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1. INTRODUCTION, ORGANIZATIONAL BACKGROUND, AND SERVICE AREA

Introduction

This report provides a comprehensive overview of the 2018 Community Health Needs Assessment (CHNA) conducted collaboratively by Riverview Health. The chapters of this report provide an overview of the methods used to conduct the CHNA, summaries of existing health indicator data that was reviewed, primary data that was collected for purposes of the CHNA, and a description of the process and outcomes of a prioritization process to establish the health priorities that will drive the hospital's activities in the subsequent years.

About Riverview Health

Riverview Health is a comprehensive healthcare network comprised of a full-service, 156-bed hospital located in Noblesville, Indiana as well as 25 primary and specialty care facilities located throughout Hamilton County.

At Riverview Health, more than 350 physicians—many of whom are board certified or fellowship trained—provide healthcare services in 35 medical specialties. Their expertise, coupled with exceptional specialists and nursing staff, is one of the reasons Riverview Health is frequently recognized for clinical and service excellence.

The organization's goal is to provide compassionate, patient-centered care to everyone in the community. Riverview Health promotes a progressive, nurturing environment—and supports the community through educational seminars, screenings and other events aimed at helping the individual and family stay well.

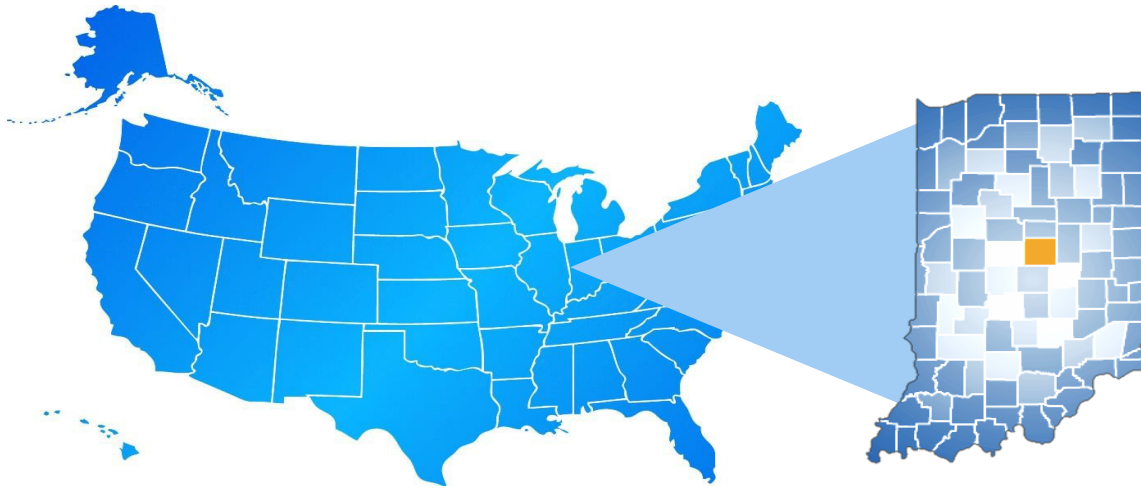
As one of the largest employers in Hamilton County, Riverview Health plays an important role in the local business community as well. Riverview Health is a nonprofit organization owned by Hamilton County, though it does not receive tax dollars for operating expenses. Riverview Health is governed by a seven-member Board of Trustees appointed by the Hamilton County commissioners which oversees hospital policy and strategic direction.

Riverview Health is accredited by a number of leading regulatory agencies, including:

- American Academy of Sleep Medicine (AASM)
- American Association of Blood Banks (AABB)
- American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR)
- American College of Radiology (ACR)
- American Diabetes Association (ADA)
- College of American Pathologists (CAP)
- Commission on Accreditation of Rehabilitation Facilities (CARF)
- Commission on Cancer (CoC)
- Healthcare Facilities Accreditation Program (HFAP)
- Society of Chest Pain Centers (SCPC)

About the Service Area

Riverview Health provides services to populations in Hamilton County, Indiana. The service area defined for data collection in this CHNA was Hamilton County.



2. CHNA PROCESS AND METHODS

CHNA Overview

To conduct the CHNA, the hospitals worked with a range of community and academic partners to conduct a comprehensive community health needs assessment (CHNA).

The purpose of the assessment to identify the significant health needs in the community and gaps that may exist in services provided. It was also developed to provide the community with information to assess essential health care, preventive care, and treatment services. This endeavor represents efforts to share information that can lead to improved access to care and quality of care available to the community, while reinforcing and augmenting the existing infrastructure of services and providers.

CHNA Activities and Methods

The CHNA was conducted beginning in 2017 and being completed in 2018, the results of which are reflected in this report. Table 1 provides an overview of the overall process and specific methods related to each. Within each respective section of this report, additional details regarding methods, participants, and measures are provided.

CHNA Partners

Conducting the CHNA necessitated collaboration with a range of public health and social service partners to ensure that diverse scientific and community-based insights were included throughout the process. Of particular importance was to ensure that individuals who directly or indirectly represented the needs of three important groups including: 1) those with particular expertise in public health practice and research, 2) those who are medically underserved, low-income, or considered among the minority populations served by the hospital, and 3) the broader community at large and those who represent the broad interests and needs of the community served.

Key partner organizations included:

- ***The University of Evansville.*** Faculty, staff, and students in public health areas collaborated with the hospital on the data-oriented aspects of the project.
- ***Indiana University School of Public Health.*** Faculty and students collaborated with the hospital throughout the survey process.
- ***Indiana University Center for Survey Research.*** Faculty and staff provided in-depth technical assistance and guidance throughout the survey process, and worked closely with Riverview Health and the University of Evansville to field the community health survey.
- ***Measures Matter, LLC.*** Measures Matter is a community-based research consulting firm based in Bloomington, Indiana and Palm Springs, California. Measures Matter conducted an

independent analysis of the survey data and also facilitated the prioritization process with the hospital and its partners.

- **County Health Department.** Representatives of the Hamilton County Health Department were active participants in the CHNA activities.
- **Community Health and Social Service Organizations.** A wide range of community-based health and social service organizations collaborated throughout the CHNA process to consider data from the CHNA, make decisions regarding health priorities, and initiate considerations of subsequent actions based on the CHNA. In particular, a wide and diverse range of organizational partners and community constituents participated in the focus group discussions. Listings of those community partners are included in the Appendices section of this report (Appendix B) and also listed in the Prioritization Process section as applicable (Section 6).

Table 1. Description of CHNA Activities

CHNA ACTIVITIES	DESCRIPTION OF ACTIVITIES
Identification of the Service Population	Hospital staff worked together to identify its community served through a review of patient-related data and other geographic boundaries related to the hospital's service area.
Review of Existing Health Indicator Data	In collaboration with public health researchers, the hospital conducted a review of existing data and indicators relevant to this assessment. Subsequent to this review of data, key insights were incorporated into subsequent CHNA activities and considered during the selection of health priorities.
Community Health Survey	In collaboration with nine other hospital systems, health department representatives, community organizations, and with faculty researchers from the University of Evansville and Indiana University Bloomington, a survey was developed and conducted to collect data from residents in the hospital's service area. The survey process included a random sample that recruited proportionately from all zip codes in the service area.
Community Focus Group Discussions	Three community focus group discussions were held in Hamilton County. The purpose of these focus group was to provide a forum for in-depth consideration of the health issues and populations most in need of attention in Hamilton County.
Health Needs Prioritization Session	Hospital staff held a meeting of key stakeholders and organizational leadership in order to review data from all activities conducted for the CHNA. Subsequent to a formal presentation and discussion of the data, attendees in the meeting participated in a nominal group process to identify the top health needs that would inform the development of the implementation plan.
Review of Resources and Partners	Based upon the results of the CHNA activities, a list of local resources and partnerships that would be relevant to addressing the needs identified via the CHNA and the subsequent implementation plan.

3. REVIEW OF EXISTING HEALTH INDICATORS

Introduction

This section of the report provides an overview of existing data and indicators that offer insight into the health and social issues of the service area. These data were used in a range of ways throughout the CHNA process, including:

- to inform the development of issues that would be further explored in the 2018 CHNA Community Survey,
- to guide specific analyses of data from the 2018 CHNA Community Survey,
- to provide data summaries and other insights to community members, organizational stakeholders, and Hospital staff during CHNA related meetings and discussions, and
- as a foundation for the review of ongoing efforts and key decisions about the services offered by the Hospital.

Data Sources

To ensure consistency throughout the CHNA process, the review of existing data included the most recently available data related to the following community indicators:

- demographic characteristics of residents in the service area,
- social and economic characteristics of the service area,
- leading health outcomes,
- clinical characteristics of the service area, with a focus on access to care,
- quality of life indicators, and
- health-related behaviors and associated factors.

Data presented in this section of the report were sourced from the 2018 version of County Health Rankings & Roadmaps, a project of the Population Health Institute of the University of Wisconsin that is supported by the Robert Wood Johnson Foundation. Data also included those from the Indiana State Department of Health.

Throughout these data, indicators are presented for the county of interest, the state of Indiana, and the Top U.S. Performers (indicators that represent the top 10% best performing counties in the country). While comparisons across these data are valuable for identifying areas in a particular county where improvements can be made, such comparisons should always be made within the context of the vast differences that exist across the counties in the country.

Population Characteristics

Demographic characteristics of a particular region provide important insights for the development and delivery of health-related services and programs. Hamilton County is largely homogeneous in terms of racial and ethnicity characteristics although it does have a larger Asian population than the typical Indiana county. It is evenly split with regard to gender, with low proportions of individuals living in areas considered rural. Hamilton County’s population of 313,373 persons is summarized in Table 2.

Table 2. Characteristics of Hamilton County’s Population

County Population Characteristics	Hamilton County	Indiana
Population Size	313,373	6,633,053
% Below 18 years of age	27.8%	23.8%
% 65 and older	11.4%	14.9%
% Non-Hispanic African American	4.0%	9.3%
% American Indian and Alaskan Native	0.2%	0.4%
% Asian	6.0%	2.2%
% Native Hawaiian/Other Pacific Islander	0.1%	0.1%
% Hispanic	3.9%	6.8%
% Non-Hispanic white	84.2%	79.6%
% Not proficient in English	1%	2%
% Females	51.2%	50.7%
% Rural	5.60%	27.6%

Social and Economic Characteristics

Social and economic factors are well established as important determinants of health and well-being. For purposes of the CHNA, these factors provide valuable insight into the context of health and well-being indicators and offer a foundation for considering the manner in which a hospital’s programs are connected to a wider social services network. Hamilton County’s population fares better than many communities in Indiana, with higher levels of educational attainment, lower levels of poverty, and lower levels of unemployment. The county, on many social and economic indicators, performs at a level equal to or better than the top U.S. performers. Table 3 provides a summary of primary social and economic factors in Hamilton County.

Table 3. Social and Economic Factors, Hamilton County

Social and Economic Factors	Hamilton County	Top US Performers	Indiana
High school graduation	94%	95%	87%
Some college	86%	72%	62%
Unemployment	3.20%	3.20%	4.40%
Children in poverty	5%	12%	19%
Income inequality	3.9	3.7	4.4
Children in single-parent households	18%	20%	34%
Social associations	9.8	22.1	12.3
Violent crime (per 100,000)	37	62	356
Injury deaths (per 100,000)	37	55	70

Quality of Life Indicators

Self-reported rankings of overall health status, and the number of days in a given month for which individuals would rate their physical and mental health as being poor, offer important insights into the factors that often influence individuals to seek care or support, and share well documented associations with care outcomes. Additionally, low birthweight is commonly used as a gauge for the existence of multi-faceted public health problems. Hamilton County performs quite well on each of these important indicators as is summarized in Table 4.

Table 4. Quality of Life Indicators

Quality of Life Indicators	Hamilton County	Top US Performers	Indiana
Poor or fair health	10%	12%	18%
Poor physical health days	2.6	3	3.9
Poor mental health days	3.0	3.1	4.3
Low birthweight	7%	6%	8%

Health Outcomes

Common health indicators that provide insight into the general health state of a community include premature mortality, infant mortality, chronic disease (diabetes), infectious disease (HIV) and both physical and mental distress. On these indicators, Hamilton county largely fares better than the averages for the state of Indiana. However, while these values place Hamilton County within the top quartiles of the state on most indicators, both the state and county have some health outcomes that are worse than the top U.S. performing regions and suggest areas for continuing improvement. Table 5 provides an overview of these leading health indicators for Hamilton County.

Table 5. Health Outcome Indicators, Hamilton County

Health Outcome Indicators	Hamilton County	Top US Performers	Indiana
Premature age-adjusted mortality (per 100,000)	210	270	390
Child mortality (per 100,000)	30	40	60
Infant mortality (per 100,000)	4	4	7
Frequent physical distress	8%	9%	12%
Frequent mental distress	9%	10%	13%
Diabetes prevalence	9%	8%	11%
HIV prevalence (per 100,000)	88	49	196

Clinical Characteristics

Of particular importance to the hospital were data that help to assess and consider issues that are closely aligned with the nation’s objectives to continue improving access to care, reducing health care costs, and improving both the proportion of the population that has health insurance (particularly children) and adherence to preventive screenings and chronic disease monitoring. Uninsured rates in Hamilton County, while similar to the state average, are similar to the top performing areas of the U.S., as is the case with many other indicators for Hamilton County.

Hamilton County, based on the availability of healthcare providers, ranks among the best counties in the state, with the exception of mental health providers. Other indicators related to preventive screening and chronic disease management are within the top ranges of both the state and nation. Table 6 provides a summary of these clinical characteristics of Hamilton County.

Table 6. Clinical Care Characteristics, Hamilton County

Clinical Characteristics	Hamilton County	Top US Performers	Indiana
Uninsured	6%	6%	11%
Uninsured adults	7%	7%	13%
Uninsured children	5%	3%	7%
Primary care physicians	710:1	1,030:1	1,500:1
Dentists	1,350:1	1,280:1	1,850:1
Mental health providers	760:1	330:1	700:1
Other primary care providers	1,566:1	782:01	1,367:1
Preventable hospital stays (per 100,000)	33	35	57
Diabetes monitoring	89%	91%	85%
Mammography screening	70%	71%	62%
Health care costs	\$9,281		\$9,992

Leading Causes of Mortality

An examination of the leading causes of mortality provides valuable insight into the major health issues facing a community. Presented in terms of the rates of disease-specific death by 100,000 members of a population, these data serve as an indicator of the issues most likely to require significant attention from hospitals and other health and social service organizations.

While these data are mortality-specific, they also help to serve as an indicator of a community's morbidity given that many individuals live with these diseases for extended periods of time. They also provide a helpful guide to prevention-focused programs given that behavioral determinants of these leading health issues are fairly understood.

Table 7 provides a summary of these indicators.

Table 7. Mortality Indicators for Hamilton County, 2016

ICD 10 Description of Mortality Causes	RATES PER 100,000 Population (Age-Adjusted)
Malignant neoplasms (cancer)	125.61
Malignant neoplasm of stomach	1.59
Malignant neoplasms of colon, rectum and anus	11.41
Malignant neoplasm of pancreas	10.00
Malignant neoplasms of trachea, bronchus and lung	26.52
Malignant neoplasm of breast	9.83
Malignant neoplasms of cervix uteri, corpus uteri and ovary	5.47
Malignant neoplasm of prostate	7.34
Malignant neoplasms of urinary tract	7.54
Non-Hodgkin's lymphoma	3.15
Leukemia	5.37
Other malignant neoplasms	37.39
Diabetes mellitus	20.73
Alzheimer's disease	27.73
Major cardiovascular diseases	184.33
Diseases of heart	142.13
Hypertensive heart disease with or without renal disease	6.98
Ischemic heart diseases	87.69
Other diseases of heart	47.45
Essential hypertension and hypertensive renal disease	4.88
Cerebrovascular diseases (stroke)	34.4
Atherosclerosis	0.36
Other diseases of circulatory system	2.57
Influenza and pneumonia	7.68
Chronic lower respiratory diseases	38.89
Peptic ulcer	0
Chronic liver disease and cirrhosis	6.69
Nephritis, nephrotic syndrome and nephrosis (kidney disease)	14.85
Pregnancy, childbirth and the puerperium	0.63
Certain conditions originating in the perinatal period	3.56
Congenital malformations, deformations and chromosomal abnormalities	2.71
Sudden infant death syndrome (SIDS)	0
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (excluding SIDS)	3.34
All other diseases	130.62
Motor vehicle accidents	5.46
All other and unspecified accidents and adverse effects	25.18
Intentional self-harm (suicide)	12.13
Assault (homicide)	0.71
All other external causes	1.26

Source: Indiana State Department of Health, Epidemiology Resource Center. Summary Produced September 12, 2017

Behavioral Factors

For purposes of the CHNA, a range of leading health behavior indicators were assessed. Each of the selected indicators share important associations with leading causes of morbidity and mortality in the country. Table 8 provides an overview of the leading health behaviors that not only offer insights into the behavioral determinants of leading health challenges in Hamilton County and opportunities for the ongoing development and implementation of health and social service programs.

Table 8. Health Behaviors and Behavioral Outcomes, Hamilton County

Health Behaviors	Hamilton County	Top US Performers	Indiana
Adult smoking	13%	14%	21%
Adult obesity	27%	26%	32%
Food environment index	8.8	8.6	7
Physical inactivity	16%	20%	27%
Access to exercise opportunities	89%	91%	77%
Excessive drinking	20%	13%	19%
Alcohol-impaired driving deaths	24%	13%	22%
Sexually transmitted infections	204.5	145.1	437.9
Teen births	8	15	30

Table 9 also provides an overview of additional behavioral factors that are important for the context of the CHNA activities.

Table 9. Other Behavioral Factors, Hamilton County

Other Behavioral Factors	Hamilton County	Top US Performers	Indiana
Food insecurity	9%	10%	14%
Limited access to healthy foods	4%	2%	7%
Drug overdose deaths (per 100,000)	11	10	20
Motor vehicle crash deaths (per 100,000)	5	9	12
Insufficient sleep	30%	27%	36%

Summary

A review of leading indicators related to the health and well-being of a community provides an important foundation for the remaining CHNA activities. These data offer insights into the factors underlying the health issues that are perceived by providers, organizational stakeholders, and community members as being among those needing priority attention. These data summaries were used during subsequent CHNA activities, receiving particular attention during the prioritization process that is described in section six of this report (Prioritization Process).

2018 COMMUNITY CHNA SURVEY

Survey Methods

Purpose of the Survey

To collect primary data from residents of communities in the hospital's service area of Hamilton County, a survey was designed, fielded, and analyzed. This section of the report includes a description of the survey methods and the results of the responses to the survey.

Survey Development

To develop the survey used for the CHNA, the hospital partnered with faculty from Indiana-based universities who had particular expertise in community-based survey research. Dr. William McConnell of the University of Evansville served as the lead researcher on the project, in partnership with Dr. Michael Reece and Dr. Catherine Sherwood-Laughlin (both of the Indiana University School of Public Health). The University of Evansville contracted with the Center for Survey Research (CSR) at Indiana University to administer this survey. The survey was conducted with approval of the Institutional Review Board (IRB) of the University of Evansville.

Planning and development for the survey began in the winter of 2017. The university faculty joined a collaborative of eight major hospital systems that served populations in Indiana and Illinois. A goal of the collaborative was to align survey activities in order to increase cost-efficiency and to work toward the development of a data infrastructure that would be useful across the systems and also of enhanced utility to the health and social service organizations with which those hospitals partner on initiatives to improve health in their respective local communities.

Using a construct-based approach that identified the leading areas to be included on the survey, the hospitals and faculty developed a survey. The survey included measures that had been validated for use in similar projects by other researchers and additional measures that were developed by the partners for specific needs of this CHNA. The survey covered ten major areas. Table 10 provides an overview of the constructs covered in the survey and a description of the measures associated with each construct. A copy of the survey is included as Appendix A.

Sample Development

Data were collected via a random sample of individuals representative of the hospital's service area. The target population for Phase I of the 2018 Community Health Needs Assessment Survey consisted of noninstitutionalized adult residents, aged 18 years or older, in the catchment areas the participating hospitals. Sampling was performed on a household basis using an address-based sample.

Table 10. Survey Constructs and Measures

SURVEY CONSTRUCTS	DESCRIPTION OF MEASURES
Demographics	This section included measures related to the socio-demographics of the survey participants, including: county of residence, age, gender, ethnicity, race, education, household income, employment, and number of adults and children in household.
Perceived Health and Well-Being	This section included a revised version of the U.S. Centers for Disease Control and Prevention's Health-Related Quality of Life measure. Items included the single-item HRQOL assessment of perceived overall health and additional assessments of physical health, mental health, and social well-being. Also included was a measure of overall life satisfaction and a measure of current level of life stress.
Health Care Coverage and Relationships	This section included a single measure of whether the participant had health insurance or some other type of coverage for health care and a single measure of whether they had a current personal health care provider.
Health Care Engagement	This section included a measure related to the types of care with which the participant had engaged in the previous 12 months. A total of 14 specific types of health care engagement were assessed.
Health-Related Behaviors	This section included a measure that asked participants to self-report their participation in a range of health-related behaviors. A total of 11 health behaviors were assessed.
Health Care Resource Challenges	This section included measures related to the extent to which participants had found themselves in need of avoiding care due to a lack of fiscal resources. Specifically assessed was the extent to which participants had to forego three types of health care, including seeing a medical provider, filling a prescription, and securing transportation for a health purpose or appointment.
Felt Social Determinants	This section included measures to assess the extent to which participants felt the impact of ten specific social determinants, including economics, education, community cohesion, policy, environment, housing, psychosocial, transportation, social ecological, and employment.
Perceived Priority Health Needs	This section included a measure to assess participants' perceptions of the importance of 21 health issues to their local community.
Perceived Resource Allocation Priorities	This section included a measure to assess participants' perceptions of the extent to which 21 health issues were of priority for the allocation of resources in their local community.
Perceived Importance of Social and Health Services	This section included a measure to assess the extent to which participants perceived 20 different health and social service programs to be of importance to their community.

The faculty collaborated with the hospitals to determine catchment areas using county and zip code boundaries. Geographic areas that were shared between hospitals were reduced such that each geographic area was sampled one time.

Sampling was determined using a multistage sampling design. At the first stage, sample units were drawn randomly from an address-based sampling frame of each area. Sample frames were limited to residential addresses excluding P.O. boxes (unless marked in the sample frame as 'only way to get mail'), seasonal, vacant, throwback, and drop-off point addresses. At the

second stage, a within-household respondent was selected by asking the adult with the most recent birthday to complete the survey.

To develop the hospital's sample area, a set of 4,445 address-based records representing the hospital's service population were purchased from Marketing Systems Group (MSG). MSG used proprietary sampling methods and provided assurance of appropriate and accurate coverage for the target population. The sample list delivered by MSG included postal address information, FIPS code (county designator), and appended demographic information for age, gender, Hispanic surname, Asian surname, number of adults at address, number of children at address, household income class, marital status, ethnicity, and home ownership status. Upon receipt of the sample, it was stored in a secure database created and maintained by the CSR and was reviewed and corrected for any clerical errors. Using these records, a recruitment sample was constructed for the hospital's service population.

Data Collection

The questionnaire was printed as a four-page booklet on a single 11" x 17" sheet with a fold in the center. Each questionnaire was printed with a unique, numeric survey identifier that matched up a record in the sample. A separate sheet was folded over the questionnaire and printed with a cover letter, study information sheet, and return mailing instructions. The questionnaire packet was assembled in a 9" x 12" windowed envelope and included an 8¾" x 11½" postage-paid, business reply envelope for survey returns.

The field period for the 2018 Community Health Needs Assessment Survey was April 2, 2018, through June 29, 2018. Each sampled address received up to two questionnaire attempts. The addresses were divided into four batches based on USPS pre-sort, and each batch was mailed one at a time over the course of a two-week period. The second questionnaire for each address was mailed approximately 4 weeks after the first questionnaire. The addresses of returned questionnaires were excluded from the lists for the second questionnaire attempt.

After the second questionnaire attempt, a postcard follow-up was reintroduced in hopes of increasing response. In addition to reminding people to mail in their completed questionnaires, the postcard also provided a website address that allowed people to take the survey online as a member of the secondary convenience sample.

Paper questionnaires were returned to CSR in postage-paid, business reply envelopes provided in the questionnaire packet. Completed survey returns were counted, checked for unclear marks, batched in groups of 50 surveys, and scanned into ABBYY FlexiCapture OCR software for data processing. CSR's scanning partner, DataForce (dba MJT, US), received the scanned survey images electronically and reviewed the data via ABBYY FlexiCapture data verification software to ensure quality control. Missing responses and multiple responses to a single item were flagged. The compiled data was transmitted back to CSR via a secure file transfer protocol (SFTP) server.

Data Management

All surveys were returned to CSR for scanning and organization. Data files were stored by CSR on a secure file server and processed using R statistical programming software. Respondent-provided counties and zip codes were cross-checked against the sample file. Discrepancies and misspellings were verified against the original scanned image of the response and, if reasonably similar, corrected prior to final data submission.

After data processing, identifiers to allow filtering by hospital catchment area and weighting variables were added (only for the random sample). The final dataset was converted to a format for analysis in STATA statistical analysis software and transmitted to the researchers via Slastmp, Indiana University's secure file transfer system.

Weighting of Samples

This section provides an overview of weighting activities for the 2018 Community Health Needs Assessment. Two weighting adjustments were made to enhance consistency between the survey sample and the characteristics of the hospital's service population. The first was a base weight adjustment to account for unequal probabilities of selection within household. The second was a post-stratification adjustment to U.S. Census Bureau 2012-2016 American Community Survey five-year population estimates. The two weighting adjustments were multiplied to calculate a preliminary final weight for each hospital's catchment area. These preliminary weights were then trimmed and scaled so that the final weights summed to the number of respondents in each catchment area. Dataset preparation and weighting activities were conducted using SAS Versions 13.1 and 14.1 and Excel. American Community Survey data were obtained using American FactFinder (<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>).

Survey Response Patterns

Regarding the random sample, of the 4,445 address-based records received during sample construction, 4,113 were deemed eligible for participation in the survey and received recruitment materials by mail. Of those households, a total of 505 returned a completed survey. The response rate for Hamilton County was thus 12.28%. Table 11 provides an overview of survey responses by zip codes included in the hospital's service population.

Data Analyses

Data analyses were conducted by Measures Matter, LLC, a research consulting group with expertise in community-based participatory research. Prior to analyses, Measures Matter staff consulted with the hospital to develop a preliminary plan for the analysis of data and the presentation of results.

To retain the integrity of the phase one random sample and the methodological rigor offered by that sample, analyses were conducted separately for the phase one random sample and the phase two convenience sample.

Table 11. Hamilton County Response Patterns by Zip Code

County / Zip	Count of Respondent Households	Count of Households Assumed Eligible	Response Rate
HAMILTON	505	4113	12.28%
46030	1	26	3.85%
46031	1	19	5.26%
46032	89	652	13.65%
46033	73	463	15.77%
46034	9	88	10.23%
46037	55	526	10.46%
46038	67	544	12.32%
46040	5	64	7.81%
46055	1	35	2.86%
46060	60	553	10.85%
46062	54	461	11.71%
46069	13	72	18.06%
46074	50	445	11.24%
46077	2	21	9.52%
46250	1	6	16.67%
46256	2	15	13.33%
46260	0	1	0.00%
46280	21	119	17.65%
46290	1	3	33.33%
Total	505	4113	12.28%

SURVEY RESULTS

Description of Participants

A total of 505 participants returned a completed survey from the phase one random sample. In this section of the survey, the primary presentation of results includes these 505 individuals from the random sample.

County of Residence. Of the 214 participants, 95.3% (n = 481) indicated that their primary residence was located in Hamilton County. Although all households receiving the survey were located in Hamilton County, some participants (4.8%, n = 24) refused to provide their county of residence or indicated that it was located in an adjacent county. Figure 1 provides an overview of the participants' reported county of residence.

Adults and Children in Household. Participants were asked to indicate the number of adults (18 years and over) and children (under 18 years) who lived in their household. Of the participants, 76.1% (n = 374) indicated that two or fewer adults lived in the household. Of those providing a response to the question about children in the household, the majority (54.2%, n = 274) indicated no children under the age of 18 years in the home. Some participants did report children in the home, with most (34.6%, n = 174) indicated two or fewer children and only a small proportion (10.3%, n = 52) reporting three or more children in the home.

Gender. Participants were asked to report their gender. More women participated in the survey than did men, and few refused to respond to the question about gender. Figure 2 provides an overview of participant gender. Most participants in the convenience sample were also women.

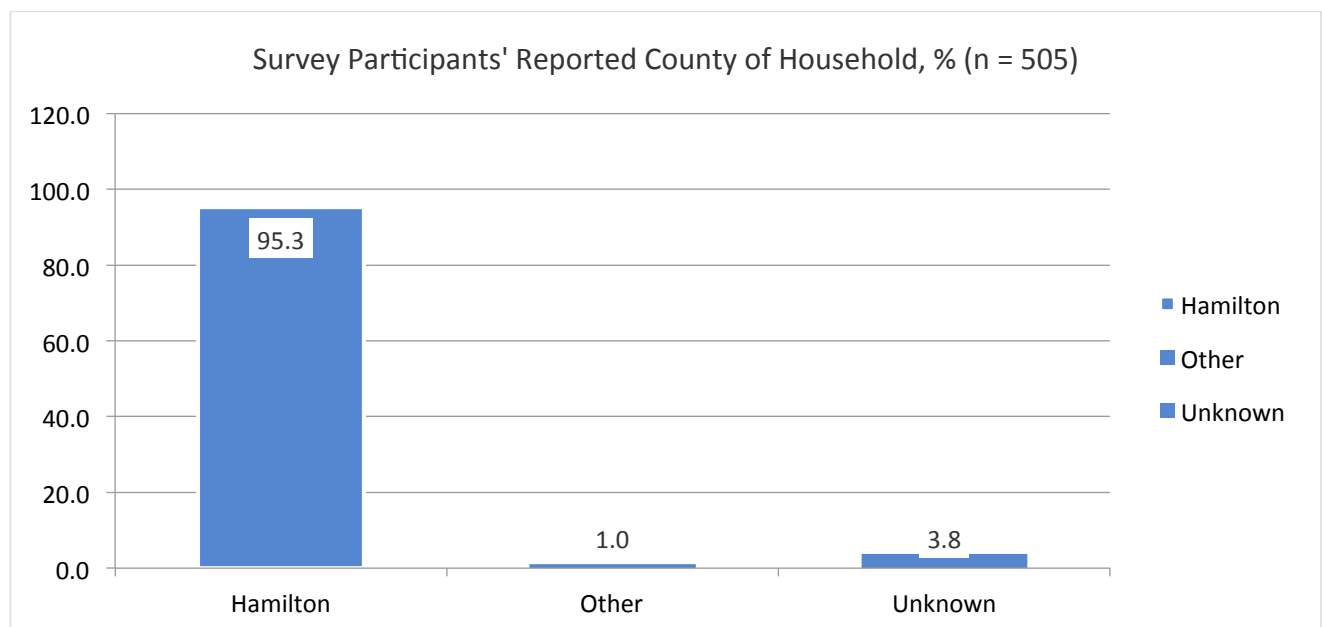


Figure 1. Participant's Reported County of Residence, by % of Participants

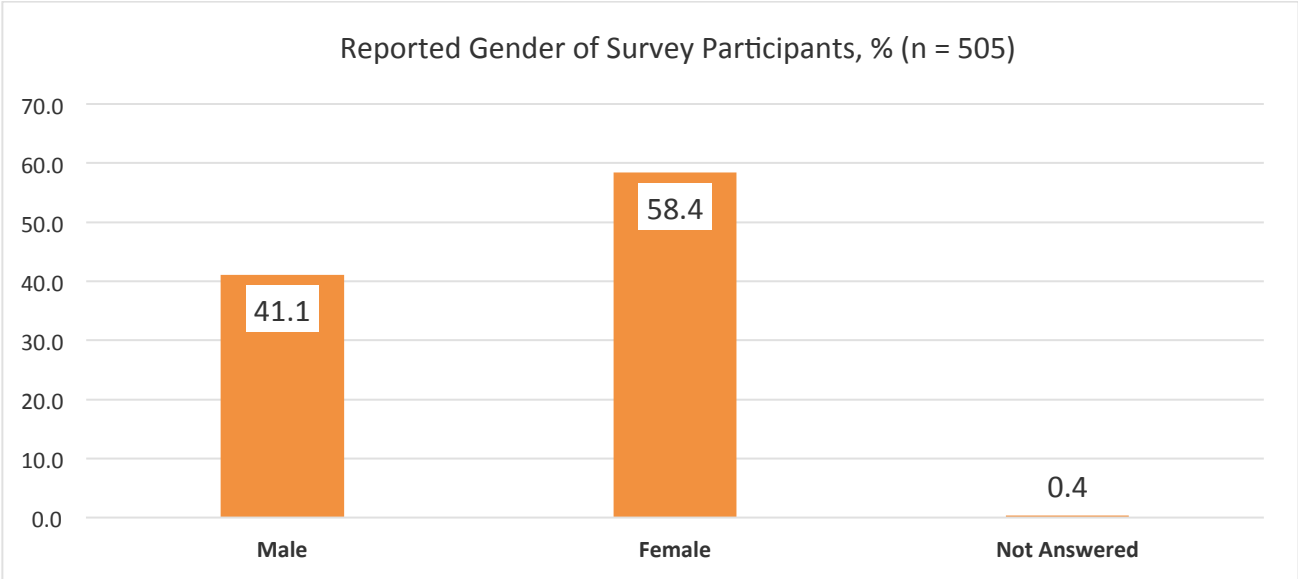


Figure 2. Reported Gender of Survey Participants, by % of Participants

Age. Participants were asked to provide the year in which they were born. Those data were subsequently analyzed to compute the estimated age of the individual at the time the survey was returned. Figure 3 provides a categorical overview of the age of participants

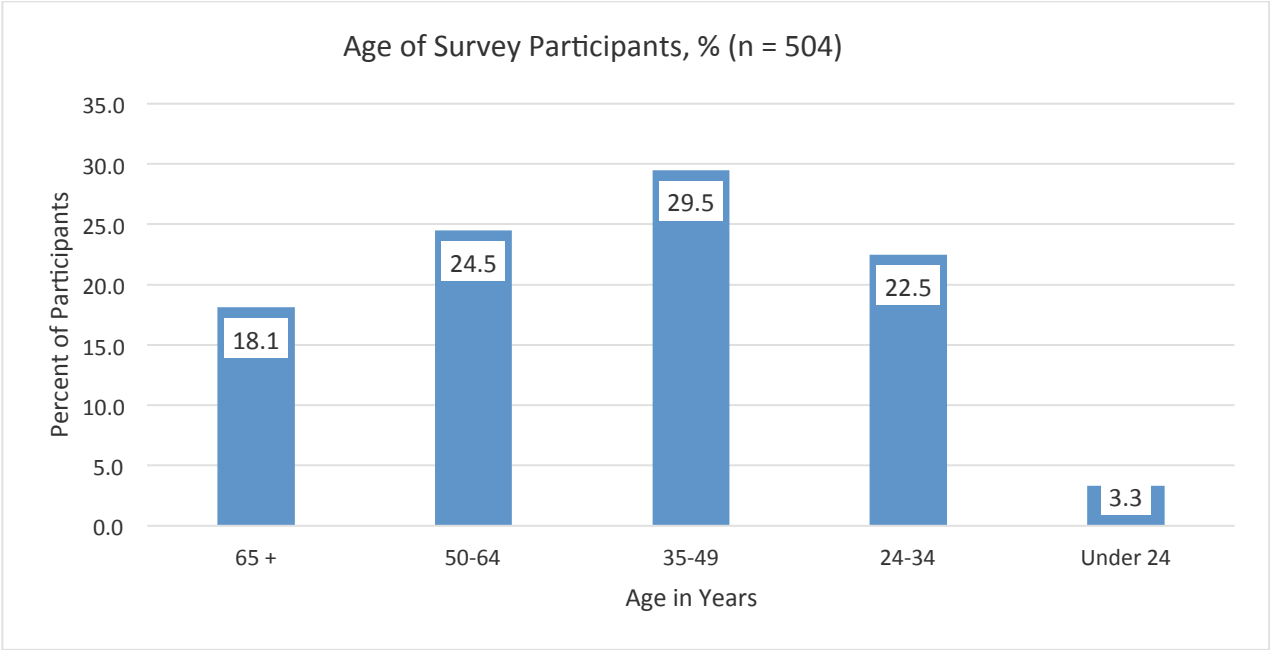


Figure 3. Reported Age of Participants, by % in Years

Race. Participants were asked to respond to a question regarding the race with which they identify. Participants were invited to select more than one race. The vast majority (92.2%, n = 465) indicated that they were of “Caucasian/White” race, with 1.6% (n = 8) describing their race as “Black/African American” and 5.6% (n = 28) describing their race as “Asian.” Less than one percent selected any other race. Figure 4 provides an overview of the race characteristics and those indicating their ethnicity as Hispanic.

Ethnicity. Participants were asked whether they were of Hispanic, Latino, or Spanish origin. Slightly less than three percent of participants (2.5%, n = 13) responded in the affirmative.

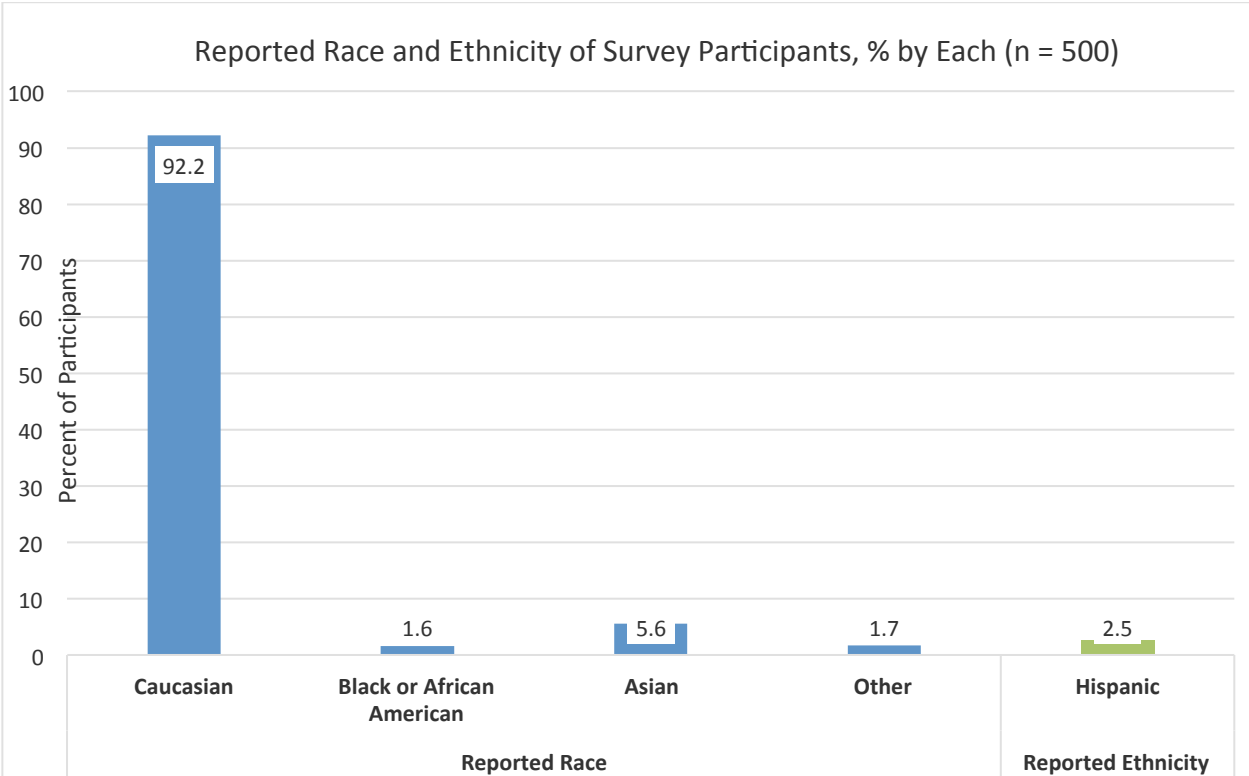


Figure 4. Reported Race and Ethnicity, by Category %

Household Income. Participants were asked to respond to a question regarding the total income of the household in which they lived (including all sources). Seven participants did not provide a response to this question. A small proportion of participants (6.7%, n = 34) reported total household income of less than \$35,000.00, more (17.3%, n = 87) reported income of between \$35,000.00 and \$74,999.00, and the largest proportion (72.4%, n = 366) reported total household income of \$75,000.00 or more. Figure 5 provides a categorical summary of the reported household income of participants.

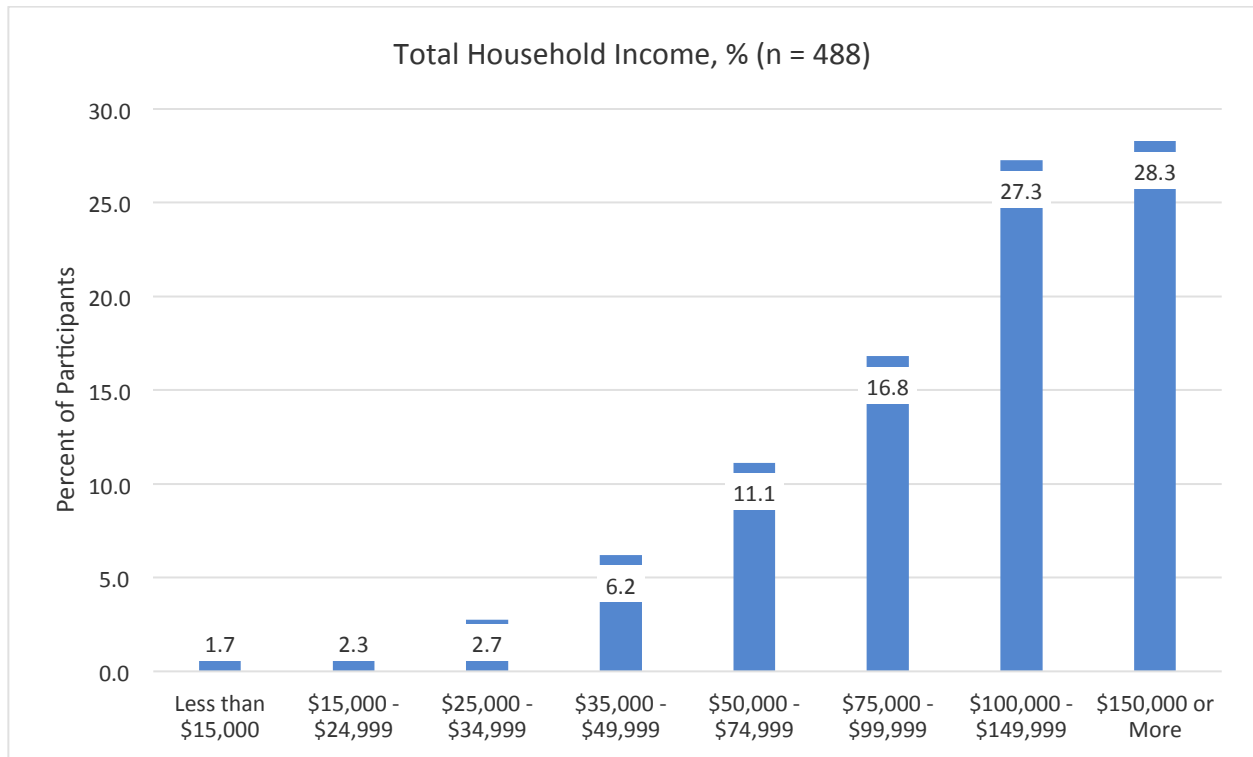


Figure 5. Reported Total Household Income, by Category %

Level of Education. Participants were asked to report their highest level of attained education based on specific categories. A proportion of participants (47.0%, n = 395) reported having completed an associate’s or bachelor’s degree from a college or university and 35.4% (n = 179) reported having attained a graduate or professional degree. Others (10.5%, n = 53) indicated that they had a diploma or certificate from a technical or vocational school or that they had completed some college. Also, 4.1% (n = 20) reported having received a high school diploma or GED, and only 1.4% (n = 7) reported that they had some high school education but had not graduated. Some individuals (1.5%) chose “other” without clarification and one participant chose not to provide a response to this question.

Employment. Participants were asked to describe their employment status. Most participants were employed full- or part-time (68.8%, n = 348) and 2.8% (n = 14) described themselves as unemployed. Others (16.4%, n = 83) were retired, 7.3% were “homemakers,” and 2.9% reported being students.

Participants’ Perceptions of Health and Well-Being

Participants were asked to respond to four questions that sought to capture their perceptions of their current health status. Participants were asked to provide an assessment of their overall health, their physical health, their mental health, and their social well-being. Additionally, participants were asked about their overall life satisfaction and their level of stress. While responses to each area assessed are described below, Figures 6, 7, and 8 provide a summary of the participant responses.

Overall Health. Participants were asked “Would you say that in general, your overall health is-” with five response options ranging from poor to excellent. Most participants rated their overall health as very good (41.7%, n = 211), excellent (24.2%, n = 122), or good (24.4%, n =123). The remainder assessed their overall health as being fair (6.7%, n = 34) or poor (1.0%,n = 5).

Physical Health. Participants were asked “Would you say that in general, your physical health is...” with five response options ranging from poor to excellent. Despite the vast majority who reported their overall health as being positive, participants differentiated their level of health more when being specific to their physical health. Less than one-quarter of individuals collectively rated their physical health as very good (8.8%, n = 45) or excellent (1.3%, n = 6). Larger proportions of participants rated their health as good (32.0%, n = 162), or fair (38.3%, n = 193), with the remainder rating their physical health as poor (19.5%, n = 98).

Mental Health. Participants were asked “Would you say that in general, your mental health is...” with five response options ranging from poor to excellent. The majority of participants rated their overall health as very good (40.9%, n = 206), excellent (35.0%, n = 117), or good (19.5%, n = 98). The remainder assessed their overall health as being fair (4.5%, n = 23) or poor (0.2%, n = 1).

Social Well-Being. Participants were asked “Would you say that in general, your social well-being is...” with five response options ranging from poor to excellent. The majority of participants perceived their overall social well-being to be less than good, with the largest proportion of all participants responding fair (41.2%, n = 208) and 36.1% (n = 182) responding with poor. Remaining participants rated their social well-being as good (19.4%, n = 98), with the remainder responding with very good (2.9%, n = 14) or excellent (0.4%, n = 2).

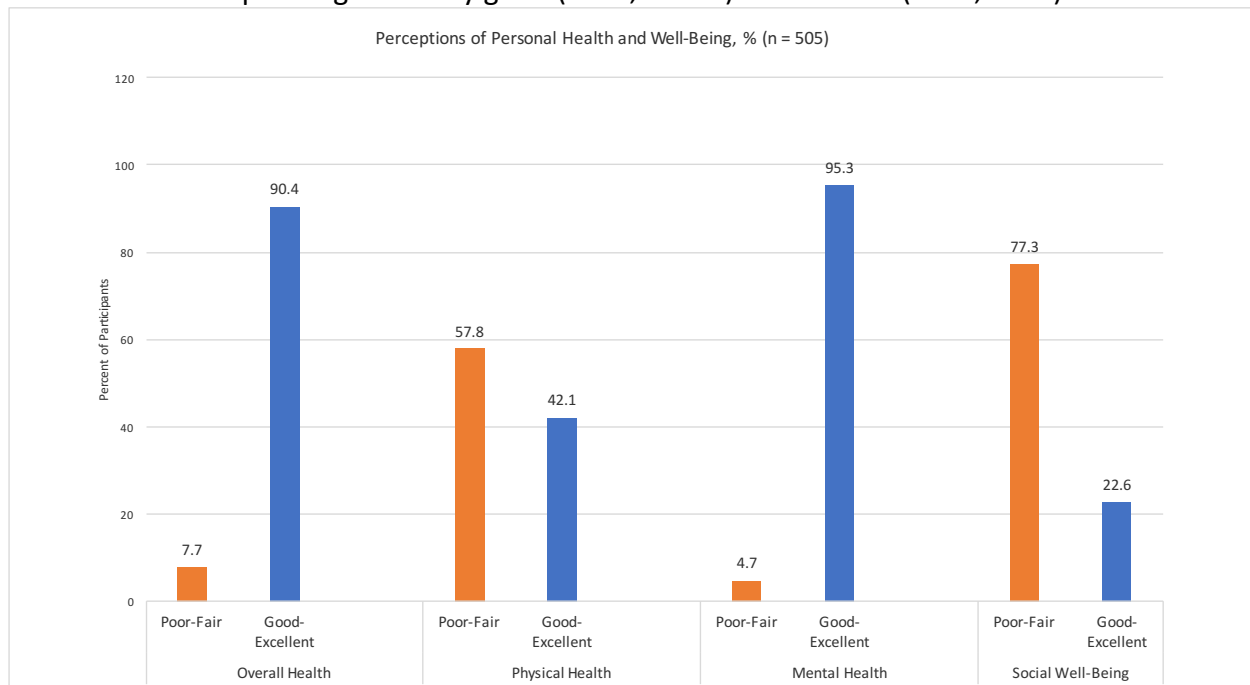


Figure 6. Participants’ Perceptions of Health and Well-Being

Overall Life Satisfaction. Participants were asked to respond to a single question “overall I am satisfied with my life” with five response options ranging from strongly disagree to strongly agree. Figure 7 provides an overview of responses to this item.

Level of Life Stress. Participants were asked to rank their current level of life stress by responding to a single item “Please rank yourself on a scale of 1 to 10 where 1 means you have “little or no stress” and 10 means you have “a great deal of stress.” Figure 8 provides the percentage of respondents who ranked themselves on this measure.

Participants in the convenience sample tended to report higher levels of stress, with 29.9% describing their stress as being in the top levels (greater than 8 on scale of 1-10). Regarding life satisfaction, 20.2% of those in the convenience sample disagreed with the statement “overall I am satisfied with my life.”

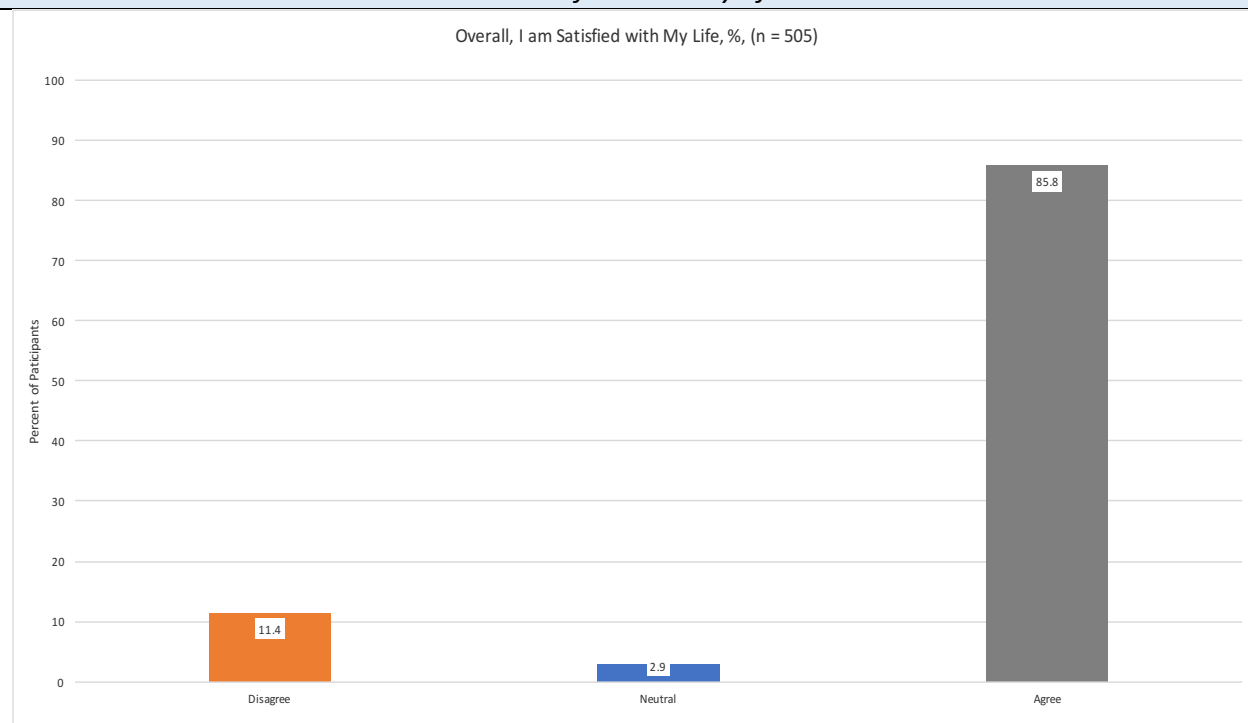


Figure 7. Participants Agreement with Life Satisfaction Item

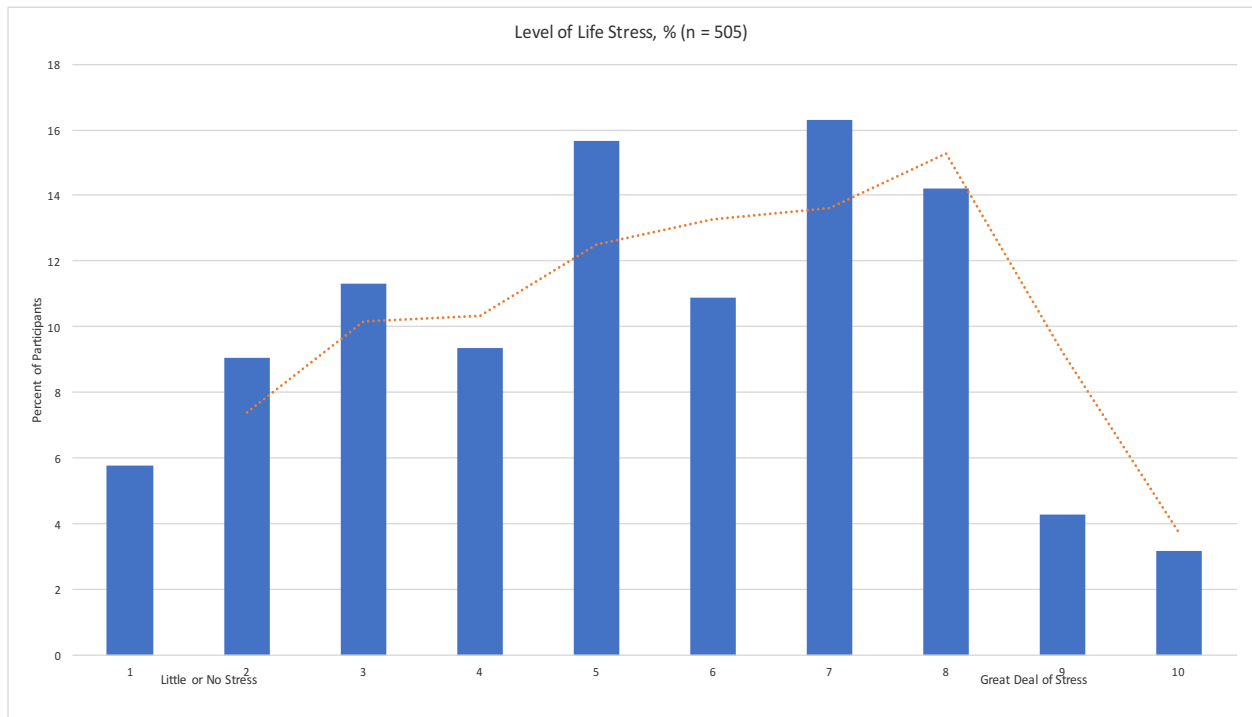


Figure 8. Ranking of Level of Life Stress

Health Care Access and Engagement

Participants were asked to respond to a range of questions related to their current level of health-care coverage and also asked to describe the types of engagement they had with the health care system in their community within the 12 months prior to the survey. Also assessed was whether participants had found themselves in situations within the past year that made it necessary to forego some level of health care based on a lack of financial resources or because they had to prioritize other matters.

Insurance or Health Care Coverage. Participants were asked “do you currently have insurance or coverage that helps with your healthcare costs?” Of the participants, the vast majority (96.3% n = 486) reported that they did have such coverage or insurance, while 3.2% (n = 16) responded “no.” The remaining three percent either did not know whether they had coverage or did not respond to this question.

Current Personal Provider. Participants were asked “do you currently have someone that you think of as your personal doctor or personal healthcare provider?” Most participants indicated that they did have such a personal provider (84.0%, n = 424), while 15.5% (n = 78) responded “no.”

Figure 9 provides an overview of the responses to the questions about insurance or healthcare coverage and the presence of a personal healthcare provider.

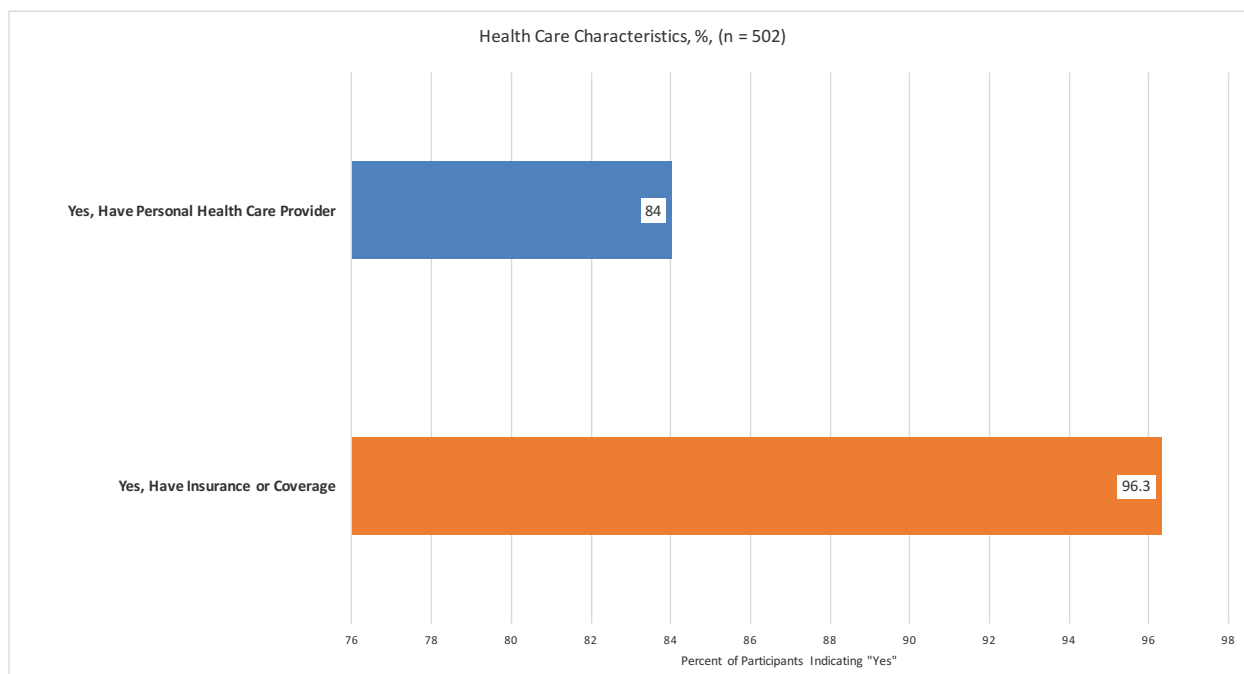


Figure 9. Participants' Reported Insurance and Personal Provider Characteristics

Healthcare Engagement. Participants were provided with a list of 14 health-related services and types of healthcare engagement and asked whether they had received or utilized each of those within the past 12 months. Table 12 provides a summary of the participants' responses to this question, ordered from the highest to lowest levels of care engagement.

Table 12. Participants' Reported Types of Health Care Engagement (n = 505)

Type of Healthcare Engagement	Received Past 12 Months (%)	Did Not Receive Past 12 Months (%)
Filled Prescription	73.2	26.8
Dental Care	70.2	29.8
Physical Exam	67.6	32.4
Immunizations or Preventive Care	51.3	48.7
Acute Care	31.0	69.0
Chronic Care	17.4	82.6
Urgent Care	16.3	83.7
Care at Emergency Room	10.6	89.4
Prenatal Care	9.9	90.1
Screened for Anxiety or Depression	8.6	91.4
Hospital Inpatient Care	8.4	91.6
Mental Health Treatment	7.3	92.7
Family Planning Care	5.5	94.5
Addiction Treatment	1.4	98.6

Resources and Healthcare Engagement. Participants were provided a list of three types of healthcare engagement needs including seeing a provider, filling a prescription, and finding transportation for care and asked to indicate whether there had been a time within the past 12 months that they could not act upon that need because “they couldn’t afford it or had to prioritize spending money on something else.” Less than 20% of participants indicated that it had been the case that they prioritized something over their healthcare across the three types assessed. Figure 10 presents this data.

Regarding **seeing a medical provider**, 10.8% of participants (n = 55) indicated that they had a need to see a provider but did not due to other needs.

Regarding **needing to fill a prescription**, 11.8%, (n = 60) indicated that that they had a need to avoid filling a prescription due to other needs.

Regarding **needing transportation for healthcare**, less than one percent of participants indicated that they had not been able to access transportation due to other needs.

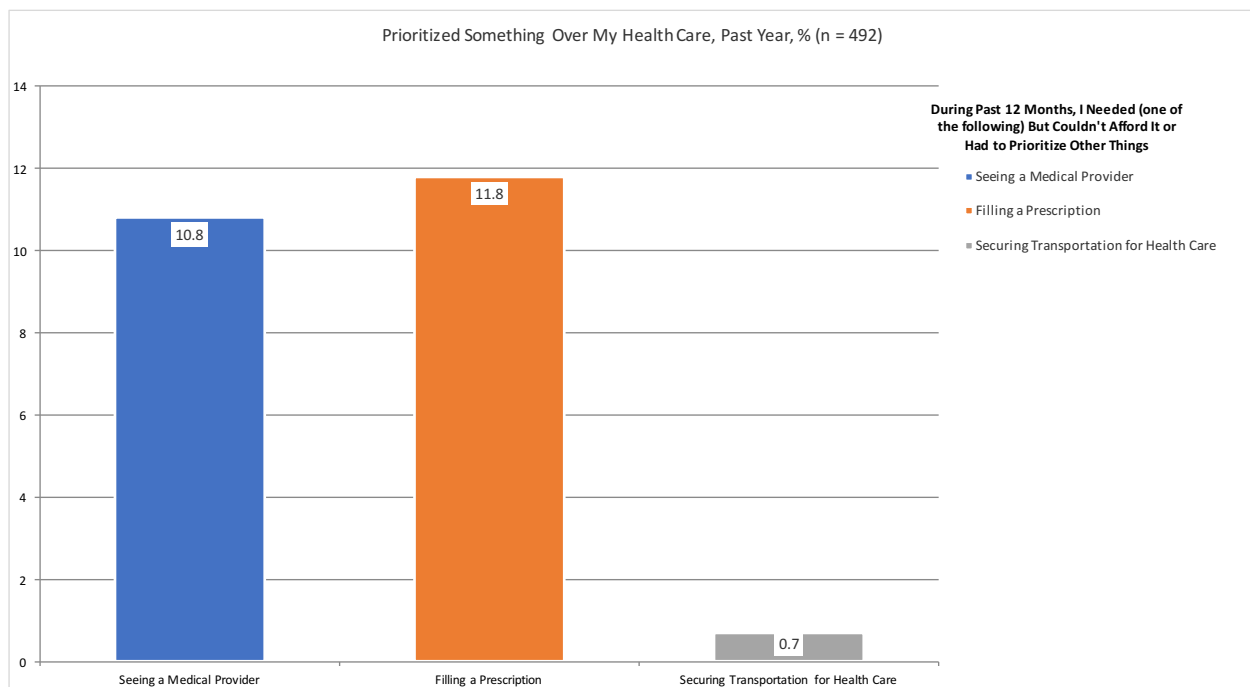


Figure 9. Participants’ Reports of Resource Challenges and Health Care

Personal Health-Related Behaviors

Of interest was understanding the extent to which participants had participated in certain behaviors within the past 30 days. Considered were behaviors that were conceptualized as health promoting (e.g., behaviors perceived by the hospital to be supportive of one's health and well-being) or health challenging (e.g., behaviors perceived by the hospital to be challenging to one's health and well-being). Table 13 provides a summary of participants' self-reported behaviors.

Table 13. Participants' Self-Reported Health Behaviors Past 30 Days (n = 505)

Health Promoting Behaviors	% Reporting Behavior
Checked Blood Pressure	38.2
Getting Plenty of Sleep	56.1
Being Physically Active	58.1
Eating Balanced Diet	64.9
Tried to Reduce Stress	26.9
Took Prescription for Mental Health	15.5
Health Challenging Behaviors	% Reporting Behavior
Used Tobacco	3.9
Took Opioid Prescribed to Me	4.6
Took Opioid Not Prescribed to Me	0.3
Driving Intoxicated	0.7

Social Determinants of Health

Those conducting the CHNA were particularly interested in a better understanding of whether participants perceived that certain social issues (often considered to be determinant of health status) were impacting their lives. Participants were provided with a list of 10 statements and asked to report the extent to which that statement applied to them. Each statement reflected a particular social determinant of health.

The purpose of these items was to assess the extent to which participants "felt" specific characteristics of social factors known to influence health outcomes. To assess these, some items were worded positively. For example, "I feel safe in the place where I live" is a positively worded item and those reporting "never" or "seldom" to that item are among those who have identified a social factor that could be acted upon in the health and social services infrastructure to work with an individual to has concerns about his or her housing situation. Negatively worded items like "I worry about being able to pay my rent or mortgage" are considered at the other end of the response options, with those responding "sometimes,"

“often,” or “always” being among those who might benefit from economic or employment assistance in ways to reduce the impact on health.

Consistently across these items, there were six participants who did not respond to each item and those participants were not included in the summary provided. Table 14 provides an overview of the extent to which participants perceived those statements to be among those that applied to them.

Highlighted in this table are the social determinants with endorsement of 10% or greater that, in a typical social service setting, would indicate a need for further consideration, discussion, or triage.

Table 14. Participants’ Reports of Felt Social Determinants (n = 501)

Social Determinant	Item Assessed	Total Sample Responses
Positively Worded Social Determinant Items		Percent Reporting "Never" or "Seldom" Applies to Me
Social Ecology	I feel those around me are healthy	0.9
Education	I am satisfied with my education	4.4
Community Cohesion	I make efforts to get involved in my community	28.6
Policy	I vote when there is an election in my town	11.0
Environment	I feel that my town's environment is healthy (air, water, etc)	1.7
Housing	I feel safe in the place where I live	3.1
Psychosocial	I try to spend time with others outside of work	10.2
Transportation	I have access to safe and reliable transportation	0.7
Negatively Worded Social Determinant Items		Percent Reporting "Sometimes," "Often" or "Always" Applies to Me
Economy	I worry about my utilities being turned off for non-payment	3.4
Employment	I worry about being able to pay my rent or mortgage	7.9

Importance of Community-Based Health and Social Service Programs

Participants were asked to provide the perspectives on the extent to which health and social service programs are important to their local community. During the survey, participants were provided with a list of 20 different programs that are often present in many communities. Participants were inconsistent with regard to the extent to which they provided an assessment of each program type. As a result, results from participants were used to calculate rankings of program endorsement.

Of the twenty programs, approximately two-thirds were ranked as being either moderately or very important by more than 50% of participants. While these results do provide some insight into the types of programs perceived as most important in their local community, across the board these data do suggest that in general most community members perceive the general network of health and social service programs to be important on the whole.

However, considering these data in terms of those services that participants ranked as “very” important does provide valuable insights into those most valued. Table 15 provides a list of the extent to which participants rated a program type as “moderately” or “very” important, presented in order of highest to lowest endorsement. In this table, highlighted separately are those services ranked as “very” important by more than 50% or 60%.

Table 15. Endorsement of Importance of Community Programs (n = 505)

Community Programs	Moderately/Very Important %	Moderately Important %	Very Important %
Physical Activity	93.2	41.1	52.1
Walking Trails/Outdoor Space	88.4	27.8	60.6
Aging Services	86.0	45.6	40.4
Mental Health Counseling	84.9	45.2	39.7
Substance Abuse Prevention & Treatment	79.9	35.8	44.1
Nutrition Education	75.6	52.8	22.8
Gun Safety Education	69.8	34.6	35.2
Free/Emergency Childcare	56.5	33.3	23.2
Family Planning	55.4	35.2	20.2
Job Training/Employment Assistance	55.2	42.5	12.7
Services for Women, Infants, Children	52.3	31.1	21.2
Food Pantries	52.1	34.3	17.8
Health Insurance Assistance	50.5	34.2	16.3
Transportation Assistance	40.4	33.2	7.2
Prescription Assistance	38.7	31.6	7.1
Legal Assistance	35.6	28.2	7.4
Financial Assistance	34.2	25.6	8.6
Housing Assistance	32.5	25.3	7.2
Food Stamps/SNAP	31.0	22.5	8.5
Needle Exchange	29.9	18.3	11.6

Community Perceptions of Priority Health Needs

Important to the development of the CHNA and its subsequent Implementation Plan was to assess the local health issues which community members perceived to be of importance. The hospital developed a list of 21 different health needs that are common in many communities similar to those in Hamilton County. Survey participants were asked to select five of those community health issues that they perceived to be among the most important for the hospital and its partners to address.

Accompanying the list of health issues was a statement that guided survey participants in their selection. The statement read “Below is a list of health issues present in many communities. Please pick the five that you think pose the greatest health concern for people living in your

community.” Table 16 provides a summary of the extent to which each health issue was selected as one of the top five issues by survey participants.

Table 16. Priority Health Issues Selected by Participants as Being Among the Top 5 Most In Need of Attention in the Service Population (n = 505)

Health Issue	% Selecting Issue as One of Top 5 Needing Attention
Obesity	69.7
Chronic diseases like diabetes, cancer, and heart disease	56.8
Mental health	54.9
Substance use or abuse	52.4
Aging and older adult needs	43.2
Alcohol use or abuse	32.5
Injuries and accidents	24.5
Tobacco use	19.6
Suicide	18.9
Reproductive health and family planning	15.6
Disability needs	15.4
Environmental issues	14.0
Food access, affordability, and safety	13.2
Child neglect and abuse	10.6
Assault, violent crime, and domestic violence	8.9
Sexual violence, assault, rape, or human trafficking	7.8
Poverty	7.6
Dental care	5.9
Infectious diseases like HIV, STDs, and hepatitis	3.0
Homelessness	2.1
Infant mortality	1.7

While participants were able to select from the full list of 21 health issues during the survey, it was decided to narrow down the priority issues to the top 50% during the community prioritization session. Figure 11 provides a graphical presentation of the top health issues shared during community meetings for purposes of informing future initiatives.

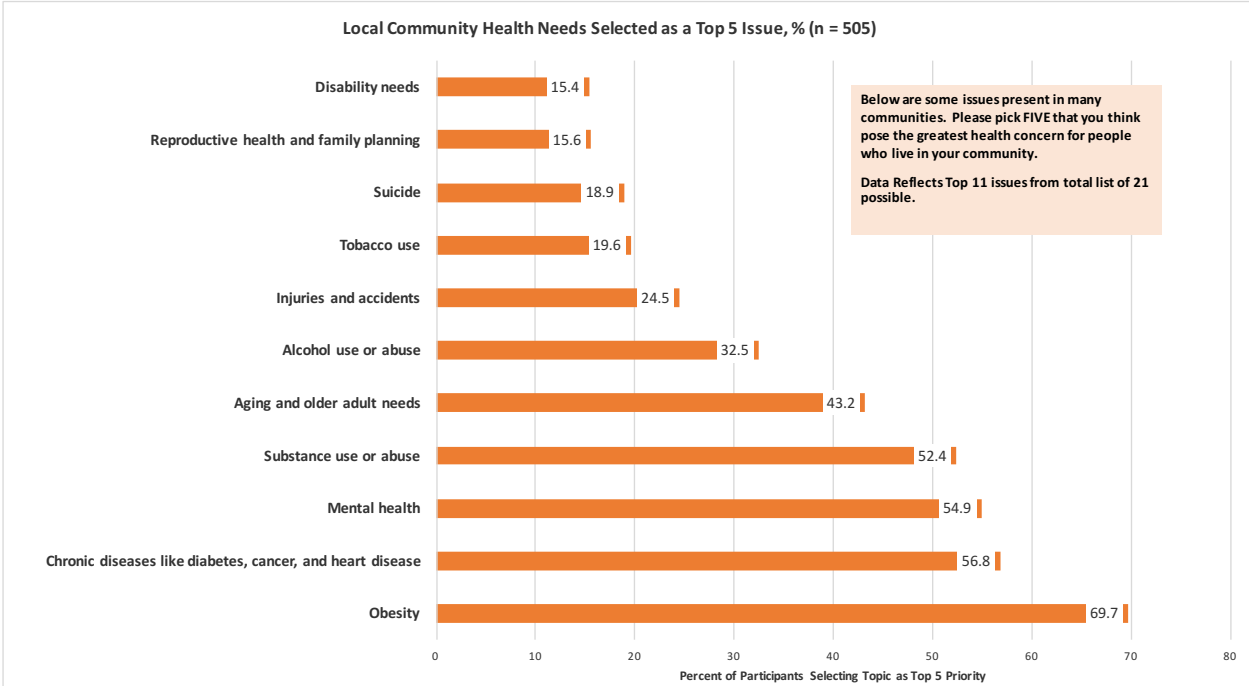


Figure 11. Most Frequently Endorsed Health Issues as Priority for Action

Community Perceptions of Health Issues Needing Priority Resource Allocation

In addition to assessing the extent to which participants perceived specific needs as being among the most important for action in their community, participants were also asked to provide their perceptions of the extent to which those same 21 issues were also priorities for the allocation of resources in the local community. Participants were given a statement to consider prior to indicating their perceptions. The statement read “Previously you were asked to pick issues that pose the greatest health concern in your community. If you had \$3 and could give \$1 to help solve some of these, which are the three to which you would give \$1?”

As was the case with the health issues selected as priorities for action, it was decided to narrow down the priority issues to the top 50% during the community prioritization session. Figure 12 provides a graphical presentation of the top ranked issues that survey participants selected as priorities for the allocation of resources.

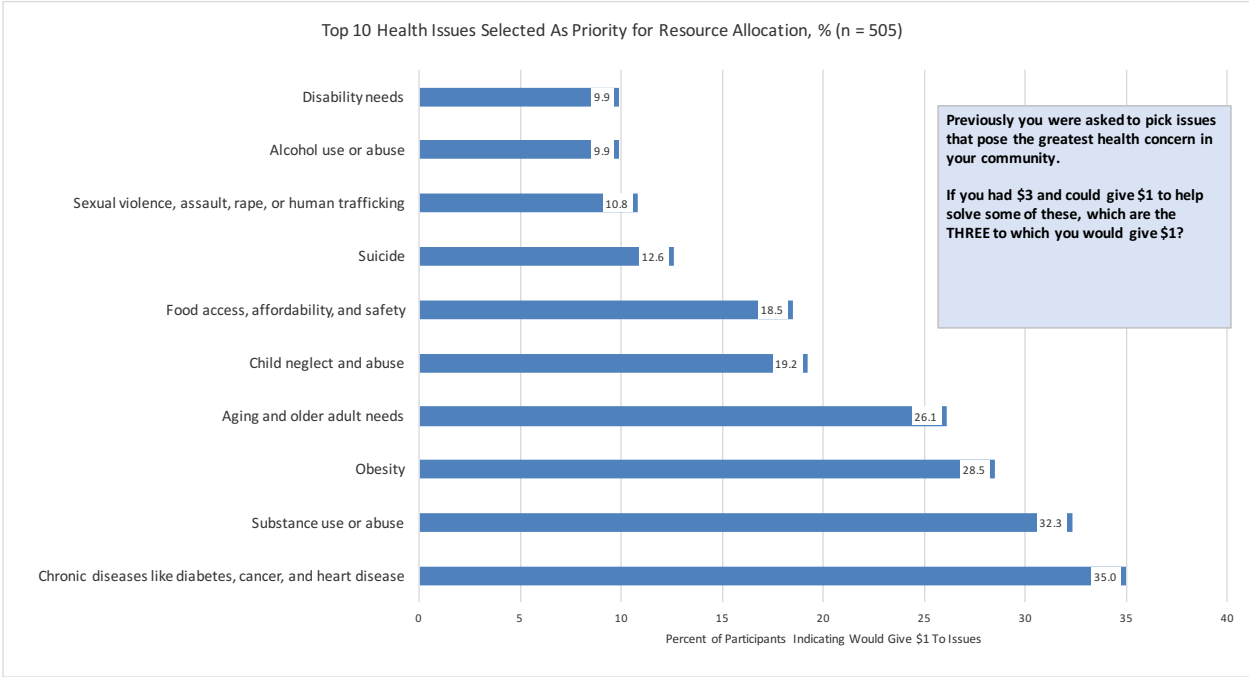


Figure 12. Most Frequently Endorsed Health Issues as Priority for Resource Allocation

Comparison of Needs and Resource Priorities

While participants were asked to provide an assessment of priority needs and priorities for resource allocation as separate survey items, a comparison of those priority rankings provides helpful insights into the extent to which there is consistency between the two. Figure 13 provides such a comparison and highlights some inconsistency between health issues that community members believed were a priority needing addressed and those that they believe should be a priority for the allocation of resources.

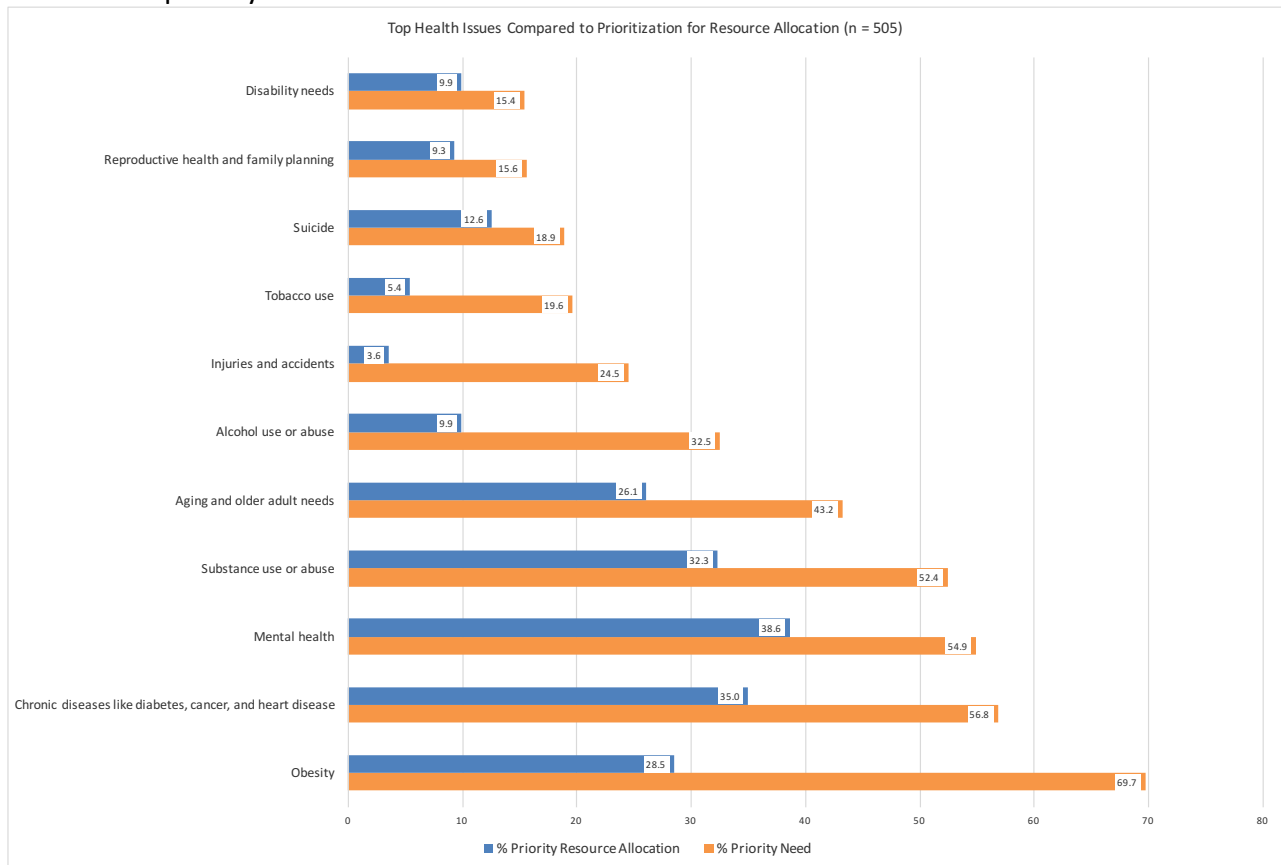


Figure 13. Comparison of Priority Needs and Resource Priorities

5. COMMUNITY CHNA FOCUS GROUP DISCUSSIONS

To provide for additional opportunities for community members to provide valuable insights into the decisions made during the 2018 CHNA process, the hospital, in collaboration with partner organizations and other hospitals, held a series of focus group discussions.

These focus group discussions provided opportunities to gather community members, providers of local health and social services, and other stakeholders to review information, have open conversations about local health needs, and to offer suggestions for priority health topics that should be considered as the hospitals make decisions about their priorities and subsequent implementation plan.

This section of the report provides an overview of the focus group discussions and the recommendations emerging from those discussions. Appendix B includes a listing of those participating in the focus groups and a summary of the process and outcomes of each focus group.

Focus Groups

In April 2018, three focus group discussions were held. Those discussions included participants from a wide range of participants from Hamilton County.

Participants

A total of 38 community members participated in the focus group discussions. To better facilitate discussion, participants were divided into three separate groups. Below is a summary of the number of participants for each focus group discussion.

Focus Groups	# of Community Members Participating
Group One	11
Group Two	15
Group Three	12

A variety of organization types, including school systems, health systems, behavioral health organizations, housing, social services, community health centers, senior services, the business community, and local policymakers, were represented in the focus groups. In the detailed focus group summaries (Appendix B) a summary of the organizations represented in each focus group is presented.

Methods

To conduct the focus group discussions, the facilitators applied a great deal of consistency in both the approach, process, and types of information shared with the community members. The process for the focus group discussions included the following activities:

- Introductions
- A description of the purpose of the discussion and ground rules
- Two primary questions guided the discussions, including:
 - What is the most important unmet need affecting the health of your community?
 - Considering the unmet need you indicated, which of the following types of individuals are most vulnerable in your community?
- Topics emerging from these discussions were written on large sheets of paper and placed on the wall. Each participant was provided a green sticker (indicating their #1 priority) and pink sticker (indicating their 2nd priority) in order to endorse the topics based on each of the primary questions.
- Endorsements for first and second priorities were tallied and discussed further for clarification

Outcomes

Each focus group selected priority issues and priority populations. Collectively, across the three groups, a final list of priorities was produced. Figure 14 provides a summary of the highly ranked priorities emerging from each group and a summary of the final outcomes across the three groups. Detailed summaries of these outcomes are provided in the focus group notes (Appendix B).

Figure 14. Focus Group Priorities

Priorities by Focus Group		Collective Priorities Across Groups	
High Priority Issues*	High Priority Populations*	Final Priority Issues**	Final Priority Populations**
Focus Group One			
Transportation Access to Health Services	Individuals facing Mental Health Diagnosis Individuals with Substance Abuse History	Transportation	Individuals Facing Mental Health Diagnosis
Focus Group Two			
Housing Transportation Access to Health Services Chronic Disease Management	Individuals facing Mental Health Diagnosis Children Seniors Individuals with Chronic Conditions Individuals with Substance Abuse History	Access to Health Services	Individuals with Substance Abuse History Uninsured and Underinsured
Focus Group Three			
Access to Health Services Transportation	Uninsured and Underinsured Individuals Facing Mental Health Diagnosis Individuals with Substance Abuse History Children	Housing	Children
<i>*High priority issues in rank order based on participant endorsements.</i>		<i>** In rank order</i>	

5. PRIORITIZATION PROCESS

To consider the CHNA data and to identify the most urgent health issues that would guide the hospital's future priority areas, a comprehensive prioritization process was conducted.

Representatives of community health organizations in the service area and hospital staff participated in a meeting to review data collected for the CHNA. A list of community partner organizations from which a representative participated is included later in this section. A copy of the slides used during the presentation of data is included as Appendix C.

The session included the following activities:

- A review of the purpose of conducting the CHNA and reflections on decisions and actions taken in response to the 2016 CHNA.
- A review of data was presented by a representative of Measures Matter, LLC. That data review included a summary of the existing health indicators and data from the CHNA survey.
- A nominal group process facilitated by Measures Matter, LLC to facilitate the group's selection of priority health issues for the 2018 CHNA. That process was conducted in the following way:
 - Participants were provided with the list of health topics that emerged as among those having the most support from both existing data and the CHNA survey. That list of health topics is provided in Figure 14. Additionally, participants were provided a summary of the outcomes of the focus groups as presented in Figure 13 in the previous section of this report.
 - Participants were given the opportunity to add additional topics.
 - Participants were each provided with 5 "sticky dots" and asked to place their dots on the issues that they each felt were most in need of prioritization.
 - The "dots" on each topic were tallied and a discussion about the topics and any special considerations for each was held.

Resulting Priorities

As a result of both phases of the prioritization process, X issues received endorsement for prioritization for Riverview Health. Those issues included:

- To Be Added

A list of available community health resources was also reviewed as part of the process and the potential partners for addressing these needs is included as Appendix D.

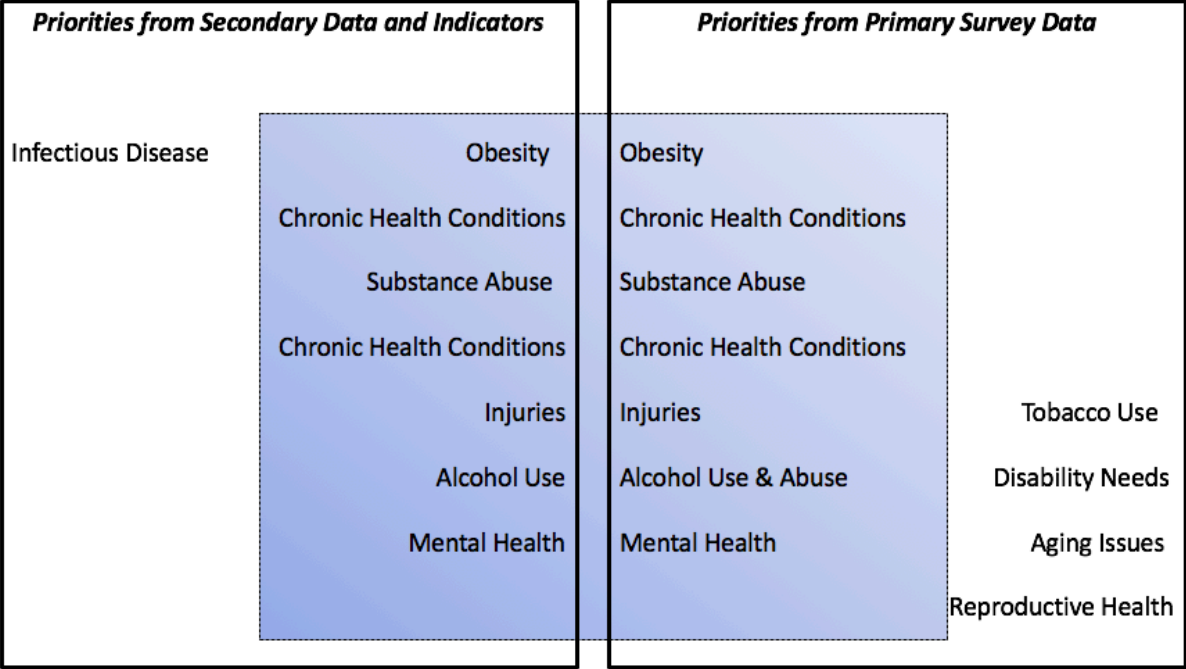


Figure 14. Overlapping health issues that emerged from secondary data and the CHNA survey.