Community Health Needs Assessment

November 15, 2018

https://iuhealth.org/in-the-community

Ball Memorial Hospital

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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 Memorial Hospital (IU Health Ball Memorial Hospital or "the hospital") is a preferred healthcare facility for residents of East Central Indiana. The hospital was founded in 1929 as both a teaching hospital and regional referral center for Muncie, Indiana and surrounding counties. IU Health Ball Memorial Hospital offers 45 medical specialties, including cancer care, cardiology, orthopedics and specialized services for women and children. The IU Health Ball Memorial Hospital Medical Education department is home to three residencies (family medicine, internal medicine and a transitional year) as well as a research department. More than 60 resident physicians are trained every year at IU Health Ball Memorial Hospital Family Medicine and Internal Medicine clinics and conduct more than 25,000 patient visits annually.

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: https://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.

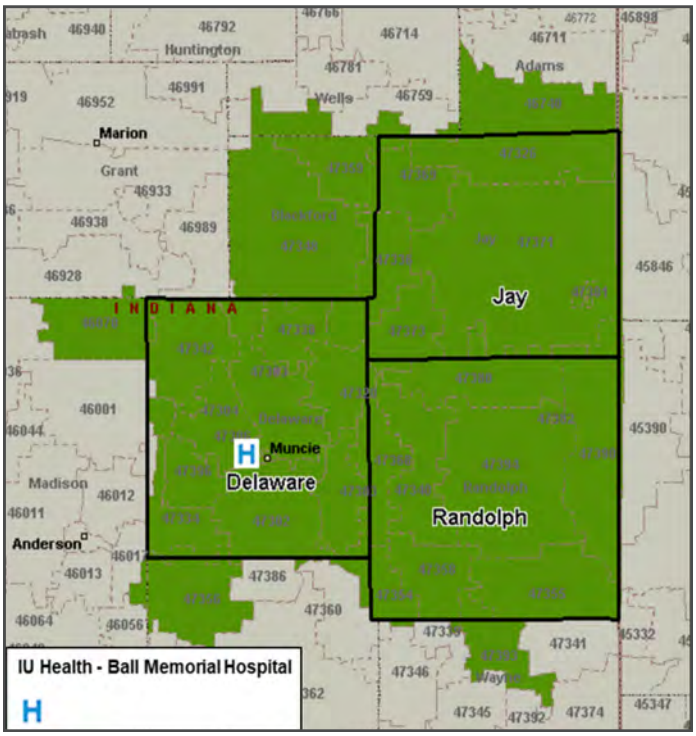
IU Health invites community members to review the community health needs assessments and provide comments to communitybenefit@iuhealth.org.

For copies of each IU Health CHNA report and also for associated implementation strategies, visit: https://iuhealth.org/in-the-community. Updated implementation strategies for each IU Health hospital are scheduled to be published by May 15, 2019.

Community Definition

For purposes of this CHNA, IU Health Ball Memorial Hospital's community is defined as Delaware, Jay, and Randolph Counties, Indiana. These three counties accounted for 80.9 percent of the hospital's inpatient cases in 2016. The total population of this community in 2015 was 162,307.

The following map portrays this community. The map shows county and ZIP code boundaries. Specific ZIP codes are included in analyses if any portion of the ZIP code overlaps with one or more counties.



Source: Microsoft MapPoint and IU Health, 2018

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[1] 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,
- Input obtained from one or more key stakeholders who were interviewed, and
- A community survey conducted in collaboration with other Indiana health systems.

Based on the assessment of the above data sources, the following community health needs (listed in alphabetical

[1] *"Secondary data" refers to data published by others, for example the U.S. Census and the Indiana Department of Health.*

order) have been identified as significant in the community served by IU Health Ball Memorial Hospital. References are made below to exhibits and findings presented in this report.

Access to Health Care Services

- The low income residents of Delaware and Jay Counties have been designated as Medically Underserved Populations, and Randolph County has been designated a Medically Underserved Area (**Exhibit 36**).
- Both Jay and Randolph Counties have an under-supply of primary care, dental, and mental health providers compared to both Indiana and national rates (**Exhibit 24**).
- Health Professional Shortage Areas (HPSAs) are present in the community for primary care, dental care, and mental health care (**Exhibit 37**).
- Above average rates of preventable hospitalizations and ambulatory care sensitive conditions (ACSCs) indicate potential access problems in the community (**Exhibits 24, 33**).
- Individuals providing input and other assessments identified access to care as top concerns in Jay County (**Community Meetings, Interviews, Other Assessments**).

Drug and Substance Abuse (Including Opioids and Alcohol)

- The opioid crises, other forms of drug and substance abuse, and alcohol use and abuse were identified by community members as particularly significant (**Community Meetings, Community Survey, Interviews**).
- Jay County compared unfavorably to Indiana and national averages in driving deaths with alcohol involvement (**Exhibit 24**).
- Randolph County compared unfavorably to peer counties in excessive drinking (**Exhibit 25**).
- Other assessments identified drug and substance abuse as a significant concern in the community (**Other Assessments**).

Food Insecurity and Healthy Eating

- Access to healthy foods was identified by individuals providing input as a significant concern (**Community Meetings, Community Survey, Interviews**).
- Several areas throughout the IU Health Ball Memorial Hospital community have been designated as food deserts (**Exhibit 35**).
- Delaware County compared unfavorably to both Indiana and peer counties in food environment index (**Exhibits 24, 25**).
- Other assessments identified nutrition and access to healthy food as a significant concern (**Other Assessments**).

Mental Health

- Mental health and access to mental health providers were identified by many community members as significant issues in the IU Health Ball Memorial Hospital community (**Community Meetings, Interviews**).
- Jay and Randolph Counties have an under-supply of mental health providers compared to Indiana and national averages (**Exhibit 24**).
- Delaware, Jay, and Randolph Counties also compared unfavorably to Indiana and peer counties in average number of mentally unhealthy days monthly (**Exhibits 24, 25**).
- Each of the three counties was designated as a Mental Health Care Health Professional Shortage Areas (HPSA) (**Exhibit 37**).

Obesity, Diabetes, and Lack of Physical Activity

- Individuals providing input identified obesity, diabetes, and physical inactivity as top concerns (**Community Meetings, Community Survey, Interviews**).
- Jay and Randolph Counties compared unfavorably to both Indiana and peer counties in adult obesity rates (**Exhibit 24**).
- Delaware, Jay, and Randolph Counties also compared unfavorably to both Indiana and peer counties in physical inactivity and percent of residents with access to exercise opportunities (**Exhibit 24**).
- Mortality rates for diabetes and ACSC admission rates for several diabetes indicators were significantly higher in the community than Indiana averages (**Exhibits 26, 32**).
- Other assessments identified both obesity and physical inactivity as significant concerns in the community (**Other Assessments**).

Smoking and Tobacco Usage

- Delaware, Jay, and Randolph Counties compared unfavorably to peers in adult smoking rates (**Exhibit 25**).
- Rates of lung cancer mortality and incidence were high in Delaware and Jay Counties, and ACSC admissions for COPD are higher in the community than Indiana averages (**Exhibits 27, 32**).
- The percent of expectant mothers who smoked during pregnancy in Delaware, Jay, and Randolph Counties was significantly higher than the state average (**Exhibit 30**).
- Community input and other health assessments conducted identified smoking and tobacco use as issues in the IU Health Ball Memorial Hospital community (**Community Meetings, Interviews**).

Social Determinants of Health

- Poverty rates in Delaware, Jay, and Randolph Counties have been well above Indiana averages in recent years, including particularly high rates among various racial and ethnic minorities (**Exhibits 17, 18**).
- Low income census tracts are present throughout the IU Health Ball Memorial Hospital community (**Exhibit 19**).
- Unemployment rates have been higher in each of the three community counties compared to Indiana averages (**Exhibit 20**).
- Jay and Randolph Counties compared unfavorably to Indiana averages for percent of the population with a high school diploma and percent of adults with any college education (**Exhibits 16, 24**).
- Delaware, Jay, and Randolph Counties each had a higher

rate of children in poverty than both Indiana and national averages (**Exhibit 24**).

- Delaware County compared unfavorably to both Indiana and peer averages for percent of households experiencing severe housing problems (**Exhibits 24, 25**).
- Poverty and economic hardship was identified by members of the IU Health Ball Memorial Hospital community as a significant need (**Interviews, Community Meetings, Community Survey, Other Assessments**)

DATA AND ANALYSIS

Definition of Community Assessed

The community assessed by IU Health Ball Memorial Hospital was defined by the geographic origins of the hospital's discharges. In 2016 this geographic area was identified as Delaware, Jay, and Randolph Counties, Indiana.

Residents from this county accounted for 80.9 percent of the hospital's 2016 inpatient discharges (**Exhibit 1**).

Exhibit 1: IU Health Ball Memorial Hospital Inpatient Discharges by County, 2016

County	Percent of Inpatients (2016)
Delaware County	68.6%
Randolph County	6.6%
Jay County	5.6%
Total Community	**80.9%**

Source: Analysis of Indiana University Health Discharge Data, 2016

The estimated, total population of the IU Health Ball Memorial Hospital community in 2015 was 162,307 persons (**Exhibit 2**).

Exhibit 2: Community Population, 2015

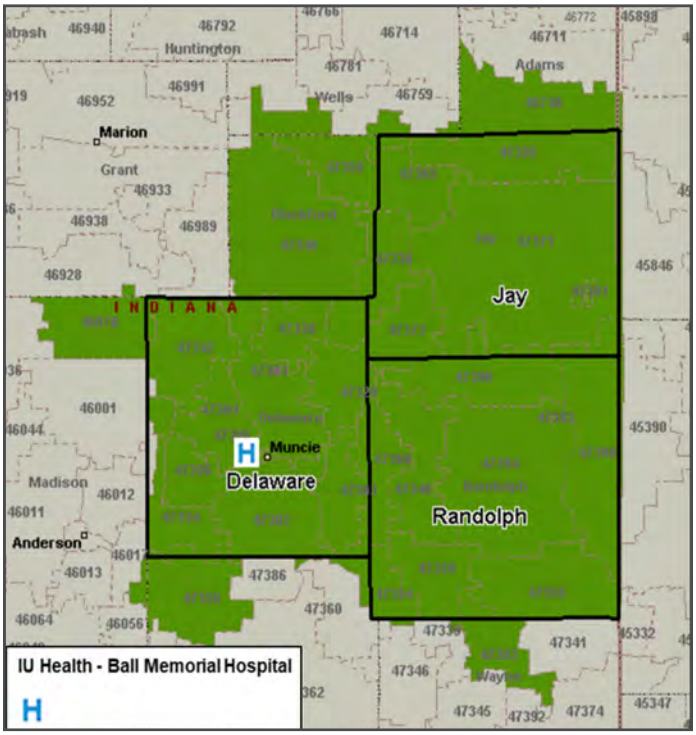
County	Estimated Population 2015	Percent of Total Community Population
Delaware County	116,019	71.5%
Jay County	21,155	13.0%
Randolph County	25,133	15.5%
Total Community	**162,307**	**100.0%**

Source: State of Indiana by the Indiana Business Research Center, March 2018

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. Specific ZIP codes are included in the assessment if any portion of the ZIP code overlaps with one or more counties.

Exhibit 3: IU Health Ball Memorial Hospital Community



Source: Microsoft MapPoint and IU Health, 2018

Secondary Data Summary

The following section summarizes findings from the secondary data analysis. *See* Appendix B for more detailed information.

Demographics
Population characteristics and trends directly influence community health needs. The total population in the IU Health Ball Memorial Hospital community is expected to decrease by 1.7 percent from 2015 to 2020. Between 2016 and 2021, 11 of the 32 ZIP codes in the IU Health Ball Memorial Hospital community are projected to gain population while 18 ZIP codes are projected to lose population.

While the total population of the community is expected to decrease, the number of persons aged 65 years and older is projected to grow 7.6 percent between 2015 and 2020. This should contribute to growing need for health services, since older individuals typically need and use more services than younger persons.

Economic Indicators
Many health needs have been associated with poverty. The poverty rates in Delaware and Randolph Counties have been above both the Indiana and U.S. averages. In general, poverty rates for Black, Asian, and Hispanic (or Latino) residents in the community have exceeded rates for White

residents. Low income census tracts are prevalent throughout IU Health Ball Memorial Hospital's community.

Unemployment rates in the community have been steadily improving and are lower than the national average, but rates in each county are higher than the Indiana average. Crime rates in Delaware and Jay Counties have been consistently below Indiana averages.

The percentage of people uninsured has declined in recent years due to two primary factors:

- In recent years, unemployment rates have decreased significantly. Many receive health insurance coverage through their (or a family member's) employer.
- In 2010, the Patient Protection and Affordable Care Act (PPACA) was enacted, and Indiana was among the states that expanded Medicaid eligibility.

Local Health Status and Access Indicators

Indiana has 92 counties. In the 2018 *County Health Rankings* for overall health outcomes, Delaware County ranked 85th, Jay County ranked 84th, and Randolph County ranked 78th.

Delaware County had 23 out of 42 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 birth weight, food environment index, sexually transmitted infections, social & economic factors, unemployment, children in poverty, income equality, children in single-parent households, and severe housing problems.

Jay County had 28 out of 42 indicators ranked in the bottom half of Indiana counties. Of those, 18 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 birth weight, health behaviors, adult smoking, food environment index, physical inactivity, access to exercise opportunities, alcohol-impaired driving deaths, primary care physicians, diabetes monitoring, some college, and children in poverty.

Randolph County had 30 out of 42 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 mental health days, low birth weight, adult obesity, food environment index, access to exercise opportunities, teen births, primary care physicians, mental health providers, children in poverty, children in single-parent households, injury deaths, and physical environment.

In the 2018 *Community Health Status Indicators* (which compares community health indicators for each county with those for peers across the United States), the following indicators appear to be most problematic for the IU Health Ball Memorial Hospital community:

- Average number of mentally unhealthy days monthly
- Chlamydia rate
- Dentist rate
- Income ratio
- Percent low birth weight births
- Percent smokers
- Percent with access to exercise opportunities
- Percent with severe housing problems

According to the Centers for Disease Control and Prevention (CDC), the following mortality rate indicators were problematic across the community: diabetes mellitus, motor vehicle accidents, hypertensive heart disease with or without renal disease, certain conditions originating in the perinatal period, and pregnancy, childbirth and the puerperium.

Rates in Jay and Randolph Counties were below the Indiana averages for all communicable disease indicators.

Ambulatory Care Sensitive Conditions

Ambulatory Care Sensitive Conditions (ACSCs) include thirteen 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."[2] Among these conditions are: angina without procedure, diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

The ACSC rate for diabetes short-term complications, diabetes long-term complications, chronic obstructive pulmonary disease (COPD), heart failure, low birth weight, dehydration, community-acquired pneumonia, urinary tract infection, and lower-extremity amputation among patients with diabetes were higher in the IU Health Ball Memorial Hospital community than the Indiana averages. Rates of hypertension, uncontrolled diabetes, and asthma in younger adults were 50 percent or worse than the Indiana averages

Community Need Index

Dignity Health, a California-based hospital system, developed and published a *Community Need Index™* (CNI) that measures barriers to health care 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

[2] *Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.*

- The percentage of uninsured and unemployed residents
- 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).

The weighted average CNI score for Delaware County was 3.3 – higher than the national median of 3.0. The weighted average CNI score for Jay County was 3.0 and Randolph County was 3.1. One Delaware ZIP code (47302) 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.

Several census tracts within the IU Health Ball Memorial Hospital community 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."

Areas and populations throughout the IU Health Ball Memorial Hospital community have been designated as medically underserved.

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.

Areas throughout IU Health Ball Memorial Hospital's community have been designated as Primary Care, Dental Care, and Mental Health HPSAs.

Relevant Findings of Other CHNAs
This CHNA also has considered the findings of other recent, available assessments conducted by other hospital facilities, local health departments (LHDs), and the State of Indiana. These other assessments consistently have identified the following needs as significant for the community served by IU Health Ball Memorial Hospital.

- Access to basic and primary health care
- Obesity
- Physical inactivity/lack of exercise
- Drug/substance abuse
- Economic improvement/financial hardship\
- Nutrition/access to healthy food
- Transportation

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 25.7 percent. A comparable statistic for Indiana as a whole was 19.1 percent. For the IU Health Ball Memorial Hospital community, children in poverty thus is considered significant. The last column of Exhibit 4 identifies where more information regarding the data sources can be found.

The benchmarks include Indiana averages, national averages, and in some cases averages for "peer counties" from across the United States. In the Community Health Status Indicators data source, peer counties are defined as being similar in terms of population density, household incomes, and related characteristics.

Exhibit 4: Significant Indicators

Indicator	Area	Value	Benchmark	Exhibit
65+ Population change, 2015-2020	Hospital Community	7.6%	-1.7% – Total Community Population	12
Population with a disability	Delaware County	16.5%	13.6% – Indiana	16
Poverty rate, 2012-2016	Delaware County	22.0%	15.0% – Indiana	17
Poverty rate, Asian, 2012-2016	Delaware County	48.8%	15.8% – Jay County, White	18
Poverty rate, Black, 2012-2016	Randolph County	42.7%	17.1% – Randolph County, White	18
Percent of children in poverty	Delaware County	25.7%	19.1% – Indiana	24
Population without high school diploma	Jay County	15.9%	11.9% – Indiana	16
Percent of adults with some college education	Jay County	45.7%	65.0% – U.S.	24
Percent of households with severe housing problems	Delaware County	17.0%	14.0% – Indiana	24
Percent adults obese	Randolph County	36.3%	32.0% – Indiana	24
Percent adults physically inactive	Jay County	31.3%	26.8% – Indiana	24
Percent with adequate access to exercise opportunities	Jay County	38.1%	76.6% – Indiana	24
Population per primary care provider	Randolph County	5,034	1,320 – U.S.	24
Population per mental health provider	Randolph County	3,583	470 – U.S.	24
Older adult preventable hospitalizations rate	Delaware County	60.6	53.1 – Peer counties	25
Percent driving deaths with alcohol involvement	Jay County	29.6%	22.4% – Indiana	24
Mortality rate (diabetes)	Jay County	73.2	26.0 – Indiana	26
Mortality rate (motor vehicle accidents)	Randolph County	25.4	12.4 – Indiana	26
Mortality rate (cancer)	Jay County	233.7	172.5 – Indiana	26
Cancer incidence rate (all types)	Jay County	463.5	445.2 – Indiana	28
Percent of adults who smoke	Jay County	21.1%	18.7% – Peer counties	25
Mothers who smoked during pregnancy	Randolph County	23.4%	15.6% – Indiana	30
Infant mortality rate (per 1,000 births)	Jay County	12.3	7.2 – Indiana	30
Low birthweight births	Delaware County	9.7%	8.0% – Indiana	30
Preterm births	Randolph County	12.6%	9.7% – Indiana	30
ACSC admissions rate for hypertension	Hospital Community	158.6	63.3 – Indiana	32
ACSC admissions rate for asthma in younger adults	Hospital Community	57.8	32.0 – Indiana	32
ACSC admissions rate for uncontrolled diabetes	Hospital Community	62.6	40.6 – Indiana	32

Source: Verité Analysis

Primary Data Summary

Primary data were gathered in three different methodologies for this assessment: Community Meetings, Key Stakeholder Interviews, and a Community Survey.

Community Meetings – Delaware County
On May 10, 2018, two meetings of community representatives were held at the IU Health Ball Memorial Hospital in Muncie, the county seat of Delaware County. The first meeting was attended by 23 community members, and the second meeting was attended by 14 community members. The community members were invited by IU Health because they represent important community organizations and sectors such as: local health departments, non-profit organizations, local business, health care providers, and schools.

Through this meeting, IU Health sought a breadth of perspectives on the community's health needs. The specific organizations represented at the meetings are listed below.

Organizations Represented at Community Meetings

- Alpha Center
- BY5
- Ball State University
- Bethel Point Rehab
- Bridges Community Services
- Boys and Girls Club of Muncie
- Building Better Communities/Ball State University
- Cancer Services of East Central Indiana
- City of Muncie
- Delaware County Government
- Delaware County Health Department
- Delaware County Senior Center
- IU Health Ball Memorial Hospital
- IU Health East Central Region
- Meridian Health Services
- Muncie/Delaware County Chamber of Commerce
- Open Door Health Services
- Purdue Extension
- Second Harvest Food Bank
- Transition Resources Corporation – Head Start
- Westminster Village
- YWCA of Muncie
- Youth Opportunity Center

The meeting began with a presentation that discussed the goals and status of the CHNA process and the purpose of the community meetings. Then, secondary data were presented, along with a summary of the most unfavorable community health indicators. For Delaware County, those indicators were (in alphabetical order):

- Adult smoking
- Housing problems in Delaware County
- Infant mortality and low birth weight births
- Mental health and supply of mental health providers
- Physical inactivity and access to healthy food
- Poverty rates and children in poverty
- Supply of primary care physicians and dentists

Participants then were asked to discuss whether the identified, unfavorable indicators accurately identified the most significant community health issues and were encouraged to add issues that they believed were significant. Several issues were added at the meetings, such as: chronic disease, cancer, services for the elderly, adverse childhood experiences, social associations/ connectedness, obesity, health literacy, addictions, access to specialty physicians, built environment, lead problems, and supply of primary care physicians and dentists. In addition, physical inactivity and access to healthy food were split into their own line items, instead of being combined.

During the meetings, a range of other topics was discussed, including:

- Differences in secondary data for mental health indicators
- Inter-relatedness of needs
- Services for the elderly
- Difference between obesity, physical activity, and access to healthy food

After discussing the needs identified through secondary data and adding others to the list, each participant was asked through a voting process to identify "three to five" they consider to be most significant. From this process, the groups identified the following needs as most significant for Delaware County:

The results from the first meeting were as follows:

- Mental health and supply of mental health providers
- Poverty rates and children in poverty
- Obesity
- Tied for fourth: Adult smoking and adverse childhood experiences

The results from the second meeting were as follows:

- Addictions
- Physical activity/obesity
- Access to healthy foods
- Adult smoking
- Infant mortality

Community Meetings – Jay County
On May 23, 2018, two meetings of community representatives were held at the IU Health Jay Hospital in Portland, the county seat of Jay County. The meetings were attended by 28 community members invited by IU Health because they represent important community organizations and sectors such as: local health departments, police/ fire departments, non-profit organizations, local business, health care providers, local policymakers, faith-based organizations, and schools.

Through the meetings, IU Health sought a breadth of

perspectives on the community's health needs. The specific organizations represented at the meetings are listed below.

Organizations Represented at Community Meetings

- Community & Family Services
- Crown Pointe Senior Living
- First Merchants Bank
- Fort Recovery Industries
- Geneva Town Council
- IU Health Jay Hospital
- Jay-Randolph Developmental Services, Inc.
- Jay County Chamber
- Jay County Child Services
- Jay County Community Development
- Jay County Council
- Jay County Health Department
- Jay County Ministerial Association
- Jay County Tourism
- Jay Schools
- John Jay Center for Learning
- Life Stream
- Meridian Health Services
- Pennville Town Council
- Persimmon Ridge Rehab
- Portland Fire Department
- Portland Foundation
- Portland Police Department
- Swiss Village, Inc.
- United Way of Jay

The meeting began with a presentation that discussed the goals and status of the CHNA process and the purpose of the community meetings. Then, secondary data were presented, along with a summary of the most unfavorable community health indicators. For Jay County, those indicators were (in alphabetical order):

- Adult smoking and smoking during pregnancy
- Air pollution
- Diabetes mortality rate
- Food environment
- Infant mortality rates
- Low educational attainment levels
- Obesity, physical inactivity, and access to exercise opportunities
- Poverty rates
- Undersupply of primary care physicians and mental health professionals

Meeting participants then were asked to discuss whether the identified, unfavorable indicators accurately identified the most significant community health issues and were encouraged to add issues that they believed were significant. Several issues were added, such as: substance abuse, preventative care for children, low health literacy, lack of parenting skill, prescription medication cost barriers, cancer, mental health, childhood obesity, faith and spirituality, senior programming, and breastfeeding initiatives.

During the meetings, a range of other topics were discussed, including:

- Neonatal Abstinence Syndrome
- Generational poverty
- Single parent families
- Responsibility and accountability
- Quality of job applicants
- Lack of options for healthy food

After discussing the needs identified through secondary data and adding others to the list, each participant was asked through a voting process to identify "three to five" they consider to be most significant. From this process, the groups identified the following needs as most significant for Jay County:

- Substance abuse
- Mental health
- Undersupply of primary care physicians and mental health professionals
- Physical inactivity
- Parenting skills

Community Meetings – Randolph County

A separate community meeting was not held for Randolph County; however, feedback was obtained from several representatives from the Randolph County Health Department. This feedback appears in the Interviews section of this report.

Key Stakeholder Interview

Interviews were also conducted with representatives of the county health departments of Delaware, Jay, and Randolph Counties. The interviews were conducted to assure that appropriate and additional input was received from governmental public health officials. The results of the community meetings were discussed and insights were sought regarding significant community health needs, why such needs are present, and how they can be addressed. The interviews were guided by a structured protocol.

The interviews were guided by a structured protocol that focused on opinions regarding significant community health needs, describing why such needs are present, and seeking ideas for how to address them.

Interviews – Delaware County

- The interviewee confirmed that some of the top needs identified by the community meeting group were some of the most significant in the community. These needs were:
  - Mental health, addictions, and supply of mental health providers (including rehabilitation and addiction services)
  - Poverty rates and children in poverty
  - Obesity
  - Physical inactivity
  - Access to healthy foods
- Drug addiction was identified as a major issue, and it was believed that receiving long-term treatment is not an

option for many seeking treatment. Few resources were believed to exist in the county, and resources outside of the county were thought to have long wait lists.

- Poverty is a significant issue, with Delaware County ranking as one of the highest poverty counties in the state. The community was thought to be in a difficult period after the decline of industry in the region, with issues stemming from this including:
  - Losing population and tax base
  - Poor infrastructure, particularly for roads
  - Failure to attract employers to the area due to infrastructure concerns
  - Failure to retain a locally-educated population from the local Ball State University
- Access to healthy food was identified as a key contributor to the significant obesity issue, exacerbated by poverty and the growing rate of fast food restaurants in the county. While healthy options were thought to exist on a smaller scale, cheaper unhealthy food is more readily accessible.
- A lack of regular exercise was also identified as a main contributor to the issue of obesity, particularly among poorer communities. Many neighborhoods did not have a built environment to support regular exercise, with issues such as crime, lack of sidewalks, heavy traffic, and others contributing to an unsafe physical environment.
- Infant mortality was identified as a significant issue, with a lack of parent education on child safety (such as infants sleeping in the same bed as parents or other children) contributing.
- A lack of social associations, connectedness, and support systems was thought to play a role in many of the county issues, particularly with mental health and addiction problems.
- Communicable diseases, particularly Hepatitis C and HIV, are increasingly common due to intravenous drug use in the community.
- The need for a central resource to refer residents with mental health, behavioral health, and addiction needs was identified as a significant need.
- The need for more public outreach and education programs on nutrition and physical activity, in places other than a clinical setting, was identified.
- Adult smoking and resultant chronic diseases were also identified as issues.

Interviews – Jay County

- The interviewee identified the following three needs as the most significant, with each of these needs having also been prioritized by the community meeting participants as significant:
  - Substance Abuse
  - Mental Health
  - Physical Inactivity
- Poverty and drug abuse were thought to be significant issues in the community, and contributing factors in the need for improved parenting education and skills development.
- Few options and providers are available for substance abuse and mental health treatment, and there is also little information about where to go outside of the county for treatment. The need for increased access to rehabilitation that is closer to home and affordable was identified as a priority.
- Obesity was identified as a significant concern, with physical inactivity a primary contributor to obesity and related chronic conditions. While there was thought to be an adequate amount of outdoor space for recreation, more education for younger residents about healthy living was identified as a need to ensure that motivation for physical activity remains into adulthood.
- Poor diet was also thought to be an issue in the community, particularly with the majority of restaurant options in the community being fast food.
- Involvement and collaboration within the business community for healthy living initiatives was identified as a programmatic need. If organizations came together for physical fitness goals and insurance incentives for healthy eating and exercise, there could be a large reduction of obesity in the community.
- Smoking was also thought to still be an issue despite progress being made, and more smoking cessation efforts were thought to be needed.
- The need for a central resource that could direct residents to any resource needed in the community – whether health or basic living needs – was identified as a needed service.
- Poverty was identified as an issue, and while jobs were thought to be available, some residents were not pursuing these opportunities due to personal motivation, low pay, or mental health reasons.
- Transportation was also identified as an issue in both accessing healthcare services and for employment purposes.

Interviews – Randolph County

- The interviewees confirmed that the following issues, identified from problematic secondary data indicators, were significant in the community:
  - Adult smoking
  - Infant mortality and low birth weight births
  - Mental health and supply of mental health providers
  - Physical inactivity and access to healthy food
  - Poverty rates and children in poverty
  - Supply of primary care physicians and dentists
- Drug overdoses were also identified as an issue, and thought to be a primary contributor to the poor outcomes in accident mortality rates for Randolph County.
- While Randolph County had a lower infant mortality rate than bordering Jay and Delaware Counties, interviewees believed this may be because complicated infant health cases were being sent to IU Health Ball Memorial Hospital in Delaware County.
- Substance abuse and access to addiction treatment programs were thought to be a significant need.
- Transportation was also identified as a significant issue.

- Both drug use and a related rise in Hepatitis C cases were identified as current issues and as issues that may increase in severity in the near future.
- In response to programs most needed in the community, interviewees identified funding for smoking cessation programs, free glucometer programs, expanded immunization capabilities, and vaccines for the public as particular needs.

Community Survey

To inform the CHNA, a community survey was conducted by the Indiana Hospital Collaborative.[3]

Across Indiana, 9,161 completed questionnaires were received by all participating hospitals in the Indiana Hospital Collaborative, for an overall response rate of 11.6 percent; 5,030 questionnaires were received from the 17 Indiana counties served by one or more IU Health hospitals. For IU Health Ball Memorial Hospital, surveys were received from 851 community households. According to the responses, these households included 1,587 adults.

Exhibit 5 portrays the community health needs considered most significant by survey respondents from IU Health Ball Memorial Hospital's community.

Exhibit 5: Community Survey – Significant Health Needs

Community Health Need	IU Health Ball Memorial Hospital Number of Responses	IU Health Ball Memorial Hospital Percent of Respondents
Substance use or abuse	678	79.7%
Obesity	422	49.6%
Poverty	402	47.2%
Chronic diseases, like diabetes, cancer, and heart disease	320	37.6%
Aging and older adult needs	305	35.8%
Child neglect and abuse	287	33.8%
Food access, affordability, and safety	274	32.2%
Tobacco use	231	27.2%
Mental health	223	26.2%
Alcohol use or abuse	209	24.6%
Assault, violent crime, and domestic violence	175	20.6%
Disability needs	141	16.5%
Homelessness	92	10.8%
Sexual violence, assault, rape, or human trafficking	74	8.7%
Environmental issues	68	8.0%
Injuries and accidents	57	6.7%
Infectious diseases, like HIV, STDs, and hepatitis	50	5.9%
Dental care	46	5.5%
Reproductive health and family planning	43	5.0%
Suicide	41	4.8%
Infant mortality	4	0.5%

Source: Community Survey

The community survey indicates that substance use and abuse, obesity, poverty, and chronic diseases represent top concerns in the community served by IU Health Ball Memorial Hospital.

Exhibit 6 arrays survey responses regarding health factors across demographic and socioeconomic characteristics. The exhibit includes findings from surveys returned by adults living in the 17 counties served by IU Health.

Exhibit 7 summarizes survey responses regarding health behaviors across demographic and socioeconomic characteristics. As frequently found in community health data, physical and mental health status (and tobacco use) tends to be worse for lower-income individuals and for those without a high school diploma. Opioid misuse also appears to be more prevalent in these populations.

[3] *For more information on the survey methodology, see Appendix A.*

Exhibit 6: Community Survey – Health Factors

Measure	Total	Female	Male	White	Black	Asian	Hispanic	$0 – $25k	$25 – $75k	$75k+	No High School Diploma
Total Number of Responses	**8,885**	5,694	3,137	8,487	133	111	148	1,480	3,659	3,328	329
Fair or Poor Health	**16.6%**	16.4%	16.8%	16.6%	33.1%	6.3%	18.2%	39.4%	16.7%	5.9%	39.2%
Physical Health – Fair or Poor	**42.6%**	42.8%	42.5%	42.7%	27.1%	60.4%	46.6%	17.4%	36.8%	60.8%	18.8%
Mental Health – Fair or Poor	**8.2%**	8.6%	7.5%	8.2%	18.0%	4.5%	5.4%	22.2%	8.0%	2.4%	20.4%
Social Well-being – Fair or Poor	**61.2%**	61.5%	61.2%	61.1%	52.6%	79.3%	62.2%	33.9%	57.8%	77.7%	37.4%
Are not satisfied with life	**12.8%**	12.3%	13.9%	12.6%	15.0%	23.4%	10.1%	19.0%	12.1%	11.2%	14.6%
Without Health Insurance	**4.2%**	4.2%	4.0%	4.1%	7.5%	0.9%	10.1%	6.6%	5.3%	2.1%	7.9%
Without Primary Care Physician	**11.0%**	10.5%	11.9%	10.9%	10.5%	20.7%	23.0%	11.2%	11.0%	12.0%	15.8%

Exhibit 7: Community Survey – Health Behaviors

Measure	Total	Female	Male	White	Black	Asian	Hispanic	$0 – $25k	$25 – $75k	$75k+	No High School Diploma
Total Number of Responses	**8,885**	5,694	3,137	8,487	133	111	148	1,480	3,659	3,328	329
Smoked cigarettes or used other tobacco	**9.9%**	8.8%	12.0%	9.9%	8.3%	1.8%	9.5%	17.9%	11.3%	5.6%	20.4%
Physically active on regular basis	**52.9%**	50.3%	57.9%	52.8%	45.1%	54.1%	52.7%	37.3%	51.0%	62.3%	37.7%
Ate a healthy balanced diet	**57.5%**	57.9%	57.0%	57.6%	41.4%	62.2%	59.5%	42.2%	54.7%	67.6%	34.0%
Got plenty of sleep	**56.2%**	55.5%	57.8%	56.8%	39.1%	36.9%	46.6%	46.8%	57.1%	59.7%	43.2%
Took an opioid or narcotic that was prescribed to me	**8.3%**	8.9%	7.4%	8.4%	7.5%	0.0%	2.7%	15.3%	9.0%	5.0%	12.8%
Took an opioid or narcotic that was not prescribed to me	**0.6%**	0.6%	0.4%	0.5%	0.0%	0.9%	0.0%	1.2%	0.5%	0.4%	0.0%
Took a medication for anxiety, depression, or other mental health challenge that was prescribed to me	18.2%	22.9%	9.6%	18.4%	15.8%	4.5%	10.8%	26.4%	17.4%	16.0%	19.8%

Exhibit 7: Community Survey – Health Behaviors (continued)

Measure	Total	Female	Male	White	Black	Asian	Hispanic	$0 – $25k	$25 – $75k	$75k+	No High School Diploma
Had blood pressure checked	48.0%	46.4%	50.9%	48.3%	38.3%	32.4%	31.8%	53.7%	52.1%	40.8%	52.0%
Drank alcohol to the point of intoxication	6.1%	4.8%	8.5%	6.1%	7.5%	1.8%	12.2%	2.9%	5.5%	8.9%	1.8%
Drove while under the influence of alcohol or drugs	1.0%	0.7%	1.6%	1.1%	0.0%	0.0%	0.7%	1.0%	1.1%	1.1%	0.3%
Took steps to reduce level of stress	27.9%	32.2%	20.2%	27.8%	33.8%	25.2%	27.7%	24.1%	24.1%	34.5%	20.4%

OTHER FACILITIES AND RESOURCES IN THE COMMUNITY

This section identifies other facilities and resources available in the community served by IU Health Ball Memorial Hospital 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 currently are 14 FQHC sites operating in the IU Health Ball Memorial Hospital community (**Exhibit 8**).

Exhibit 8: Federally Qualified Health Centers, 2018

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, North Tillotson (Muncie)
Delaware	MeridianMD (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	MeridianMD Convenience Care (Portland)

Source: HRSA, 2018

Hospitals

Five hospitals (including IU Health Ball Memorial Hospital) are located in the community **(Exhibit 9)**.

Exhibit 9: Hospitals, 2018

County	Facility
Delaware	Central Indiana AMG Specialty Hospital LLC (Muncie)
Delaware	Indiana University Health Ball Memorial Hospital (Muncie)
Delaware	Meridian Services Corp (Muncie)
Jay	Indiana University Health Jay Hospital (Portland)
Randolph	St Vincent Randolph Hospital Inc. (Winchester)

Source: Indiana State Department of Health, 2018

Local Health Departments (LHDs)

Exhibit 10 presents information on local health departments (LHDs) that provide services in the IU Health Ball Memorial Hospital community.

Exhibit 10: Local Health Departments, 2018

County	Facility
Delaware	Delaware County Health Dept. (Muncie)
Jay	Jay County Health Dept. (Portland)
Randolph	Randolph County Health Dept. (Winchester)

Source: Indiana State Department of Health, 2018

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 Memorial Hospital. Indiana 211 Partnership, Inc. is a nonprofit 501(c) 3 organization that provides the Indiana 2-1-1 information and referral service. By calling 2-1-1 or (866) 211-9966 (available 24/7), individuals receive referrals to service providers 24 hours a day. Individuals also can search for services using the organization's website, https://www.in211.org/.

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

- Housing and utilities
- Food, clothing, and household items
- Summer food programs
- Health care 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

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.[4] 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.

Federal regulations allow hospital facilities to define the community they serve based on "all of the relevant facts and circumstances," including the "geographic location"

[4] *Internal Revenue Code, Section 501(r).*

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).[5]

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

Data from multiple sources were gathered and assessed, including secondary data[6] 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 five data sources:

- Secondary data[7] 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,
- Input obtained from individuals who were interviewed, and
- A community survey conducted in collaboration with other Indiana health systems.

Collaborating Organizations

For this assessment, IU Health Ball Memorial Hospital collaborated with all IU Health hospitals and also with other Indiana health systems on the community survey.

Data Sources

Community health needs were identified by collecting and analyzing data from multiple sources. Statistics for numerous community health status, health care access, and related indicators were analyzed, including data provided by local, state, and federal government agencies, local community service organizations, and Indiana University 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 key informant interviews. Interviewees 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.

Community Survey Methodology

To inform the CHNA, a community survey was conducted. The survey was sponsored by a cooperative of Indiana hospital systems, under contract with the University of Evansville and the Indiana University School of Public Health-Bloomington. Researchers from Indiana University and University of Evansville contracted with the Center for Survey Research at Indiana University to administer the survey.

The survey was conducted in two phases, with Phase 1 conducted as a paper survey mailed to an address-based sample, and Phase 2 administered by some of the hospitals to a convenience sample they selected. IU Health participated in Phase 1.

A questionnaire was developed, with input provided by the Indiana hospital systems, and included a number of questions about general health status, access and utilization of services, personal behaviors, social determinants of health, and also respondent demographic information (e.g., ZIP code, income level, employment status, race and ethnicity, household size, gender, and age). The survey was mailed to approximately 82,000 households, and the "field period" was April 2, 2018 through June 29, 2018. The process included two mailings to each address; a postcard mailing also took place to encourage responses.

Overall, 9,161 completed questionnaires were received by all participating hospitals in the Indiana Hospital Collaborative, for an overall response rate of 11.6 percent; 5,030 questionnaires were received from the 17 Indiana counties served by one or more IU Health hospitals. A dataset was created from the IU Health survey responses, and the responses were adjusted for two factors:

- The number of adults in each household (i.e., a survey from a household with two adults received a base weight of "2" and a survey from a household with one adult received a base weight of "1").
- A post-stratification adjustment designed to make the results more representative of the population in each community (i.e., female and older adults were overrepresented among survey respondents when

[5] *501(r) Final Rule, 2014.*

[6] *"Secondary data" refers to data published by others, for example the U.S. Census and the Indiana State Department of Health. "Primary data" refers to data observed or collected from first-hand experience, for example by conducting interviews.*

[7] *"Secondary data" refers to data published by others, for example the U.S. Census and the Indiana State Department of Health.*

compared to census data, and the adjustment made corrections).

For the IU Health Ball Memorial Hospital community, surveys were received from 851 community households. According to the responses, these households included 1,587 adults.

Information Gaps

This CHNA relies on multiple data sources and community input gathered between February 2018 and August 2018. A number of data limitations should be recognized when interpreting results. For example, some data (e.g., County Health Rankings, Community Health Status Indicators, mortality data, and others) exist only at a county-wide level of detail. Those data sources do not allow assessing 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.

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.

APPENDIX B – SECONDARY DATA ASSESSMENT

This section presents an assessment of secondary data regarding health needs in the IU Health Ball Memorial Hospital community. IU Health Ball Memorial Hospital's community is comprised of Delaware, Jay, and Randolph Counties, Indiana.

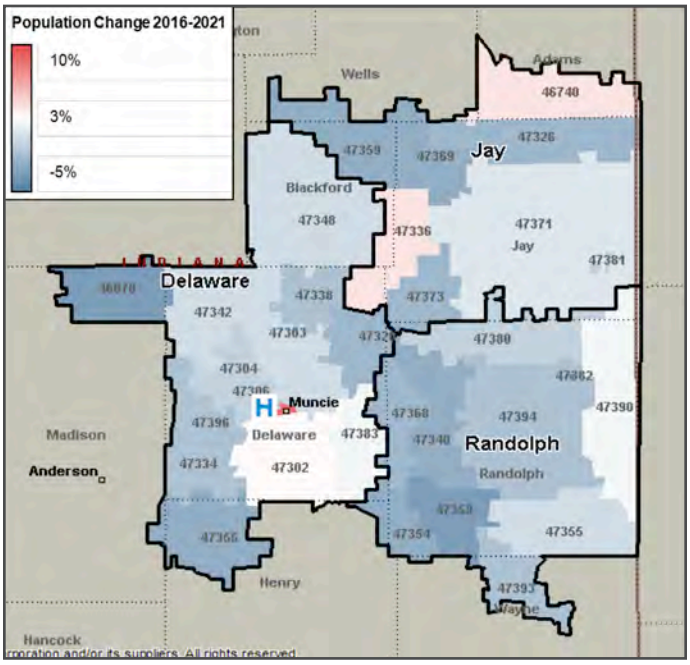
Demographics

Exhibit 11A: Percent Change in Community Population by County, 2015-2020

County	Estimated Population 2015	Estimated Population 2020	Percent Change 2015-2020
Delaware County	116,019	114,142	-1.6%
Jay County	21,155	21,149	0.0%
Randolph County	25,133	24,249	-3.5%
Total Community	**162,307**	**159,540**	**-1.7%**
Indiana Total	6,612,768	6,738,573	1.9%

Source: State of Indiana by the Indiana Business Research Center, March 2018

Exhibit 11B: Percent Change in Community Population by ZIP Code, 2016-2021



Source: State of Indiana by the Indiana Business Research Center, March 2018

Description
Exhibit 11A shows the total population for each county in 2015 and projections to 2020. Exhibit 11B maps the percent change in population by ZIP code between 2016 and 2021 for each ZIP code in the community.

Observations
- A decrease in population is projected for the IU Health Ball Memorial Hospital community between 2015 and 2020.

Exhibit 12: Percent Change in Population by Age/Sex Cohort, 2015-2020

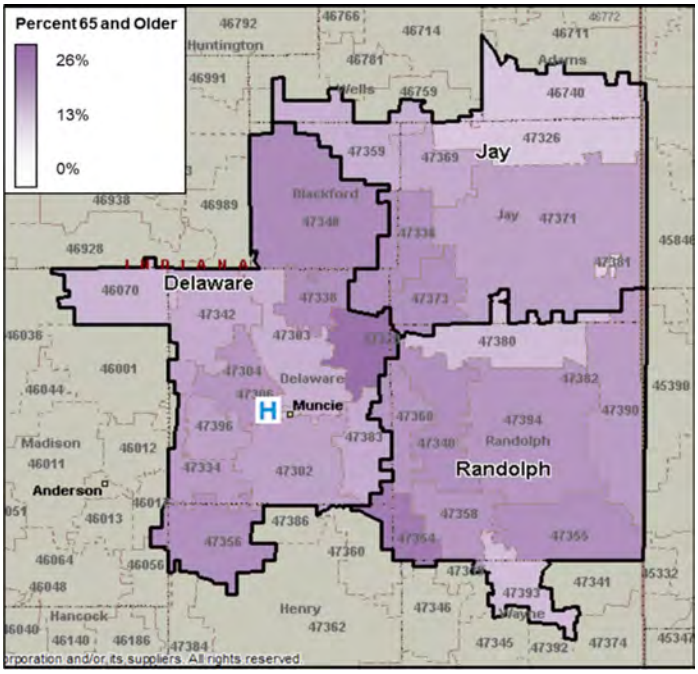
Age/Sex Cohort	Estimated Population 2015	Projected Population 2020	Percent Change 2015-2020
Delaware County	**116,019**	**114,142**	**-1.6%**
0-17	24,087	23,425	-2.7%
Male, 18-44	22,440	21,891	-2.4%
Female, 18-44	23,206	22,341	-3.7%
45-64	27,351	26,098	-4.6%
65+	18,935	20,387	7.7%
Jay County	**21,155**	**21,149**	**0.0%**
0-17	5,416	5,413	-0.1%
Male, 18-44	3,323	3,272	-1.5%
Female, 18-44	3,282	3,231	-1.6%
45-64	5,628	5,438	-3.4%
65+	3,506	3,795	8.2%
Randolph County	**25,133**	**24,249**	**-3.5%**
0-17	5,784	5,454	-5.7%
Male, 18-44	3,837	3,567	-7.0%
Female, 18-44	3,796	3,601	-5.1%
45-64	6,932	6,524	-5.9%
65+	4,784	5,103	6.7%
Total Community	**162,307**	**159,540**	**-1.7%**
0-17	35,287	34,292	-2.8%
Male, 18-44	29,600	28,730	-2.9%
Female, 18-44	30,284	29,173	-3.7%
45-64	39,911	38,060	-4.6%
65+	27,225	29,285	7.6%
Indiana State	**6,612,768**	**6,738,573**	**1.9%**
0-17	1,578,079	1,571,356	-0.4%
Male, 18-44	1,178,486	1,187,607	0.8%
Female, 18-44	1,160,314	1,169,877	0.8%
45-64	1,729,765	1,695,267	-2.0%
65+	966,124	1,114,466	15.4%

Source: State of Indiana by the Indiana Business Research Center, March 2018

Description
Exhibit 12 shows the community's population for certain age and sex cohorts in 2015, with projections to 2020.

Observations
- The number of persons aged 65 years and older is projected to increase by 7.6 percent between 2015 and 2020.
- 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 13: Percent of Population Aged 65+ by ZIP Code, 2015

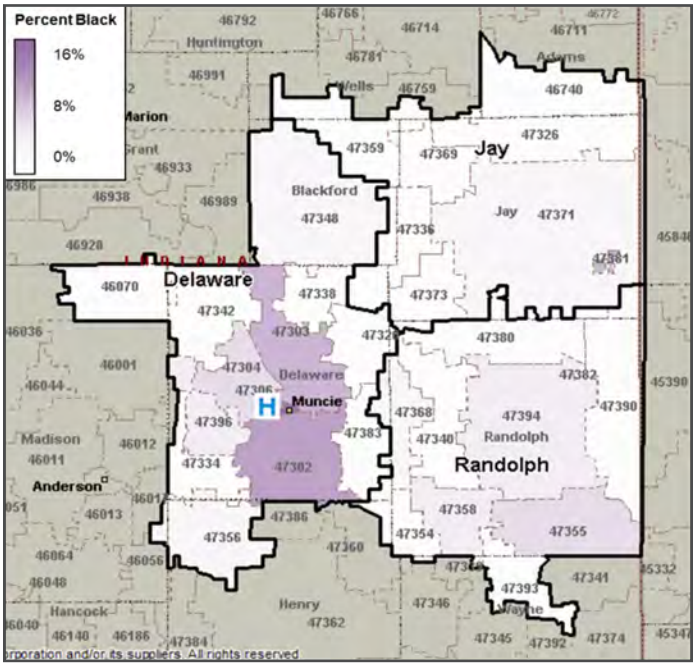


Source: U.S. Census ACS 2016 5-year estimates and Microsoft MapPoint

Description
Exhibit 13 portrays the percent of the population 65 years of age and older in the community by ZIP code.

Observations
- ZIP code 47306 has the highest proportion of the population aged 65 and older in the community, above five percent

Exhibit 14: Percent of Population – Black, 2015



Source: U.S. Census ACS 2016 5-year estimates and Microsoft MapPoint

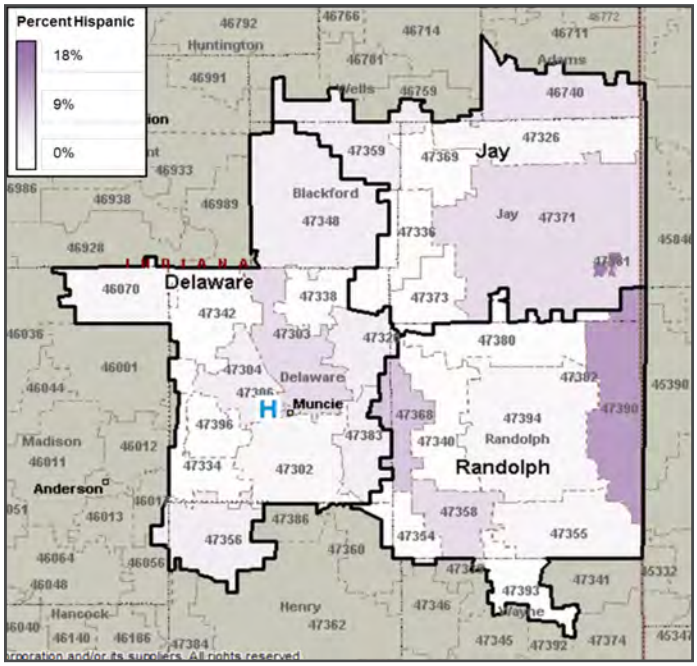
Description

Exhibit 14 portrays locations where the percentages of the population that are Black were highest in 2015.

Observations

- Delaware County had two ZIP codes that had over ten percent of the population that was Black in 2015 (47302 and 47305).

Exhibit 15: Percent of Population – Hispanic (or Latino), 2015



Source: U.S. Census ACS 2016 5-year estimates and Microsoft MapPoint

Description

Exhibit 15 portrays locations in the community where the percentages of the population that are Hispanic (or Latino) were highest in 2015. The diversity of the community is important to recognize given the presence of health disparities and barriers to health care access experienced by different racial and ethnic groups.

Observations

- The percentage of residents that are Hispanic (or Latino) was highest in Jay County ZIP code 46952 (16.5 percent) and Randolph ZIP code (12.3 percent).

Exhibit 16: Other Socioeconomic Indicators, 2012-2016

Measure	Delaware County	Jay County	Randolph County	Indiana	United States
Population 25+ without High School Diploma	10.5%	15.9%	13.6%	11.9%	13.0%
Population with a Disability	16.5%	16.1%	16.1%	13.6%	12.5%
Population Linguistically Isolated	0.9%	1.4%	1.5%	3.2%	8.5%

Source: U.S. Census, ACS 5-Year Estimates, 2017

Description

Exhibit 16 portrays the percent of the population (aged

25 years and above) without a high school diploma, with a disability, and linguistically isolated, by county.

Observations

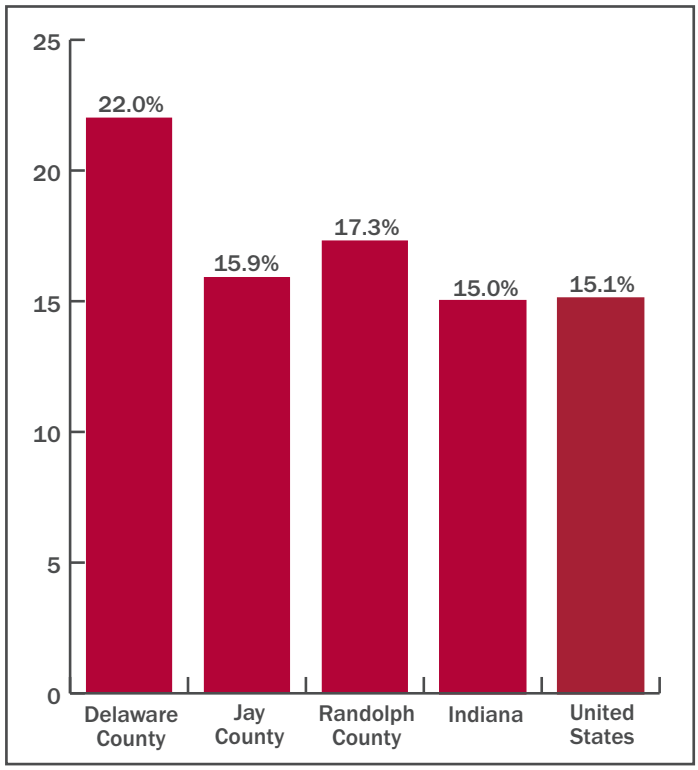
- Jay and Randolph Counties had a higher percentage of residents aged 25 and older without a high school diploma than the Indiana and U.S. averages.
- Delaware, Jay, and Randolph Counties had a higher percentage of residents with a disability than both the Indiana and U.S. averages.

Economic Indicators

The following economic indicators with implications for health were assessed: (1) people in poverty; (2) unemployment rates; (3) insurance status; and (4) crime rates.

People in Poverty

Exhibit 17: Percent of People in Poverty, 2012-2016



Source: U.S. Census, ACS 5-Year Estimates, 2017

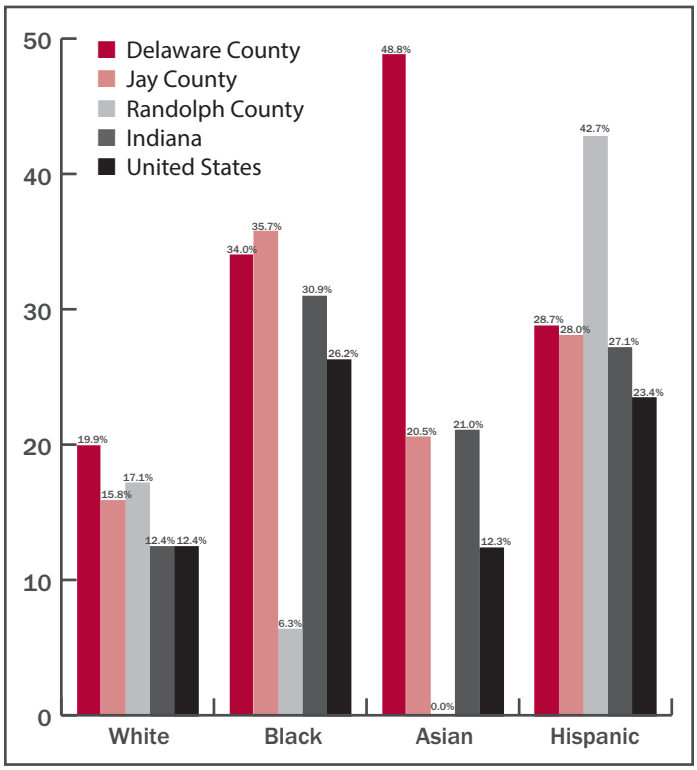
Description

Exhibit 17 portrays poverty rates by county.

Observations

- The poverty rates in Delaware, Jay, and Randolph Counties were above both Indiana and national averages from 2012-2016.

Exhibit 18: Poverty Rates by Race and Ethnicity, 2012-2016



Source: U.S. Census, ACS 5-Year Estimates, 2017

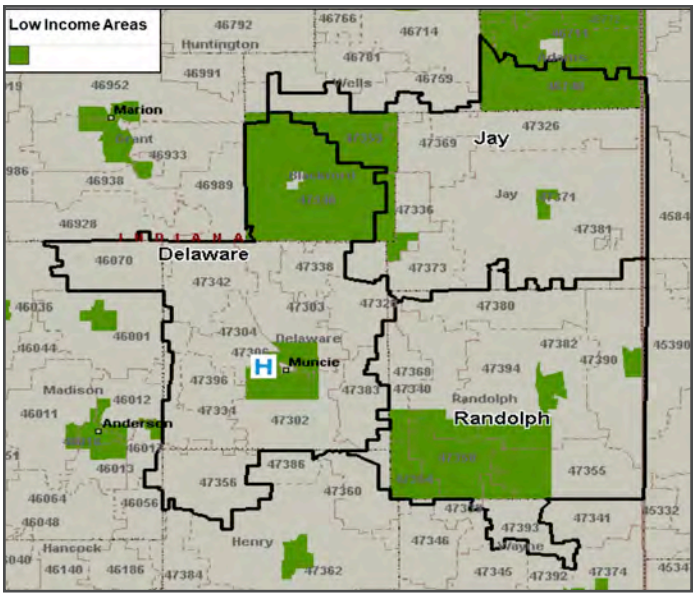
Description

Exhibit 18 portrays poverty rates 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 Delaware County, and Hispanic (or Latino) residents of Randolph County

Exhibit 19: Low Income Census Tracts, 2017



Source: US Department of Agriculture Economic Research Service, ESRI, 2017

Description

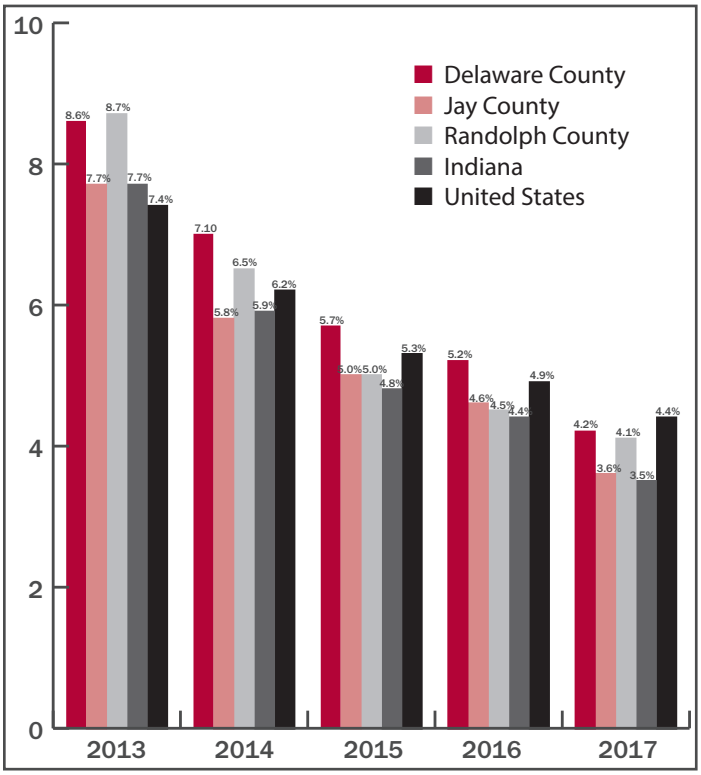
Exhibit 19 portrays the location of federally-designated low income census tracts.

Observations

- Low income census tracts are present throughout areas of the IU Health Ball Memorial Hospital community.

Unemployment

Exhibit 20: Unemployment Rates, 2013-2017



Source: Bureau of Labor Statistics, 2018

Description

Exhibit 20 shows unemployment rates for 2013 through 2017 for the IU Health Ball Memorial Hospital community, with Indiana and national rates for comparison.

Observations

- Between 2013 and 2017, unemployment rates at the local, state, and national levels declined.
- IU Health Ball Memorial Hospital community's unemployment rates have been above Indiana averages in recent years.

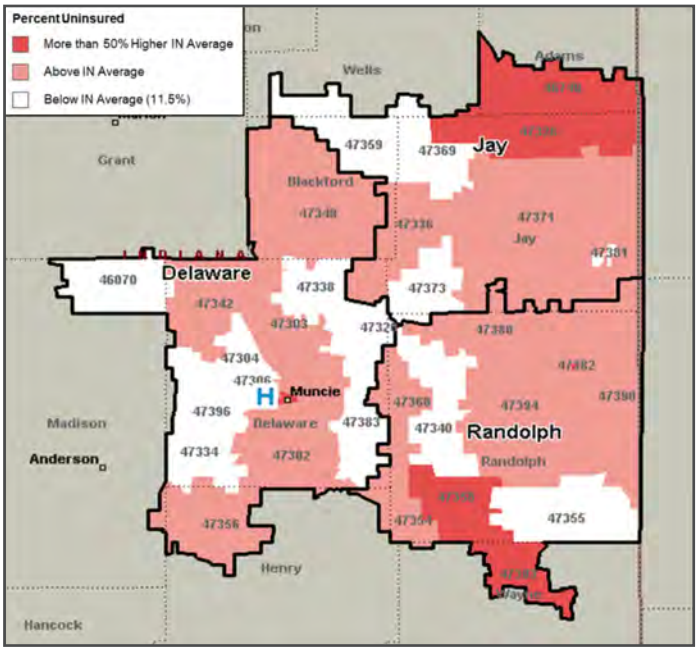
Insurance Status

Exhibit 21A: Percent of the Population without Health Insurance, 2015-2020

County	Population	Population Uninsured	Percent Uninsured
Delaware County	115,036	12,849	11.2%
Jay County	20,985	2,535	12.1%
Randolph County	25,042	3,471	13.9%
Total Community	**161,063**	**18,855**	**11.7%**
Indiana	**6,490,256**	**747,942**	**11.5%**
United States	313,576,137	36,700,246	11.7%

Source: U.S. Census, ACS 5-Year Estimates, 2017

Exhibit 21B: Percent of the Population without Health Insurance, 2015-2020



Source: U.S. Census, ACS 5-Year Estimates, 2017

Description

Exhibit 21A presents the estimated percent of people uninsured by county in 2015, with a projection to 2020. Exhibit 21B maps the 2015 uninsured rates by ZIP code.

Observations

- The uninsured rates in one Delaware County ZIP code (47305), two Jay County ZIP codes (46740 and 47326), and three Randolph County ZIP codes (47358, 47382, and 47393) were significantly higher than the Indiana average.
- Subsequent to the ACA'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 United States, uninsured rates have fallen most in states that decided to expand Medicaid.[8]

Crime

Exhibit 22: Crime Rates by Type and Jurisdiction, Per 100,000, 2016

Indicator	Delaware	Jay	Randolph (Data N/A)	Indiana
Violent crime	36.9	23.6	–	407.4
Murder	2.6	–	–	6.7
Rape (revised definition)	–	–	–	38.0
Rape (legacy definition)	1.7	4.7	–	28.1
Robbery	1.7	–	–	111.2
Aggravated assault	30.9	18.9	–	251.5
Property crime	358.1	268.9	–	2,606.5
Burglary	127.9	23.6	–	517.4
Larceny – theft	199.2	202.9	–	1,865.5
Motorvehicle theft	30.9	42.5	–	223.5

Source: Federal Bureau of Investigation, 2017

Description

Exhibit 22 provides crime statistics.

Observations

- Crime rates for the Delaware and Jay Counties were below Indiana averages for all indicators.

Local Health Status and Access Indicators

This section assesses health status and access indicators for the IU Health Ball Memorial Hospital community. Data sources include: (1) County Health Rankings, (2) the Indiana State Department of Health, and (3) the CDC's Behavioral Risk Factor Surveillance System.

Throughout this section, data and cells are highlighted if indicators are unfavorable – because they exceed benchmarks (e.g., Indiana, peer group, or U.S. averages). Where confidence interval data are available, cells are highlighted only if variances are unfavorable and statistically significant.

[8] *See: http://hrms.urban.org/briefs/Increase-in-Medicaid-under-the-ACA-reduces-uninsurance.html*

Exhibit 23: County Health Rankings, 2015 and 2018

Measure	Delaware County 2015	Delaware County 2018	Jay County 2015	Jay County 2018	Randolph County 2015	Randolph County 2018
Health Outcomes	84	85	77	84	59	78
Health Factors	58	55	56	54	65	63
Length of Life	73	71	71	82	39	76
Premature death	73	71	71	82	39	76
Quality of Life	89	88	76	81	78	80
Poor or fair health	71	73	74	81	71	55
Poor physical health days	76	78	55	82	82	59
Poor mental health days	82	87	55	80	38	82
Low birthweight	87	91	79	79	71	87
Health Behaviors	67	46	76	74	65	65
Adult smoking	58	48	61	72	42	60
Adult obesity	63	27	80	58	57	84
Food environment index	85	87	72	73	78	69
Physical inactivity	62	35	88	72	90	49
Access to exercise opportunities	18	16	90	88	89	84
Excessive drinking	17	29	6	8	49	6
Alcohol-impaired driving deaths	64	37	79	70	29	20
Sexually transmitted infections	90	89	28	41	40	50
Teen births	7	9	52	58	67	70
Clinical Care	13	12	67	42	69	49
Uninsured	56	47	54	52	73	60
Primary care physicians	7	4	76	72	81	81
Dentists	14	17	61	63	79	64
Mental health providers	3	2	41	27	85	76
Preventable hospital stays	22	46	67	27	66	38
Diabetes monitoring	52	16	76	67	36	44
Mammography screening	20	20	35	45	27	21
Social & Economic Factors	72	70	43	53	62	60
High school graduation	22	24	11	14	40	23
Some college	16	14	86	84	39	40
Unemployment	74	76	28	54	70	50
Children in poverty	81	85	78	71	75	81
Income inequality	87	89	26	26	60	66
Children in single-parent households	85	79	54	50	73	82
Social associations	44	46	2	3	8	6
Violent crime	65	55	22	27	3	1
Injury deaths	17	44	38	40	18	83
Physical Environment	42	44	23	12	30	81
Air pollution	37	32	37	57	34	57
Severe housing problems	86	88	37	25	52	37
Driving alone to work	13	10	45	16	37	37
Long commute - driving alone	11	15	20	16	50	44

Source: County Health Rankings, 2018

Description

Exhibit 23 presents *County Health Rankings*, a University of Wisconsin Population Health Institute initiative funded by the Robert Wood Johnson Foundation that 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." Indicators and composites are grouped into the following categories: health behaviors, clinical care,[9] social and economic factors, and physical environment.[10] *County Health Rankings* is updated annually. *County Health Rankings 2018* relies on data from 2006 to 2017, with most data from 2011 to 2016.

The exhibit presents 2015 and 2018 rankings for each available indicator category. Rankings indicate how the county ranked among all 92 counties in the 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 bottom quartile of Indiana counties.

Observations

- Delaware County had 23 out of 42 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 birth weight, food environment index, sexually transmitted infections, social & economic factors, unemployment, children in poverty, income equality, children in single-parent households, and severe housing problems.
- Jay County had 28 out of 42 indicators ranked in the bottom half of Indiana counties. Of those, 18 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 birth weight, health behaviors, adult smoking, food environment index, physical inactivity, access to exercise opportunities, alcohol-impaired driving deaths, primary care physicians, diabetes monitoring, some college, and children in poverty
- Randolph County had 30 out of 42 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 mental health days, low birth weight, adult obesity, food environment index, access to exercise opportunities, teen births, primary care physicians, mental health providers, children in poverty, children in single-parent households, injury deaths, and physical environment.

[9] *A composite measure of Access to Care, which includes the percent of the population without health insurance and ratio of population to primary care physicians, and of Quality of Care, which includes the hospitalization rate for ambulatory care sensitive conditions, whether diabetic Medicare patients are receiving HbA1C screening, and percent of chronically ill Medicare enrollees in hospice care in the last 8 months of life.*

[10] *A composite measure that examines Environmental Quality, which includes the number of air pollution-particulate matter days and air pollution-ozone days, and Built Environment, which includes access to healthy food and recreational facilities and the percent of restaurants that are fast food.*

Exhibit 24: County Health Rankings Data Compared to Indiana and U.S. Averages, 2018

Indicator Category	Indicator	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)	9,108	9,592	9,191	**7,794**	6,700
Quality of life	Percentage of adults reporting fair or poor health (age-adjusted)	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	4.2	3.9	**3.9**	3.7
Quality of life	Average number of mentally unhealthy days reported in past 30 days (age-adjusted)	4.5	4.3	4.4	**4.3**	3.8
Quality of life	Percentage of live births with low birthweight (< 2500 grams)	9.3	8.4	9.0	**8.0**	8.0
	Health Factors					
Health Behaviors						
Adult smoking	Percentage of adults who are current smokers	19.9	21.1	20.5	**21.1**	17.0
Adult obesity	Percentage of adults that report a BMI of 30 or more	31.4	33.6	36.3	**32.0**	28.0
Food environment index	Index of factors that contribute to a healthy food environment, 0 (worst) to 10 (best)	6.9	7.5	7.6	**7.0**	7.7
Physical inactivity	Percentage of adults age 20 and over reporting no leisure-time physical activity	28.2	31.3	29.4	**26.8**	23.0
Access to exercise opportunities	Percentage of population with adequate access to locations for physical activity	80.1	38.1	44.9	**76.6**	83.0
Excessive drinking	Percentage of adults reporting binge or heavy drinking	16.9	16.1	16.1	**18.6**	18.0
Alcohol-impaired driving deaths	Percentage of driving deaths with alcohol involvement	19.0	29.6	14.3	**22.4**	29.0
Sexually transmitted infections	Number of newly diagnosed chlamydia cases per 100,000 population	566.3	231.4	263.9	**437.9**	478.8
Teen births	Number of births per 1,000 female population ages 15-19	20.7	35.7	38.6	**30.5**	27.0
Clinical Care						
Uninsured	Percentage of population under age 65 without health insurance	11.0	11.3	11.9	**11.3**	11.0
Primary care physicians	Ratio of population to primary care physicians	1034:1	3520:1	5034:1	**1,505:1**	1,320:1
Dentists	Ratio of population to dentists	1779:1	3508:1	3583:1	**1,852:1**	1,480:1
Mental health providers	Ratio of population to mental health providers	399:1	1052:1	3583:1	**701:1**	470:1
Preventable hospital stays	Number of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	60.6	51.2	56.9	**56.8**	49.0
Diabetes monitoring	Percentage of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	88.8	83.7	86.3	**84.7**	85.0
Mammography screening	Percentage of female Medicare enrollees ages 67-69 that receive mammography screening	64.7	61.0	64.6	**62.1**	63.0
Social and Economic Environment						
High school graduation	Percentage of ninth-grade cohort that graduates in four years	93.6	95.0	93.6	**87.2**	83.0
Some college	Percentage of adults ages 25-44 with some post-secondary education	65.0	45.7	57.2	**62.0**	65.0

Exhibit 24: County Health Rankings Data Compared to Indiana and U.S. Averages, 2018 (continued)

Indicator Category	Indicator	Delaware County	Jay County	Randolph County	Indiana	U.S.
Unemployment	Percentage of population ages 16 and older unemployed but seeking work	5.2	4.6	4.5	**4.4**	4.9
Children in poverty	Percentage of children under age 18 in poverty	25.7	22.4	24.6	**19.1**	20.0
Income inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	4.9	3.7	4.1	**4.4**	5.0
Children in single-parent households	Percentage of children that live in a household headed by single parent	37.9	31.3	38.7	**33.7**	34.0
Social associations	Number of membership associations per 10,000 population	13.9	21.3	19.5	**12.3**	9.3
Violent crime	Number of reported violent crime offenses per 100,000 population	272.1	112.9	27.9	**356.2**	380.0
Injury deaths	Number of deaths due to injury per 100,000 population	71.9	70.7	92.9	**69.9**	65.0
Physical Environment						
Air pollution – particulate matter1	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	11.0	11.2	11.2	**11.1**	8.7
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	17.0	10.6	11.4	**14.0**	19.0
Driving alone to work	Percentage of the workforce that drives alone to work	80.4	80.9	82.9	**83.0**	76.0
Long commute – driving alone	Among workers who commute in their car alone, the percentage that commute more than 30 minutes	20.8	21.7	33.2	**30.5**	35.0

Source: County Health Rankings, 2018

Description

Exhibit 24 provides data for each underlying indicator of the composite categories in the County Health Rankings.[11] 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 for the IU Health Ball Memorial Hospital community:
  - Average number of mentally unhealthy days reported in the past 30 days.
  - Number of deaths due to injury per 100,000 population
  - Percentage of adults age 20 and older reporting no leisure-time physical activity
  - Percentage of children under age 18 in poverty
  - Percentage of live births with low birth weight
  - Percentage of the population ages 16 and older unemployed but seeking work
  - Years of potential life lost per 100,000 population

[11] *County Health Rankings provides details about what each indicator measures, how it is defined, and data sources at http://www.countyhealthrankings.org/sites/default/files/resources/2013Measures_datasources_years.pdf*

Exhibit 25: Community Health Status Indicators, 2018

Indicator	Delaware County	Jay County	Randolph County
Years of Potential Life Lost Rate			
% Fair/Poor Health			
Physically Unhealthy Days			
Mentally Unhealthy Days			
% Low Birth Weight			
% Smokers			
% Obese			
Food Environment Index			
% Physically Inactive			
% With Access to Exercise Opportunities			
% Excessive Drinking			
% Driving Deaths Alcohol-Impaired			
Chlamydia Rate			
Teen Birth Rate			
% Uninsured			
Primary Care Physicians Rate			
Dentist Rate			
Mental Health Professionals Rate			
Preventable Hospitalization Rate			
% Receiving HbA1c Screening			
% Receiving Mammography Screening			
High School Graduation Rate			
% Some College			
% Unemployed			
% Children in Poverty			
Income Ratio			
% Single-Parent Households			
Social Association Rate			
Violent Crime Rate			
Injury Death Rate			
Average Daily PM2.5			
% Severe Housing Problems			
% Drive Alone to Work			
% Long Commute – Drives Alone			

Source: County Health Rankings and Verité Analysis, 2018.

Description

County Health Rankings has organized community health data for all 3,143 counties in the United States. Following a methodology developed by the Centers for Disease Control's (CDC) *Community Health Status Indicators* Project (CHSI), County Health Rankings also publishes lists of "peer counties," so comparisons with peer counties in other states can be made. Each county in the U.S. is assigned 30 to 35 peer counties based on 19 variables including population size, population growth, population density, household income, unemployment, percent children, percent elderly, and poverty rates.

This *Community Health Status Indicators* analysis formerly was available from the CDC. Because comparisons with peer counties (rather than only counties in the same state) are meaningful, Verité Healthcare Consulting rebuilt the CHSI comparisons for this and other CHNAs.

Exhibit 25 compares Delaware, Jay, and Randolph Counties to their respective peer counties and highlights community health issues found to rank in the bottom half and bottom quartile of the counties included in the analysis. Light grey shading indicates rankings in the bottom half of peer counties; dark grey shading indicates rankings in the bottom quartile of peer counties.

Observations

- The CHSI data indicate that the IU Health Ball Memorial Hospital community rank unfavorably in: chlamydia rate, income ratio, mentally unhealthy days, percentage low birth weight, percentage smokers, percent with access to exercise opportunities, percent with severe housing problems, and ratio of dentists to the population.

Exhibit 26: Selected Causes of Death, Age-Adjusted Rates per 100,000 Population, 2016

Indicator	Delaware County	Jay County	Randolph County	Indiana
Major cardiovascular diseases	252.8	233.8	243.6	237.4
Diseases of heart	179.5	204.5	201.0	180.6
Cancer	184.3	233.7	158.5	172.5
All other diseases	196.3	105.1	141.5	171.3
Ischemic heart diseases	101.1	122.9	131.6	102.2
Other diseases of heart	65.3	63.4	57.4	68.3
Chronic lower respiratory diseases	80.6	73.7	37.5	54.6
All other and unspecified accidents and adverse effects	50.4	35.0	77.9	40.1
Cerebrovascular diseases (stroke)	45.4	25.8	24.3	39.5
Alzheimer's disease	25.8	42.3	22.1	34.9
Diabetes mellitus	46.3	73.2	15.1	26.0
Nephritis, nephrotic syndrome and nephrosis (kidney disease)	20.4	6.8	13.3	18.4
Intentional self-harm (suicide)	14.1	11.6	2.5	15.4
Influenza and pneumonia	16.6	4.2	20.7	12.6
Motor vehicle accidents	10.5	22.3	25.4	12.4
Chronic liver disease and cirrhosis	14.6	10.9	10.4	11.2
Hypertensive heart disease with or without renal disease	13.1	18.1	11.9	10.2
Essential hypertension and hypertensive renal disease	20.0	3.6	10.5	10.0
Assault (homicide)	7.6	0.0	5.4	7.6
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (excluding SIDS)	7.8	6.9	2.3	6.2
Other diseases of circulatory system	8.0	0.0	7.9	6.2
Certain conditions originating in the perinatal period	2.3	16.5	14.4	4.9
Congenital malformations, deformations and chromosomal abnormalities	5.6	12.3	0.0	3.9
All other external causes	2.8	0.0	2.3	2.6
Atherosclerosis	0.0	0.0	0.0	1.1
Pregnancy, childbirth and the puerperium	1.4	5.9	0.0	0.8
Sudden infant death syndrome (SIDS)	1.1	0.0	0.0	0.7
Peptic ulcer	1.2	0.0	0.0	0.5

Source: Indiana State Department of Health, 2017

Description

Exhibit 26 provides age-adjusted mortality rates for selected causes of death in 2016. 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.

Observations

- Mortality rates for major cardiovascular diseases, cancer, all other diseases, chronic lower respiratory diseases, all other unspecified accidents and adverse effects, cerebrovascular diseases (stroke), nephritis, influenza and pneumonia, chronic liver disease, hypertension, assault (homicide), symptoms, signs and abnormal laboratory findings, not elsewhere classified (excluding SIDS), other diseases of the circulatory system, congenital malformations, and all other external causes were higher than the Indiana averages for Delaware County. Mortality rates in Delaware County were more than 50 percent higher for diabetes mellitus, essential hypertension, pregnancy, childbirth and the puerperium, sudden infant death syndrome, and peptic ulcer than the state averages.
- Mortality rates for diseases of the heart, cancer, ischemic heart disease, chronic lower respiratory diseases, Alzheimer's disease, and symptoms, signs and abnormal laboratory findings, not elsewhere classified (excluding SIDS) were higher than the Indiana averages for Jay County. Mortality rates in Jay County were more than 50 percent higher for diabetes mellitus, motor vehicle accidents, hypertensive heart disease with or without renal disease, certain conditions originating in the

perinatal period, congenital malformations, and pregnancy, childbirth and the puerperium.

- Mortality rates for major cardiovascular diseases, diseases of the heart, ischemic heart disease, hypertensive heart disease with or without renal disease, and other diseases of the circulatory system were higher than the Indiana averages for Randolph County. Mortality rates in Randolph County were 50 percent higher for all other and unspecified accidents and adverse effects, influenza and pneumonia, motor vehicle accidents, and certain conditions originating in the perinatal period.

Exhibit 27: Age-Adjusted Cancer Mortality Rates per 100,000 Population, 2016

Indicator	Delaware County	Jay County	Randolph County	Indiana
All Cancers	184.3	233.7	158.5	**172.5**
Stomach	0.6	0.0	4.0	**2.7**
Colon, rectum and anus	12.8	40.4	8.4	**14.9**
Pancreas	10.3	14.2	10.1	**11.9**
Trachea, bronchus and lung	62.8	63.8	47.0	**49.2**
Breast	10.5	21.1	12.0	**11.6**
Cervix uteri, corpus uteri and ovary	9.8	11.6	10.3	**8.2**
Prostate	7.0	10.1	2.3	**7.6**
Urinary tract	10.4	3.2	5.4	**8.8**
Non-Hodgkin's lymphoma	9.9	12.2	0.0	**6.4**
Leukemia	4.4	4.2	7.7	**6.7**
Other forms of cancer	45.8	53.0	51.3	**44.6**

Source: Indiana State Department of Health, 2017

Description

Exhibit 27 provides age-adjusted mortality rates for selected forms of cancer in 2016. 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

- Cancer mortality rates in Delaware County exceeded the state averages for all cancers, trachea bronchus and lung, cervix uteri, corpus uteri, and ovary, urinary tract, and other forms of cancer. Cancer mortality rates were more than 50 percent higher than the state average for non-Hodgkin's lymphoma.
- Cancer mortality rates in Jay County exceeded the state averages for all cancers, pancreas, trachea, bronchus, and lung, cervix uteri, corpus uteri, and ovary, prostate, and other forms of cancer. Cancer mortality rates were more than 50 percent higher than the state averages for colon, breast, and non-Hodgkin's lymphoma.
- Cancer mortality rates in Randolph County exceeded the state averages for breast, cervix uteri, corpus uteri and ovary, leukemia, and other forms of cancer. Cancer mortality rates were more than 50 percent higher than the state average for stomach cancer.

Exhibit 28: Age-Adjusted Cancer Incidence Rates per 100,000 Population, 2010-2014

Indicator	Delaware County	Jay County	Randolph County	Indiana
All cancers	449.8	463.5	456.3	**445.2**
Breast	107.4	112.9	109.2	**120.1**
Prostate	112.7	96.9	120.9	**95.7**
Lung and bronchus	77.2	64.4	72.8	**72.8**
Colon and rectum	39.3	63.9	38.6	**43.2**
Uterus	19.5	28.6	27.9	**27.0**
Bladder	22.3	25.3	17.9	**21.0**
non-Hodgkin lymphoma	15.7	18.9	25.4	**19.0**
Melanoma of the skin	20.0	21.3	17.8	**18.1**
Kidney and renal pelvis	14.7	16.1	13.3	**17.8**
Leukemia	14.0	14.3	24.3	**13.2**
Pancreas	13.6	16.1	12.9	**12.7**
Thyroid	14.8	N/A	14.9	**11.8**
Oral cavity and pharynx	11.7	11.5	11.2	**11.7**
Ovary	13.5	N/A	N/A	**11.1**
Cervix	12.3	N/A	N/A	**7.6**
Brain and ONS	7.0	N/A	N/A	**6.9**
Liver and bile duct	5.5	N/A	N/A	**6.5**
Stomach	4.7	N/A	N/A	**5.7**
Esophagus	5.0	N/A	N/A	**5.4**

Source: Centers for Disease Control and Prevention, 2014.

Description

Exhibit 28 presents age-adjusted cancer incidence rates in the community. Light grey shading highlights indicators worse than Indiana averages; dark grey shading highlights indicators more than 50 percent worse than the Indiana average.

Observations

- Cancer incidence rates in Delaware County exceeds the Indiana averages for all cancers, prostate, lung and bronchus, bladder, melanoma, leukemia, pancreas, thyroid, ovary, and brain. Cancer incidence rates were more than 50 percent higher than the state average for cervical cancer.
- Cancer incidence rates in Jay County exceeded the Indiana averages for all cancers, prostate, colon, uterus, bladder, melanoma, leukemia, and pancreas.
- Cancer incidence rates in Randolph County exceeded the Indiana averages for all cancers, prostate, uterus, non-Hodgkin's lymphoma, pancreas, and thyroid. Cancer incidence rates were more than 50 percent higher than the state average for leukemia.

Exhibit 29: Communicable Disease Incidence Rates per 100,000 Population, 2016

Indicator	Delaware County	Jay County	Randolph County	Indiana
HIV/AIDS*	103.0	58.0	94.0	**188.0**
Chlamydia	580.9	236.4	290.5	**465.0**
Gonorrhea	206.9	N/A	43.8	**142.5**
Primary and Secondary Syphilis	5.1	0.0	N/A	**5.0**

**Note: Data from 2014*
Source: Indiana State Department of Health, 2016.

Description

Exhibit 29 presents incidence rates for various communicable diseases. Light grey shading highlights indicators worse than Indiana averages; dark grey shading highlights indicators more than 50 percent worse than Indiana averages, if any.

Observations

- Delaware County had higher communicable disease rates than the Indiana averages for all communicable diseases except HIV/AIDS in 2016.

Exhibit 30: Maternal and Child Health Indicators, 2011-2015

Indicator	Delaware County	Jay County	Randolph County	Indiana
Infant Mortality Rate (per 1,000 Live Births)	8.4	12.3	4.6	7.2
Low Birthweight Percent	9.7%	8.7%	8.9%	8.0%
Preterm Births Percent	11.2%	9.8%	12.6%	9.7%
Early Prenatal Care Percent	78.0%	60.8%	75.3%	68.1%
Smoked During Pregnancy Percent	23.0%	20.5%	23.4%	15.6%
Unmarried Mothers Percent	52.1%	37.0%	48.1%	43.2%
Breastfeeding Percent	71.9%	76.9%	71.0%	77.4%
Mother on Medicaid Percent	55.2%	39.4%	53.7%	44.3%
Teen Birth Rate (15-17)	14.8	15.6	15.7	13.6
Teen Birth Rate (15-19)	21.0	35.0	38.3	30.4

Source: Indiana Department of Health, 2016

Description

Exhibit 30 presents various maternal and infant health indicators. Light grey shading highlights indicators worse than Indiana averages; dark grey shading highlights indicators more than 50 percent worse than Indiana averages, if any.

Observations

- In Delaware County, all Maternal and Child Health indicators were higher than the Indiana averages in 2016, except percentage who sought early prenatal care and teen birth rate (15-19).
- In Jay County, all Maternal and Child Health indicators were higher than the Indiana averages in 2016, except percent of mothers who were unmarried and percent of mothers on Medicaid. The infant mortality rate in Jay County was more than 50 percent higher than the Indiana average.
- In Randolph County, all Maternal and Child Health indicators were higher than the Indiana averages in 2016, except the infant mortality rate and the percentage who sought early prenatal care.

Behavioral Risk Factor Surveillance System

Exhibit 31A: Behavioral Risk Factor Surveillance System, Indiana Data by Race/Ethnicity, 2016

Indicator	White	Black	Hispanic	Indiana
Current Smokers	21.0%	23.0%	17.8%	21.1%
Adults without Health Care Coverage	10.8%	17.1%	39.4%	13.6%
Obese (based on BMI)	32.1%	42.1%	26.8%	32.5%
Diabetes	11.4%	16.2%	8.8%	11.5%
Angina or Coronary Heart Disease	5.1%	4.2%	2.2%	4.9%
No Physical Activity in Past Month	26.3%	27.5%	32.9%	26.8%
Asthma	9.8%	15.9%	6.3%	10.2%

Source: Behavioral Risk Factor Surveillance System, 2016

Exhibit 31B: Behavioral Risk Factor Surveillance System, Income, 2016

Indicator	<$15,000	$15-$24,999	$25-$49,999	$50-$74,999	≥$75,000	No High School Diploma	Indiana
Current Smokers	38.5%	30.0%	25.3%	16.6%	10.3%	38.1%	**21.1%**
Adults without Health Care Coverage	23.7%	25.3%	16.3%	7.6%	3.6%	33.1%	**13.6%**
Obese (based on BMI)	36.5%	35.3%	34.1%	34.6%	28.7%	34.0%	**32.5%**
Diabetes	18.7%	17.4%	11.9%	9.3%	6.5%	15.4%	**11.5%**
Angina or Coronary Heart Disease	8.3%	6.5%	5.1%	3.0%	3.0%	6.3%	**4.9%**
No Physical Activity in Past Month	42.5%	38.0%	28.6%	20.8%	13.7%	41.2%	**26.8%**
Asthma	20.4%	12.6%	9.5%	7.5%	7.1%	15.6%	**10.2%**

Source: Behavioral Risk Factor Surveillance System, 2016

Description

The Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) gathers data through a telephone survey regarding health risk behaviors, healthcare access, and preventive health measures. Data are 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 31A and 31B 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 Whites (and for lower-income residents than for those with higher incomes). Hispanic (or Latino) residents have experienced higher uninsured and physical inactivity rates.
- BRFSS indicators for residents without a high school diploma were worse than average for all indicators presented.

Ambulatory Care Sensitive Conditions

Exhibit 32: PQI (ACSC) Rates per 100,000, 2017

County	Diabetes Short-Term Complications	Perforated Appendix	Diabetes Long-Term Complications	Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults	Hypertension	Heart Failure	Low Birth Weight
Delaware County	58.3	567.6	131.5	1,006.0	180.7	602.7	7,038.4
Jay County	80.8	777.8	167.8	1,034.7	87.0	422.6	5,000.0
Randolph County	67.0	666.7	128.8	703.2	118.5	484.1	5,226.5
Ball Memorial Community	**62.6**	**623.0**	**135.8**	**957.4**	**158.6**	**560.4**	**6,415.8**
Indiana	**59.0**	**632.7**	**110.2**	**664.1**	**63.3**	**434.8**	**6,174.2**
United States	68.9	351.4	101.6	480.9	49.2	321.6	N/A

Source: IU Health, 2018 - Note: Rates are not age-sex adjusted

Exhibit 32: PQI (ACSC) Rates per 100,000, 2017 (continued)

County	Dehydration	Community-Acquired Pneumonia	Urinary Tract Infection	Uncontrolled Diabetes	Asthma in Younger Adults	Lower-Extremity Amputation Among Patients with Diabetes
Delaware County	162.4	186.4	203.6	70.9	71.7	100.4
Jay County	111.9	372.9	223.7	62.1	17.7	141.5
Randolph County	118.5	236.9	180.3	25.8	16.2	96.9
Ball Memorial Community	**148.9**	**218.8**	**202.5**	**62.6**	**57.8**	**104.9**
Indiana	**138.5**	**184.5**	**148.2**	**40.6**	**32.0**	**82.4**
United States	130.1	249.7	155.6	13.2	41.1	17.2

Source: IU Health, 2018 - Note: Rates are not age-sex adjusted

Description

Exhibit 32 provides 2017 ACSC (PQI) rates (per 100,000 persons) for ZIP codes in the IU Health Ball Memorial Hospital community – with comparisons 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."[12] 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, preventive care and health education. Among these conditions are: angina without procedure, diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

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

Observations

- The ACSC rate for diabetes short-term complications, diabetes long-term complications, chronic obstructive pulmonary disease (COPD), heart failure, low birth weight, dehydration, community-acquired pneumonia, urinary tract infection, and lower-extremity amputation among patients with diabetes were higher in the IU Health Ball Memorial Hospital community than the Indiana averages.
- Rates of hypertension, uncontrolled diabetes, and asthma in younger adults were 50 percent or worse than the Indiana averages.

[12] *Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.*

Exhibit 33: Ratio of ACSC Rates for IU Health Ball Memorial Hospital Community and Indiana, 2017

County	Ball Memorial Community	Indiana	Ratio: Ball Memorial/ Indiana
Hypertension	158.6	63.3	**2.5**
Asthma in Younger Adults	57.8	32.0	**1.8**
Uncontrolled Diabetes	62.6	40.6	**1.5**
Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults	957.4	664.1	**1.4**
Urinary Tract Infection	202.5	148.2	**1.4**
Heart Failure	560.4	434.8	**1.3**
Lower-Extremity Amputation Among Patients with Diabetes	104.9	82.4	**1.3**
Diabetes Long-Term Complications	135.8	110.2	**1.2**
Community-Acquired Pneumonia	218.8	184.5	**1.2**
Dehydration	148.9	138.5	**1.1**
Diabetes Short-Term Complications	62.6	59.0	**1.1**
Low Birth Weight	6,415.8	6,174.2	**1.0**
Perforated Appendix	623.0	632.7	**1.0**

Source: IU Health, 2018 - Note: Rates are not age-sex adjusted

Description

Exhibit 33 provides the ratio of ACSC (PQI) rates in the IU Health Ball Memorial Hospital 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.

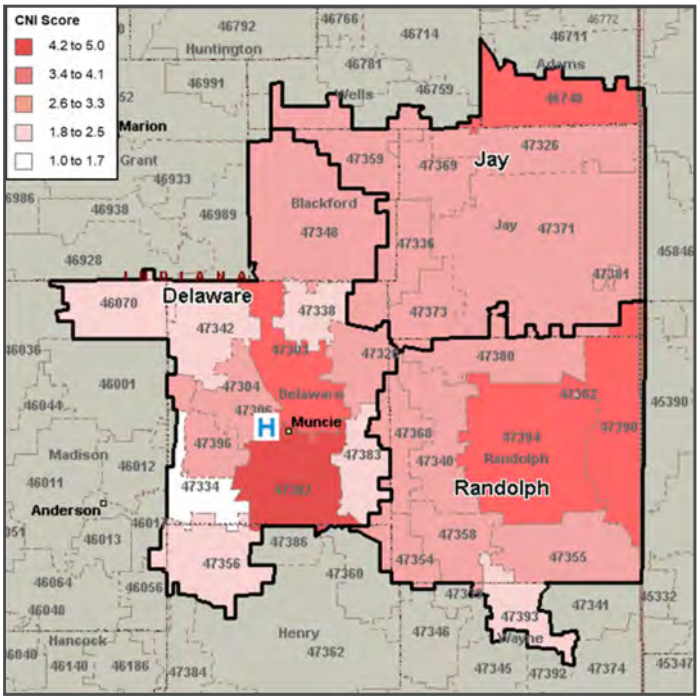
Observations

- In the community, ACSC rates for hypertension were more than double the Indiana average. Rates for asthma in younger adults, uncontrolled diabetes, chronic obstructive pulmonary disease (COPD) or asthma in older adults, and urinary tract infection were also at least 40 percent higher than the state averages.

Community Need Index™ and Food Deserts

Dignity Health Community Need Index

Exhibit 34: Community Need Index, 2017



Source: Microsoft MapPoint and Dignity Health, 2017

Description

Exhibit 34 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.

Dignity Health, a California-based hospital system, developed and published the CNI as a way to assess barriers to health care 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.

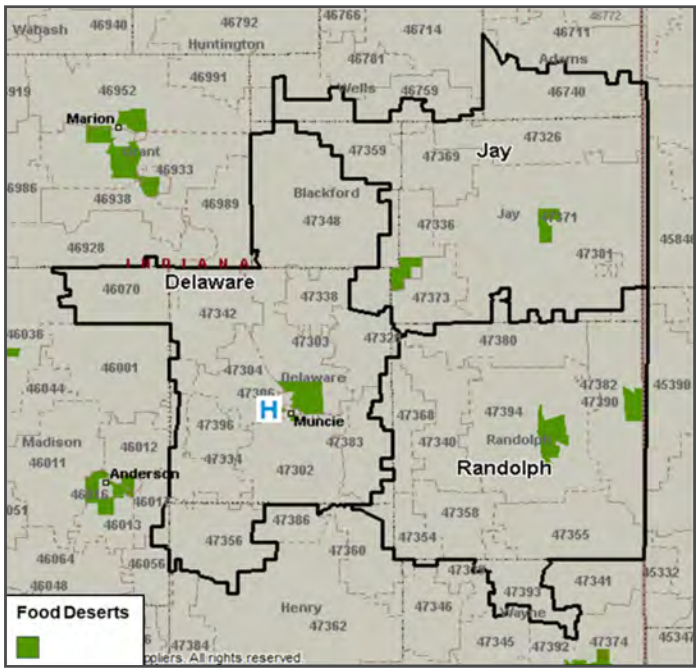
CNI scores are grouped into "Lowest Need" (1.0-1.7) to "Highest Need" (4.2-5.0) categories

Observations

- The weighted average CNI score for Delaware County was 3.3 – higher than the national median of 3.0. The weighted average CNI score for Jay County was 3.0 and Randolph County was 3.1.
- One Delaware County ZIP code (47302) scored in the "highest need" category.

Food Deserts

Exhibit 35: Food Deserts, 2017



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

Description

Exhibit 35 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 Memorial Hospital community have been designated as food deserts.

Medically Underserved Areas and Populations

Exhibit 36: Medically Underserved Areas, 2017

County	MUA/P Service Area Name	Designation Type
Delaware	Low Income – Delaware County	Medically Underserved Population
Jay	Low Income – Jay County	Medically Underserved Population
Randolph	Randolph County	Medically Underserved Area

Source: Microsoft MapPoint and HRSA, 2017

Description

Exhibit 36 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." 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.[13] 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."[14]

Observations

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

[13] *Heath Resources and Services Administration. See http://www.hrsa.gov/shortage/mua/index.html*

[14] *Ibid.*

Health Professional Shortage Areas (HPSA)

Exhibit 37A: Primary Care Health Professional Shortage Areas, 2018

County	HPSA Name	HPSA Type Description
Delaware	Medicaid Population – Delaware County	HPSA Population
Delaware	Meridian Services Corporation	Comprehensive Health Center
Delaware	Open Door Health Services, Inc.	Comprehensive Health Center
Jay	Jay County	HPSA Geographic
Randolph	Randolph County	HPSA Geographic
Randolph	Family and Occupational Medicine – Lynn	Rural Health Clinic
Randolph	Family and Occupational Medical – Ridgeville	Rural Health Clinic
Randolph	Family Health Center of Union City	Rural Health Clinic
Randolph	Family Health Center of Winchester	Rural Health Clinic

Source: Health Resources and Services Administration, 2018

Description

Exhibit 37A depicts 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 health care 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 which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility."[15]

Observations

- Jay and Randolph Counties have been designated as Primary Care Health Professional Shortage Areas.
- The Medicaid population in Delaware County and health centers throughout the IU Health Ball Memorial community have also been designated as Primary Care HPSAs.

[15] *U.S. Health Resources and Services Administration, Bureau of Health Professionals. (n.d.). Health Professional Shortage Area Designation Criteria. Retrieved 2012, from http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html*

Exhibit 37B: Dental Care Health Professional Shortage Areas, 2018

County	HPSA Name	HPSA Type Description
Delaware	Low Income – Delaware County	HPSA Population
Delaware	Meridian Services Corporation	Comprehensive Health Center
Delaware	Open Door Health Services, Inc.	Comprehensive Health Center
Randolph	Low Income – Randolph County	HPSA Population

Source: Health Resources and Services Administration, 2018

Description
Exhibit 37B shows the locations of federally-designated dental care HPSA areas.

Observations
- Low income populations in Delaware and Randolph Counties have been designated as Dental Care HPSAs, as well as several health centers.

Exhibit 37C: Mental Care Health Professional Shortage Areas, 2018

County	HPSA Name	HPSA Type Description
Delaware	East Central Indiana	HPSA Geographic High Needs
Delaware	Meridian Services Corporation	Comprehensive Health Center
Delaware	Open Door Health Services, Inc.	Comprehensive Health Center
Jay	East Central Indiana	HPSA Geographic High Needs
Randolph	East Central Mental Health Catchment Area 8	HPSA Geographic

Source: Health Resources and Services Administration, 2018

Description
Exhibit 37C lists the locations of federally-designated mental health care HPSA areas.

Observations
- Delaware, Jay, and Randolph Counties have each been designated as Mental Care 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 recently by the Indiana State Department of Health.[16] 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 assessments from local health assessments around the state, ten needs were most often prioritized:
  - 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
- When asked about barriers to achieving optimal health in their communities, key informants indicated that low staffing levels, low funding levels, 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,

[16] *Available at: https://www.in.gov/isdh/18888.htm*

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."
- Income inequality was identified as a social determinant of health need, with the top 20 percent of households in Indiana having an income 13.5 times higher than the bottom 20 percent.
- Indiana residents report different health status based on their location in the state, largely due to access to affordable healthcare. Mid-sized population areas report the lowest number of poor or fair health days, while rural areas report the highest.
- Indiana introduced expanded insurance options for lower income residents through the Healthy Indiana Plan (HIP) 2.0 in 2015. Over 1.4 million residents are enrolled in Medicaid in the state, with more than 20,000 of these enrollees being pregnant women.
- Language barriers and cultural competency of services were identified as major obstacles to receiving healthcare and social services in Indiana.
- Heart disease, cancer, and stroke were identified as the top causes of mortality in Indiana, and identified as significant needs in the community.
- Indiana was the tenth most obese state in the nation, with over two-thirds of adults being overweight and almost a third being obese. Obesity disproportionately affects low-income, rural, and African American populations.
- Poor nutrition contributed to four of the top ten causes of death in Indiana: cardiovascular disease, stroke, diabetes, and cancer.
- Over 21 percent of Indiana adults were current smokers, the tenth highest rate in the nation and contributing to five of the top ten leading causes of death (cardiovascular disease, stroke, diabetes, chronic lower respiratory disease, and cancer). Smoking rates are disproportionately high for low income adults, those with a high school education or less, and those identifying as LGBT.
- Infant mortality has been an Indiana health priority since 2014. The national rate of infant deaths is 5.9 deaths per 1,000 live births. In Indiana, this rate was 7.5 in 2016. Additionally, Healthy People 2020 established a goal of 6.0 deaths by 2020.
- Drug overdose and opioid-related deaths increased by 500 percent between 1999 and 2016. More than 1,500 residents died of drug overdoses in 2016, with 785 of these overdoses being from opioids. This increase in opioid-related deaths represents a 1,725 percent increase since 1999.

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

Exhibit 38: Significant Needs Identified in Other CHNAs

Prioritized Need	Frequency
Access to basic/primary health care	3
Obesity	3
Physical inactivity/lack of exercise	3
Drug/substance abuse	2
Economic improvement/financial hardship	2
Nutrition/access to healthy food	2
Transportation	2
Cancer	1
Children's health	1
Diabetes	1
Education	1
Environment	1
Men's health	1
Poverty	1
Preventive care (immunizations, screenings, etc.)	1
Respiratory diseases	1
Social environment	1
Tobacco use/smoking	1
Suicide	1

Source: Analysis of Other CHNA Reports by Verité, 2018

Description

Several other needs assessments conducted by hospital facilities were reviewed. Significant needs identified by these facilities are presented in Exhibit 38. The reviewed assessments include the following:

- Jay County Hospital CHNA 2015
- Reid Health CHNA 2016
- St. Vincent Randolph CHNA 2016

Observations

- The following indicators most often were identified as significant in other hospital CHNAs that assessed IU Health Ball Memorial Hospital's community:
  - Access to basic and primary health care
  - Obesity
  - Physical inactivity/lack of exercise
  - Drug/substance abuse
  - Economic improvement/financial hardship
  - Nutrition/access to healthy food
  - Transportation

APPENDIX C – INTERVIEWEES AND COMMUNITY MEETING PARTICIPANTS

Individuals from a wide variety of organizations and communities participated in the interview process and/or community meetings (**Exhibit 39**).

Exhibit 39: Interviewee and Community Meeting Participant Organizational Affiliations

- Alpha Center
- BY5
- Ball State University
- Bethel Point Rehab
- Bridges Community Services
- Boys and Girls Club of Muncie
- Building Better Communities/Ball State University
- Cancer Services of East Central Indiana
- City of Muncie
- Community & Family Services
- Crown Pointe Senior Living
- Delaware County Government
- Delaware County Health Department
- Delaware County Senior Center
- Fort Recovery Industries
- Geneva Town Council
- IU Health Ball Memorial Hospital
- IU Health East Central Region
- IU Health Jay Hospital
- Jay-Randolph Developmental Services, Inc.
- Jay County Chamber
- Jay County Child Services
- Jay County Community Development
- Jay County Council
- Jay County Health Department
- Jay County Ministerial Association
- Jay County Tourism
- Jay Schools
- John Jay Center for Learning
- Life Stream
- Meridian Health Services
- Muncie/Delaware County Chamber of Commerce
- Open Door Health Services
- Pennville Town Council
- Persimmon Ridge Rehab
- Portland Fire Department
- Portland Foundation
- Portland Police Department
- Purdue Extension
- Randolph County Health Department
- Second Harvest Food Bank
- Swiss Village, Inc.
- Transition Resources Corporation – Head Start
- United Way of Jay
- Westminster Village
- YWCA of Muncie
- Youth Opportunity Center

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 Memorial Hospital to address significant community health needs since its last CHNA report was conducted. IU Health Ball Memorial Hospital and IU Health Blackford Hospital share identical CHNA priority needs and strategies. Many of the IU Health Blackford Hospital strategies are developed and funded by IU Health Ball Memorial with the intent of also benefiting persons in Blackford County. The impacts (both expected and achieved) of each community health program are described below.

Nutrition and Active Living (Obesity Prevention)

- **Healthy Community Alliance.** The Healthy Community Alliance is a broad-based health coalition that includes over 100 community organizations who, through collective impact, have the potential to reach more than 50,000 residents of Delaware and Blackford Counties. The goal of the program is to reduce obesity rates and risks associated with chronic disease through information sharing that improves nutrition and increases physical activity. IU Health Ball Memorial Hospital supports this program as the backbone organization and utilizes staff time to host a website for use by Alliance Partners, organize community workgroups and produce educational resources. IU Health Ball Memorial Hospital believes the program has enabled Partner organizations to create programming, policies and environments that influence reduced obesity rates compared to levels that would have occurred without the program.
- **IU Health Bucks Families at the Farmers Market.** The IU Health Bucks Families at the Farmers Market is a nutrition education program targeted to underserved population. The program aims to increase the integration of fruits and vegetables into family mealtimes among participants. The program serves 65 families per year. IU Health supports this program through the time and expertise of staff members, as well as through direct funding of the IU Health Bucks; fourteen community

partners help to facilitate the program. A survey of program participants indicates that behavior change has occurred.

- **YMCA 7th and 8th Grade Free Membership.** Through this program, IU Health Ball Memorial Hospital provides free YMCA memberships to eligible 7th and 8th grade students. The program seeks to engage at-risk youth in positive lifestyle activities and education. In the 2015-16 school year, 134 youth received free memberships and logged 700 visits of 50 minutes each to the YMCA. IU Health Ball Memorial Hospital contributed $6,000 to this initiative to support incentives for wellness programming.
- **Promote Strong Schools (for Obesity Prevention).** The Strong Schools program provides funding to area schools for obesity prevention programming, such as fitness competitions. Over 2,000 students in the Muncie Community Schools system participated in IU Health Ball Memorial Hospital-funded physical activity programming during 2015-2017. Staff members of IU Health Ball Memorial Hospital coordinated the grant application process, and funding was provided to incentivize school participation. IU Health Ball Memorial Hospital believes that the increase in physical activity has helped reduce childhood obesity rates compared to levels that would have occurred without the program.
- **Afterschool Childhood Obesity Prevention.** With IU Health Ball Memorial Hospital funds, YMCA staff provide afterschool healthy lifestyles programming at eight area elementary schools, one middle school, and one community center. Over 200 students at eight area elementary schools, one middle school, and one community center participate annually. Pre and post testing has confirmed improvements in healthy lifestyles knowledge.
- **Walking Initiatives.** IU Health Ball Memorial Hospital supports numerous walking initiatives, including Walk Indiana. Funds are provided to keep entry rates low and provide free entries for resource-limited participants. IU Health Ball Memorial Hospital staff helps organize events and conduct walking groups. The goal of these initiatives is to change sedentary behaviors and improve fitness levels of community residents. Over 500 people particulate annually in a walking marathon and 100 participate in walking groups.

Infant Health Factors

- **Fetal Infant Mortality Review Program and Community Action Teams.** The Fetal Infant Mortality Review Program meets regularly to identify root causes of infant mortality (e.g., unsafe sleep habits and poor parental habits) and to provide increased interventions by Community Action Teams for at-risk women. IU Health Ball Memorial Hospital supports this activity with staff member expertise and other resources, including funding for specialized software. IU Health Ball Memorial Hospital believes these activities improve outcomes for infants.
- **Safe Sleep Practices.** Each year, 1,500 infants are delivered at IU Health Ball Memorial Hospital, and all families are provided safe sleep instruction, a free halo sleep sack and, if needed, a free portable crib. In addition to funding for portable cribs, staff members of IU Health Ball Memorial Hospital develop programming, such as the text message initiative. The Community Action Team also has established a texting program for expectant mothers to receive timely messages about healthy living, having a healthy pregnancy, and caring for babies during the first year of life. These activities can lead to improved outcomes for infants through reduced incidence of co-sleeping.
- **Obstetric Services.** IU Health Ball Memorial Hospital subsidizes two Family Medicine physicians and one resident to provide services at Open Door Health Services, a local Federally Qualified Health Center. These providers increase the FQHC's capacity to serve low income residents, increasing access to care and helping to reduce infant mortality risks.

Behavioral Health

- **SBIRT Screening.** The IU Health Ball Memorial Hospital Family Medicine residency program provides SBIRT, an early intervention and treatment model for people with substance use disorders and those at risk of developing these disorders. The goal of the program is to increase identification and treatment of individuals with substance abuse disorders. In 2016, 2,582 patients were screened. IU Health Ball Memorial Hospital trains staff who conduct screening and provides follow-up services by behavioral health staff. IU Health Ball Memorial Hospital believes more individuals have been identified and received services through this program.
- **Improved Behavioral Health Assessment and Treatment Planning.** The hospital's Family Medicine residency behavioral health initiative also provides assessments and treatment planning for patients with pain disorders and weight-related medical problems. In 2016, thirty resident physicians received training and tools and processes for patient interactions. These physicians provide approximately 12,000 patient visits per year. IU Health Ball Memorial Hospital provided funding for assessment tools and for staff training, and believes these investments have provided mental health services needed by area patients.
- **Collaborative Activities.** IU Health Ball Memorial Hospital provides financial and other support to local organizations seeking to address mental health issues in the community. Examples include the Delaware County Pride Team and Meridian Health Services. IU Health Ball Memorial Hospital believes the support has helped increase community awareness of mental health needs.
- **Stress Management.** The IU Health Ball Memorial Hospital Family Medicine residency program educates community members on stress management techniques at

community health fairs and at evening stress management groups. In 2016, stress management sessions were provided to 100 people at two community health fairs. IU Health Ball Memorial Hospital supports this activity by providing staff members time and expertise and believes program participants are better able to manage stress.

Smoking and Tobacco

- **Smoking Cessation.** This activity provides 1-800-Quit-Now[17] tobacco toolkits to residents, providers, and staff members who participate in the Tobacco Free Delaware County Coalition. Efforts are supported by the Healthy Community Alliance program, a broad-based health coalition that includes over 100 community organizations who serve as Alliance Partners, who have the potential to reach an audience of more than 50,000 residents of Delaware and Blackford Counties. The goal of this Smoking Cessation activity is to decrease tobacco use in the community. Over 200 toolkits were distributed in the first year of operation. IU Health Ball Memorial Hospital contributes staff member time and expertise, as well as resources to design, print, and distribute tobacco cessation toolkits. IU Health Ball Memorial Hospital believes this program has contributed to a lower smoking rate in the community than would have occurred without the program.
- **Provider Training and Community Publicity.** IU Health Ball Memorial Hospital provides training regarding tobacco interventions and the availability of 1-800-Quit-Now resources. IU Health Ball Memorial Hospital also widely publicizes these resources to patients and families, and provides handouts specific to certain populations, e.g. parents with newborns. These activities have increased awareness and utilization of 1-800-Quit-Now.

Access to Care

- **Insurance Eligibility Assistance.** The Hospital Presumptive Eligibility (HPE) program screens uninsured patients for eligibility for governmental insurance through HIP 2.0, Medicaid, or children's health insurance programs. In 2016, IU Health Ball Memorial Hospital screened 1,610 patients through a streamlined process. This program improved access to care for individuals found eligible for coverage.
- **Cancer Screenings.** IU Health Ball Memorial Hospital offers free or reduced-cost screenings for lung, breast, skin, and cervical cancers. The goal is identify cancers at early stages. Individuals with a cancer diagnosis are referred for follow-up diagnosis and treatment. IU Health Ball Memorial Hospital contributes resources, including staff time, equipment, and supplies, to provide free and low-cost cancer screenings.
- **Navigation Services for High-Risk Patients.** High-risk patients at community screenings are provided with information that describes how to gain access to local health services. The goal of this activity is improved patient outcomes for chronic disease states. In 2017, over 200 cards with information were distributed. IU Health Ball Memorial Hospital contributed staff time to develop materials, as well as resources to print and distribute the information materials. IU Health Ball Memorial Hospital believes this program has helped high-risk patients navigate available clinical resources.
- **Same Day Appointments.** A 1-800 Same Day appointment program enables residents to schedule an appointment with IU Health Ball Memorial Hospital's Family Medicine Residency and Internal Medicine Residency physicians. IU Health Ball Memorial Hospital believes implementing this program has enhanced access to primary care physicians.
- **Subsidized Primary Care Services.** IU Health Ball Memorial Hospital subsidizes two Family Medicine physicians and one resident to provide services at Open Door Health Services, a local Federally Qualified Health Center (FQHC). These providers increase the FQHC's capacity to serve low income residents, increasing access to primary care for low-income community residents, and generating revenue for the FQHC.

[17] *Operated by the National Cancer Institute and supported by the Centers for Disease Control. See: https://www.cdc.gov/tobacco/quit_smoking/cessation/pdfs/1800quitnow_faq.pdf*

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 more than 60 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 Memorial Hospital