

2021 | Community Health Needs Assessment



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Ball



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Table of contents

Executive summary	5
Introduction.....	5
Community definition	5
Significant community health needs.....	5
Data and analysis	8
Definition of community assessed	8
Secondary data summary.....	8
Demographics	8
Economic indicators	9
Local health status and access indicators	9
Ambulatory Care Sensitive Conditions.....	10
Community Need Index.....	10
Food deserts.....	10
Medically Underserved Areas and Populations	10
Health Professional Shortage Areas	10
Relevant findings of other community health needs assessments	10
Significant indicators.....	10
Primary data summary	12
Blackford County.....	12
Delaware County	12
Jay County.....	13
Randolph County.....	14
Other facilities and resources in the community.....	15
Federally Qualified Health Centers	15
Hospitals.....	15
Local Health Departments.....	15
Other community resources	16
Appendix A – Objectives and methodology	16
Regulatory requirements	16
Methodology	16
Collaborating organizations.....	17
Data sources.....	17
Health equity	17
Information gaps.....	18

Table of contents

Appendix B – Secondary data assessment	19
Demographics.....	19
Economic indicators	22
People in poverty	22
Unemployment	23
Insurance status.....	24
Crime	24
Local health status and access indicators.....	25
County Health Rankings	25
Indiana Department of Health	29
Behavioral Risk Factor Surveillance System	33
Ambulatory Care Sensitive Conditions or Preventative Quality Indicators.....	34
Community Need Index.....	35
Food deserts	36
Social Vulnerability Index	36
Medically Underserved Areas and Populations.....	38
Health Professional Shortages Areas.....	38
Findings of other community health needs assessments.....	39
Indiana State Health Assessment and Improvement Plan	39
Coronavirus disease (COVID-19) pandemic and vaccine	41
Appendix C – Interview, community meeting and survey participants.....	43
Appendix D – Impact of actions taken since the previous community health needs assessment.....	43
Access to healthcare	43
Behavioral health	44
Chronic disease management.....	45
Obesity and diabetes	45
Appendix E – Consultant qualifications	47

Executive summary

Introduction

This Community Health Needs Assessment (CHNA) was conducted to identify significant community health needs and to inform development of an Implementation Strategy that addresses them.

Indiana University Health Ball serves Muncie, Indiana, and the surrounding counties. It offers 45 medical specialties, including Primary Care, Orthopedics, Neurology and many more. The Medical Education department is home to three residencies and a research department. IU Health Ball is a Magnet-designated hospital recognized by the American Nurses Credentialing Center for demonstrating excellence in nursing services and high-quality clinical outcomes for patients.

The hospital is part of Indiana University Health (IU Health), the largest and most comprehensive health system in the state of Indiana. IU Health, in partnership with Indiana University School of Medicine, one of the nation's leading medical schools, gives patients access to leading-edge medicine and treatment options that are available first, and often only, at IU Health. Additional information about IU Health is available at: iuhealth.org/.

Each IU Health hospital is dedicated to the community it serves. Each hospital conducts a CHNA to understand current community health needs and to inform strategies designed to improve community health, including initiatives designed to address social determinants of health. The CHNAs are conducted using widely accepted methodologies to identify the significant needs of a specific community. The assessments also are conducted to comply with federal laws and regulatory requirements that apply to tax-exempt hospitals.

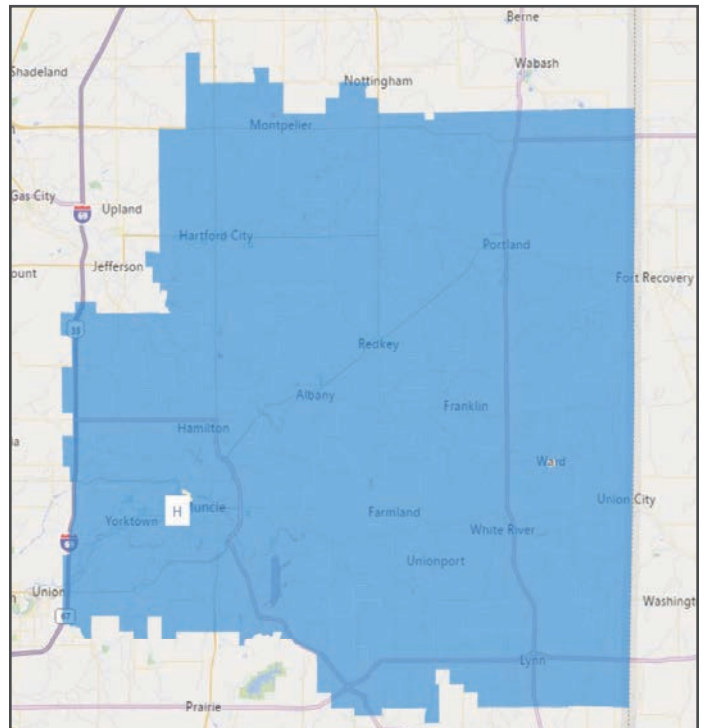
IU Health invites community members to review the community health needs assessments and provide comments to communitybenefit@iuhealth.org.

For copies of each IU Health CHNA report and implementation strategy, visit: iuhealth.org/in-the-community/community-benefit. Updated implementation strategies for each IU Health hospital are scheduled to be published by May 15, 2022.

Community Definition

For purposes of this CHNA, IU Health Ball's community is defined as Blackford, Delaware, Jay and Randolph counties, Indiana. These four counties accounted for 84 percent of the hospital's inpatient cases in 2019. The estimated population

of this community in 2019 was 172,317. The following map portrays this community.



Source: Power BI and IU Health, 2021

Significant community health needs

Identifying significant community health needs is an important element of CHNAs. Several data sources were assessed to identify those needs, including:

- Secondary data (i.e., data collected by another entity or for a different purpose), including demographics, health status and access to care indicators;
- Findings from other community health assessments of areas served by the hospital; and
- Input obtained from individuals who participated in one or more community meetings, interviews or surveys.

Access to healthcare services

- All of Randolph County and the low-income populations of Blackford, Delaware and Jay counties have been designated as Medically Underserved (Exhibit 33).
- Jay County, Randolph County and the low-income population of Blackford County have been designated as Primary Care Health Professional Shortage Areas (HPSAs) (Exhibit 34A).
- The low-income populations of all four identified communities have been designated as Dental Care HPSAs (Exhibit 34B).
- Blackford, Delaware, Jay and Randolph counties have been designated as Mental Health Care HPSAs (Exhibit 34C).
- Above average rates of ambulatory care sensitive conditions (ACSCs) in the identified community indicate potential access problems (Exhibit 28).

- The uninsured rates in Jay and Randolph counties are above state and national averages, and the rate in Delaware County is above the Indiana average (Exhibit 18A).
- Stakeholders identified access to healthcare services, access to mental health services and access to specialty care services as significant issues. Various barriers to accessing care were also identified, including a lack of providers, health literacy, poverty, transportation, cultural barriers (particularly for Hispanic (or Latino) populations) and a lack of care coordination between providers (Community meetings, Interviews).

Aging population and needs of seniors

- The number of persons aged 65 years and older in the identified community is projected to grow by 7.3 percent between 2020 and 2025, compared to an expected 1.6 percent decrease expected for total population (Exhibit 10).
- The rates of preventable hospital stays among Medicare enrollees in Delaware and Jay counties were above the Indiana and national averages (Exhibit 21).
- The rate of Alzheimer's disease mortality in Randolph County exceeded the state average (Exhibit 22).
- Other assessments identified the needs of aging populations as significant, including senior access to health and in-home services, transportation, physical inactivity and nutrition and community services (Other assessments).
- The needs of a growing senior population were identified in community meetings and interviews as significant, including the need for education for older adults on available resources (Interviews, Community meetings).

Drug and substance abuse (including opioids and alcohol)

- Half of driving deaths in Blackford County involved alcohol, a proportion more than double the state average and significantly above the national average. The rate in Jay County also exceeded the state average (Exhibit 21).
- Substance abuse and addiction, including issues with opioids, alcohol and methamphetamines, were identified as significant needs in all community meetings held across the four counties. Issues surrounding substance abuse were also highlighted in discussions of access to behavioral health services, and stakeholders identified the issue as worsening due to effects of the COVID-19 pandemic (Community meetings, Interviews, Survey).

Food insecurity and healthy eating

- Delaware and Jay counties were in the bottom quartile of Indiana counties for food environment index, and Randolph County was in the bottom half (Exhibit 20).
- Census tracts throughout the identified community are designated as food deserts (Exhibit 31).
- Stakeholders identified the need for nutrition, healthy eating and lifestyles, and education around healthy eating as needs. Interviewees stated that healthy foods are often expensive and inaccessible to some populations, including elderly residents and low-income populations (Interviews, Community meetings).
- Other assessments also identified the need for better

nutrition, including an increased focus on eating fruits and vegetables (Other assessments).

Maternal and infant health and child wellbeing

- The identified communities compared unfavorably to Indiana for several maternal and infant health indicators, including breastfeeding, low birthweight, teen births, preterm births and smoking during pregnancy. Rates for mothers smoking during pregnancy were 50 percent or higher than the state average in Blackford, Delaware and Randolph counties (Exhibit 26).
- All four counties were in the bottom quartile of Indiana for low birthweight and children in poverty and Blackford, Delaware and Randolph counties were in the bottom half for children in single-parent households (Exhibit 20).
- The teen birth rates in Blackford, Jay and Randolph counties were above state and national averages (Exhibit 21).
- Interviewees identified maternal, infant and child wellbeing as significant needs, including child poverty, home stability and health education. Stakeholders also identified children as a group particularly affected by the COVID-19 pandemic due to interruptions in schooling and social isolation.

Mental health

- All four identified communities were in the bottom quartile of Indiana counties for poor mental health days (Exhibit 20).
- Blackford, Delaware, Jay and Randolph counties have been designated as Mental Health Care HPSAs (Exhibit 34C).
- Rates of mental health providers in Blackford and Randolph counties were significantly below state and national rates (Exhibit 21).
- Mental health issues were identified by stakeholders in every community county as significant needs, including worsening mental health conditions, stigma, suicide and access to mental health services. These issues were thought to be worsening in severity due to COVID-19 pandemic impacts, such as social isolation, loneliness and economic impacts (Community meetings, Survey, Interviews).

Obesity, diabetes and physical inactivity

- All the identified communities compared unfavorably to state and national averages for adult obesity. Blackford, Jay and Randolph counties also compared unfavorably for physical inactivity and access to exercise opportunities (Exhibit 21).
- Mortality rates for diabetes were higher than Indiana averages in Delaware and Jay counties. Mortality rates for other conditions related to obesity also exceeded state averages, including cardiovascular and heart disease (Exhibit 22).
- Rates of diabetes long-term complications, uncontrolled diabetes and lower extremity amputation with diabetes exceeded state averages for Ambulatory Care Sensitive Conditions (ACSC) discharges across the identified community (Exhibit 28).
- A lack of proper nutrition and access to healthy foods was

thought to contribute, with food deserts throughout the identified community. Delaware, Jay and Randolph counties all rank in the bottom half of Indiana counties for food environment index (Exhibits 20 and 31).

- Stakeholders identified obesity, diabetes and other associated conditions, physical inactivity and health education regarding healthy living as significant needs (Community meetings, Interviews).
- Other health assessments identified physical inactivity and healthy eating as significant needs (Other assessments).

Smoking, tobacco use and exposure to secondhand smoke

- Adult smoking rates in Blackford, Delaware, Jay and Randolph counties exceeded the national average, and Jay County is in the bottom quartile of Indiana counties for smoking (Exhibits 20 and 21).
- Mortality rates for chronic lower respiratory disease were higher than the Indiana average in Delaware and Jay counties (Exhibit 22). The admission rate for Chronic Obstructive Pulmonary Disease (COPD) or asthma in older adults also exceeded the state average across communities' counties (Exhibit 28).
- Rates for lung cancer mortality and incidence were above state averages in all four identified communities (Exhibits 23 and 24).
- Smoking, tobacco use, addiction and vaping were all identified as significant issues in the community, and tobacco use was thought to be a persisting issue despite many years of focus (Community meetings, Interviews).

Social determinants of health

- Poverty rates in Delaware, Jay and Randolph counties exceeded the state and national averages and low-income census tracts can be found in each of these counties (Exhibits 14 and 15). Poverty and child poverty were identified by stakeholders as a significant need and impacted a resident's ability to access a variety of health resources (Community meetings, Interviews).

- Across the identified communities, poverty rates were worse for Black and Hispanic (or Latino) residents (Exhibit 15).
- All four counties ranked in the bottom half of Indiana counties for several social determinants of health indicators, including social and economic factors, unemployment and children in poverty (Exhibit 20).
- A lower proportion of Jay and Randolph County residents had a high school diploma than the Indiana average (Exhibit 13).
- The percentage of adults with any post-secondary education was lower in Blackford, Jay and Randolph counties than the national and state averages (Exhibit 21).
- The unemployment rates in Blackford and Delaware counties were above the Indiana and national rates and Randolph County was above the state average. Blackford, Delaware and Randolph counties were in the bottom quartile of Indiana counties for unemployment (Exhibits 17 and 20).
- Delaware County was in the bottom quartile of Indiana counties for severe housing problems and Jay County was in the bottom half (Exhibit 20).
- Census tracts in each of the four identified communities were in the bottom quartile nationally for housing type and transportation vulnerability (Exhibit 32).
- Stakeholders identified the need for more educational opportunities and resources in the community, including financial education and resources and the need for more community resources for all populations (Community meetings, Interviews, Other assessments).
- Stakeholders identified social determinants of health as significant issues, including poverty, transportation, education and a lack of social services in rural areas (Interviews, Community meetings).
- Other assessments identified a variety of social determinants of health factors as significant concerns, including affordability of healthcare and transportation.

Data and analysis

Definition of community assessed

The community assessed by IU Health Ball was defined by the geographic origins of the hospital's discharges. In 2019, this geographic area was identified as Blackford, Delaware, Jay and Randolph counties, Indiana.

Residents from these four counties accounted for 84 percent of the hospital's 2019 inpatient discharges (Exhibit 1).

Exhibit 1: IU Health Ball inpatient discharges by county, 2019

County	Percent of inpatients
Blackford County	5.0%
Delaware County	66.0%
Jay County	7.0%
Randolph County	6.0%
Total Community	84.0%

Source: Analysis of IU Health Discharge Data, 2019

The estimated population of these counties in 2019 was 172,317 persons (Exhibit 2).

Exhibit 2: Local community population, 2019

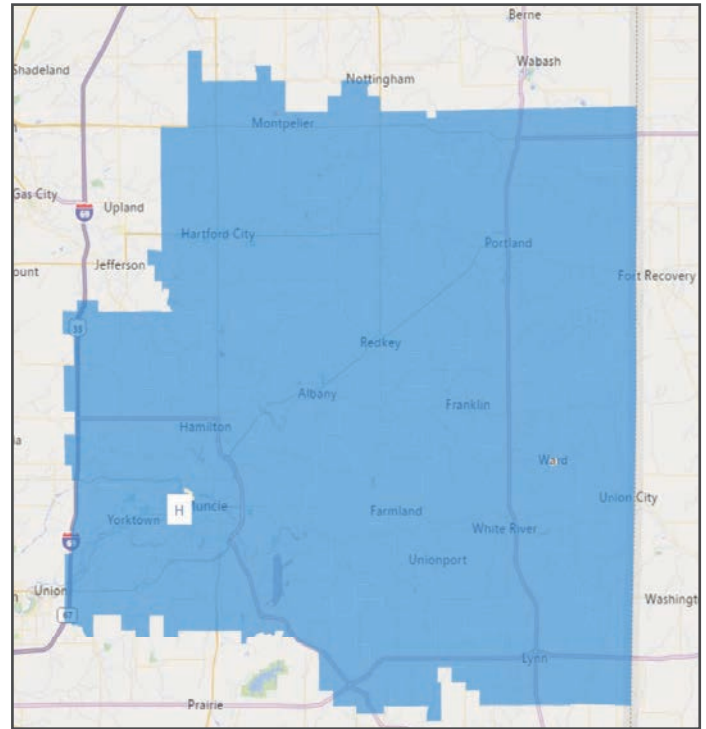
County	Estimated population	Percent of total community population
Blackford County	11,930	6.9%
Delaware County	114,772	66.6%
Jay County	20,764	12.0%
Randolph County	24,851	14.4%
Total Community	172,317	100%

Source: State of Indiana by the Indiana Business Research Center, 2019

The hospital is located in Delaware County (city of Muncie, Indiana, ZIP code 47303).

Exhibit 3 portrays the community. The map shows county and ZIP code boundaries. Some ZIP codes could overlap one or more counties. The "H" logo marks the location of this hospital on the map.

Exhibit 3: IU Health Ball community



Source: Power BI and IU Health, 2021

Secondary data summary

The following section summarizes findings from secondary data analysis for the IU Health Ball community. See Appendix B for more detailed information.

Demographics

Population characteristics and trends directly influence community health needs. The total population of all identified communities is expected to decrease 1.6 percent from 2020 to 2025, while Indiana is expected to grow 2.2 percent. Each of the four identified communities is expected to decrease in population, with Blackford County expected to decrease the most at 4.7 percent.

While the total population is expected to decrease, the population aged 65 years and older is projected to grow substantially at 7.3 percent. The population aged 65 years and older in each of the four counties is expected to grow by at least five percent. This should contribute to a growing need for health services, since older individuals typically need and use more services than younger persons.

Variation in racial and ethnic diversity is seen throughout the identified ZIP codes. In 2019, two ZIP codes had a proportion of Black residents of at least 10 percent, both in Delaware County. The proportion of residents that are Hispanic (or Latino) is highest in ZIP code 47390 in Randolph and Jay counties, near Union City, above 10 percent in 2019.

The percent of residents with a disability is higher than state and national averages in each of the four identified

communities. The percent without a high school diploma is above the state average in Jay and Randolph counties. Residents experiencing linguistic isolation are less prevalent in all the identified communities than in Indiana or the United States.

Economic Indicators

Many health needs have been associated with poverty, as those in low-income households typically are less healthy than those in more prosperous areas. Over the 2015-2019 time period, poverty rates in Delaware, Jay and Randolph counties were above the Indiana and national averages. Poverty rates for Black and Hispanic (or Latino) residents throughout the identified communities and in Indiana were generally above the poverty rate of White residents. Low-income census tracts are prevalent throughout the identified communities, particularly in Delaware and Jay counties.

Between 2015 and 2019, unemployment rates decreased in the counties, state and nationally. In recent years, unemployment rates in Blackford, Delaware and Randolph counties were above Indiana and national averages. Due to the COVID-19 pandemic, it is anticipated that unemployment rates will rise in 2020 data. The rise in unemployment is likely to affect numerous health-related factors, such as access to employer-based health insurance and access to health services.

The percentage of people uninsured in Jay and Randolph counties is above both state and national averages, while the rate in Delaware County is above the national average.

Crime rates throughout the identified communities were below state averages for all indicators.

Local health status and access indicators

In the 2019 *County Health Rankings*, all four counties were in the bottom quartile of Indiana counties for overall health outcomes. Blackford County ranked 84th, Delaware County ranked 86th, Jay County ranked 85th and Randolph County ranked 77th .

Blackford County had 29 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 16 were in the bottom quartile, including health outcomes, length of life, premature death, quality of life, poor physical health days, low birthweight, health behaviors, adult obesity, teen births, dentists, mental health providers, mammography screening, unemployment, children in poverty, children in single-parent households and injury deaths.

Delaware County had 25 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 16 were in the bottom quartile, including health outcomes, length of life, premature death, quality of life, poor or fair health, poor physical health days, poor mental health days, low birthweight, food environment index, sexually transmitted

infections, social and economic factors, unemployment, children in poverty, income inequality, children in single-parent households and severe housing problems.

Jay County had 27 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 16 were in the bottom quartile, including health outcomes, length of life, premature death, quality of life, poor or fair health, poor physical health days, poor mental health days, low birthweight, health behaviors, adult smoking, food environment index, access to exercise opportunities, preventable hospital stays, some college, children in poverty and injury deaths.

Randolph County had 29 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 14 were in the bottom quartile, including health outcomes, length of life, premature death, quality of life, poor mental health days, low birthweight, access to exercise opportunities, primary care physicians, mental health providers, social and economic factors, unemployment, children in poverty, children in single-parent households and injury deaths.

According to the Indiana Department of Health (IDOH), mortality rates for heart disease, cancer, chronic lower respiratory disease, other accidents and adverse effects and diabetes were higher than Indiana averages in at least two identified communities. Rates of mortality for diabetes in Jay County and hypertension in Delaware County were significantly higher than state averages.

All four counties had overall cancer mortality and lung cancer mortality rates that exceeded Indiana averages. Incidence rates of lung and bronchus cancer were also higher than the Indiana rate in all counties.

Rates of communicable disease in the identified communities were below state averages for most indicators. Delaware County compared unfavorably for rates of chlamydia and gonorrhea.

Maternal and infant health indicators were generally unfavorable across the identified communities, with at least two counties comparing unfavorably to state averages for breastfeeding, low birthweight, teen births, preterm births and mothers who smoked during pregnancy. Rates of mothers who smoked during pregnancy were more than 50 percent higher than the state average in Blackford, Delaware and Randolph counties.

For the state of Indiana, Behavioral Risk Factor Surveillance System (BRFSS) data indicates that on all but one measure presented, risk factors were higher for Black residents than for White residents (and for lower-income residents than those with higher incomes). Hispanic (or Latino) residents have experienced higher uninsured, physical inactivity and occasional smoking rates.

Ambulatory Care Sensitive Conditions

Ambulatory Care Sensitive Conditions (ACSCs) include fourteen health conditions (also referred to as Preventative Quality Indicators, or “PQIs”) “for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease.”¹ These conditions include diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, pneumonia, urinary tract infection and asthma.

The rates of admissions for ACSCs across the identified communities exceeded state averages for 11 of 14 indicators, including for diabetes long-term complications, COPD or asthma, hypertension, pneumonia, uncontrolled diabetes and asthma in younger adults.

Community Need Index

Dignity Health, a California-based hospital system, developed and published a Community Need Index™ (CNI) that measures barriers to healthcare access. The index is based on five social and economic indicators:

- The percentage of elders, children and single parents living in poverty;
- The percentage of adults over the age of 25 with limited English proficiency and the percentage of the population that is non-White;
- The percentage of the population without a high school diploma;
- The percentage of uninsured and unemployed residents; and
- The percentage of the population renting houses.

A CNI score is calculated for each ZIP code. Scores range from “Lowest Need” (1.0-1.7) to “Highest Need” (4.2-5.0).

For a weighted average CNI score, Blackford County scored a 3.0, Delaware County a 3.1, Jay County a 3.2 and Randolph County a 3.0 on the CNI scale. Compared to the national median of 3.0, Delaware and Jay counties had slightly higher scores. Delaware County ZIP code 47305 scored in the “highest need” category.

Food deserts

The U.S. Department of Agriculture’s Economic Research Service identifies census tracts that are considered “food deserts” because they include lower-income persons without supermarkets or large grocery stores nearby.

Census tracts in Delaware, Randolph and Jay counties have been designated as food deserts.

Medically Underserved Areas and Populations

Medically Underserved Areas and Populations (MUA/Ps) are designated by the Health Resources and Services Administration (HRSA) based on an “Index of Medical Underservice (Index).” The Index includes the following variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level and percentage of the population age 65 or over. Areas with a score of 62 or less are considered “medically underserved.”

Randolph County has been designated as a MUA and the low-income populations of Blackford, Delaware and Jay counties have been designated as MUAs.

Health Professional Shortage Areas

A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care or mental health care professionals is found to be present.

Jay and Randolph counties, as well as the low-income population of Blackford County, have been designated as primary care HPSAs. Low-income populations of Blackford, Delaware, Jay and Randolph counties have been designated as dental care HPSAs. All of Blackford, Delaware, Jay and Randolph counties have been designated as mental health care HPSAs.

Relevant Findings of Other CHNAs

This CHNA also considered the findings of other recent, available assessments conducted by other community-based organizations or agencies, Local Health Departments (LHDs) and the state of Indiana. These other assessments consistently identified the following needs as significant for the community served by IU Health Ball.

- Food insecurity
- Chronic disease and chronic disease management
- Aging population and needs of seniors

Significant indicators

Exhibit 4 presents many of the indicators discussed in the above secondary data summary. An indicator is considered significant if it varies materially from a benchmark level (e.g., an average for Indiana or the United States). For example, the percent of Delaware County children in poverty was 22.2 percent. A comparable statistic for Indiana as a whole was 17.8 percent. For the IU Health Ball community, children in poverty is considered significant. The last column of Exhibit 4 identifies where more information regarding the data sources can be found in this report. The benchmarks include Indiana averages and national averages.

¹ Agency for Healthcare Research and Quality – AHRQuality Indicators™. (n.d.) Prevention Quality Indicators Overview. Retrieved from https://qualityindicators.ahrq.gov/Modules/pqi_resources.aspx#techspecs

Exhibit 4: Significant indicators

Indicator	Area	Value	Benchmark	Exhibit
Population change, 2020-2025	Four-County Composite	-1.6%	2.2% - Indiana	9
65+ population change, 2020-2025	Four-County Composite	7.3%	15.0% - Indiana	9
Population with a disability	Blackford County	20.6%	13.7% - Indiana	13
Population 25+ without high school diploma	Randolph County	12.5%	11.8% - Indiana	13
Poverty rate, 2015-2019	Delaware County	21.9%	13.4% - Indiana	14
Poverty rate, Black, 2015-2019	Jay County	95.7%	26.9% - Indiana	15
Poverty rate, Asian, 2015-2019	Blackford County	59.0%	18.0% - Indiana	15
Poverty rate, Hispanic, 2015-2019	Randolph County	37.2%	22.4% - Indiana	15
Percent of children in poverty	Delaware County	22.2%	17.8% - Indiana	21
Percent of live births with low birthweight	Delaware County	9.4%	8.1% - Indiana	21
Percent of driving deaths with alcohol involvement	Blackford County	50.0%	20.8% - Indiana	21
Percent of population with adequate access to exercise opportunities	Jay County	39.5%	84.0% - U.S.	21
Injury death rate per 100,000 population	Blackford County	114.1	67.0 - U.S.	21
Population per primary care physician	Randolph County	5,016:1	1,330:1 - U.S.	21
Population per dentist	Jay County	3,491:1	1,460:1 - U.S.	21
Population per mental health provider	Randolph County	3,560:1	440:1 - U.S.	21
Income inequality	Delaware County	5.0	4.4 - Indiana	21
Teen birth rate	Blackford County	39.7	25.0 - U.S.	21
New chlamydia cases per 100,000	Delaware County	576.8	466.0 - Indiana	21
Severe housing problems	Delaware County	16.1%	13.7% - Indiana	21
Mortality rate (all cancers)	Delaware County	175.7	163.3 - Indiana	23
Mothers on Medicaid percent	Blackford County	48.8%	38.5% - Indiana	26
Smoked during pregnancy percent	Blackford County	30.4%	11.8% - Indiana	26
Preterm births present	Delaware County	11.3%	10.1% - Indiana	26
Admissions for diabetes long-term complications (ACSC)	Jay County	137.4	116.6 - Indiana	28
Asthma in older adults (ACSC)	Delaware County	669.7	467.9 - Indiana	28
Admissions for hypertension (ACSC) per 100,000	Delaware County	140.3	56.7 - Indiana	28

Source: IU Health Analysis

Primary data summary

IU Health Ball obtained community input through focus groups of community stakeholders, an additional survey issued to stakeholders who were unable to attend the community meetings and a key informant interview with a public health expert.

See Appendix C for a list of organizations and community members who participated in the community input process

Blackford County

Two community meetings were held in 2021 to receive input from stakeholders regarding the health needs in Blackford County – one on April 23 and another on May 13. Secondary data and a preliminary list of community health need priorities was presented at both meetings. Each group was then asked questions about the preliminary list, including their reactions, additions to the proposed needs, thoughts regarding the causes, impacts of the COVID-19 pandemic and others.

After these discussions, participants were given the opportunity to make additional comments before being asked to vote on the significant needs in the county. Participants were asked to choose three to five significant health needs in a poll during the meeting.

Participants focused discussion on access to mental health services, health insurance barriers, substance abuse and addiction, tobacco use (including during pregnancy and among youth with vaping), a lack of health education, maternal and infant health, childcare, the disconnect between good education rates but lack of jobs, transportation barriers, a lack of knowledge of available resources and others.

From this process, participants from the April 23 community meeting identified the following needs as most significant for Blackford County:

- Access to mental health providers
- Health literacy and education
- Substance abuse (including opioids, alcohol and methamphetamines)
- Obesity and associated conditions (diabetes, cardiovascular issues)

Participants from the May 13 community meeting identified the following needs as most significant for Blackford County:

- Substance abuse and addiction (including tobacco usage)
- Access to healthcare services
- Access to mental health services
- Maternal, infant and child health and wellbeing

In discussing the impacts of the COVID-19 pandemic on health, participants focused on isolation and its impacts on mental health, increase in substance abuse, impacts on

child learning, increase in domestic violence and abuse, increasing physical inactivity and growing community conflict and negative attitudes (including towards frontline workers).

An additional community survey was issued to stakeholders unable to attend community meetings, asking them to identify priority needs. Among two responses, the following issues were identified as the most significant by both respondents:

- Substance abuse and addiction
- Mental health and suicide
- Poverty and lack of resources for low-income population
- Lack of providers (specialists and mental health)

The survey also asked about the impacts of the COVID-19 pandemic. Issues selected as significant impacts by both respondents include:

- Social isolation and loneliness
- Learning and development impacts among children

An additional interview was conducted with a representative of a local public health department to obtain subject-matter expertise into the health needs in Blackford County. The following issues were discussed as significant:

- Substance abuse and addiction is a significant issue
- Mental health and access to mental health care are significant issues, amplified by the COVID-19 pandemic
- Maternal and infant health issues exist, particularly around teen births and smoking during pregnancy
- Smoking and obesity are two issues that have long been identified as issues in Blackford and continue to persist despite local work
- Transportation is a large barrier to accessing services, particularly a lack of public transportation options
- More community focus on health lifestyle is needed, including nutrition, physical activity, tobacco-free residents and accessible areas to exercise (health education plays a role here)

Delaware County

Three community meetings were held in 2021 to receive input from stakeholders regarding the health needs in Delaware County (April 28, April 30 and May 6). Secondary data and a preliminary list of community health need priorities was presented at each meeting. Each group was then asked questions about the preliminary list, including their reactions, additions to the proposed needs, thoughts regarding the causes, impacts of the COVID-19 pandemic and others.

After these discussions, participants were given the opportunity to make additional comments before being asked to vote on the significant needs in the county. Participants were asked to choose three to five significant health needs in a poll during the meeting.

Participants focused discussion around social determinants of health and their impacts on health, generational poverty,

mental health and its stigma, access to mental health services and lack of providers, health disparities (particularly for minority and LGBTQ+ populations), food insecurity and unhealthy eating, domestic violence and abuse, lack of transportation options, obesity and related conditions, substance abuse and overdoses, isolation and exacerbations due to the COVID-19 pandemic and lack of resources within local communities.

From this process, participants identified the following needs as most significant for Delaware County:

- Mental health
- Poverty, including children in poverty
- Health and financial education resources
- Substance abuse (including opioids, alcohol, tobacco and others)

In discussing the impacts of the COVID-19 pandemic on health, participants focused on isolation and its impacts on mental health, lack of preventive health and checkups and residents feared going to providers, highlighting of disparities (especially for racial and ethnic minority groups), housing issues, lack of vaccination demand and exposing weaknesses in safety-net programs.

An additional interview was conducted with a representative of a local public health department to obtain subject-matter expertise into the health needs in Delaware County. The following issues were discussed as significant:

- Mental health and a lack of mental health providers (particularly for children) are significant issues, amplified by the COVID-19 pandemic
- An improvement in care coordination is needed, including triage from emergency departments and urgent care
- Homelessness is an issue, especially among women
- Physical inactivity and unhealthy eating are both issues, with more focus needed on youth education and programs in these areas
- Elderly needs are a significant concern, especially with the oncoming increase in elderly populations
- More providers are needed for specialty care

The following COVID-19 feedback was noted:

- The pandemic has affected mental health, particularly among children
- Elderly have been affected greatly and disadvantaged as services move online due to technology knowledge and access barriers

Jay County

Two community meetings were held in 2021 to receive input from stakeholders regarding the health needs in Jay County – one on April 21 and another on April 29. Secondary data and a preliminary list of community health need priorities was presented. Each group was then asked questions about the preliminary list, including their reactions, additions to the proposed needs, thoughts regarding the causes, impacts of the COVID-19 pandemic and others.

After these discussions, participants were given the opportunity to make additional comments before being asked to vote on the significant needs in the county. Participants were asked to choose three to five significant health needs in a poll during the meeting.

Participants focused discussion around an aging population and workforce, transportation as a barrier to accessing services (especially specialists, often not located in the community), disabled population needs, the need for health education, increasing mental health needs such as anxiety and depression, a lack of mental health providers, homelessness, poverty, substance abuse and addiction (along with stigma around seeking help), needs of migrant and Spanish-speaking communities and health insurance.

From this process, participants from the April 21 community meeting identified the following needs as most significant for Jay County:

- Substance abuse (including opioids and alcohol)
- Access to healthcare services (including specialists)
- Mental health and access to mental health services
- Children in poverty
- Transportation

Participants from the April 29 community meeting identified the following needs as most significant for Jay County:

- Mental health
- Poverty
- Substance abuse (including opioids and alcohol)
- Transportation
- Health and wellness education

In discussing the impacts of the COVID-19 pandemic on health, participants focused on isolation and its impacts on mental health, increase in pediatric mental health needs, increase in substance abuse, financial impacts on service organizations, lack of preventive care due to fear of going to providers and technology barriers creating a digital divide in an increasingly online world.

An additional community survey was issued to stakeholders unable to attend community meetings, asking them to identify priority needs. Among three responses, the following issues were identified as the most significant by respondents:

- Substance abuse and addiction (including alcohol)
- Obesity, physical inactivity and unhealthy eating
- Smoking and tobacco use
- Domestic violence
- Mental health
- Community resources and providers

The survey also asked about the impacts of the COVID-19 pandemic. Issues selected as significant impacts by respondents include:

- Social isolation and loneliness
- Unemployment or underemployment
- Childcare access and costs

- Learning and development in children
- Distrust with the medical community
- Digital divide (lack of Internet or device access)

An additional interview was conducted with representatives of a local public health department to obtain subject-matter expertise into the health needs in Jay County. The following issues were discussed as significant:

- Poverty is an issue in the community and children in poverty is noticeable
- Mental health is an issue and leads to further poverty concerns as mental issues often can lead to inability to work (a stigma around mental health still exists)
- Substance abuse is prominent and generational in nature
- Physical inactivity and access to exercise opportunities is a significant need
- Smoking, tobacco usage and vaping are all common
- Specialty services, such as dialysis and radiation treatment, are mostly not located in the county, leading to access issues that are exacerbated by transportation concerns
- More health education programs are needed, particularly focused on youth and also elderly education on available resources for seniors
- Amish residents are a vulnerable population, often difficult to access and provide information surrounding topics such as COVID-19

Randolph County

In collaboration with Ascension St. Vincent, a community meeting was held on June 2, to receive input from stakeholders regarding the health needs in Randolph County. Secondary data and a preliminary list of community health need priorities was presented at this meeting. Each group was then asked questions about the preliminary list, including their reactions, additions to the proposed needs, thoughts regarding the causes of the needs, impacts of the COVID-19 pandemic and others.

After this discussion, participants were given the opportunity to make additional comments before being asked to vote on what they believed were the most significant needs in the county. Participants were asked to choose three to five significant health needs via an online poll during and after the meeting.

Preliminary needs identified include a wide collection of topics, including accidents and injuries, elderly needs, food insecurity, maternal and child health, smoking, poverty, unemployment, supply of primary care and mental health providers and vaccinations.

In addition to these topics, participants focused discussion on transportation barriers, tobacco and increasing e-cigarette usage, nutrition and the impacts of the COVID-19 pandemic on food availability, mental health, substance abuse and difficulties in recruiting emergency responders.

From this process, participants identified the following needs as most significant for Randolph County:

- Substance abuse and addiction
- Transportation as a barrier
- Supply of behavioral health providers (including mental health and substance abuse)

An additional interview was conducted with representatives of a local public health department to obtain subject-matter expertise into the health needs in Randolph County. The following issues were discussed as significant:

- Obesity and diabetes are significant needs in the community (a lack of physical activity and exercise opportunities contributes)
- Healthy foods are often expensive and education around healthy eating is limited, particularly for elderly residents
- Substance abuse issues are significant, particularly with opioid abuse (treatment services are limited and have long wait times, and providers often do not know where to refer those who are seeking help)
- Poverty and transportation are two health barriers in the community, prominent in southern and western portions of the county
- Hispanic (or Latino) populations, including migrant workers, are often underserved in the community, often lacking trust in providers, insurance and services directed towards them
- Children are underserved in the community, particularly those in poverty or living in unstable situations
- Due to the rural nature of the county, social services are limited
- There is not a culture around health in place and breaking generational unhealthy lifestyles is difficult, particularly for issues such as nutrition, exercise and substance abuse

The following COVID-19 feedback was noted:

- The pandemic has affected the ability of social service organizations, including health departments, to do their normal work since all focus is on the pandemic (burnout among providers is common as well)
- Mental health has been impacted, particularly among children due to isolation and learning impacts
- There is also general anger in the community towards changing COVID-19 procedures, often creating confusion and distrust with new guidelines

Other facilities and resources in the community

This section identifies other facilities and resources available in the community served by IU Health Ball that are available to address community health needs.

Federally Qualified Health Centers

Federally Qualified Health Centers (FQHCs) are established to promote access to ambulatory care in areas designated as “medically underserved.” These clinics provide primary care, mental health and dental services for lower-income populations. FQHCs receive enhanced reimbursement for Medicaid and Medicare services and most also receive federal grant funds under Section 330 of the Public Health Service Act.

There are currently 14 FQHC sites operating in the IU Health Ball community (Exhibit 5).

Exhibit 5: Federally Qualified Health Centers, 2021

County	Facility
Delaware	Delaware County Jail (Muncie)
Delaware	Meridian Health Services (Muncie)
Delaware	Meridian Health Services Corp (Muncie)
Delaware	Meridian Health Services Pediatrics (Muncie)
Delaware	Meridian Health Services-Walnut Commons (Muncie)
Delaware	Meridian MD (Muncie)
Delaware	Meridian MD, North Tillotson (Muncie)
Delaware	Open Door Family Planning Clinic (Muncie)
Delaware	Open Door Health Services (Muncie)
Delaware	Open Door Mobile School Health #1 (Muncie)
Delaware	Southway Urgent Care (Muncie)
Delaware	Suzanne Gresham Center Division of Meridian Services (Muncie)
Jay	Meridian Health Services – West Jay (Dunkirk)
Jay	Meridian MD Convenience Care (Portland)

Source: HRSA, 2021

Hospitals

Six hospitals (including IU Health Ball) are located in the community (Exhibit 6).

Exhibit 6: Hospitals, 2021

County	Facility
Blackford	IU Health Blackford (Hartford City)
Delaware	Central Indiana AMG Specialty Hospital LLC (Muncie)
Delaware	IU Health Ball (Muncie)
Delaware	Meridian Services Corp (Muncie)
Jay	IU Health Jay (Portland)
Randolph	Ascension St. Vincent Randolph (Winchester)

Source: Indiana Department of Health, 2021

Local Health Departments

Exhibit 7 presents information on LHDs that provide services in the IU Health Ball community.

Exhibit 7: Local Health Departments, 2021

Public Health Department
Blackford County Health Department (Hartford City)
Delaware County Health Department (Muncie)
Jay County Health Department (Portland)
Randolph County Health Department (Winchester)

Source: Indiana Department of Health, 2021

Other community resources

A wide range of agencies, coalitions and organizations that provide health and social services, is available in the region served by IU Health Ball. Indiana 211 is a free service that helps Indiana residents find health and human service agencies and resources in their local community. Indiana 211 is a division of the Indiana Family and Social Services Administration (FSSA). To get help, residents can visit the website, (www.in211.org), call 2-1-1 or 1-866-211-9966 (available 24/7) or text their zip code to 898-211 (available Monday – Friday 8 am – 5 pm).

The other organizations and resources accessible through Indiana 211 provide the following types of services and resources:

- Housing and utilities
- Food, clothing and household items
- Summer food programs
- Healthcare and disability services
- Health insurance and expense assistance
- Mental health and counseling
- Substance abuse and other addictions
- Support groups
- Tax preparation assistance
- Legal, consumer and financial management services
- Transportation
- Employment and income support
- Family support and parenting
- Holiday assistance
- Disaster services
- Government and community services
- Education, recreation and the arts
- Donations and volunteering

In addition to Indiana 211, IU Health Ball, along with other hospitals and organizations in the community, use Aunt Bertha to connect patients and the community with local organizations and resources that can help address their healthcare and social needs, including food, housing, transportation, health, clothing, household items, education and legal and employment services.

IU Health's branded Aunt Bertha public platform, *IU Health Connect*, is a free service found at www.iuhealthconnect.org.

Appendix A – Objectives and methodology

Regulatory requirements

Federal law requires that tax-exempt hospital facilities conduct a CHNA every three years and adopt an Implementation Strategy that addresses significant community health needs.² In conducting a CHNA, each tax-exempt hospital facility must:

- Define the community it serves;
- Assess the health needs of that community;
- Solicit and take into account input from persons who represent the broad interests of that community, including those with special knowledge of or expertise in public health;
- Document the CHNA in a written report that is adopted for the hospital facility by an authorized body of the facility; and
- Make the CHNA report widely available to the public.

The CHNA report must include certain information including, but not limited to:

- A description of the community and how it was defined;
- A description of the methodology used to determine the health needs of the community; and
- A prioritized list of the community's health needs.

Methodology

CHNAs seek to identify significant health needs for particular geographic areas and populations by focusing on the following questions:

- **Who** in the community is most vulnerable in terms of health status or access to care?
- **What** are the unique health status and/or access needs for these populations?
- **Where** do these people live in the community?
- **Why** are these problems present?

The focus on who is most vulnerable and where they live is important to identifying groups experiencing health inequities and disparities. Understanding why these issues are present is challenging, but is important to designing effective community health improvement initiatives. The question of how each hospital can address significant community health needs is the subject of the separate Implementation Strategy.

² IRS. (Aug. 3, 2021). *Community Health Needs Assessment for Charitable Hospital Organizations – Section 501(r)(3)*. Retrieved from: <https://www.irs.gov/charities-non-profits/community-health-needs-assessment-for-charitable-hospital-organizations-section-501r3>

Federal regulations allow hospital facilities to define the community they serve based on “all of the relevant facts and circumstances,” including the “geographic location” served by the hospital facility, “target populations served” (e.g., children, women or the aged) and/or the hospital facility’s principal functions (e.g., focus on a particular specialty area or targeted disease).³

This assessment was conducted by IU Health in collaboration with Verité Healthcare Consulting, LLC. See Appendix E for consultant qualifications.

Data from multiple sources was gathered and assessed, including secondary data published by others and primary data obtained through community input. See Appendix B for an assessment of secondary data. Input from the community was received through key informant interviews, community meetings and a community survey.

The informants participating in the community input process represented the broad interests of the community and included individuals with special knowledge of or expertise in public health. See Appendix C.

Considering a wide array of information is important when assessing community health needs to ensure the assessment captures a wide range of facts and perspectives and to increase confidence that significant community health needs have been identified accurately and objectively.

Certain community health needs were determined to be “significant” if they were identified as problematic in at least two of the following four data sources:

- Secondary data (i.e., data collected by another entity or for a different purpose), including demographics, health status and access to care indicators;
- Findings from other community health assessments of areas served by the hospital;
- Input obtained from individuals who participated in one or more community meetings; and
- Input obtained from individuals who were interviewed.

Collaborating Organizations

For this assessment, IU Health Ball collaborated with other Indiana health systems on the community meetings and key informant interviews.

Data Sources

Community health needs were identified by collecting and analyzing data from multiple sources. Statistics for numerous community health statuses, healthcare access and related indicators were analyzed, including data

provided by local, state and federal government agencies, local community service organizations and IU Health. Comparisons to benchmarks were made where possible. Findings from recent assessments of the community’s health needs conducted by other organizations (e.g., local health departments) were reviewed as well.

Input from persons representing the broad interests of the community was taken into account through community meetings and key informant interviews. Participants included: individuals with special knowledge of or expertise in public health; local public health departments; agencies with current data or information about the health and social needs of the community; representatives of social service organizations; and leaders, representatives and members of medically underserved, low-income and minority populations.

Health equity

The CHNA process is an opportunity to research and expand health equity work for IU Health. Identifying significant community health needs involves continuing to recognize and understand every factor that impacts optimal health for all in a community. According to the Centers for Disease Control and Prevention (CDC), “Health equity is achieved when every person has the opportunity to “attain his or her full health potential” and no one is “disadvantaged from achieving this potential because of social position or other socially determined circumstances.” Health inequities are reflected in differences in length of life; quality of life; rates of disease, disability and death; severity of disease; and access to treatment.”⁴ These differences or health disparities, may be seen by race/ethnicity, age, gender, income, insurance status, education, geographic location and other factors. A community’s most vulnerable and marginalized populations experience health disparities more than others. Eliminating these disparities is key to achieving health equity.

Overall health and health disparities are strongly influenced by “the conditions in the environment where people are born, live, learn, work, play, worship and age.”⁵ These conditions, also referred to as social determinants of health, may have a greater impact on health outcomes than healthcare. Also, addressing social determinants of health reduces health disparities, thus advancing health equity in communities. Examples of social determinants of health include poverty, food insecurity, housing, social

⁴ Centers for Disease Control and Prevention. (March 11, 2020). *Health Equity*. Retrieved from: <https://www.cdc.gov/chronicdisease/healthequity/index.htm> Center for Disease Control and Prevention. (March 11, 2020). *Health Equity*. Retrieved from: <https://www.cdc.gov/chronicdisease/healthequity/index.htm>

⁵ Healthy People 2030. (n.d.). *Social Determinants of Health*. Retrieved from: <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>

³ *Ibid*, 16.

isolation, transportation, racism and other forms of discrimination. Healthy People 2030 groups social determinants of health into five domains: economic stability; education access and quality; healthcare access and quality; neighborhood and built environment; and social community context.⁶ Determining the existence and extent of these conditions within a community is as important as knowing the health outcomes within a community.

Through the CHNA process, several steps were taken to work towards a better understanding of inequities in the community including analyzing data sources by demographic factors (if available) to identify disparities; inviting and engaging community members and community-based organizations representing certain populations or that offer services to certain populations to participate in the primary data collection process; and including social determinants of health data in the analysis.

Information gaps

This CHNA relies on multiple data sources and community input gathered in January through June of 2021. Several data limitations should be recognized when interpreting results. For example, some data (e.g., County Health Rankings, mortality data and others) exist only at a county-wide level of detail. Those data sources do not allow the assessment of health needs at a more granular level of detail, such as by ZIP code or census tract.

Secondary data, upon which this assessment relies, measure community health in prior years and may not reflect current conditions. The impacts of recent public policy developments, changes in the economy and other community developments are not yet reflected in those data sets.

Not all existing data can be stratified by demographic indicators to identify health disparities and patterns of inequity. Often no or limited demographic data is collected as part of the surveillance process for some data sources. When health disparities are identified, the data may not provide a clear understanding of why they exist and may be beyond the scope of this CHNA. This CHNA does not capture the policies, laws, systems, environments, nor practices that cause health inequities. Additional data, analysis and community engagement are needed to identify the root causes of health disparities to best advance health equity in the community.

The availability of data sources, including indexes, capturing social determinants of health indicators and their impact on health continues to grow and may not all be reflected in this CHNA.

Relevant findings from other assessments or reports conducted by community-based organizations, agencies or local health departments (LHDs) may not be available for every county in the defined community. If available, assessments may have focused on the overall health and well-being of the county or region; specific health conditions, health behaviors or social determinants of health; or the health and well-being of certain populations in the community.

The findings of this CHNA may differ from those of others that assessed this community. Differences in data sources, geographic areas assessed (e.g., hospital service areas versus counties or cities), interview questions and prioritization processes can contribute to differences in findings.

⁶ *Ibid*, 17.

Appendix B – Secondary data assessment

This section presents an assessment of secondary data regarding health needs in the IU Health Ball community. IU Health Ball’s community is comprised of Blackford, Delaware, Jay and Randolph counties, Indiana.

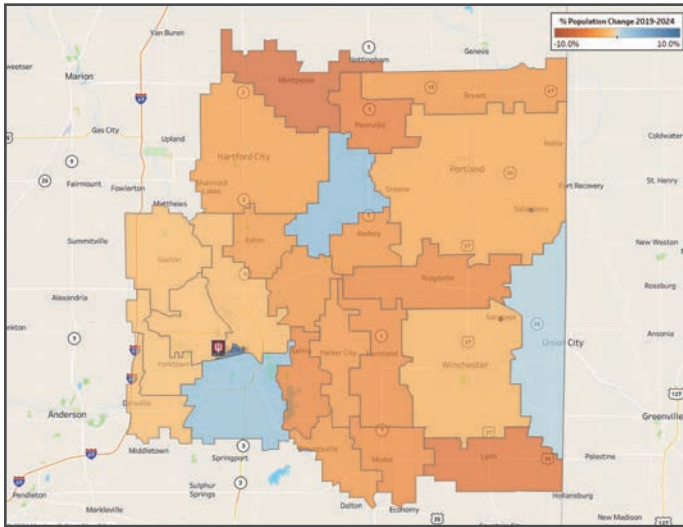
Demographics

Exhibit 8A: Percent change in community population by county, 2020-2025

County	Estimated population 2020	Estimated population 2025	Percent change 2020-2025
Blackford County	11,759	11,210	-4.7%
Delaware County	114,142	112,698	-1.3%
Jay County	21,149	21,109	-0.2%
Randolph County	24,249	23,607	-2.6%
Total Community	171,299	168,624	-1.6%
Indiana Total	6,738,573	6,889,552	2.2%

Source: State of Indiana by the Indiana Business Research Center, February 2021

Exhibit 8B: Percent change in community population by ZIP Code, 2020-2025



Source: Advisory Board, 2020

Description

Exhibit 8A shows the total population for each county in 2020 and projections to 2025. Exhibit 8B maps the percent change in population by ZIP code between 2020 and 2025 for each ZIP code in the community.

Observations

- The population in Blackford, Delaware and Randolph counties is projected to decrease from 2020 to 2025.
- The Jay County population is expected to remain relatively unchanged between 2020 and 2025.

Exhibit 9: Percent change in population by age/sex cohort, 2020-2025

Age/Sex Cohort	Estimated population 2020	Projected population 2025	Percent change 2020-2025
Blackford County	11,759	11,210	-4.7%
0-19	2,857	2,754	-3.6%
20-44 male	1,512	1,423	-5.9%
20-44 female	1,534	1,419	-7.5%
45-64	3,198	2,805	-12.3%
65+	2,658	2,809	5.7%
Delaware County	114,142	112,698	-1.3%
0-19	27,396	27,119	-1.0%
20-44 male	19,951	19,936	-0.1%
20-44 female	20,310	19,712	-2.9%
45-64	26,098	24,066	-7.8%
65+	20,387	21,865	7.2%
Jay County	21,149	21,109	-0.2%
0-19	5,982	6,047	1.1%
20-44 male	2,979	2,950	-1.0%
20-44 female	2,955	3,000	1.5%
45-64	5,438	5,042	-7.3%
65+	3,795	4,070	7.2%
Randolph County	24,249	23,607	-2.6%
0-19	6,069	5,866	-3.3%
20-44 male	3,262	3,071	-5.9%
20-44 female	3,291	3,136	-4.7%
45-64	6,524	5,992	-8.2%
65+	5,103	5,542	8.6%
Total Community	171,299	168,624	-1.6%
0-19	42,304	41,786	-1.2%
20-44 male	27,704	27,380	-1.2%
20-44 female	28,090	27,267	-2.9%
45-64	41,258	37,905	-8.1%
65+	31,943	34,286	7.3%
Indiana State	6,738,573	6,889,552	2.2%
0-19	1,754,443	1,786,582	1.8%
20-44 male	1,093,860	1,100,228	0.6%
20-44 female	1,080,537	1,088,697	0.8%
45-64	1,695,267	1,632,008	-3.7%
65+	1,114,466	1,282,037	15.0%

Source: State of Indiana by the Indiana Business Research Center, February 2021

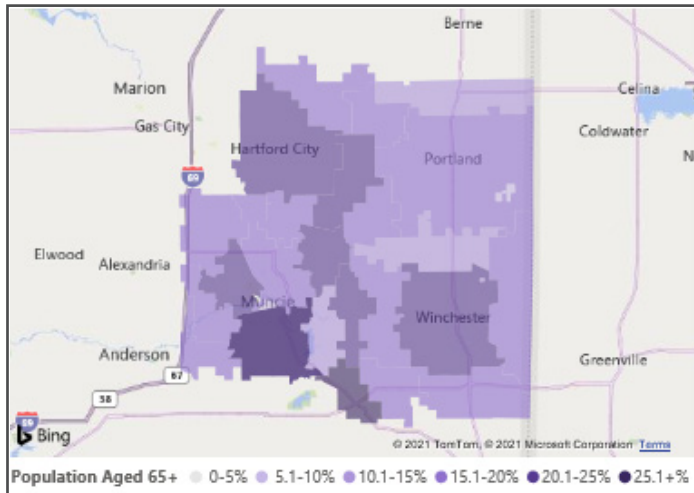
Description

Exhibit 9 shows the community’s population for certain age and sex cohorts in 2020, with projections to 2025.

Observations

- The number of persons aged 65 years and older is projected to grow by 7.3 percent in the total community (all 4 counties) and 15.0 percent in Indiana between 2020 and 2025.
- The growth of older populations is likely to lead to growing need for health services, since on an overall per-capita basis, older individuals typically need and use more services than younger persons.

Exhibit 10: Percent of population aged 65+ by ZIP Code, 2019



Source: U.S. Census American Community Survey (ACS) 2019 5-year estimates and Power BI

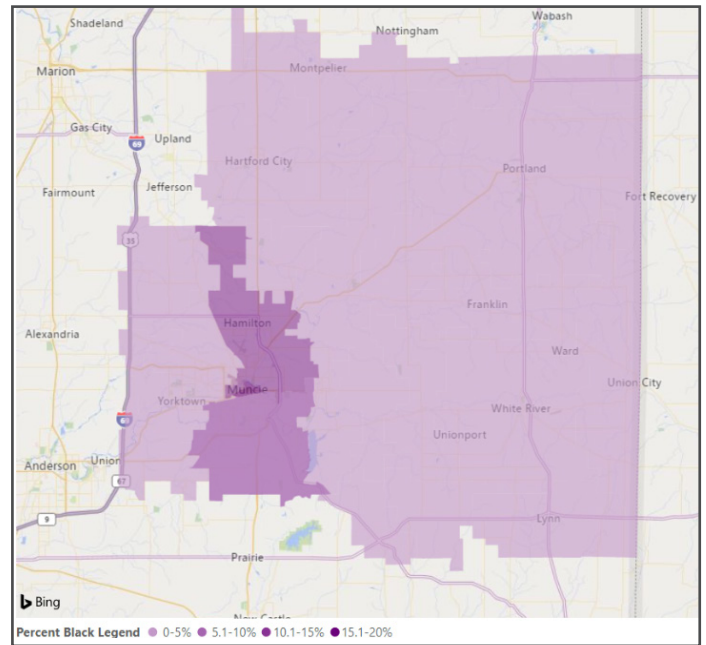
Description

Exhibit 10 portrays the percent of the population 65 years of age and older in the community by ZIP code.

Observations

- ZIP code 47367 (south of Muncie) has the highest proportion of the population aged 65 and older in the community, above 25 percent.

Exhibit 11: Percent of population – Black, 2019



Source: U.S. Census ACS 2019 5-year estimates and Power BI

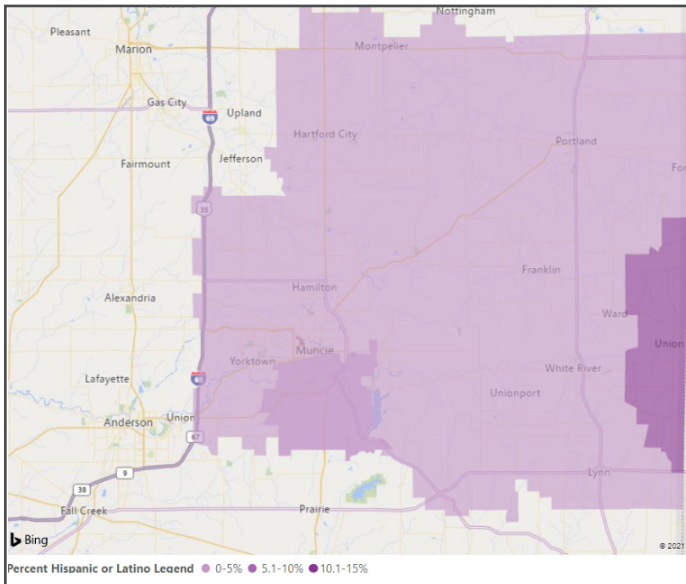
Description

Exhibit 11 portrays locations where the percentages of the population that are Black were highest in 2019.

Observations

- Delaware County had two ZIP codes that had over ten percent of the population that was Black in 2019 (47302 and 47305)

Exhibit 12: Percent of population – Hispanic (or Latino), 2019



Source: U.S. Census ACS 2019 5-year estimates and Power BI

Description

Exhibit 12 portrays locations in the community where the percentages of the population that are Hispanic (or Latino) were highest in 2019. The diversity of the community is important to recognize given the presence of health disparities and barriers to healthcare access experienced by different racial and ethnic groups.

Observations

- The proportion of residents that are Hispanic (or Latino) is highest in ZIP code 47390 in Randolph and Jay counties, near Union City, above ten percent in 2019.

Exhibit 13: Other socioeconomic indicators, 2015-2019

Measure	Population with a disability	Population 25+ without high school diploma	Population linguistically isolated
Blackford County	20.6%	10.6%	0.9%
Delaware County	17.3%	10.3%	0.8%
Jay County	16.9%	12.0%	1.0%
Randolph County	17.1%	12.5%	1.6%
Indiana	13.7%	11.8%	3.1%
United States	12.6%	12.0%	8.2%

Source: U.S. Census, ACS 5-year estimates, 2020

Description

Exhibit 13 portrays the percent of the population with a disability, aged 25 years and above without a high school diploma and linguistically isolated.

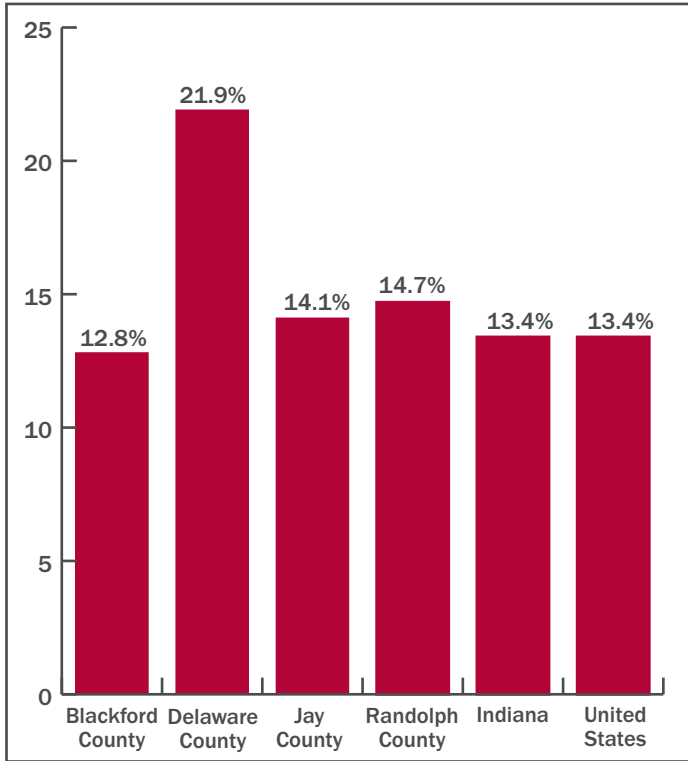
Observations

- All community counties had a higher percentage of the population with a disability compared to Indiana and U.S. averages.
- Jay and Randolph counties had a higher percentage of residents aged 25 years and older without a high school diploma than Indiana.
- Compared to Indiana, Blackford, Delaware, Jay and Randolph counties had a lower proportion of the population that is linguistically isolated. Linguistic isolation is defined as residents who speak a language other than English and speak English less than “very well.”

Economic Indicators

People in poverty

Exhibit 14: Percent of people in poverty, 2015-2019



Source: U.S. Census, ACS 5-year estimates, 2020

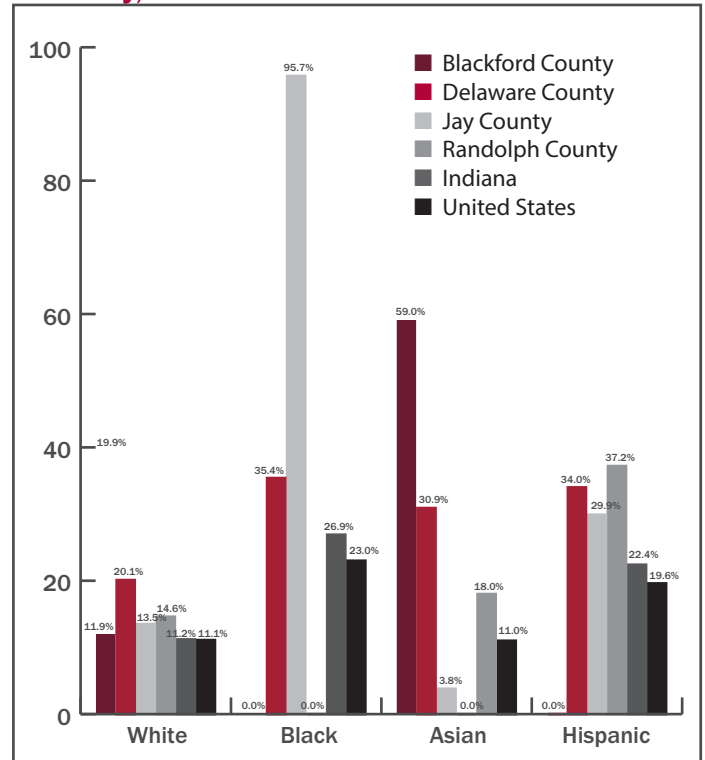
Description

Exhibit 14 portrays poverty rates for Blackford, Delaware, Jay and Randolph counties in addition to Indiana and the U.S.

Observations

- The poverty rate in Blackford County was below Indiana and national averages from 2015-2019.
- The poverty rates in Delaware, Jay and Randolph counties were above Indiana and U.S. averages from 2015-2019.

Exhibit 15: Poverty rates by race and ethnicity, 2015-2019



Source: U.S. Census, ACS 5-year estimates, 2020

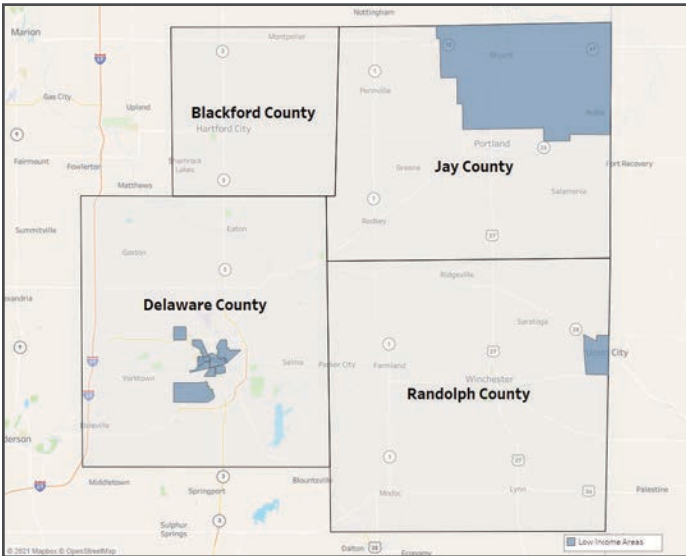
Description

Exhibit 15 portrays poverty rates in Blackford, Delaware, Jay and Randolph counties, Indiana and the U.S. by race and ethnicity.

Observations

- In general, poverty rates for Black, Asian and Hispanic (or Latino) residents in the community have exceeded rates for White residents.
- Poverty rates were particularly problematic for Black residents in Delaware and Jay counties, Asian residents of Blackford and Delaware counties and Hispanic (or Latino) residents of Delaware, Jay and Randolph counties.
- Poverty rates in Delaware County have been higher than national averages for all populations.

Exhibit 16: Low-income census tracts, 2021



U.S. Department of Housing and Urban Development (HUD), Qualified Census Tracts, 2021

Description

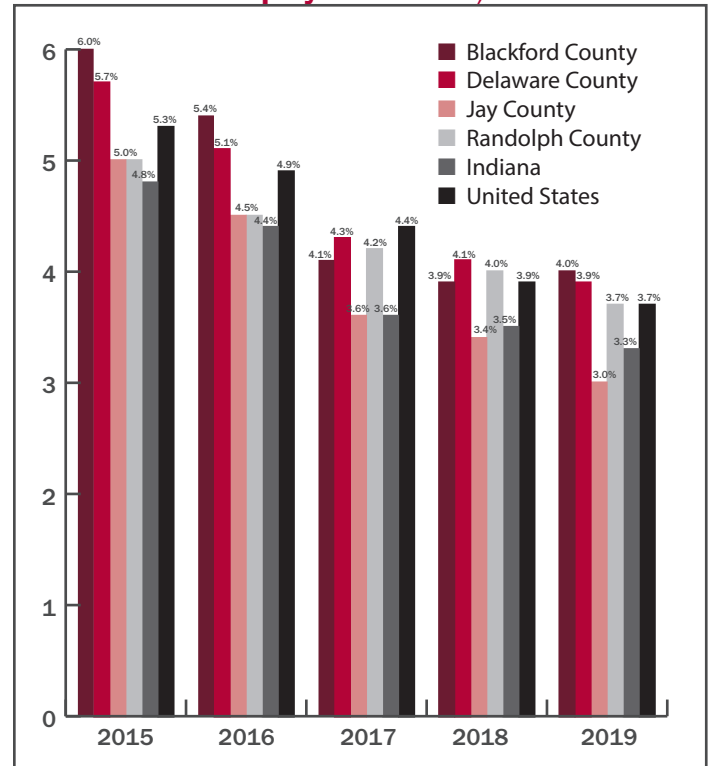
Exhibit 16 portrays the location of federally designated low-income census tracts.

Observations

- Low-income census tracts are present throughout areas of the IU Health Ball community including Delaware, Jay and Randolph counties.

Unemployment

Exhibit 17: Unemployment rates, 2015-2019



Source: : U.S. Bureau of Labor Statistics, 2020

Description

Exhibit 17 shows unemployment rates for 2015 through 2019 for Blackford, Delaware, Jay and Randolph counties, with Indiana and national rates for comparison.

Observations

- Between 2015 and 2019, unemployment rates at the local, state and national levels declined significantly.
- Unemployment rates in Blackford, Delaware and Randolph counties were above Indiana averages for the time period.
- Unemployment rates in Jay County were similar to Indiana averages for the time period.

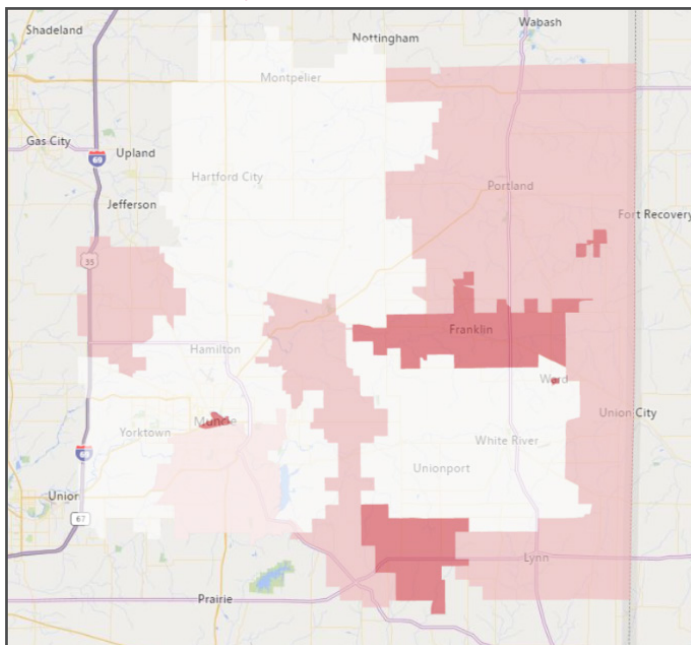
Insurance status

Exhibit 18A: Percent of the population without health insurance, 2019

County	Population	Population uninsured	Percent uninsured
Blackford County	9,164	785	8.6%
Delaware County	86,824	8,169	9.4%
Jay County	16,796	1,804	10.7%
Randolph County	19,498	2,038	10.5%
Indiana	5,474,844	532,695	9.7%
United States	319,706,872	28,248,613	8.8%

Source: U.S. Census, Small Area Health Insurance Estimates (SAHIE), 2019

Exhibit 18B: Percent of the population without health insurance, 2019



Source: U.S. Census, Small Area Health Insurance Estimates (SAHIE), 2019

Description

Exhibit 18A presents the estimated percent of people uninsured by county in 2019. Exhibit 18B maps the 2019 uninsured rates by ZIP code.

Observations

- The percent of population without health insurance in Jay and Randolph counties is above both state and national averages.
- In 2019, uninsurance rates were 50 percent higher than the Indiana rates in Delaware County ZIP code 47305, Jay County ZIP code 47381, and Randolph County ZIP codes 47358 and 47380.
- Subsequent to the Affordable Care Act's passage, a June 2012 Supreme Court ruling provided states with discretion regarding whether or not to expand Medicaid eligibility. Indiana was one of the states that expanded Medicaid. Across the U.S., uninsured rates have fallen in most states that decided to expand Medicaid.⁷

Crime

Exhibit 19: Crime rates by type and jurisdiction, per 100,000, 2019

Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana
Aggravated Assault	127.6	77.1	70.9	-	499.5
Arson	-	3.5	-	-	10.8
Burglary	68.0	311.9	18.9	123.7	664.2
Homicide	-	2.6	4.7	-	10.6
Larceny	187.1	947.1	510.7	985.6	2,992.9
Motor Vehicle Theft	25.5	287.4	28.4	49.5	423.7
Property Crime	280.6	1,546.3	558.0	1,158.8	4,080.9
Rape	-	16.7	14.2	-	79.4
Robbery	-	52.6	-	-	160.8
Violent Crime	127.6	148.9	89.8	-	750.2

Source: Federal Bureau of Investigation, 2020

Description

Exhibit 19 provides crime statistics.

Observations

- Crime rates in Blackford, Delaware, Jay and Randolph counties were well below Indiana averages.

⁷ Assistant Secretary from Planning and Evaluation, Office of Health Policy. Issue Brief No. HP-2021-13. Health Coverage Under the Affordable Care Act: Enrollment Trends and State Estimates. Retrieved from: https://aspe.hhs.gov/sites/default/files/migrated_legacy_files/200776/ASPE%20Issue%20Brief-ACA-Related%20Coverage%20by%20State.pdf

Local health status and access indicators

Exhibit 20: County Health Rankings, 2019

Measure	Blackford County	Delaware County	Jay County	Randolph County
Health outcomes	84	86	85	77
Health factors	65	57	64	69
Length of life	88	80	83	76
Premature death	88	80	83	76
Quality of life	75	88	84	79
Poor or fair health	51	73	81	55
Poor physical health days	73	87	82	59
Poor mental health days	68	87	80	82
Low birthweight	77	91	84	82
Health behaviors	72	46	70	52
Adult smoking	49	48	72	60
Adult obesity	71	38	59	63
Food environment index	28	87	71	66
Physical inactivity	47	19	54	30
Access to exercise opportunities	51	15	87	75
Excessive drinking	16	29	8	6
Alcohol-impaired driving deaths	15	57	39	11
Sexually transmitted infections	21	84	25	38
Teen births	81	9	63	67
Clinical care	50	13	65	53
Uninsured	62	54	57	31
Primary care physicians	69	10	60	76
Dentists	82	16	64	65
Mental health providers	82	3	25	80
Preventable hospital stays	31	61	76	33
Mammography screening	71	27	32	41
Social and economic factors	61	74	60	77
High school graduation	6	62	11	63
Some college	65	13	89	55
Unemployment	75	79	49	78
Children in poverty	76	74	80	79
Income inequality	34	89	44	63
Children in single-parent households	71	84	62	78
Social associations	2	49	7	12
Violent crime	10	47	21	N/A
Injury deaths	91	53	79	89
Physical environment	46	38	28	25
Air pollution	42	33	62	47
Severe housing problems	37	87	62	30
Driving alone to work	61	13	10	21
Long commute – driving alone	52	15	13	47

Source: County Health Rankings, 2019

Description

Exhibit 20 presents *County Health Rankings*, a University of Wisconsin Population Health Institute initiative funded by the Robert Wood Johnson Foundation, which incorporates a variety of health status indicators into a system that ranks each county/city within each state in terms of “health factors” and “health outcomes.” Health factors consists of summary composites that are grouped into the following categories: health behaviors, clinical care, social and economic factors and physical environment. Health outcomes consist of summary composites that are grouped by the categories of length of life and quality of life.⁸ *County Health Rankings* are updated annually. *County Health Rankings 2019* relies on data from 2007 to 2019.

The exhibit presents 2019 rankings for each available indicator category. Rankings indicate how the county ranked among all 92 counties in Indiana, with 1 indicating the highest (most favorable) ranking and 92 the lowest (least favorable).

Light grey shading indicates rankings in the bottom half of Indiana counties; dark grey shading indicates rankings in the bottom quartile of Indiana counties.

Observations

- In 2019, Blackford County had 29 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 16 were in the bottom quartile: health outcomes, length of life, premature death, quality of life, poor physical

health days, low birthweight, health behaviors, adult obesity, teen births, dentists, mental health providers, mammography screening, unemployment, children in poverty, children in single-parent households and injury deaths.

- Delaware County had 25 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 16 were in the bottom quartile: health outcomes, length of life, premature death, quality of life, poor or fair health, poor physical health days, poor mental health days, low birthweight, food environment index, sexually transmitted infections, social and economic factors, unemployment, children in poverty, income inequality, children in single-parent households and severe housing problems.
- Jay County had 29 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 16 were in the bottom quartile: health outcomes, length of life, premature death, quality of life, poor or fair health, poor physical health days, poor mental health days, low birthweight, health behaviors, adult smoking, food environment index, access to exercise opportunities, preventable hospital stays, some college, children in poverty and injury deaths.
- Randolph County had 29 out of 41 indicators ranked in the bottom half of Indiana counties. Of those, 14 were in the bottom quartile: health outcomes, length of life, premature death, quality of life, poor mental health days, low birthweight, access to exercise opportunities, primary care physicians, mental health providers, social and economic factors, unemployment, children in poverty, children in single-parent households and injury deaths.

⁸ *County Health Rankings and Roadmaps. (2021). County Health Rankings Model. Retrieved from: <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model>*

Exhibit 21: County Health Rankings data compared to Indiana and U.S. averages, 2019

Indicator category	Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana	U.S.
Health outcomes							
Length of life	Years of potential life lost before age 75 per 100,000 population (age-adjusted)	11,056.8	10,177.7	10,433.8	9,939.0	8,237.5	6900.0
Quality of life	Percentage of adults reporting fair or poor health (age-adjusted)	16.9	17.8	18.6	17.0	17.7	16.0
Quality of life	Average number of physically unhealthy days reported in past 30 days (age-adjusted)	4.1	4.1	4.2	3.9	3.9	3.7
Quality of life	Average number of mentally unhealthy days reported in past 30 days (age-adjusted)	4.2	4.5	4.3	4.4	4.3	3.8
Quality of life	Percentage of live births with low birthweight (<2500 grams)	8.6	9.4	8.8	8.7	8.1	8.0
Health factors							
Health behaviors							
Adult smoking	Percentage of adults who are current smokers	19.9	19.9	21.1	20.5	21.1	17.0
Adult obesity	Percentage of adults that report a BMI of 30 or more	35.8	33.3	34.5	34.9	32.8	29.0
Food environment index	Index of factors that contribute to a healthy food environment, 0 (worst) to 10 (best)	8.3	6.9	7.6	7.7	7.1	7.7
Physical inactivity	Percentage of adults age 20 and over reporting no leisure-time physical activity	27.4	24.8	27.9	26.3	25.1	22.0
Access to exercise opportunities	Percentage of population with adequate access to locations for physical activity	60.1	78.2	39.5	49.5	75.2	84.0
Excessive drinking	Percentage of adults reporting binge or heavy drinking	16.6	16.9	16.1	16.1	18.6	18.0
Alcohol-impaired driving deaths	Percentage of driving deaths with alcohol involvement	50.0	15.0	24.0	6.7	20.8	29.0
Sexually transmitted infections	Number of newly diagnosed chlamydia cases per 100,000 population	333.4	576.8	236.7	290.0	466.0	497.3
Teen births	Number of births per 1,000 female population ages 15-19	39.7	19.7	34.8	36.3	28.4	25.0
Clinical care							
Uninsured	Percentage of population under age 65 without health insurance	10.0	9.6	9.8	9.6	9.5	10.0
Primary care physicians	Ratio of population to primary care physicians	1,736:1	997:1	2,338:1	5,016:1	1,495:1	1,330:1
Dentists	Ratio of population to dentists	5,988:1	1,745:1	3,491:1	3,560:1	1,810:1	1,460:1
Mental health providers	Ratio of population to mental health providers	3,992:1	380:1	952:1	3,560:1	669:1	440:1
Preventable hospital stays	Number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	4,220.0	5,232.0	5,899.0	4,285.0	5,023.0	4520.0
Mammography screening	Percentage of female Medicare enrollees ages 67-69 that receive mammography screening	35.0	41.0	40.0	39.0	40.0	41.0
Flu vaccinations	Percentage of Medicare enrollees who receive an influenza vaccination	48.0	51.0	47.0	47.0	47.0	45.0

Exhibit 21: County Health Rankings data compared to Indiana and U.S. averages, 2019

Indicator Category	Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana	U.S.
Social and economic factors							
High school graduation	Percentage of ninth-grade cohort that graduates in four years	97.8	90.7	95.9	90.7	83.8	85.0
Some college	Percentage of adults ages 25-44 with some post-secondary education	51.0	65.9	43.7	54.3	62.4	65.0
Unemployment	Percentage of population ages 16 and older unemployed but seeking work	4.0	4.2	3.6	4.1	3.5	4.4
Children in poverty	Percentage of children under age 18 in poverty	22.3	22.2	23.2	23.1	17.8	18.0
Income inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	3.8	5.0	3.9	4.1	4.4	4.9
Children in single-parent households	Percentage of children that live in a household headed by single parent	35.7	39.2	33.2	37.2	33.6	33.0
Social associations	Number of membership associations per 10,000 population	23.0	13.7	19.0	17.9	12.3	9.0
Violent crime	Number of reported violent crime offenses per 100,000 population	49.3	271.0	99.9	N/A	385.1	386.0
Injury deaths	Number of deaths due to injury per 100,000 population	114.1	81.2	91.8	110.2	74.1	67.0
Physical environment							
Air pollution	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	11.7	11.5	12.1	11.8	11.8	8.6
Severe housing problems	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities	11.0	16.1	12.7	10.7	13.7	18.0
Driving alone to work	Percentage of the workforce that drives alone to work	85.3	80.0	79.1	81.2	83.0	76.0
Long commute - driving alone	Among workers who commute in their car alone, the percentage that commute more than 30 minutes	35.0	22.0	20.4	33.0	30.7	35.0

Source: County Health Rankings, 2019

Description

Exhibit 21 provides data for each underlying indicator of the composite categories in the *County Health Rankings*.⁹ The exhibit also includes Indiana and national averages. Light grey shading highlights indicators found to be worse than the Indiana average; dark grey shading highlights indicators more than 50 percent worse than the Indiana average.

Observations

- The following indicators (presented alphabetically) compared particularly unfavorably across the four counties in the community:

- Number of deaths due to injury per 100,000 population
- Percentage of children under age 18 in poverty
- Percentage of live births with low birthweight (<2500 grams)
- Percentage of adults that report a BMI of 30 or more
- Percentage of population under age 65 without health insurance
- Years of potential life lost before age 75 per 100,000 population (age-adjusted)

⁹ *County Health Rankings* provides details what each indicator measures, how it is defined and data source at <https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model>

Exhibit 22: Selected causes of death, age-adjusted rates per 100,000 population, 2019

Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana
Major cardiovascular diseases	215.4	287.1	206.8	157.6	237.5
Diseases of heart	180.5	208.0	161.6	171.0	178.7
Cancer	184.4	175.7	170.0	<10	163.3
Other diseases of circulatory system	<10	12.9	<10	<10	80.7
Other diseases of heart	83.5	89.7	47.0	44.5	72.6
Chronic lower respiratory diseases	<10	80.0	83.3	35.5	56.1
All other and unspecified accidents and adverse effects	<10	64.1	67.0	50.0	45.3
Cerebrovascular diseases (stroke)	<10	<10	<10	<10	41.5
Alzheimer's disease	<10	19.8	<10	45.0	31.7
Diabetes mellitus	<10	33.2	43.0	<10	25.0
Nephritis, nephrotic syndromes and nephrosis (kidney disease)	<10	19.7	<10	<10	17.1
Intention self-harm (suicide)	9.0	<10	<10	<10	14.1
Influenza and pneumonia	<10	15.2	<10	<10	11.6
Motor vehicle accidents	<10	11.3	<10	<10	12.6
Chronic liver disease and cirrhosis	<10	9.8	<10	<10	12.0
Hypertensive heart disease with or without renal disease	<10	17.7	<10	<10	13.1
Essential hypertension and hypertensive renal disease	<10	19.4	<10	<10	10.4
Assault (homicide)	<10	<10	<10	<10	7.2
Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (excluding SIDS)	<10	<10	<10	<10	6.0
Certain conditions originating in the perinatal period	<10	<10	<10	<10	3.6
Congenital malformations, deformations and chromosomal abnormalities	<10	<10	<10	<10	4.0
All other external causes	<10	<10	<10	<10	2.4
Atherosclerosis	<10	<10	<10	<10	2.3
Pregnancy, childbirth and the puerperium	<10	<10	<10	<10	0.9
Sudden infant death syndrome (SIDS)	<10	<10	<10	<10	0.7
Peptic ulcer	<10	<10	<10	<10	0.7

Source: Indiana Department of Health, 2019

Description

Exhibit 22 provides age-adjusted mortality rates for selected causes of death in 2019. Light grey shading highlights indicators worse than the Indiana average; dark grey shading highlights any indicators more than 50 percent worse than the Indiana average. The Indiana Department of Health does not provide rates when total deaths for that particular cause of death is <10 in that county.

Observations

- Selected causes of death for Blackford County exceeded the state average for cancer, diseases of the heart and other diseases of the heart.
- Selected causes of death for Delaware County exceeded the state average for all other and unspecified accidents and adverse events, cancer, chronic lower respiratory diseases, diabetes mellitus, diseases of heart, hypertensive

heart disease with or without renal disease, influenza and pneumonia, major cardiovascular disease, nephritis, nephrotic syndromes and nephrosis (kidney disease) and other diseases of the heart,

- Mortality rates in Delaware County for essential hypertension and hypertensive renal disease were more than 50 percent worse than the Indiana average.
- Selected causes of death for Jay County exceeded the state average for all other and unspecified accidents or adverse events, cancer and chronic lower respiratory diseases.
- Mortality rates in Jay County for diabetes mellitus were more than 50 percent worse than the Indiana average.
- Selected causes of death for Randolph County exceeded the state average for all other and unspecified accidents and adverse effects and Alzheimer's disease.

Exhibit 23: Age-adjusted cancer mortality rates per 100,000 population, 2019

Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana
All cancers	184.4	175.7	170.0	157.6	163.3
Breast	<10	8.5	<10	<10	10.6
Cervix uteri, corpus uteri and ovary	<10	9.8	<10	<10	7.0
Colon, rectum and anus	<10	17.5	<10	<10	15.0
Leukemia	<10	15.6	12.3	20.5	14.5
Non-Hodgkin's lymphoma	23.0	18.1	24.1	15.8	18.3
Other forms of cancer	<10	53.8	46.6	46.4	51.5
Pancreas	<10	11.3	<10	<10	11.8
Prostate	<10	7.9	<10	<10	7.9
Stomach	<10	<10	<10	<10	2.4
Trachea, bronchus and lung	54.9	45.0	53.8	44.8	42.9
Urinary tract	<10	12.7	<10	<10	8.5

Source: Indiana Department of Health, 2019

Description

Exhibit 23 provides age-adjusted mortality rates for selected forms of cancer in 2019. Light grey shading highlights indicators worse than the Indiana average. The Indiana Department of Health does not provide rates when total cases of that particular type of cancer are <10 in that county.

Observations

- Cancer mortality rates in Blackford County for all cancers, Non-Hodgkin's lymphoma and trachea, bronchus and lung were higher than the Indiana averages.

- Cancer mortality rates in Delaware County for all cancers, cervix uteri, corpus uteri and ovary, colon, rectum and anus, leukemia, other forms of cancer, trachea, bronchus and lung and urinary tract were higher than the Indiana averages.
- Cancer mortality rates in Jay County for all cancers, Non-Hodgkin's lymphoma, trachea, bronchus and lung were higher than the Indiana averages.
- Cancer mortality rates in Randolph County for all cancers, leukemia and trachea, bronchus and lung were higher than the Indiana averages.

Exhibit 24: Age-adjusted cancer incidence rates per 100,000 population, 2013-2017

Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana
All cancers	504.1	459.0	484.9	457.8	459.3
Bladder	26.3	23.4	27.3	20.9	21.7
Brain and ONS	<10	6.6	<10	<10	6.5
Breast	120.7	98.9	104.1	105.1	122.9
Cervix	<10	8.0	<10	<10	8.2
Childhood (ages <15)	<10	<10	<10	<10	16.2
Colon and rectum	56.9	37.9	62.0	42.6	42.6
Esophagus	<10	4.9	<10	<10	5.5
Kidney and renal pelvis	<10	17.7	21.3	18.3	19.0
Leukemia	<10	15.6	12.3	20.5	13.7
Liver and bile duct	<10	5.7	<10	<10	7.2
Lung and bronchus	89.2	79.2	74.5	75.9	72.2
Melanoma of the skin	20.2	23.8	17.8	14.2	21.7
Non-Hodgkin's lymphoma	23.0	18.1	24.1	15.8	18.6
Oral cavity and pharynx	<10	11.6	18.9	13.5	12.7
Ovary	<10	11.4	<10	<10	10.4
Pancreas	<10	13.2	13.3	<10	13.3
Prostate	92.3	96.7	79.9	111.2	94.2
Stomach	<10	6.2	<10	<10	5.9
Thyroid	<10	12.7	<10	16.1	12.5
Uterus	<10	26.9	26.4	30.5	28.2

Source: Centers for Disease Control and Prevention, 2017

Description

Exhibit 24 presents age-adjusted cancer incidence rates in the community. Light grey shading highlights indicators worse than the Indiana average. The CDC does not provide rates when total cases of that particular type of cancer are <10 in that county.

Observations

- Cancer incidence rates in Blackford County for all cancers, bladder, colon and rectum, lung and bronchus and Non-Hodgkin's lymphoma were higher than the Indiana averages.

- Cancer incidence rates in Delaware County for bladder, brain and ONS, leukemia, lung and bronchus, melanoma of the skin, ovary, prostate, stomach and thyroid were higher than the Indiana averages.
- Cancer incidence rates in Jay County for all cancers, bladder, colon and rectum, kidney and renal pelvis, lung and bronchus, Non-Hodgkin's lymphoma and oral cavity and pharynx were higher than the Indiana averages.
- Cancer incidence rates in Randolph County for leukemia, lung and bronchus, oral cavity and pharynx, prostate, thyroid and uterus were higher than the Indiana averages.

Exhibit 25: Communicable disease incidence rates per 100,000 population, 2019

Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana
Chlamydia	425.2	673.8	293.6	223.0	526.3
Gonorrhea	102.1	225.2	97.9	48.7	177.1
HIV/AIDS	50.3	131.6	62.6	96.6	189.9
Primary and secondary syphilis	<5	<5	<5	<5	5.0

Source: Indiana Department of Health, 2019

Description

Exhibit 25 presents incidence rates for various communicable diseases. Light grey shading highlights indicators worse than Indiana averages.

Observations

- Blackford, Jay and Randolph counties had lower communicable disease rates than the Indiana averages in 2019.
- Delaware County had chlamydia and gonorrhea rates that were worse than the Indiana average.

Exhibit 26: Maternal and child health indicators, 2019

Indicator	Blackford County	Delaware County	Jay County	Randolph County	Indiana
Breastfeeding	73.6%	73.1%	80.8%	75.9%	82.0%
Infant mortality rate (per 1,000 live births)	0.0	0.0	0.0	0.0	6.5
Low birthweight	10.4%	8.5%	7.4%	8.2%	8.2%
Mothers on Medicaid	48.8%	51.3%	34.0%	45.1%	38.5%
Mothers under 19 (per 1,000 mothers)	16.6	15.7	27.5	23.3	20.7
Prenatal care	72.0%	78.6%	57.2%	69.3%	68.9%
Preterm births	11.2%	11.3%	9.4%	9.7%	10.1%
Smoked during pregnancy	30.4%	19.7%	17.5%	22.6%	11.8%
Unmarried mothers	46.4%	51.5%	45.1%	47.5%	44.5%

Source: Indiana Department of Health, 2017

Description

Exhibit 26 presents various maternal and infant health indicators. Light grey shading highlights indicators worse than the Indiana average; dark grey shading highlights indicators more than 50 percent worse than the Indiana average. Values of 0.0 were listed for rates so low that they could not be reported by the IDOH.

Observations

- In Blackford County, most of the maternal and infant health indicators were worse than the Indiana averages and the smoked during pregnancy percent was 50 percent worse than the Indiana averages.

- In Delaware County, most of the maternal and infant health indicators were worse than the Indiana averages and the smoked during pregnancy percent was 50 percent worse than the Indiana averages.
- In Jay County, breastfeeding, mothers under 19, prenatal care, smoked during pregnancy and unmarried mothers percent were worse than the Indiana averages.
- In Randolph County, breastfeeding, mothers on Medicaid, mothers under 19 and unmarried mothers percent were worse than the Indiana averages and the smoked during pregnancy percent was 50 percent worse than the Indiana averages.

Exhibit 27A: Behavioral Risk Factor Surveillance System, Indiana data by race/ethnicity, 2019

Indicator	Black	White	Hispanic	Indiana
Angina or coronary heart disease	3.8%	4.9%	1.6%	4.6%
Asthma	17.6%	14.6%	8.9%	14.5%
Diabetes	17.9%	12.1%	9.0%	12.4%
No health coverage	10.8%	8.9%	33.1%	10.9%
No physical activity	33.9%	30.3%	38.0%	30.9%
Obese (based on BMI)	43.5%	33.3%	29.3%	33.6%
Smoke everyday	36.8%	31.9%	20.7%	31.9%
Smoke some days	17.4%	10.0%	29.7%	11.5%

Source: Behavioral Risk Factor Surveillance System and Centers for Disease Control and Prevention, 2019

Exhibit 27B: Behavioral Risk Factor Surveillance System, Indiana data by income and education level, 2019

Indicator	< \$15,000	\$15- \$24,999	\$25- \$34,999	\$35- \$49,999	\$50- \$74,999	≥ \$75,000	No High School Diploma	Indiana
Angina or coronary heart disease	6.0%	7.1%	6.5%	4.7%	3.7%	2.3%	7.1%	4.6%
Asthma	19.8%	18.3%	16.9%	14.4%	14.6%	11.7%	16.8%	14.5%
Diabetes	18.7%	20.0%	13.4%	11.1%	10.3%	7.8%	16.1%	12.4%
No health coverage	19.0%	18.1%	13.6%	11.1%	8.0%	4.5%	22.8%	10.9%
No physical activity	46.2%	44.4%	35.1%	31.6%	25.0%	19.4%	47.6%	30.9%
Obese (based on BMI)	39.8%	36.7%	35.4%	34.3%	34.3%	28.6%	33.9%	33.6%
Smoke everyday	44.0%	40.8%	34.4%	32.2%	29.6%	22.2%	43.5%	31.9%
Smoke some days	17.1%	15.3%	9.5%	12.9%	9.2%	6.4%	14.0%	11.5%

Source: Behavioral Risk Factor Surveillance System and Centers for Disease Control and Prevention, 2019

Description

The Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) gathers data through a telephone survey regarding health measures. Data is collected for the entire United States. Analysis of BRFSS data can identify localized health issues, trends and health disparities and can enable county, state or nation-wide comparisons.

Exhibits 27A and 27B depict BRFSS data for the state of Indiana by race/ethnicity, income level and for those without a high school diploma. Light grey shading highlights indicators worse than the Indiana average; dark grey shading highlights indicators more than 50 percent worse than the Indiana average.

Observations

- The BRFSS data indicate that on all but one measure presented, risk factors were higher for Black residents of Indiana than for White residents (and for lower-income residents than those with higher incomes). Hispanic (or Latino) residents have experienced higher uninsured, physical inactivity and occasional smoking rates.
- BRFSS indicators for residents without a high school diploma were worse than average when compared to Indiana for all indicators presented in this exhibit. Additionally, those with lower income levels compare unfavorably to those with higher income levels for all indicators.

Ambulatory Care Sensitive Conditions or Preventative Quality Indicators

Exhibit 28: PQIs (ACSCs) rates per 100,000, 2019

Indicator	Blackford	Delaware	Jay	Randolph	Ball community	Indiana	U.S.
Diabetes short-term complications	43.3	111.4	52.4	94.2	75.3	90.3	58.3
Diabetes long-term complications	184.2	110.3	137.4	104.7	134.1	116.6	104.1
COPD or asthma in older adults	437.7	669.7	448.6	559.5	528.9	467.9	493.8
Hypertension	21.7	140.3	39.3	68.0	67.3	56.7	60.0
Heart failure	454.9	582.6	268.3	496.8	450.6	455.7	413.0
Community acquired pneumonia	238.3	290.2	229.1	350.7	277.1	248.3	158.8
Urinary tract infection	151.7	132.8	78.5	177.9	135.2	149.1	141.3
Uncontrolled diabetes	43.3	39.6	6.5	68.0	39.4	39.2	43.0
Asthma in younger adults	35.3	38.9	99.5	-	43.4	27.2	30.3
Lower extremity amputation with diabetes	43.3	39.6	72.0	20.9	44.0	30.2	29.3
Prevention overall composite	1,451.5	1,816.2	1,164.8	1,747.0	1,544.9	1,465.9	1,306.3
Prevention acute composite	390.0	423.0	307.6	528.5	412.3	397.4	300.1
Prevention chronic composite	1,061.5	1,393.2	857.3	1,221.5	1,133.4	1,068.7	1,006.4
Prevention diabetes composite	270.8	278.4	216.0	272.1	259.3	257.4	218.8

Source: IU Health, 2019 – Note: Rates are not age-sex adjusted

Description

Exhibit 28 provides 2019 ACSC (PQI) rates (per 100,000 persons) for ZIP codes in the IU Health Ball community compared to Indiana and U.S. averages. Light grey shading highlights indicators worse than Indiana averages; dark grey shading highlights indicators more than 50 percent worse than Indiana averages.

ACSCs are health “conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease.”¹⁰ As such, rates of hospitalization for these conditions can “provide insight into the quality of the health care system outside of the hospital,” including the accessibility and utilization of primary care, preventative care, and health education. Among these conditions are: asthma, diabetes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, urinary tract infection, and prevention overall, acute and chronic composites.

Disproportionately high rates of discharge for ACSC indicate potential problems with the availability or accessibility of ambulatory care and preventative services and can suggest areas for improvement in the health care system and ways to improve outcomes.

¹⁰ *Ibid*, 10.

Observations

- For Blackford County, the rates of admissions for ACSC exceeded Indiana averages for six of 14 conditions: diabetes long term complications, urinary tract infection, uncontrolled diabetes, asthma in younger adults, lower extremity amputation with diabetes and prevention diabetes.
- For Delaware County, the rates of admissions for ACSC exceeded Indiana averages for 12 of 14 conditions: diabetes short term complications, COPD or asthma in older adults, hypertension, heart failure, community acquired pneumonia, uncontrolled diabetes, asthma in younger adults, lower extremity amputation with diabetes, prevention overall, acute and chronic composite and prevention diabetes.
- For Jay County, the rates of admissions for ACSC were more than 50 percent worse than the Indiana averages for two of 14 conditions: asthma in younger adults and lower extremity amputation with diabetes.
- For Randolph County, the rates of admissions for ACSC exceeded the Indiana averages for 11 of 14 conditions: diabetes short-term complications, COPD or asthma in older adults, hypertension, heart failure, community acquired pneumonia, urinary tract infection, uncontrolled diabetes, prevention overall composite, prevention acute composite, prevention chronic composite and prevention diabetes composite.

Exhibit 29: Ratio of ACSC rates for IU Health Ball community and Indiana, 2019

Indicator	Ball Community	Indiana	Ratio: Ball/Indiana
Asthma in younger adults	43.4	27.2	1.6
Lower extremity amputation with diabetes	44.0	30.2	1.5
Diabetes long-term complications	134.1	116.6	1.2
Hypertension	67.3	56.7	1.2
COPD or asthma in older adults	528.9	467.9	1.1
Community acquired pneumonia	277.1	248.3	1.1
Prevention overall composite	1,544.9	1,465.9	1.1
Prevention chronic composite	1,133.4	1,068.7	1.1
Heart failure	450.6	455.7	1.0
Prevention diabetes composite	259.3	257.4	1.0
Prevention acute composite	412.3	397.4	1.0
Uncontrolled diabetes	39.4	39.2	1.0
Urinary tract infection	135.2	149.1	0.9
Diabetes short-term complications	75.3	90.3	0.8

Source: IU Health, 2019 – Note: Rates are not age-sex adjusted

Description

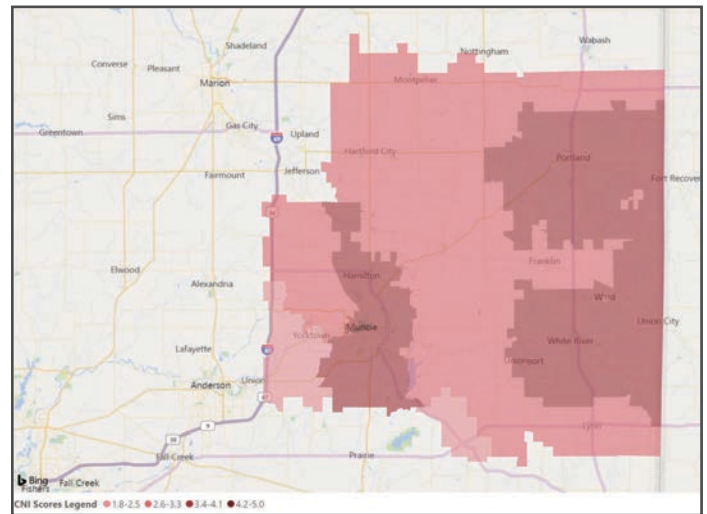
Exhibit 29 provides the ratio of Ambulatory Care Sensitive Conditions (ACSC) also referred to as Preventative Quality Indicators (PQI) rates for the IU Health Ball community compared to Indiana averages. Conditions where the ratios are highest (meaning that the PQI rates in the community are the most above average) are presented first.

Observations

- In the community, ACSC rates for asthma in younger adults were more than 50 percent above the Indiana average. Rates for lower extremity amputation with diabetes, diabetes long term complications and hypertension were at least 20 percent higher than the state averages.

Community Need Index, Food deserts and Social Vulnerability Index

Exhibit 30: Community Need Index, 2020



Source: Power BI and Dignity Health, 2020

Description

Exhibit 30 presents the *Community Need Index™* (CNI) score for each ZIP code in the community. Higher scores (e.g., 4.2 to 5.0) indicate higher levels of community need. The national median score is calibrated to 3.0.

Dignity Health, a California-based hospital system, developed and published the CNI as a way to assess barriers to healthcare access. The index, available for every ZIP code in the United States, is derived from five social and economic indicators:

- The percentage of elders, children and single parents living in poverty;
- The percentage of adults over the age of 25 with limited English proficiency and the percentage of the population that is non-White;
- The percentage of the population without a high school diploma;
- The percentage of uninsured and unemployed residents; and
- The percentage of the population renting houses.

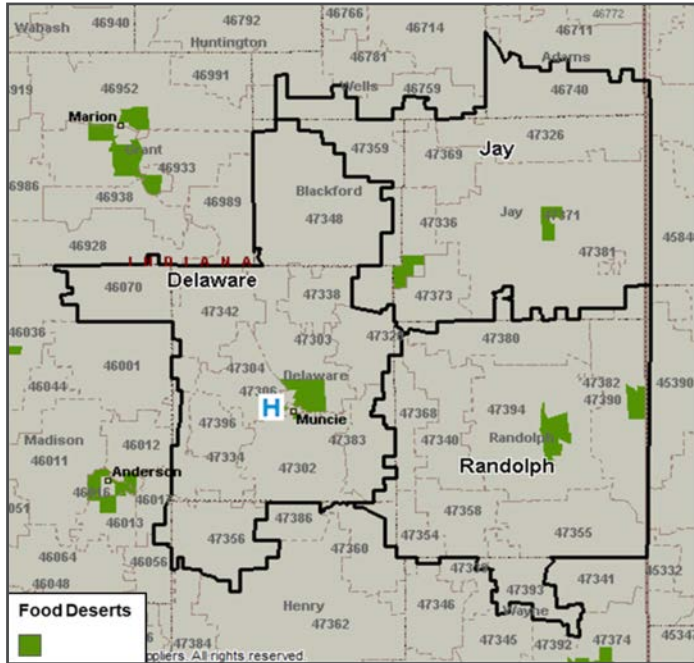
CNI scores are grouped into “Lowest Need” (1.0-1.7) to “Highest Need” (4.2-5.0) categories.

Observations

- Blackford County scored a 3.0, Delaware County a 3.1; Jay County a 3.2 and Randolph County scored a 3.0 on the CNI scale.
- One Delaware County ZIP code (47305) scored in the “highest need” category.

Food deserts

Exhibit 31: Food deserts, 2017



Source: Microsoft MapPoint and U.S. Department of Agriculture, 2017

Description

Exhibit 31 shows the location of “food deserts” in the community.

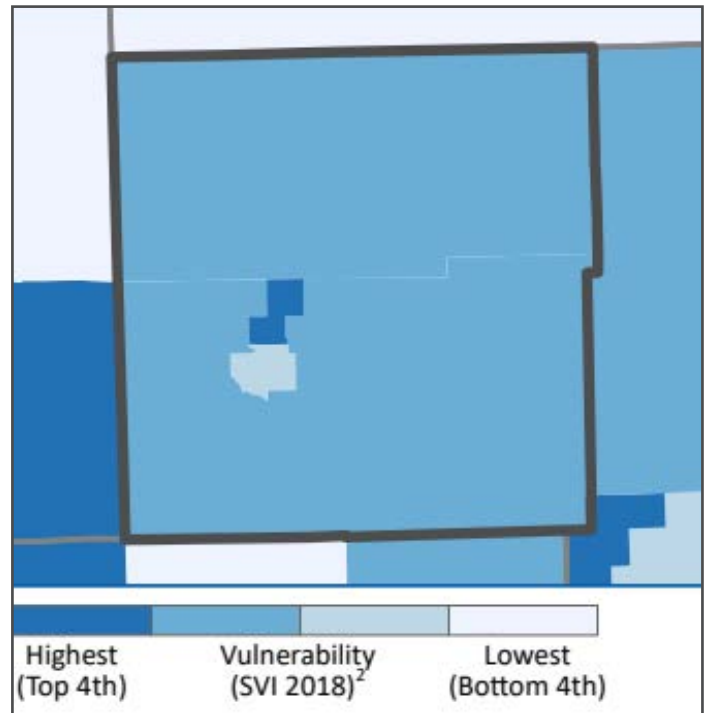
The U.S. Department of Agriculture’s Economic Research Service defines urban food deserts as low-income areas more than one mile from a supermarket or large grocery store and rural food deserts as more than 10 miles from a supermarket or large grocery store. Many government-led initiatives aim to increase the availability of nutritious and affordable foods to people living in these areas.

Observations

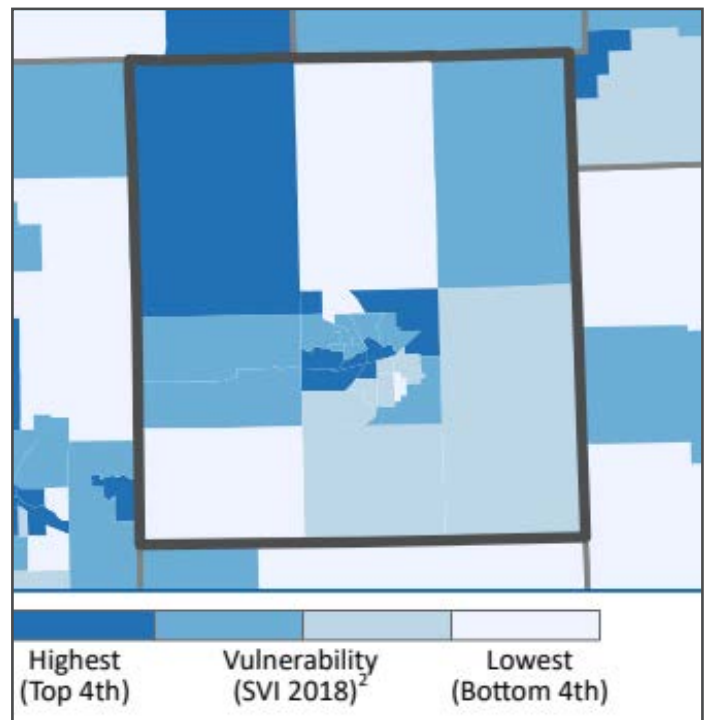
- Several census tracts in the IU Health Ball community have been designated as food deserts.

Exhibit 32: Social Vulnerability Index, housing type and transportation theme, 2018

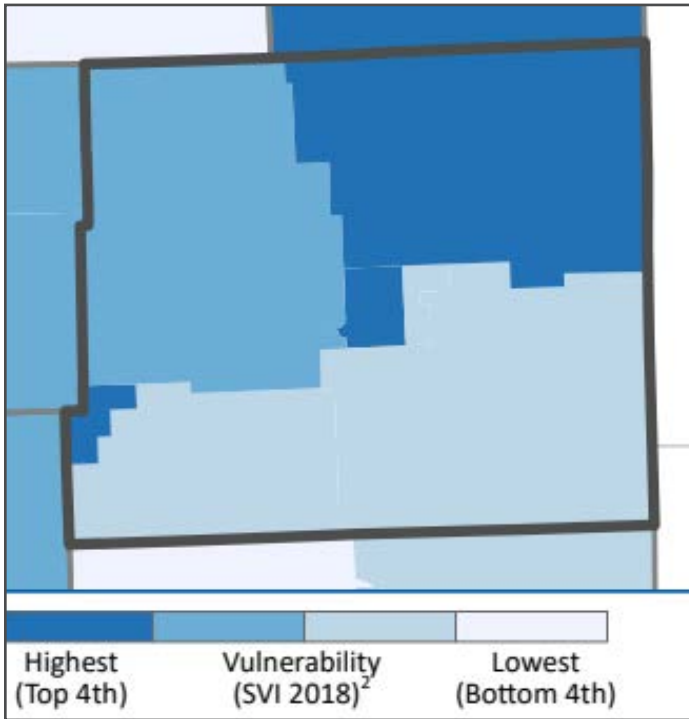
Blackford County housing/transportation SVI map



Delaware County housing/transportation SVI map



Jay County housing/transportation SVI map



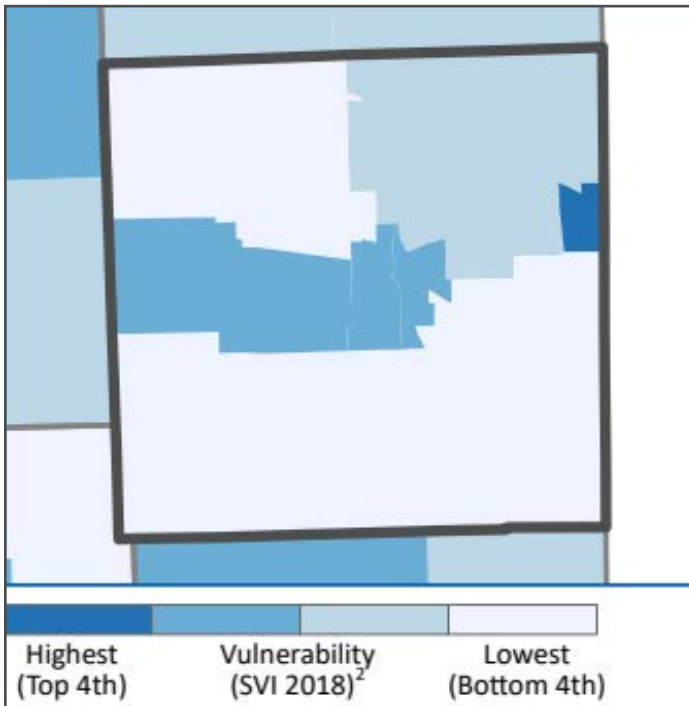
Description

Exhibit 32 portrays Social Vulnerability Index (SVI) scores (for the housing and transportation theme only) for census tracts throughout Blackford, Delaware, Jay and Randolph counties. The SVI is derived from U.S. census data. Variables are grouped into four themes, including: socioeconomic status, household composition, race/ethnicity/language and housing/transportation.¹¹ The maps in this exhibit display the housing and transportation theme of SVI for each county in the community.

Observations

- One (1) of Blackford County's 4 census tracts (25.0 percent) rank in the bottom quartile nationally. That 1 census tract makes up 22.5 percent of the county's population.
- Five (5) of Delaware County's 30 census tracts (16.7 percent) ranked in the bottom quartile nationally. Those 5 census tracts make up 16.2 percent of the county's population.
- Two (2) of Jay County's 7 census tracts (28.6 percent) ranked in the bottom quartile nationally. Those 2 census tracts make up 37.2 percent of the county's population.
- None of Randolph County's census tracts ranked in the bottom quartile nationally.

Randolph County housing/transportation SVI map



Source: Centers for Disease Control and Prevention, 2018

¹¹ Agency for Toxic Substances and Disease Registry. (Aug. 30, 2021). CDC/ATSDR SVI Fact Sheet. Retrieved from: https://www.atsdr.cdc.gov/placeandhealth/svi/fact_sheet/fact_sheet.html

Medically Underserved Areas and Populations

Exhibit 33: Medically Underserved Areas and Populations, 2021

County	Designated area	Medically Underserved designation type
Blackford	Low-Income – Blackford County	Medically Underserved Population
Delaware	Low-Income – Delaware County	Medically Underserved Population
Jay	Low-Income – Jay County	Medically Underserved Population
Randolph	Randolph County	Medically Underserved Area
Randolph	St. Vincent Medical Group, Inc.	Rural Health Clinic
Randolph	Randolph County	HPSA Geographic

Source: HRSA, 2021

Description

Exhibit 33 illustrates the location of Medically Underserved Areas (MUAs) in the community.

Medically Underserved Areas and Populations (MUA/Ps) are designated by the Health Resources and Services Administration (HRSA) based on an “Index of Medical Underservice (IMU).” The index includes the following variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level and percentage of the population age 65 or over.¹² Areas with a score of 62 or less are considered “medically underserved.”

Populations receiving MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. If a population group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP designation if “unusual local conditions which are a barrier to access to or the availability of personal health services exist and are documented, and if such a designation is recommended by the chief executive officer and local officials of the state where the requested population resides.”¹³

Observations

- Low-income populations in Blackford, Delaware and Jay counties have been designated as Medically Underserved Populations.
- Randolph County has been designated as a Medically Underserved Area.

¹² Health Resources & Services Administration. (Feb. 2021). What is Shortage Designation? Retrieved from: <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation>

¹³ Ibid.

Health Professional Shortage Areas

Exhibit 34A: Primary care Health Professional Shortage Areas, 2021

County	HPSA	Type
Blackford	Low Income – Blackford County	HPSA Population
Delaware	Meridian Services Corp.	Federally Qualified Health Center
Delaware	Open Door Health Services, Inc.	Federally Qualified Health Center
Jay	Jay County	HPSA Geographic
Randolph	St. Vincent Medical Group, Inc.	Rural Health Clinic
Randolph	Randolph County	HPSA Geographic

Source: HRSA, 2021

Description

Exhibit 34A lists the locations of federally designated primary care HPSA areas.

A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care or mental health care professionals is found to be present. In addition to areas and populations that can be designated as HPSAs, a healthcare facility can receive federal HPSA designation and an additional Medicare payment if it provides primary medical care services to an area or population group identified as having inadequate access to primary care, dental or mental health services. HPSAs can be: (1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision) and is a rational area for the delivery of health services; (2) a population group; or (3) a public or nonprofit private medical facility.¹⁴

Observations

- The low-income populations of Blackford County and the entirety of Jay and Randolph counties have been designated as primary care HPSAs.
- Health centers in Delaware and Randolph counties have also been designated as primary care HPSAs.

¹⁴ Ibid.

Exhibit 34B: Dental care Health Professional Shortage Areas, 2021

County	HPSA	Type
Blackford	Low Income – Blackford County	HPSA Population
Delaware	Low Income – Delaware County	HPSA Population
Delaware	Meridian Services Corp.	Federally Qualified Health Center
Delaware	Open Door Health Services, Inc.	Federally Qualified Health Center
Jay	Low Income – Jay County	HPSA Population
Randolph	Low Income – Randolph County	HPSA Population
Randolph	St. Vincent Medical Group, Inc.	Rural Health Clinic

Source: HRSA, 2021

Description

Exhibit 34B lists the locations of federally designated Dental Care HPSA areas.

Observations

- Low-income populations in Blackford, Delaware, Jay and Randolph counties have been designated as dental care HPSAs as well as several health centers.

Exhibit 34C: Mental health care Health Professional Shortage Areas, 2021

County	HPSA	Type
Blackford	East Central Indiana	HPSA Geographic High Needs
Delaware	Meridian Services Corp.	Federally Qualified Health Center
Delaware	Open Door Health Services, Inc.	Federally Qualified Health Center
Delaware	East Central Indiana	HPSA Geographic High Needs
Jay	East Central Indiana	HPSA Geographic High Needs
Randolph	East Central Mental Health Catchment Area 8	HPSA Geographic
Randolph	St. Vincent Medical Group, Inc.	Rural Health Clinic

Source: HRSA, 2021

Description

Exhibit 34C lists the locations of federally designated mental health HPSA areas.

Observations

- Blackford, Delaware, Jay and Randolph counties have all been designated as mental health HPSAs.
- Three comprehensive health centers in this community have been designated as mental health HPSAs.

Findings of other community health needs assessments

Indiana State Health Assessment and Improvement Plan

A State Health Assessment and Improvement Plan (SHA) was published in 2018 by the Indiana Department of Health.¹⁵ The SHA was conducted in collaboration with over 100 partner organizations, key informants and health experts to identify and address Indiana's greatest health challenges.

The Indiana Health Improvement Partnership (IHIP) met three times during 2017 and early 2018 to develop key components of the SHA, including values, forces of change analysis and assessment of strengths, weaknesses, opportunities and threats. The process involved five steps:

1. Conducting a community health status assessment;
2. Assessing and analyzing prior assessments;
3. Reviewing other agency and coalition plans;
4. Interviewing key informants and gathering qualitative data; and
5. Identifying health needs.

State Health Assessment. The SHA had the following conclusions regarding state health needs:

- After reviewing local health assessments around the state, the IHIP observed that ten needs were most often identified as priorities:
 - Access to care
 - Mental and behavioral health
 - Obesity
 - Substance abuse disorders
 - Nutrition and physical activity
 - Diabetes
 - Tobacco use
 - Heart disease
 - Cancer
 - Maternal and infant health
- The initial prioritization of health needs by the IHIP steering committee focused on the following areas:
 - Social determinants of health and health equity
 - Improving public health infrastructure (funding and culture/equality of public health practices)
 - Improving health and reducing health disparities, particularly in the areas of chronic disease, birth outcomes and infant mortality, reduced injury and death due to opioid exposure, and improved access to mental health services

¹⁵ Indiana Department of Health. (May 2018). *Indiana Health Assessment and Improvement Plan, May 2018 – December 2021*. Retrieved from: http://www.isdh.state.in.us/NewIntranet/pdfs/OPM/Indiana_State_Health_Plan_I-SHIP.pdf

- When asked about barriers to achieving optimal health in their communities, key informants indicated that low staffing levels, low funding levels, not being able to break cultural barriers, increases in drug use, poverty and apathy, lack of free clinics, unaffordable healthcare and medications, lack of available affordable housing, provider billing and limited local resources as major limitations.
- Social determinants of health were recognized as a key component to achieving optimal health in Indiana, with a recognition to improve population health, “the public health system must expand to include non-traditional partners such as transportation, workforce development and housing.”

Related data points from the assessment supporting the above conclusions have not been included in this report. The data points in the report no longer reflect the most recent year of data available. The current SHA and ISHIP will sunset at the end of 2021. A committee was convened in the summer of 2021 to coordinate an update to the plan that will span 2022-2026; however, the process was not far enough along to provide updates for this CHNA.

State Health Improvement Plan. After the finalization of the state health assessment, the Indiana State Health Improvement Plan (ISHIP) was drafted to address the final priorities. These priorities were:

- Improve birth outcomes and reduce infant mortality
- Address the opioid epidemic
- Reduce rates of chronic disease
- Improve the public health infrastructure

Since the publication of the ISHIP, the priorities of the plan have not changed though some of the approaches to addressing the priorities have evolved according to the Indiana Department of Health. The SHA and ISHIP annual report did not have current targets on objectives. The annual report can be found on the Indiana Department of Health website at <https://www.in.gov/health/phpm/tracking-public-health-performance/state-health-improvement-plan/>.

Exhibit 35: Significant needs identified in other assessments or reports

Prioritized Need	Frequency
Food insecurity	2
Aging population and needs of seniors	1
Asthma	1
Cardiovascular disease	1
Diabetes	1
Health disparities	1
Infant mortality	1
Obesity	1
Physical inactivity	1
Public health infrastructure	1
Screenings for cancer	1
Substance use disorders	1
Tobacco use	1
Transportation	1

Source: Analysis by IU Health, 2021

Description

Several other assessments and reports conducted by community-based organizations or agencies, local health departments (LHDs) and the state of Indiana were reviewed. Significant needs identified in these assessments are presented in Exhibit 35.

Observations

- The following indicators most often were identified as significant in other CHNAs that assessed IU Health Ball's community:
 - Food insecurity
 - Chronic disease and chronic disease management
 - Aging population and needs of seniors

Coronavirus disease (COVID-19) pandemic and vaccine

COVID-19 is a very contagious virus that has become a major threat to the health and well-being of all people around the world. In March 2020, the Indiana Department of Health confirmed the first case of COVID-19 in Indiana

and the first reported death.^{16,17} The coronavirus outbreak was declared a state, national and international public health emergency.^{18,19,20} It has had tremendous health and economic impacts on Indiana and its residents. There have been 806,094 total positive cases of COVID-19 and 13,743 total deaths from COVID-19 in the state of Indiana (Exhibit 36). The virus has spread to every county in Indiana.

Exhibit 36: COVID-19 indicators – counties, Indiana and United States – results as of August 16, 2021

Indicator	Blackford	Delaware	Jay	Randolph	Indiana	United States
Total positive cases	1,417	11,597	2,137	2,548	806,094	36,951,181
Total case rate per 100,000	12,051.4	10,160.8	10,457.0	10,330.4	11,934.0	11,273.0
Total deaths	33	200	32	84	13,743	620,493
Total death rate per 100,000	280.7	175.2	156.6	340.6	210.0	187.0
Total population vaccinated	4,341	46,073	6,036	8,463	3,019,608	168,689,357
Percent of population vaccinated	42.9	45.8	35.5	40.1	51.5	50.8

Source: Indiana Department of Health Indiana COVID-19 Dashboard and Map, 2021; Centers for Disease Control and Prevention COVID Data Tracker, 2021; Indiana Department of Health COVID-19 Vaccination Dashboard, 2021; COVID-19 Data Tracker – Vaccinations in the United States, 2021.

Certain groups are particularly vulnerable to the effects of COVID-19 and are at greater risk of severe illness and outcomes, including hospitalization and death. The CDC continues to review and update information on the groups most at risk.²¹ The current groups, of which some are listed below, can all be found in communities throughout Indiana, including those served by IU Health hospitals. Of particular concern is that some of the underlying conditions and risk factors are significantly prevalent in Indiana.

- People aged 65 and older – risk increases with age
- Many racial and ethnic minority groups who have long been impacted by health and social inequities
- Adults with underlying medical conditions including:
 - Cancer
 - Cerebrovascular disease
 - Chronic kidney disease
 - Chronic lung disease, including COPD (chronic obstructive pulmonary disease) and asthma
 - Dementia or other neurological conditions
 - Diabetes
 - Down Syndrome
 - Heart conditions

- HIV infection
- Immunocompromised state (weakened immune system)
- Liver disease
- Overweight and obesity
- Pregnancy and recent pregnancy
- Sickle cell disease or thalassemia
- Smoking, current and former
- Solid organ or blood stem cell transplant
- Stroke or cerebrovascular disease
- Substance use disorders
- Children with underlying medical conditions including:
 - Children with medical complexity, with genetic, neurologic, metabolic conditions or with congenital heart disease
 - Obesity
 - Diabetes
 - Asthma or chronic lung disease
 - Sickle cell disease
 - Immunosuppression

The above conditions and risk factors were not the only threats to the health and well-being of people. Many lost jobs or income in 2020 because of temporary or permanent

¹⁶ Indiana Department of Health. (March 6, 2020). Press Release. State Health Department Confirms 1st Case of COVID-19 in Hoosier with Recent Travel. Retrieved from: <https://events.in.gov/event/state-health-department-confirms-1st-case-of-covid-19-in-hoosier-with-recent-travel/>

¹⁷ Indiana Department of Health. (March 6, 2020). Press Release. Health Department Announces 1st COVID-19 Death in Indiana. Retrieved from: <https://events.in.gov/event/isdh-news-release-health-department-announces-1st-covid-19-death-in-indiana>

¹⁸ State of Indiana, Executive Department Indianapolis. (March 6, 2020). Executive Order 20-02. Declaration of Public Health Emergency for Coronavirus Disease 2019 Outbreak. Retrieved from: <https://www.in.gov/gov/files/20-02ExecutiveOrderDeclarationofPublicHealthEmergencyforCOVID-19FINAL.pdf>

¹⁹ U.S. Department of Health and Human Services. Public Health Emergency (Jan. 31, 2020). Determination that a Public Health Emergency Exists. Retrieved from: <https://www.phe.gov/emergency/news/healthactions/phe/Pages/2019-nCoV.aspx>

²⁰ World Health Organization. (March 1, 2020). WHO Director-General's opening remarks at the media briefing on COVID-19 – 11 March 2020. Retrieved from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>

²¹ Centers for Disease Control and Prevention. (Aug. 20, 2021). People with Certain Medical Conditions. Retrieved from: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>

business closures due to stay-at-home orders or shutdowns to help reduce the spread of COVID-19 (e.g., Governor Holcomb issued a “Stay-at-Home” order that went into effect on March 24, 2020).²² This made it difficult for individuals and families to cover the expenses for basic needs, such as food, housing, childcare and healthcare services. The Indiana unemployment rate in the first few months of 2020 averaged 3.2 percent but rose significantly in April 2020 to 16.9 percent.²³ The rate remained higher than the beginning of the year for the rest of 2020. The number of people unemployed in Indiana increased from 111,373 in March 2020 to 544,935 in April 2020, which was the highest for the year.²⁴ However, the number of people unemployed in Indiana from April to the end of 2020 never fell as low as March 2020. The Indiana Department of Workforce Development processed 7.8 million unemployment insurance (UI) claims in 2020 compared to about 1 million claims in 2019.²⁵

Employment is just one factor influencing social determinants of health. In April 2020, the U.S. Census Bureau started measuring household experiences across the nation during the coronavirus pandemic through an experimental data system called the Household Pulse Survey.²⁶ These measures represent how people were managing across a range of social determinants of health. Below is a selection of metrics specific to Indiana, mostly from the period of April 23, 2020, to May 5, 2020 – shortly after COVID-19 was confirmed in Indiana.

- 37.8 percent of adults reported symptoms of anxiety or depressive disorder. This peaked at 43.7 percent later in 2020.
- 11.9 percent of adults reported they were uninsured. This peaked at 13.5 percent later in 2020.
- 34.2 percent of adults reported delaying or not getting

medical care because of the COVID-19 pandemic in the last four weeks. This peaked at 44.9 percent later in 2020.

- 9.4 percent of adults reported there was either sometimes or often not enough to eat in the last seven days. This peaked at 13.2 percent in 2021.
- 21.2 percent of adults missed last month’s rent or mortgage payment or were not confident they could pay next month’s rent or mortgage on time. This peaked at 29.3 percent in 2020.
- 46.1 percent of adults reported the likelihood of eviction or foreclosure (period – August 19 – 31, 2020). This peaked at 54.0 percent almost a year later in 2021.
- 32.8 percent of adults reported that it was somewhat or very difficult to pay for usual household expenses in the last seven days (period – August 19 – 31, 2020). This peaked at 36.8 percent later in 2020.

There are multiple steps people can take to protect themselves from the virus, including getting a vaccine. Though people may not be able to receive a vaccine due to age, weakened immune system or underlying medical condition, it is widely available to people 12 years of age or older. In December 2020, the first vaccinations for COVID-19 were received and administered in Indiana. Out of an estimated 5.7 million people who are eligible for the vaccine in Indiana, as of August 16, 2021, 3,019,608 (51.5 percent) are fully vaccinated for COVID-19 (Exhibit 36).²⁷ In Indiana, 16.1 percent of those aged 18 and over reported being hesitant about receiving a COVID-19 vaccine when compared to 10.5 percent of the United States (data as of August 2, 2021).²⁸ The main reasons reported for the hesitancy in Indiana include concerned about side effects, don’t trust the government and don’t trust COVID-19 vaccines. These are the same top reasons reported across the U.S.²⁹

²² *State of Indiana, Executive Department Indianapolis. (March 23, 2020). Executive Order 20-08. Directive for Hoosiers to Stay at Home. Retrieved from: https://www.in.gov/gov/files/Executive_Order_20-08_Stay_at_Home.pdf*

²³ *Hoosiers by the Numbers. (n.d.). Local Area Unemployment Statistics (LAUS) – Seasonally Adjusted. Retrieved from: http://www.hoosierdata.in.gov/dpage.asp?id=54&view_number=2&menu_level=&panel_number=2*

²⁴ *Ibid.*

²⁵ *Indiana Department of Workforce Development. 2021. 2021 State of the Indiana Workforce Report – Responding to the Pandemic. Retrieved from: <https://www.in.gov/dwd/files/2021-State-of-the-Indiana-Workforce-Report.pdf>*

²⁶ *U.S. Census Bureau, Household Pulse Survey. (n.d.). Retrieved from: <https://www.census.gov/data-tools/demo/hhp/#/>*

²⁷ *Indiana Department of Health. (n.d.). Indiana COVID-19 Vaccination Dashboard. Retrieved from: <https://www.coronavirus.in.gov/vaccine/2680.htm>*

²⁸ *U.S. Census Bureau. (n.d.). Household Pulse Survey COVID-19 Vaccination Tracker – Vaccine Hesitancy. Retrieved from: <https://www.census.gov/library/visualizations/interactive/household-pulse-survey-covid-19-vaccination-tracker.html>*

²⁹ *Ibid.*

Appendix C – Interview, community meeting and survey participants

Individuals from a wide variety of organizations and communities participated in the interview process, community meetings and surveys. Participants included representatives from the following organizations:

- A Better Life Briana's Hope
- A Better Way Services, Inc.
- Ball State University Office of Community Engagement
- Blackford County Community Corrections
- Blackford County Community Foundation
- Blackford County Economic Development Corporation
- Blackford County Health Department
- Blackford County Schools
- Blackford County Sheriff's Office
- Bridges Community Services
- Bryant Wesleyan Church
- Centerstone Counseling and Mental Health
- Citizens State Bank
- City of Muncie
- Delaware Community School Corporation
- Delaware County Chamber of Commerce
- Delaware County Health Department
- First Presbyterian Church Portland
- George and Frances Ball Foundation
- Indiana General Assembly
- IU Health
- IU Health Ball
- IU Health Ball Memorial Physicians
- IU Health Blackford
- IU Health Jay
- Indy Container Board
- Ivy Tech Community College
- Jay Community Center
- Jay County DCS
- Jay County Health Department
- Jay County Prosecutor
- Jay County Sheriff's Office
- Jay Randolph Developmental Services, Inc.
- Jay School Corporation
- LifeStream Services
- Little Red Door
- Meridian Health Services
- Muncie Community Schools
- Muncie OUTreach
- Open Door Health Services
- Portland Fire Department
- Persimmon Ridge
- Purdue Extension
- Randolph County Foundation
- Randolph County Health Department
- Ross Community Center

- Second Harvest Food Bank
- Smith Insurance Services
- Soup Kitchen of Muncie
- Steven Knipp Hair Studio Muncie
- The Rock Church
- 8 Twelve Coalition
- Urban Light Community Church
- Westminster Village Muncie
- Whitley Community Council, Inc.
- WIC Family Services
- YMCA of Central Indiana
- YMCA of Muncie
- Youth Opportunity Center Muncie
- Youth Service Bureau of Jay County

Appendix D – Impact of actions taken since the previous CHNA

This appendix discusses the impact of community health improvement actions taken by IU Health Ball to address significant community health needs since its last CHNA report was conducted. The impacts (both expected and achieved) of each community health program are described below.

Access to healthcare

- **Screening, brief intervention and referral to treatment (SBIRT)** was offered to patients at the IU Health Ball Family Medicine Residency Center. In 2019, there were 3,774 patients eligible for screening, a decrease of 41 from 2018. MA's, physicians, behavioral health staff and the data analyst screened 61 percent of the eligible population through internal collaboration. External collaborators include referral sources like the IU Health Addictions and Recovery Center. In 2020, SBIRT screening for all patients was discontinued mid-year due to organizational changes in tracking requirements for depression screening, which was previously embedded in the SBIRT tracking. A depression-only screener is currently provided to all patients.
- **The Healthy Community Alliance of East Central Indiana (HCA)** engages 149 collaborating organizations in three East Central Region counties (Delaware, Blackford and Jay). In 2019 and 2020, ten new partners were added to the network (Crossroads Financial Credit Union, Jay County Development Corporation, Jay County Drug Prevention Coalition, Jay Community Schools, Home Health Angels, United Way of Jay County, Alexandria Care Center, John Jay Center for Learning, United Day Care

Center of Delaware County and Community Partners Children's Bureau). The HCA makes multiple resources available to collaborators, including facilitated workgroup sessions in each county, materials such as Tobacco Cessation Toolkits and Healthy Lifestyle toolkits, online resources like an e-newsletter, media messaging and access to community health data for each of the three counties. These resources are provided to all collaborating organizations free of charge. In 2020, the HCA began offering webinar programming as a way to engage partners in accessing resources and programming in all three counties. The CDC Change tool survey process was conducted in both Delaware and Jay counties in 2020 by the HCA partner organizations with HCA partner support. In Blackford County, HCA efforts led to programming and curriculum changes at the Blackford Community School System. A 2019 survey found that 105 of HCA partner organizations were utilizing at least one of these provided resources to influence change amongst their audiences. The Healthy Community Alliance is organized and facilitated by the IU Health East Central Region Hospitals and receives materials and support from IU Health Ball.

- **The IU Health East Central Region added six new primary care providers** – two physicians, two Family Nurse Practitioners (FNP), one Nurse Practitioner (NP) and one Physician Assistant (PA) – in 2019. Two of the new primary care providers are located in Jay County, one in Blackford County and three in Delaware County, where the provider footprint was expanded with the addition of an existing physician practice into the IU Health physician network. A new HIV Pre-Exposure Prophylaxis Clinic was initiated and a Pediatric Hospitalist Program was started at IU Health Ball in 2019. Six new primary care providers joined the IU Health East Central Region – three physicians, two FNPs and one Women's Health Nurse Practitioner (WHNP) – in 2020. Two of the new providers are located in Jay County, two in Grant County and two in Delaware County. A north Muncie provider was relocated to the far East side of the city to expand the IU Health provider footprint further to the east in Delaware County. Additionally, virtual services were expanded allowing all primary care providers to provide virtual visits to their patients. In 2021, a new two-physician primary care clinic was established in Upland including FNP-BC to provide additional primary care support. A partnership with Taylor University provided a student health center at this practice in August of 2021. A new nurse practitioner joined the Blackford practice in May of 2021. Jay Family First Healthcare had a new physician join in August of 2021.
- **The IU Health East Central Region Perinatal Coordinator** facilitated the development of 36 collaborators to enhance efforts to decrease infant mortality and improve the health of newborns and women in 2019-2020. Access to community resources increased due to East Central Region (ECR) efforts that include the promotion of Baby and Me Tobacco Free program, implementation of a Tobacco Treatment Pilot Program in five ECR physician office settings designed to provide client consultations

and referrals to 1-800 Quit Now, and pharmacotherapy options. IU Health Jay received an IDOH OB Navigation grant which provided OB Navigation for clients in Jay and Blackford counties to offer continuum of care throughout pregnancy in 2020. Physician practices in the region received Safe Sleep education and resources, and a partnership with IU Health Ball Lactation Services resulted in the development of telemedicine lactation services at IU Health Jay. An Intra-professional Model of Care for Newborn Intensive Care Unit (NICU) rounds with discharge planning was developed at IU Health Ball to decrease Length of Stay (LOS) and barriers to discharge. The ECR Fetal Care Team improved consultation and support to parents receiving diagnosis of lethal anomaly for their baby. Virtual video tours were given to expectant parents and music therapy was initiated in the NICU for infants with Neonatal Abstinence Syndrome. Internal collaborators included 17 departments at IU Health Ball ranging from medical units to ancillary services such as marketing. In 2020, a new collaboration was initiated with IU Health Ball Maternal Fetal Health, Neonatology, Palliative Care and nursing leadership to initiate ECR Fetal Care Team with a focus on improving parental consultation and support. In 2021, the Indiana Department of Health awarded two years of funding for the implementation of a HIPAA compliant text messaging and remote monitoring virtual platform to all obstetrical practices in the ECR providing prenatal care and offering delivery services at IU Health Ball.

- **IU Health provided two family Medicine Directors plus a resident rotation at a subsidized rate to Open Door Health Services.** This allowed Open Door to expand its obstetric capability to service low-income residents of East Central Indiana. These two physicians provided a total of 15,006 patient encounters in 2019 and 7,912 in 2020. In the first half of 2021, they provided 4,633 patient encounters. Other OB services are offered at IU Health Ball through its Family Medicine Program, Perinatal Center and physician practice facilities. Several other private practices offer OB services to the community as well.

Behavioral health

- **A collaboration with Ball State University was established to develop and implement in-school physical activity and nutritional education curriculums at the elementary-school level in the Muncie Community Schools in 2020.** The primary tasks completed in the 1st year included the assembly of team members and development of a physical activity and nutrition education curriculum including assessment procedures (and purchasing of educational materials). An initial six-week pilot program at Southview Elementary School in Muncie delivered via Google Classroom was initiated with physical activity and nutrition components. A teacher survey was administered and reported 66 percent of teachers utilized the "brain break" activity and 75 percent felt the nutrition

lessons were grade appropriate. In the first half of 2021, a ten-week in-school physical activity and nutritional education curriculum was instituted at Southview Elementary in Muncie. It was delivered in-person and included nutrition education, physical activities, instructional breaks and a walking challenge. A six-week pilot program with similar curriculum was instituted at a second school, Grissom Elementary, in Q1 of 2021.

Chronic disease management

- **Peer Recovery Program services** were offered in the IU Health Ball Emergency Department for the 1st time in 2019. Patients who enter the emergency department for an opioid-related health issue are deemed initially eligible for the Planned Outreach, Intervention, Naloxone and Treatment (POINT) program. This includes patients admitted for opioid withdrawal symptoms, opioid intoxication, opioid overdose, endocarditis related to injection opioid use and abscess related to injection opioid use. Peer recovery coaches (PRCs) are notified of these patients via the EMR track board and nurse/physician alerts (pager, telephone call). These patients are then approached by a peer recovery coach and asked to complete an opioid use disorder (OUD) screening tool. If symptoms indicate an OUD, they are offered peer recovery coaching services. Additionally, outside of their POINT program responsibilities, peer recovery coaches offer services to patients presenting with other substance use disorder issues (non-opioid). In 2019, PRCs encountered a total of 83 patients and 75 percent accepted care. In 2020, PRCs had 352 patient encounters and 77 percent accepted care at IU Health Ball. During the first half of 2021, 312 peer recovery sessions occurred and 84.09 percent accepted care with successful patient follow up tracked at 86.22 percent. The program includes two full time and one part time peer recovery coaches and is typically staffed from 8:00 am – 4:00 pm or 4:00 pm – 12:00 am seven days a week. Indiana University is the organization that provided the program funding at Ball through a federal research grant. The IU Health Psychiatry hub collaborates with IU Health Jay and IU Health Blackford to provide peer recovery coach services. In addition, patients with SUD were referred to the continuum of care of services including the IU Health Ball Addiction Treatment and Recovery Center (ATRC), Medication-Assisted Treatment (MAT) and inpatient facilities.
- **The IU Health Ball Addiction Treatment and Recovery Center** opened in 2019 and offered an Intensive Outpatient Program (IOP), which included group recreation therapy and individual and family counseling services and peer recovery coaching. Medication Assisted Treatment (MAT), an Individual outpatient Program and IOP Aftercare Program are also available. This center provided 67 assessments and had 44 persons enrolled in IOP and/or the Individual Track in July-December of 2019. Those numbers increased to 130 and 107 in 2020. During the

first half of 2021, the center assessed 75 patients and enrolled 78 in the IOP or individual track. Patients who completed the IOP demonstrated a 35 percent increase in sobriety and pregnant women demonstrated a 100 percent sobriety rate. The IU Health Behavioral Health Collaborative agreed to supply the cost of staff, space and equipment in 2019. Numerous community partners were engaged including AA, NA, Briana's Hope, A Better Life, Celebrate Recovery and Smart Recovery, plus faith-based partnerships and community resource partners. Referral partners included IU Health Ball Emergency Department and Family Medicine Residency, Volunteers of America Fresh Start in Winchester, Delaware County Corrections and Addictions Council of Delaware County.

- **Drug take-back kiosks** were installed at four East Central Indiana locations: Pavilion Pharmacy at IU Health Ball in Muncie (Pavilion), IU Health Yorktown Pharmacy in Yorktown, IU Health Blackford Pharmacy in Hartford City and IU Health Jay in Portland. The kiosks are open to the public and available during business hours. In 2019, 874 pounds of prescription meds were recovered at Pavilion, 230 pounds at Blackford, 161 pounds at Yorktown and 161 pounds at Jay. In 2020, 897 pounds of meds were collected from the four locations and destroyed. In January-June of 2021, 690 pounds of meds were collected and destroyed with an estimated 800 pounds to be collected in the second half of 2021.
- **1-800 Quit Now telephone service** was established in the East Central Region in 2019. The Indiana Tobacco Quit Line received 226 referrals from Delaware County, 28 from Blackford County and 32 from Jay County in 2019. Participant numbers declined in the face of the COVID-19 pandemic in 2020. The Indiana Tobacco Quit Line received 152 referrals with 103 from Delaware County, 20 from Blackford County and 29 from Jay County in 2020. In January-June of 2021, referrals totaled 58 with 38 from Delaware County, 10 from Blackford County and nine from Jay County.

Obesity and diabetes

- **The East Central Indiana Food Council** is a volunteer-run organization led by local activists interested in addressing community issues around food access and nutrition that began in 2019. It receives support from the IU Health-led Healthy Community Alliance initiative. The group has strategically grown from a Delaware County focus to include participants from Blackford and Jay counties. The Council is composed of multiple community collaborators representing Ball State University, Muncie Food Hub, IU Health, Purdue Extension, Second Harvest Food Bank, Grace Baptist Church, Soup Kitchen of Muncie, Blood-n-Fire Ministries, Community and Family Services Food Pantries in Hartford City, Montpelier, Portland and the Children's Bureau as well as local farmers and farmers market organizers. In 2019, the group offered guidance to area schools and farmers regarding the process of bringing

local farm products to schools, with the outcome of a new online resource for accessing mandatory forms and policies and connections made between schools and farmers. In response to the COVID-19 pandemic, the group held a special philanthropy session in 2020 where funders talked directly with food support organizations directly about their needs. The result was that groups received funding for initiatives such as additional equipment and the Muncie Food Hub partnered with IU Health to offer free produce for 15-weeks delivered to 10 different locations in Delaware, Blackford and Jay counties. Sites included food pantries, childcare centers, community centers and healthcare organizations where vulnerable populations were able to be reached. The Healthy Community Alliance Nutrition Workgroup was combined into the Food Council in June of 2021 and brought additional partners into the collaborative while integrating a more defined focus on healthy eating. The group organized a field trip in July 2021 to tour an aquaculture facility which has long term potential to bring fresh produce to underserved areas.

- **IU Health offers the Families at the Farmers Market in Muncie and Hartford City each year.** In 2019, 65 families participated at the Muncie site and six in Hartford City. Families were offered three different opportunities during the summer to learn about fresh produce, physical activity and tobacco cessation, and each family received coupons redeemable for fresh produce at the Farmers Market. Fifty-seven percent of families participating in a survey reported an increase in produce utilization at mealtimes following the program. Delaware County collaborators included Minnetrista, Whitely Community Council, Ross Center, Minority Health Coalition, Ivy Tech, Boys/Girls Club, Buley Center, Open Door Health Services, Salvation Army, YWCA of ECI, YMCA/Appletree, Youth Opportunity Center, Hillcroft, Spangler Farms, Northern Tropics Greenhouse and IU Health Ball. The Blackford County collaborators were Children and Family Services of Blackford County/WIC, Grace United Methodist Church, Growers and Makers Market, Common Grounds Coffee Shop, Blackford County Public Library, Purdue Extension and IU Health Blackford. In 2020, the program's in-person sessions were eliminated due to COVID-19 precautions. Sixty-eight families in Muncie and 29 families in Hartford City received a healthy eating packet with coupons redeemable at local farmers markets and farm stands. Head Start joined the collaboration and facilitated connections with families in Blackford County. Fresh fruits/vegetables were eaten at "most meals" according to 67 percent of participants after completing the program with 100 percent of survey respondents stating they "learned a lot" and reported

using the Farmers Market "two or more times." Coupon redemption rates were slightly more than 50 percent each in 2019 and 2020. In 2021, this program utilized a model similar to 2020 with no in-person education session. Over 100 families registered for the program with the addition of several new locations. It is anticipated that 65 families in Muncie and 30 families in Hartford City will actively engage with the program in 2021.

- **IU Health Ball collaborates with members of the Healthy Community Alliance of East Central Indiana** to distribute laundry coupons to limited resource audiences in Delaware County. The coupons are distributed by the "Community Basket," a ministry of The Jar Community Church. This 'non-food' food bank's goal is to provide members of the community who are in need with five hygiene, cleaning and paper items per visit. These items are not provided through SNAP benefits. In 2019, 670 IU Health funded laundry coupons were distributed and 492 were redeemed. Internal collaborators are IU Health Ball Community Outreach and IU Health Ball medical staff. External collaborators are The Jar Community Church and the White Spot Laundry. In 2020, 500 coupons were distributed and 210 were redeemed. In January-June of 2021, 500 were distributed and 153 were redeemed in this program.
- **Stwelve Coalition developed from a grant application from the IU Health Community Impact Fund** in 2019. This grant was awarded to make improvements in the Thomas-Avondale Neighborhood related to food access, physical activity and blighted housing improvements. In 2020, the following significant progress was made: old factory parking lot surfaces were removed to make way for new soccer fields at the Ross Community Center, a sidewalk inventory was completed, pedestrian traffic counters were put in operation and planning for new pantry spaces and an enclosed community garden space was started. Additionally, placemaking development support brought a new coffee shop and community gathering spaces into a formerly blighted area, setting the stage for additional development in 2021. Community members gained access to expanded sports programming at the Ross Community Center, expanded healthy food pantry offerings and a new neighbor-owned and operated coffee shop in a food desert area. In the first half of 2021, drainage was installed for the new soccer fields and topsoil was trucked in and graded. New sidewalks were installed to support active transportation for local residents and sitework identified remediation needed for eventual community garden high tunnel construction which is planned to be operational in 2021.

Appendix E – Consultant qualifications

Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves clients throughout the United States as a resource that helps hospitals conduct Community Health Needs Assessments and develop Implementation Strategies to address significant health needs. Verité has conducted numerous needs assessments for hospitals, health systems and community partnerships nationally since 2010.

The firm also helps hospitals, hospital associations and policy makers with community benefit reporting, program infrastructure, compliance and community benefit-related policy and guidelines development. Verité is a recognized, national thought leader in community benefit and Community Health Needs Assessments.



Ball