoked cigarettes during the 12 months before the survey)	55.5	47.4	=	49.1	52.7	NA
Percentage of students who currently use an electronic vapor product (e-cigarettes, vape e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens at least 1 day during the 30 days before the survey)	NA	22.3	↑	19.7	22.8	13.2
Percentage of students who currently used smokeless tobacco (chewing tobacco, snuff, or dip on at least 1 day during the 30 days before the survey)	13.8	10.6	↓	12.6	9.5	5.5
Percentage of students who currently smoked cigars (cigars, cigarillos, or little cigars on at least 1 day during the 30 days before the survey)	11.7	9.2	↓	9.7	9.7	8.0
Percentage of students who currently used cigarettes, cigars, or smokeless tobacco (on at least 1 day during the 30 days before the survey)	27.5	20.9	↓	22.9	19.8	14.0
<b>Alcohol and Other Drug Use</b>						
Percentage of students who ever drank alcohol (at least one drink of alcohol on at least 1 day during their life)	65.8	62.1	=	64.5	59.9	60.4
Percentage of students who drank alcohol before age 13 years (for the first time other than a few sips)	15.2	12.4	=	15.3	12.9	15.5
Percentage of students who currently drank alcohol (at least one drink of alcohol on at least 1 day during the 30 days before the survey)	35.3	30.8	↓	32.8	29.3	29.8
Percentage of students who drank five or more drinks of alcohol in a row (within a couple of hours on at least 1 day during the 30 days before the survey)	21.9	17.6	↓	19.8	17.0	13.5
Percentage of students who usually obtained the alcohol they drank by someone giving it to them (among students who currently drank alcohol)	37.0	41.3	=	41.1	40.4	43.5
Percentage of students who tried marijuana before age 13 years (for the first time)	5.6	6.3	=	5.8	5.8	6.8
Percentage of students who currently used marijuana (one or more times during the 30 days before the survey)	15.9	15.2	=	13.2	17.1	19.8
Percentage of students who ever took prescription drugs without a doctor's prescription (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax, one or more times during their life)	17.6	14.5	↓	13.2	16.0	14.0
Percentage of students who were offered, sold, or given an illegal drug on school property (during the 12 months before the survey)	14.1	18.2	↑	15.9	19.9	19.8



	ND 2013	ND 2015*	ND Trend ↑, ↓, =	Rural ND Town Average	Urban ND Town Average	National Average 2017
Percentage of students who attended school under the influence of alcohol or other drugs (on at least one day during the 30 days before the survey)	9.9	8.6	=	7.9	9.0	NA
<b>Sexual Behaviors</b>						
Percentage of students who ever had sexual intercourse	44.9	38.9	↓	39.3	39.1	39.5
Percentage of students who had sexual intercourse before age 13 years (for the first time)	3.8	2.6	=	3.3	3.3	3.4
<b>Weight Management and Dietary Behaviors</b>						
Percentage of students who were overweight (>= 85th percentile but <95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth chart)	15.1	14.7	=	15.4	14.6	15.6
Percentage of students who were obese (>= 95th percentile for body mass index, based on sex- and age-specific reference data from the 2000 CDC growth chart)	13.5	14.0	=	16.3	12.9	14.8
Percentage of students who described themselves as slightly or very overweight	32.0	32.2	=	34.2	31.5	31.5
Percentage of students who were trying to lose weight	45.4	44.7	=	45.0	43.0	47.1
Percentage of students who did not eat fruit or drink 100% fruit juices (during the 7 days before the survey)	3.4	3.9	=	4.3	4.1	5.6
Percentage of students who ate fruit or drank 100% fruit juices one or more times per day (during the 7 days before the survey)	64.7	62.5	=	8.5	8.8	60.8
Percentage of students who did not eat vegetables (green salad, potatoes [excluding French fries, fried potatoes, or potato chips], carrots, or other vegetables, during the 7 days before the survey)	6.0	4.7	=	4.5	5.2	7.2
Percentage of students who ate vegetables one or more times per day (green salad, potatoes [excluding French fries, fried potatoes, or potato chips], carrots, or other vegetables, during the 7 days before the survey)	62.8	58.5	↓	61.2	60.0	59.4
Percentage of students who did not drink a can, bottle, or glass of soda or pop (not including diet soda or diet pop, during the 7 days before the survey)	25.3	25.6	=	23.5	21.7	27.8
Percentage of students who drank a can, bottle, or glass of soda or pop one or more times per day (not including diet soda or diet pop, during the 7 days before the survey)	23.4	18.7	=	21.4	18.0	18.7
Percentage of students who did not drink milk (during the 7 days before the survey)	11.1	13.9	↑	11.6	13.7	26.7
Percentage of students who drank two or more glasses per day of milk (during the 7 days before the survey)	42.4	35.8	↓	36.6	35.3	17.5
Percentage of students who did not eat breakfast (during the 7 days before the survey)	10.5	11.9	=	10.7	11.8	14.1
Percentage of students who most of the time or always went hungry because there was not enough food in their home (during the 30 days before the survey)	3.1	2.2	=	2.4	2.8	NA
<b>Physical Activity</b>						
Percentage of students who were physically active at least 60 minutes per day on 5 or more days (doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time during the 7 days before the survey)	50.6	51.3	=	51.7	50.1	46.5
Percentage of students who watched television 3 or more hours per day (on an average school day)	21.0	18.9	=	20.7	18.2	20.7
Percentage of students who played video or computer games or used a computer 3 or more hours per day (for something that was not school work on an average school day)	34.4	38.6	↑	39.4	38.0	43.0



	ND 2013	ND 2015*	ND Trend ↑, ↓, =	Rural ND Town Average	Urban ND Town Average	National Average 2017
<b>Other</b>						
Percentage of students who had 8 or more hours of sleep (on an average school night)	30.0	29.5	=	34.5	28.7	25.4
Percentage of students who brushed their teeth on seven days (during the 7 days before the survey)	71.5	71.0	=	67.8	70.1	NA
Percentage of students who most of the time or always wear sunscreen (with an SPF of 15 or higher when they are outside for more than one hour on a sunny day)	11.2	12.5	=	10.3	12.8	NA
Percentage of students who used an indoor tanning device (such as a sunlamp, sunbed, or tanning booth [not including getting a spray-on tan] one or more times during the 12 months before the survey)	19.6	12.2	↓	13.3	12.8	NA

# Appendix D – Prioritization of Community’s Health Needs

## Community Health Needs Assessment

### Bottineau, North Dakota

#### Ranking of Concerns

The top four concerns for each of the six topic areas, based on the community survey results, were listed on flipcharts. The numbers below indicate the total number of votes (dots) by the people in attendance at the second community meeting. The “Priorities” column lists the number of yellow/green/blue dots placed on the concerns indicating which areas are felt to be priorities. Each person was given four dots to place on the items they felt were priorities. The “Most Important” column lists the number of red dots placed on the flipcharts. After the first round of voting, the top five priorities were selected based on the highest number of votes.

Each person was given one dot to place on the item they felt was the most important priority of the top five highest ranked priorities.

	Priorities	Most Important
<b>COMMUNITY/ENVIRONMENTAL HEALTH CONCERNS</b>		
Attracting & retaining young families	3	
Having enough child daycare services	0	
Not enough jobs with livable wages	6	6
Water quality	2	
<b>AVAILABILITY/DELIVERY OF HEALTH SERVICES CONCERNS</b>		
Ability to retain primary care providers and nurses	3	
Availability of hospice	0	
Availability of specialists	0	
Cost of prescription drugs	0	
<b>YOUTH POPULATION HEALTH CONCERNS</b>		
Alcohol use and abuse	0	
Depression/anxiety	7	5
Drug use and abuse (including prescription drugs)	0	
Smoking and tobacco use or vaping/juuling	2	
<b>ADULT POPULATION HEALTH CONCERNS</b>		
Alcohol use and abuse	3	
Depression/anxiety	4	0
Cancer	4	0
Not getting enough exercise/physical activity	0	
<b>SENIOR POPULATION HEALTH CONCERNS</b>		
Assisted living options	2	
Availability of home health	0	
Availability of resources to help elderly stay in their homes	1	
Cost of long-term/nursing home care	4	0
<b>VIOLENCE CONCERNS</b>		
Bullying/cyber-bullying	3	
Child abuse/neglect	1	
Emotional abuse (isolation, verbal threats, withholding of funds)	0	
Video game/media violence	0	

# Appendix E – Survey “Other” Responses

The number in parenthesis ( ) indicates the number of people who indicated that EXACT same answer. All comments below are directly taken from the survey results and have not been summarized.

## Community Assets: Please tell us about your community by choosing up to three options you most agree with in each category below.

4. Considering the ACTIVITIES in your community, the best things are: “Other” responses:

- None of these available choices
- Volunteer opportunities

## Community Concerns: Please tell us about your community by choosing up to three options you most agree with in each category.

5. Considering the COMMUNITY / ENVIRONMENTAL HEALTH in your community, concerns are: “Other” responses:

- Ice arena conditions
- Not enough access to specialized healthcare
- Substance issues

6. Considering the AVAILABILITY / DELIVERY OF HEALTH SERVICES in your community, concerns are: “Other” responses:

- Availability of vision care that accepts insurance

7. Considering the YOUTH POPULATION in your community, concerns are: “Other” responses:

- More indoor activity options for children

11. What single issue do you feel is the biggest challenge facing your community?

- Aging population, need of senior (assisted living) housing
- As a small town, it will continue to be challenging to attract healthcare professionals – whether doctors, radiology techs, nurses, etc.
- Cost of healthcare
- Cost of healthcare – services, prescriptions, etc.
- Employment (lack of)
- Growing substance abuse in the young adults
- Hard to get hospice services or an assisted living facility
- Not enough daycare, working families can’t get assistance from the state
- Not enough professional jobs to attract young families to come and stay here
- People are extremely opinionated – need to be more open-minded and considerate of the community
- Recruiting and keeping quality healthcare providers
- So many teenagers drink / smoke / vape and parents and school don’t do anything
- The lack of a wellness center
- Volunteers

## Delivery of Healthcare

18. Have you supported the St. Andrew's Health Center Foundation in any of the following ways?

- Attended events
- Donate to auction events
- (4) Fundraisers
- Supported their events

19. Do you believe individuals in the community would financially support any of the following capital improvements by St. Andrew's Health Center?

- A new building which would incorporate all of the others
- New Building
- (3) New hospital

29. Overall, please share concerns and suggestions to improve the delivery of local healthcare.

- It's hard to get into the clinic
- Love the clinic, but some bedside manner is lacking. I switch to pyramid because of the lack of professionalism by certain providers
- Make it easier and more cost-efficient to treat minor illnesses. Minot makes it much easier with walk-in clinics and ability to take tests immediately. Also, confidentiality is an issue. Employees must learn to keep confidential information to themselves.
- More services and specialists
- The hours for the clinic are not convenient. It is hard to get into the same provider repeatedly when the providers are not here all the time. It is almost impossible to get a same-day appointment for things like a UTI. A lot of things are sent to the ER that are not ER problems due to lack of staff or lack of staff willing to see the problem.
- To find a way to get St. Andrew's fully staffed
- Very concerned about inability to replace retiring heads of departments with qualified personnel
- Very hard to get clinic appointments quickly. They just so "go to ER" even if you need a prescription refill.