

OTIS R. BOWEN CENTER FOR HUMAN
SERVICES, INC.

Community Health Needs Assessment



2016

I. Introduction

A. Executive Summary

This report identifies and assesses community health needs in the areas served by Bowen Center’s Community Mental Health Centers and its inpatient hospital. In 2016, a community health needs assessment (CHNA) was initiated by Bowen Center to determine the health needs within the community. Once the needs were assessed, Bowen Center analyzed what needs were being met by currently by existing services and what needs were not being met. This assessment serves as the foundation for developing an implementation strategy to meet those identified unmet needs. This process aligns with Bowen Center’s mission which “is to positively impact the quality of life of those we serve by providing professional, caring, cost-effective behavioral healthcare services.” Bowen Center chose to assess the health needs in the five core counties served by Bowen Center: Huntington, Kosciusko, Marshall, Wabash and Whitley. Since each county has specific needs and different resources, data was analyzed, priorities determined and action plans were created for each county.

The Community Health Needs Assessment included a comprehensive review of demographic and health indicators for each of the five counties. The executive and county leadership reviewed all the health needs that exceeded either state and/or national benchmarks and prioritized the highest unaddressed needs in each specific location. Based on the results of the assessments, the prioritized needs include:

Huntington County

- High Adult Diabetes Prevalence
- High rate of current smokers and binge drinking
- Increased suicide rates compared to state and national statistics

Kosciusko County

- Increased Suicide Rates
- Substance Related Issues
- Youth Related Issues

Marshall County

- High rate of adult and children that lack health insurance
- High rate of adult obesity
- Lack of access to exercise

Wabash County

- Adult Diabetes
- Obesity Rates
- Unintentional Injury Deaths
- Alcohol Use
- Child Neglect, Physical and Sexual Abuse
- School Expulsions

Whitley County

- High adult obesity

- High rate of current smokers
- Lack of children with health insurance

For each of the prioritized needs, the Otis R. Bowen Center has developed an action plan outlining the action steps, responsible parties, and timeline to address the prioritized need.

B. Bowen Center Overview

The Otis R. Bowen Center for Human Services, Inc., (Bowen Center) is a private not-for-profit, comprehensive community mental health center licensed by the State of Indiana Division of Mental Health. The Center has been accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) since 1980. Bowen Center earned JCAHO accreditation with commendation for 1994-1997 and again for 1997-2000. The Center provides quality professional mental health services to citizens in northeast Indiana primarily, but not only, in Huntington, Kosciusko, Marshall, Wabash and Whitley counties. Because of the need for increased service to the five-county area, outpatient offices were opened in each of the counties: Marshall County (Plymouth) in July, 1973; Huntington County (Huntington) in September, 1973; Wabash County (Wabash) in October, 1973; Whitley County (Columbia City) in March, 1974. When the county offices first opened, they were staffed only one day each week. At the present time, each county office has its own clinical and support staff. An inpatient unit is also located at the Kosciusko County site.

The Bowen Center, rural in composition, historically and currently recognizes its responsibilities and commitment to all geographic segments of its service area. This commitment has translated into the decentralization of many services to the fullest extent possible in light of the Center's capital, fiscal and staffing resources. The administrative office and inpatient facility are located in Warsaw (Kosciusko County). County offices provide outpatient and emergency services, with other specialized services offered depending on the need at each location. No resident is further than a 20 minute drive to a county office of the Center. For clients unable to drive, the Center provides limited transportation services through the use of a volunteer program. As a comprehensive community mental health center, Bowen Center offers a wide variety of mental health services. These services include residential, outpatient, inpatient, crisis, and supportive. Specific services include, but are not limited to, diagnostic assessment/evaluation, psychiatry, counseling, case management, community supported employment, attention deficit and hyperactivity evaluation/treatment for children/adults, alcohol and drug treatment, employee assistance program, student assistance program, systems of care for children, autism-related evaluation/treatment, and self-help groups, training, and workshops such as helping children cope with divorce, parenting skills development, anger management, and abuse recovery.

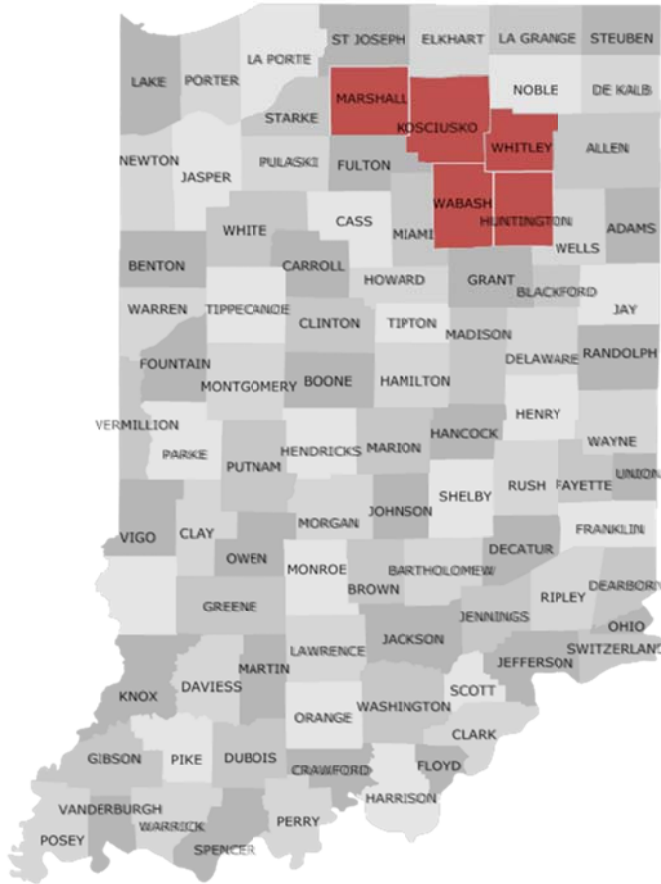
The Bowen Center has a 15-member volunteer Board of Directors consisting of three citizens representing each of the five counties primarily served.

The Center's current staff (approximately 910 total FTEs) consists of M.D. psychiatrists, Ph.D. psychologists, MSW social workers, master's and bachelor's level therapists, chemical dependency therapists, registered nurses, mental health technicians, administrative and support personnel.

C. Definition of Community Served

Bowen Center main service area is composed of five counties, Huntington, Marshall, Kosciusko, Wabash, and Whitley, in northeast quadrant of Indiana (Figure 1). Bowen Center maintains outpatient offices in each county and an inpatient facility in Kosciusko. The center also has outpatient offices in Allen, DeKalb, LaGrange, Noble and Steuben counties. The service area for the purposes of this assessment is the original five counties.

Figure 1: Bowen Center Service Area



D. Community Demographics

Population Estimates

Population in Indiana has grown by 1.7% between 2010 and 2014. Kosciusko mimics that with 1.6% growth. Huntington and Wabash have declined by 1.10% and 1.9% respectively. Marshall and Whitley are relatively unchanged at 0.1% and 0.3% increases. Population in the state is project to increase by 3.9% by 2020. Whitley (5.8%), Marshall (3.4%) and Kosciusko (3.0%) counties are also projected to increase their populations, while Wabash (3.1%) and Huntington (1.1%) are expected to decrease over the same time frame. Generally, the five county service area serves 3.5% of the population of the state.

Table 1: Population Estimates by County

Population Over Time	Huntington			Kosciusko			Marshall		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Yesterday (2010)	37,124	43	0.60%	77,356	19	1.20%	47,051	31	0.70%
Today (2014)	36,706	43	0.60%	78,564	20	1.20%	47,107	31	0.70%
Tomorrow (2020 Projected)	36,299	44	0.50%	80,941	21	1.20%	48,705	30	0.70%
% Change 2010 to Today	-1.10%	56	NA	1.60%	20	NA	0.10%	37	NA
Population Over Time	Wabash			Whitley			Indiana		
	Number	Rank	Percent	Number	Rank	Percent	Number		
Yesterday (2010)	32,888	52	0.50%	33,292	49	0.50%	6,483,797	NA	NA
Today (2014)	32,252	54	0.50%	33,403	49	0.50%	6,596,855	NA	NA
Tomorrow (2020 Projected)	31,260	54	0.50%	35,333	47	0.50%	6,852,121	NA	NA
% Change 2010 to Today	-1.90%	78	NA	0.30%	30	NA	1.70%	NA	NA

Data Source: <http://www.stats.indiana.edu/profiles/>

Population Estimates by Race and Ethnicity

Generally the service area is more homogeneous than the state with a significantly larger white population than the rest of the state. Consequently, it has lower Black and Asian populations. When considering the counties alone, they mimic the region, except Kosciusko which has an Asian population of 1.2% which is much higher than the other five counties, although still below state averages. In terms of Ethnicity, the service area has a slightly lower population of Hispanic people than the state. However, Kosciusko and Marshall report 8.0% and 9.4% Hispanic population respectively, a much higher percentage than Indiana, or the rest of the service area which are between 2.0-2.4% Hispanic.

Table 2: Population Estimates by Race and Ethnicity

Population Estimates by Race, 2014	Huntington			Kosciusko			Marshall		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
American Indian or Alaska Native Alone	170	31	0.5%	303	22	0.4%	162	34	0.3%
Asian Alone	222	43	0.6%	977	19	1.2%	325	33	0.7%
Black Alone	223	55	0.6%	834	31	1.1%	407	39	0.9%
Native Hawaiian and Other Pac. Isl. Alone	18	38	0.0%	41	23	0.1%	31	25	0.1%
White	35,677	42	97.2%	75,486	18	96.1%	46,659	31	96.9%

Two or More Race Groups	396	45	1.1%	923	23	1.2%	523	33	1.1%
Population Estimates by Race, 2014	Wabash			Whitley			Indiana		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
American Indian or Alaska Native Alone	237	25	0.7%	139	39	0.4%	26,354	NA	0.4%
Asian Alone	158	47	0.5%	135	54	0.4%	132,406	NA	2.0%
Black Alone	257	49	0.8%	152	67	0.5%	630,751	NA	9.6%
Native Hawaiian and Other Pac. Isl. Alone	7	62	0.0%	24	33	0.1%	4,093	NA	0.1%
White	31,220	53	96.8%	32,542	48	97.4%	5,678,447	NA	86.1%
Two or More Race Groups	373	46	1.2%	411	44	1.2%	124,801	NA	1.9%

Data Source: US Census Bureau

Table 3: Population Estimates by Ethnicity

Population Estimates by Hispanic or Latino Origin (of any race), 2014	Huntington			Kosciusko			Marshall		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Non-Hispanic	35,951	42	97.9%	72,299	21	92.0%	42,690	33	90.6%
Hispanic	755	52	2.1%	6,265	10	8.0%	4,417	21	9.4%
Population Estimates by Hispanic or Latino Origin (of any race), 2014	Wabash			Whitley			Indiana		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Non-Hispanic	31,476	52	97.6%	32,724	48	98.0%	6,164,550	NA	93.4%
Hispanic	776	51	2.4%	679	58	2.0%	432,305	NA	6.6%

Data Source: US Census Bureau

Population Estimates by Age

When considering population by age group, the service area is similar to Indiana but with a slight increase in the older and senior age groups. Wabash County has the highest percentage of seniors (19.4%) and lowest percentage of preschoolers (5.2%), followed by Whitley and Huntington counties. Marshall and Kosciusko counties have the youngest populations with 25.4% and 24.7% respectively under the age of 18.

Table 4: Population Estimates by Age

Population Estimates by Age, 2014	Huntington			Kosciusko			Marshall		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Preschool (0 to 4)	2,115	44	5.8%	5,099	19	6.5%	2,983	32	6.3%

School Age (5 to 17)	6,093	45	16.6%	14,321	18	18.2%	9,037	30	19.2%
College Age (18 to 24)	3,728	34	10.2%	7,340	19	9.3%	4,057	31	8.6%
Young Adult (25 to 44)	8,667	43	23.6%	19,113	20	24.3%	10,715	32	22.7%
Older Adult (45 to 64)	10,274	40	28.0%	20,884	20	26.6%	12,720	33	27.0%
Seniors (65 and older)	5,829	44	15.9%	11,807	22	15.0%	7,595	30	16.1%
Median Age	39.9			38.1	NA	NA	39.3	NA	NA
Population Estimates by Age, 2014	Wabash			Whitley			Indiana		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Preschool (0 to 4)	1,678	57	5.2%	1,945	48	5.8%	434,075	NA	6.4%
School Age (5 to 17)	5,301	53	16.4%	5,866	47	17.6%	1,174,223	NA	17.6%
College Age (18 to 24)	3,319	44	10.3%	2,650	53	7.9%	650,310	NA	10.1%
Young Adult (25 to 44)	6,989	54	21.7%	7,912	46	23.7%	1,668,175	NA	25.3%
Older Adult (45 to 64)	8,701	50	27.0%	9,672	45	29.0%	1,715,911	NA	26.3%
Seniors (65 and older)	6,264	40	19.4%	5,358	48	16.0%	841,108	NA	14.3%
Median Age	42.1	NA	NA	41.1	NA	NA	37.5	NA	NA

Data Sources: U.S. Census Bureau; Indiana Business Research Center

Population Estimates by Households, Employment, Income and Poverty

The service area (and each individual county within) reports a lower number of people living alone and single parents than the state average. Likewise, a larger percentage of people in the counties report being married than the state average.

Table 5: Population Estimates by Households

Population Estimates by Households, 2013	Huntington			Kosciusko			Marshall		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Households in 2013 (Includes detail not shown below)	14,138	41	100%	29,705	20	100%	17,581	32	100%
Married With Children	2,805	45	19.8%	6,866	16	23.1%	3,954	29	22.5%
Married Without Children	5,168	39	36.6%	10,196	19	34.3%	5,793	32	33.0%
Single Parents	1,045	51	7.4%	2,346	24	7.9%	1,471	30	8.4%
Living Alone	3,610	41	25.5%	7,399	23	24.9%	4,645	29	26.4%
Population Estimates by Households, 2013	Wabash			Whitley			Indiana		
	Number	Rank	Percent	Number	Rank	Percent	Number		Percent
Households in 2013 (Includes detail not shown below)	12,703	47	100%	13,094	44	100%	2,498,395		100%
Married With Children	2,483	51	19.5%	2,754	46	21.0%	494,682		19.8%
Married Without Children	4,735	43	37.3%	4,707	44	35.9%	752,017		30.1%
Single Parents	1,093	47	8.6%	1,033	52	7.9%	244,843		9.8%

Living Alone	3,290	47	25.9%	3,312	46	25.3%	692,055		27.7%
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Data Source: US Census Bureau, American Community Survey 5 year estimates

Although the income per capita in the service area is lower than that of the state, there is less unemployment and the poverty rate for both children and adults is lower than that of Indiana. Kosciusko and Whitley counties report higher per capita income than the state average. Wabash conversely has the highest poverty rate of the five county area at 14.2% of households. Whitley had the lowest poverty rate of 8.9%. The employment rate for October 2015 is much lower than the annual rate for all of 2014 (6.0% for the state, and 5.4% for the service area).

Table 6: Population Estimates by Income, Poverty and Employment

Income, Unemployment and Poverty	Huntington			Marshall			Kosciusko		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Per Capita Personal Income (annual) in 2014	\$36,507	51	92%	\$40,469	17	102%	\$35,767	56	90%
Median Household Income in 2013	\$44,828	58	94.4%	\$51,603	22	108.6%	\$45,855	50	96.5%
October 2015 Unemployment Rate	3.5	77	83.3%	3.7	59	88.1%	3.6	67	85.7%
Poverty Rate in 2013	13%	53	82.3%	13%	60	80.4%	14%	44	87.3%
Poverty Rate among Children under 18	19%	57	84.5%	18%	65	81.3%	18%	61	83.1%
Population Estimates by Households, 2013	Wabash			Whitley			Indiana		
	Number	Rank	Percent	Number	Rank	Percent	Number	Rank	Percent
Per Capita Personal Income (annual) in 2014	\$40,011	23	101%	\$37,099	44	94%	\$39,578	NA	NA
Median Household Income in 2013	\$45,833	51	96.5%	\$52,673	19	111%	\$47,508	NA	NA
October 2015 Unemployment Rate	4.1	42	97.6%	3.6	67	85.7%	4.20	NA	NA
Poverty Rate in 2013	14%	40	89.9%	9%	86	56.3%	15.8%	NA	NA
Poverty Rate among Children under 18	21%	36	97.3%	13%	86	60.3%	21.9%	NA	NA

Data Source: US Census Bureau

II. Community Health Needs Assessment

A. Process and Methods for Assessment

1. Sources of Data

Multiple and varied sources of data were used to complete the CHNA. Demographic data was collected primarily from the United States Census Bureau and Stats Indiana. STATS Indiana is the statistical data utility for the State of Indiana, developed and maintained since 1985 by the Indiana Business Research Center at Indiana University's Kelley School of Business. Bowen Center specific demographic data was collected from Bowen Center's electronic medical record. Sources of information regarding chronic disease and other health indicators included the Centers for Disease Control and Prevention, Indiana State Department of Health, World Life Expectancies, and Indiana Indicators, which is sponsored by the Centers for Disease Control and Prevention (CDC) and developed and maintained by the Indiana Business Research Center at Indiana University's Kelley School of Business. Additional resources include: Indiana State Department of Health, Health Resources Services of America (HRSA), County Health Rankings, Indiana Department of Criminal Justice, Indiana Youth Institute, Kids County, Indiana Department of Education, and the Indiana Prevention Resource Center. Section VI includes a full listing of the data sources used.

2. Analytical Methods

The source of data reviewed and included in the Community Health Needs Assessment came from state and national data banks regarding population demographics and health indicators. Bowen Center specific data was source verified from the Bowen Center electronic medical record. In order to identify the unique community health needs of each of the five counties in Bowen Center's primary service area, data was grouped by each county and analyzed.

3. Information Gaps

Overall data was fairly equally represented across all the counties. If county specific data was not available, then it is identified in this report. The most recent data available was used at the time this report was compiled. Data was retrieved during January and February 2016.

4. Third Party Contractor and Qualifications

Bowen Center elected to contract with Case Consulting Corporation to complete the Community Needs Assessment. Case Consulting Corporation provides evaluation, data management, and compliance consulting and training services to healthcare, social service and public sector organizations. Services include: assisting organizations with obtaining and maintaining CARF and JCAHO accreditation, database application development, report writing expertise, policy and procedure creation and refinement, and clinical outcome measurement design and benchmarking. Case Consulting Corporation is an Indiana Certified Women Business Enterprise that has over 20 years of evaluation experience.

B. Results: Huntington County

1. Comparison of Service Area Demographics to Bowen Center Demographics

Bowen Center service statistics for 2015 were compared to the most recent US census bureau population estimates.

Table 7: Huntington County Demographics compared to Bowen Center Demographics

Population Estimates by Race, 2014	Huntington County		Huntington Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
American Indian or Alaska Native	170	0.5%	5	0.2%	26,354	0.4%
Asian	222	0.6%	2	0.1%	132,406	2.0%
Black	223	0.6%	33	1.4%	630,751	9.6%
Native Hawaiian and Other Pac. Isl.	18	0.0%	0	0.0%	4,093	0.1%
White	35,677	97.2%	2,350	97.1%	5,678,447	86.1%
Two or More Race Groups	396	1.1%	31	1.3%	124,801	1.9%
Population Estimates by Hispanic or Latino Origin (of any race), 2014	Huntington County		Huntington Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Non-Hispanic	35,951	97.9%	2,320	95.8%	6,164,550	93.4%
Hispanic	755	2.1%	101	4.2%	432,305	6.6%
Population Estimates by Age, 2014	Huntington County		Huntington Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Preschool (0 to 4)	2,115	5.8%	55	2.3%	434,075	6.4%
School Age (5 to 17)	6,093	16.6%	844	34.9%	1,174,223	17.6%
College Age (18 to 24)	3,728	10.2%	223	9.2%	650,310	10.1%
Young Adult (25 to 44)	8,667	23.6%	706	29.2%	1,668,175	25.3%
Older Adult (45 to 64)	10,274	28.0%	515	21.3%	1,715,911	26.3%
Seniors (65 and older)	5,829	15.9%	78	3.2%	841,108	14.3%
Median Age	39.9		14		37.5	
Income, Unemployment and Poverty	Huntington County		Huntington Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Median Household Income in 2013	\$44,828	94.4%	\$14,952	31.5%	\$47,508	100.0%
October 2015 Unemployment Rate	3.5%	83.3%	22%	531.9%	4.2%	100.0%
Poverty Rate in 2013	13%	82.3%	52%	327.5%	15.8%	100.0%
Poverty Rate among Children < 18	19%	84.5%	65%	295.7%	21.9%	100.0%

Overall at Bowen Center in Huntington County, more Hispanic/Latinos are served than the general population and there is a greater percentage of youth served. Additionally, the median income is much less than the population, while the unemployment rate and poverty rates are much higher.

2. Chronic Disease (incidence, mortality rates for chronic disease)

Chronic diseases are those diseases that last three months or more and generally cannot be prevented by a vaccine or cured by medication, nor do they just disappear. They are not passed from person to person and are of long duration and generally slow progression. The four main types of chronic disease are: cardiovascular disease, cancers, chronic respiratory disease and diabetes. Per the Indiana Indicators, the incidence of chronic disease in Huntington is higher for cancer, diabetes, heart disease and stroke than both the state of Indiana and the USA.

Table 8: Incidence of Chronic Disease - Huntington County

Chronic Disease	Huntington County	Indiana	USA
Cancer, new invasive cases (all sites combined) per 100,000 population (age-adjusted)	475.5	466.6	443
Adults (%) 18 and older with medically diagnosed diabetes	12.5	10.7	9.5
Heart disease hospital admissions per 10,000 population (age-adjusted)	97.3	85.5	NA
Stroke hospital admissions per 10,000 population (age-adjusted)	23.9	20.9	NA
Asthma emergency room visits per 10,000 population (age-adjusted)	44.2	49.9	NA

Data Source: Indiana Indicators. Orange indicates higher prevalence than Indiana prevalence. Red indicates higher than the state and national prevalence.

The mortality rates for chronic diseases in Huntington County are higher than the state and national rates for heart disease, stroke and lower respiratory diseases. Additionally mortality rates for cancer are higher than the national rate, but lower than the state rate. Mortality rates for kidney disease, diabetes, Alzheimer’s disease, and influenza and pneumonia appear to also be higher than Indiana and/or national mortality rates; however due to low number of deaths (less than 20), these rates are considered unstable and caution should be used.

Table 9: Mortality Rates Due to Major Chronic Illnesses Deaths per 100,000 Population – Huntington County

Location	Cancer	Heart Disease	Stroke	Lower Respiratory	Kidney Disease	Diabetes	Alzheimer's Disease	Influenza & Pneumonia
US	163.20	169.80	36.20	42.10	13.20	21.20	23.50	15.90
Indiana	178.68	185.48	40.39	58.32	18.39	26.25	28.45	15.23
Huntington	168.31	221.77	82.33	67.75	38.91	26.36	23.87	22.53

Data Source: Indiana State Department of Health. Orange indicates higher mortality rates than national rates. Red indicates higher than the state and national mortality rates. Please note: Grey shading indicates that due to low numbers of deaths the mortality rates are unstable and caution should be used when drawing conclusions regarding these mortality rates.

Per the Indiana State Department of Health, nearly 500,000 Indiana adults (10.7%) have been diagnosed with diabetes. According to research, many people are unaware they have diabetes. Of the 25.8 million Americans estimated to have diabetes, 7 million are predicted to be undiagnosed. Diabetes is the seventh leading cause of death in Indiana. Diabetes is a major cause of heart disease and stroke. In addition to adults diagnosed with diabetes, an additional 35% of adults are estimated to have prediabetes, a condition involving impaired glucose tolerance and impaired fasting glucose. Prediabetes is associated with increased risk of developing type 2 diabetes, heart disease, and stroke. Diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputations, and new cases of blindness among adults in the United States. Diabetes and heart disease are also co-morbid conditions with depression. People who have diabetes are twice as likely to develop depression as those who do not. People who have depression are 60% more likely to develop diabetes than those who do not. The table below shows county level modeling of the prevalence of diabetes over time from the Centers for Disease Control (CDC). Data is based the ongoing the Behavioral Risk Factor Surveillance System (BRFSS),

weighted via 2010 census data on the population, and extended to the county level via regional, multi-level modeling techniques. Prevalence means that a person responded “yes” to the question, “Has a doctor, nurse or other health professional ever told you that you have diabetes?”

Table 10: Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000 Over Time – Huntington County

Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	7.6	8.1	7.9	8.1	9.2	8.9	9.3	9.6	10.1
Huntington County	7.7	8.1	8.1	8.6	9.6	10.3	10.9	11.8	11.1

Data Source: CDC Red indicates county prevalence is higher than the state prevalence.

Huntington County has exceeded the state prevalence for diabetes in eight of the nine years calculated by the CDC and at an increasing rate over time. Per the Indiana State Department of Health, Huntington County has only one accredited/recognized location for diabetes education and support.

3. Medical Care

The US Department of Health and Human Services has designated Huntington County as a medically underserved area in certain service areas within the county. The USDHHS bases this designation on several factors including population, poverty levels, number of senior citizens, infant mortality, and number of primary care physician hours worked.

Additionally, the US Department of Health and Human Services has designated Huntington County as a Health Profession Shortage Area (HPSA) in the areas of mental health and primary care physicians. There is less than one psychiatrist to every 30,000 people in the population and the primary care physician to population ratio is less than 1:3,500. Huntington County is not designated as a HPSA for dental health.

In addition to designations as medically underserved and health profession shortage areas, Huntington County has higher rates of children who lack health insurance compared to both Indiana and the United States population. The ratio of local health department staff to population ratio is lower than the Indiana state ratio.

Table 11: Access to Healthcare – Huntington County

Location	Adults (%) 18 to 64 who currently lack health insurance	Children (%) under age 18 who currently lack health insurance	Adults (%) who could not see a doctor in the previous 12 months due to cost	Primary health care physicians to population ratio	Local health department staff to population ratio
US	20.4	7.1	16.6	1104	NA
Indiana	19.3	8.0	14.4	849	3187
Huntington	17.7	8.2	12.4	1197	6187

Data Source: *Indiana Indicators*. Orange indicates poorer access to healthcare than Indiana rates. Red indicates poorer access to healthcare than Indiana and federal rates.

4. Behaviors and Health Risks

The development of chronic disease is heavily influenced by modifiable risk factors. Examples of modifiable risk factors include: weight gain/obesity, physical activity, healthy food choices and tobacco use. Please note: Tobacco use will be reviewed in the section on substance use. The Robert Wood Johnson Foundation publishes county level health indicators each year. The following table summarizes obesity, physical activity and Food Environmental Index from the County Health Rankings and Roadmaps. The Food Environment Index ranges from 0 (worst) to 10 (best) and equally weights two indicators of the food environment. 1) Limited access to healthy foods estimates the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile. Low income is defined as having an annual family income of less than or equal to 200 percent of the federal poverty threshold for the family size. 2) Food insecurity estimates the percentage of the population who did not have access to a reliable source of food during the past year.

Table 12: Exercise, Nutrition, and Weight – Huntington County

Location	Adults 18 and older considered obese	Adults 20 and older reporting no leisure time physical activity	Adults reporting Access to Exercise	Food Environmental Index (0-10)
US	28.0%	26.2%	NA	NA
Indiana	31.3%	26.8%	75%	7.2
Huntington	32.7%	30.2%	84%	7.5

Data Source: *County Health Rankings and Roadmaps*. Red indicates health behaviors/risk factors higher in the county than the state and/or federal level.

Huntington County has a higher obesity rate than Indiana and USA. Additionally, there is a higher rate of adults reporting no leisure time physical activity. However, there is a higher rate of adults reporting access to exercise in Huntington County. The food environmental index is better than the state index in Huntington County.

The CDC has measured the age adjusted obesity percent by county over time based on the BRFSS. Since the BRFSS is based on self-reported weight and height, it is assumed that people will under-report weight, so consequently actual obesity rates are higher. In Huntington County, the age adjusted obesity rate has increased over the nine year reporting period and has exceeded the state rate.

Table 13: Age Adjusted Obesity over Time – Huntington County

Age-adjusted Obesity Percent									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	24.8	26.4	27.3	26.9	26.2	29.5	29.7		
Huntington County	24.5	26.1	29.3	30.1	31.4	34.8	34.4	32.3	31.7

Data Source: CDC. Red indicates higher obesity rates than the state.

The CDC also uses the BRFSS to calculate the Leisure-time Physical Inactivity Prevalence. In Huntington County, the level of leisure time physical inactivity was higher than the state average in three of the nine years measured by the CDC.

Table 14: Leisure-time Physical Inactivity Prevalence over Time – Huntington County

Leisure-time Physical Inactivity Prevalence (Estimate), Age-adjusted per 1000									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	25.3	27.0	25.3	24.3	27.7	27.2	26.4	29.2	25.7
Huntington County	25.3	25.5	25.3	24.0	26.3	29.8	31.5	29.1	27.5

Data Source: CDC. Red indicates higher physical inactivity than the state rate.

Indiana Indicators monitors unintentional injury deaths, traffic injury deaths and homicide deaths per 100,000 population (age adjusted). In Huntington County the unintentional injury deaths, traffic injury deaths and homicide deaths per 100,000 population (age adjusted) were lower than the state and national rates.

Table 15: Unintentional Injury Deaths – Huntington County

Location	Injury (unintentional) deaths per 100,000 population (age-adjusted)	Traffic injury deaths per 100,000 population (age-adjusted)	Homicide deaths per 100,000 population (age-adjusted)
US	39.4	10.5	5.2
Indiana	39.2	12.1	6.1
Huntington County	37.2	9.8	2.5

Data Source: Indiana Indicators. Red indicates higher than state/national rate.

The availability of healthy food choices impacts diabetes and heart health. The US Department of Health and Human Services monitors the availability of healthy food choices by county. Overall, Huntington has a lower availability of supermarkets, but a higher specialty food and health supplement stores compared to Indiana. Huntington County also has higher per-capita full service and fast food restaurant than Indiana overall.

Table 16: Availability of Health Food Choices – Huntington County

Location	Supermarkets and other grocery (except convenience) stores		Convenience stores		Specialty food stores		Food (health) supplement stores	
	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)
Indiana	1,004	1.548	193	0.298	347	0.535	195	0.301
Huntington	5	1.347	1	0.269	2	0.539	3	0.808
	Full-service restaurants		Limited-service		Cafeterias, grill buffets,		Snack and nonalcoholic	

Location	restaurants (fast food)		and buffets		beverage bars			
	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)		
Indiana	4,433	6.837	4,733	7.300	181	0.279	847	1.306
Huntington	29	7.812	28	7.542	0	0.000	5	1.347

Data Source: US Department of Health and Human Services. Red indicates less available healthy food choices compared to state rates.

4. Socio-economic Factors

Public health works to promote the health of communities and populations. Illness is related to the social determinates of health which include such things as: healthy food, housing, education, employment, transportation, personal safety, affordable health care, cultural resources, recreation, clean air and water and protection from discrimination. Per the Indiana State Department of Health and nationally recognized research on public health, socio-economic factors have the greatest impact on health, greater even than that of health behaviors, protective factors, and the clinical care provided. Socio-economic factors include poverty, education, employment, housing and the physical environment.

Table 17: 2014 Estimated Poverty Rates and Median Household Income – Huntington County

Location	All Ages in Poverty Percent	Under Age 18 in Poverty Percent	Ages 5 to 17 in Families in Poverty Percent	Median Household Income in Dollars
United States	15.5	21.7	20.4	\$53,657
Indiana	15.2	21.2	19.3	\$49,384
Huntington County	10.7	16.6	15.8	\$49,832

Data Source: US Census. Orange indicates higher poverty rates than Indiana State rates.

Food insecurity refers to USDA’s measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. Huntington County is better than the state rate for childhood food insecurity.

Table 18: Childhood Food Insecurity – Huntington County

Location	2013 Rank	2013
Indiana		21.8%
Huntington County	29	21.00%

Data Source: KidsCount. Red indicates higher than the state percentage for childhood food insecurity.

Consistent with Childhood Food Insecurity, the percent of students receiving free and reduced lunches as well as food stamp recipient and TANF rates are below that of the state average in Huntington County.

Table 19: Government Assistance – Huntington County

	Free or Reduced Price Lunches	Food Stamp Recipients	TANF Recipients

Location	Rate for Students Attending Public School 2014	Rank in State (low to high)	Rate per 1,000 2012	Rank for Rate Per 1000 Persons 2012	Rate per 1000 persons for TANF Recipients 2012	RANK (High to Low) for Rate per 1000 persons for TANF recipients
Indiana	49.10%		130		10.8	
Huntington	46.60%	33	121	52	2.3	77

Data Source: IPRC. Red indicates higher than the state rate.

The CDC has recently compiled new factors that are measures of the social determinants of health. Currently data is available on a county level but not a state level, so comparisons are limited. Huntington County has a higher percentage of the population living near a park, as well as the second lowest percentage of household living with severe problems over a five year period.

Table 20: Physical Environment – Huntington County

Location	Percentage of Population Living Within Half a Mile of a Park, 2010	Percentage of Households Living with Severe Housing Problems, 2007-2011 (5-year)
Huntington	30	10.1

Source: CDC.

5. Substance Use

According to the World Health Organization, “Tobacco is the only legal product that kills one-half of its users when used as directed.” Tobacco and second hand smoke is a class 1 carcinogen (known to cause cancer) and is in the same classification as asbestos. Use of tobacco products increases risk for cancer, heart disease and stroke. In addition to tobacco, heavy and/or binge drinking is associated with increased health risks as is the use of illegal drugs. Addiction is associated with poor health outcomes and increased socio-economic costs, which in turn increase risks for health concerns.

In Huntington County, there are higher rates of current smokers and binge/heavy drinkers than in Indiana and the United States.

Table 21: Substance Use – Huntington County

Location	Adults (%) 18 and older who are current smokers	Adults (%) 18 and older who are binge or heavy drinkers	Controlled substance prescriptions filled and entered into INSPECT per person in the county	Driving Deaths due to Alcohol Impairment
US	18.9	5.9	NA	NA
Indiana	22.8	15.9	1.64	26% (963 deaths)
Huntington	25.7	22.2	1.42	4% (1 deaths)

Data Sources: Indiana Indicators and County Health Ranking. Red indicates higher than the state (and national, if available) rate. Orange indicates higher than the national, but lower than the state rate.

Northern Indiana has experience one of the highest methamphetamine clandestine lab seizures in the state of Indiana. Methamphetamine production is highly risky and associated with hazardous chemical

exposure. The use of methamphetamine, like most illegal drugs, can cause permanent and lasting damage to the brain. Over the last five years, Huntington County was not in one of the top 10 counties in Indiana for methamphetamine lab seizures.

Table 22: Number of Clandestine Methamphetamine Labs Seized by Year – Huntington County

Location	2011	2012	2013	2014	2015
Huntington	6	14	5	17	15
Marshall	41	42	33	27	24
Kosciusko	58	47	33	58	58
Wabash	15	14	18	20	23
Whitley	8	8	8	14	5

Data Source: <http://www.in.gov/meth/2330.htm>. Red indicates county was in the top 10 in Indiana for number of labs (not per capita)

The FBI tabulates drug and alcohol arrest rates. The arrests reported represent the following types of crimes: homicide, aggravated assaults, sexual assaults, other assaults, robbery, burglary, larceny-theft, auto thefts, driving under the influence, violations of liquor laws, public drunkenness, stolen property, prostitution, and violations of drug laws. Note that some arrests are directly related to alcohol and drug use (e.g. public drunkenness) and others are indirectly related (e.g. homicide). The number of alcohol and drug-related arrests was determined by applying a fraction that represents the association that each type of arrest has with alcohol or drug use. For example, driving under the influence is directly related to alcohol use and violating drug laws is directly related to drug use. Each of these arrests were counted as one arrest in computing rate of alcohol and drug arrests, respectively. In contrast, other types of arrests are only associated with alcohol and/or drug use in a fraction of arrests. The alcohol and drug associated fractions used for the arrest data came from the FBI's Uniform Crime Reporting System. After all associations with prior alcohol and drug use were computed, all alcohol-related and drug-related arrests were totaled.

Table 23: FBI Arrest Data – Huntington County

Location	Total Population-Agencies report arrests	Alcohol-Related Arrest Rate per 100,000 Persons	Alcohol-Related Arrest Rate per 1,000 Persons	Drug-Related Arrest Rate per 100,000 Persons	Drug-Related Arrest Rate per 1,000 Persons
Indiana	6,537,334	918	9	578	6
Huntington	37,328	827	8	226	2

Data Source: FBI Arrest Statistics. Red indicates higher than the state rate for arrests.

According to the National Institute on Alcohol Abuse and Alcoholism, over-concentration of alcohol outlets is part of neighborhood economic and social disintegration. The area's economic base loses its diversity and becomes less attractive to both residents and potential retail customers. Additionally, according to Indiana Prevention Resource Center (IPRC), the over-concentration of alcohol outlets is associated with increased youth drinking and a person who begins drinking as a teen is four times more likely to develop alcohol dependencies than someone who waits until adulthood to use.

Table 24: Alcohol and Tobacco Outlets – Huntington County

Location	Total Pop, 2015 est. (Jan)	Jan 2015 Alcohol Licenses (No.) filtered	2015 outlet density per 1,000 persons (based on Jan 2015 pop est)	Tobacco Outlets	Outlets per 1,000 persons	Outlets per 1,000 Youth, 10-17
Indiana	6,613,067	11,289	1.71	8,783	1.34	12.2
Huntington	36,547	75	2.05	57	1.53	14.0

Data Source: Indiana Prevention Resource Center. Red indicates higher concentration of outlets compared to the state rate.

6. Mental Health

According to the Substance Use and Mental Health Services Administration (SAMHSA), there is no health without mental health. Good mental health can only occur if there is access to physical health care. Equally, good physical health requires access to mental health care. One of the many risk factors associated with chronic illnesses is the emotional impact on people who are ill and their families. Many chronic illnesses can have a strong effect on an individual’s mental and emotional health. Additionally, mental disorders can affect a person’s ability to cope with an illness and participate in treatment and recovery processes. Many individuals with chronic medical conditions have untreated, co-morbid mental illnesses or substance abuse disorders and this complicates their recovery from both conditions. Adults who had any mental illness, serious mental illness, or major depressive episodes in the past year had increased rates of hypertension, asthma, diabetes, heart disease, and stroke. Indiana ranks in the top ten of all states for the prevalence of any mental illness and serious mental illnesses. Lack of social or emotional support has been associated with development of mental illness and higher mortality rates. Suicide is in the top ten causes of death for all age groups in Indiana. It is the second leading cause of death for the 15-34 year old age group. Nationally suicide claims more lives than traffic accidents. Per the Indiana Indicators, Huntington County has suicide deaths that match the Indiana rate and exceed the national rate.

Table 25: Mental Health and Suicide – Huntington County

Location	Adults (%) 18 and older without social or emotional support	Suicide deaths per 100,000 population (age-adjusted)
US	19.6	12.6
Indiana	20.1	14.1
Huntington	18.7	14.1

Data Source: Indiana Indicators. Red indicates at or exceeding Indiana and Federal rates.

7. Youth Risk Factors

According to the Kids Count in Indiana 2016 Data Book Snapshot, Indiana has the fifth highest rate in the U.S. of first-time victims of child maltreatment. There are two main categories of child maltreatment: abuse and neglect. Further distinctions within the category of abuse are sexual abuse and physical abuse. When referencing Indiana’s data, it is important to note that a child is counted in only one category per investigation using the federal hierarchy of sexual abuse first, then physical abuse, and then neglect.

Table 26: 2014 Substantiated Cases of Child Maltreatment – Huntington County

Location	Neglect		Physical		Sexual	
	Number	Percent	Number	Percent	Number	Percent
Indiana	20,302	16.70%	2,373	7.90%	3,017	16.40%
Huntington	138	17.70%	14	7.70%	21	18.10%

Data Source: Kids Count in Indiana. Red indicates higher rates of abuse than the state rate.

In Huntington County, the percent of substantiated child neglect and sexual abuse is higher than that of the state of Indiana.

Children living in single parent households, as well as children of divorced parents may be at higher risk for socioeconomic burdens and other risk factors relating to health. Indiana as a whole has a slightly higher divorce rate than that of the United states and higher lone parent rates than that of the USA. Huntington County has a lower rate of lone parent families than the state and national rates, but a higher divorce rate than the national rate.

Table 27: Families with One Parent Missing and Divorce Rates – Huntington County

Location	Lone Parent Male	Lone Parent Female	Lone Parent, Male or Female	Divorced
USA	3.4	11.2	14.6	10.9
Indiana	3.6	11.2	14.8	12.3
Huntington	2.5	7.1	9.6	12.2

Source: IPRC. Red indicates higher than state and national rate. Orange indicates higher than national rate, but lower than state rate.

According to IPRC, the five county area has one of the highest rates of juveniles committed to the department of correction. Huntington County ranked 77 out of 92 counties for juveniles committed to the department of correction.

Table 28: Number of Juveniles Committed To the Department Of Correction (2014)

Location	2014	State Rank	5 Year average
Huntington	11	77 (tied with 3)	10.8

Data Source: IPRC

Table 29: Juvenile Offenses (2014) Per 1000 Children (0-18 yrs old) population

Location	Delinquency	Miscellaneous	Paternity	Status Offense	Termination of Parental Rights
Huntington	7.1	2.6	8.8	1.2	1.2
Kosciusko	5.4	5.7	6.0	0.1	0.7
Marshall	7.2	5.8	7.2	0.9	1.7
Wabash	11.6	8.0	7.9	5.7	1.9
Whitley	6.5	6.1	7.2	1.8	0.6

Data Source: IPRC. Red indicates higher rates than the five county area and green indicates lower rates than the five county area.

Huntington County has lower rates of miscellaneous offenses, but higher rates of paternity offenses than the five county region.

The Indiana Department of Education tracks graduation rates by school corporations. Huntington County’s graduation rate matches the state graduation rate.

Table 30: 2014 Graduation Rates for High Schools in the Area – Huntington County

County	School Name	Paid Meals	Free/ Reduced price meals	General Ed	Special Ed	Total Cohort Count	Total Graduates	Total Grad Rate
State of Indiana		95.3%	86.9%	94.1%	74.9%	74391	66655	89.6%
Huntington	Huntington North High School	98.2%	94.8%	97.4%	93.1%	403	361	89.6%

Data Source: Indiana Department of Education. ***Due to federal privacy laws, student performance data may not be displayed for any group of fewer than 10 students. Red indicates lower graduation rates than the state.

Interestingly enough, the graduation rates do not reflect the rather high drop-out problems in the service area. The five county area has a population that is 3.5% of the state total. Likewise, the public school enrollment (all ages) is 3.5% of the state total enrollment. But in 2013-14 school year, out of the 3665 students in the state that dropped out of high school, 6.5% (239 students) were in the region.

Huntington County has a significantly higher drop out rate than the state rate, as well as a higher expulsion rate. Additionally over 20% of the expulsions involve drugs, weapons or alcohol, significantly higher than the state rate of 8.26%

Table 31: Education – Absences/Suspensions/Expulsion – Huntington County

Location	As a % of the Enrollment			As a % of suspensions & expulsions
	Students who have dropped out	Students Suspended	Students Expelled	Involving Drugs, Weapons, or Alcohol
Indiana	0.350%	6.059%	0.324%	8.260%
Huntington	2.538%	2.806%	0.393%	20.112%

Data Source: Indiana Department of Education. Red indicates higher rate than the state rate.

C. Results: Kosciusko County

1. Comparison of Service Area Demographics to Bowen Center Demographics

Bowen Center service statistics for 2015 were compared to the most recent US census bureau population estimates.

Table 32: Kosciusko County Demographics compared to Bowen Center Demographics

Population Estimates by Race, 2014	Kosciusko County	Kosciusko Bowen Center	Indiana
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	Number	Percent	Number	Percent	Number	Percent
American Indian or Alaska Native	303	0.4%	59	1.0%	26,354	0.4%
Asian	977	1.2%	17	0.3%	132,406	2.0%
Black	834	1.1%	181	3.2%	630,751	9.6%
Native Hawaiian and Other Pac. Isl.	41	0.1%	7	0.1%	4,093	0.1%
White	75,486	96.1%	4,998	88.9%	5,678,447	86.1%
Two or More Race Groups	923	1.2%	361	6.4%	124,801	1.9%
Population Estimates by Hispanic or Latino Origin (of any race), 2014	Kosciusko County		Kosciusko Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Non-Hispanic	72,299	92.0%	4,677	83.2%	6,164,550	93.4%
Hispanic	6,265	8.0%	946	16.8%	432,305	6.6%
Population Estimates by Age, 2014	Kosciusko County		Kosciusko Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Preschool (0 to 4)	5,099	6.5%	112	2.0%	434,075	6.4%
School Age (5 to 17)	14,321	18.2%	1,738	30.7%	1,174,223	17.6%
College Age (18 to 24)	7,340	9.3%	634	11.2%	650,310	10.1%
Young Adult (25 to 44)	19,113	24.3%	1,736	30.7%	1,668,175	25.3%
Older Adult (45 to 64)	20,884	26.6%	1,177	20.8%	1,715,911	26.3%
Seniors (65 and older)	11,807	15.0%	226	4.0%	841,108	14.3%
Median Age	38.1		31		37.5	
Income, Unemployment and Poverty	Kosciusko County		Kosciusko Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Median Household Income in 2013	\$51,603	108.6%	\$10,500	22.1%	\$47,508	100.0%
October 2015 Unemployment Rate	3.7%	88.1%	16.3%	388.1%	4.2%	100.0%
Poverty Rate in 2013	13%	80.4%	36%	228.2%	15.8%	100.0%
Poverty Rate among Children <18	18%	81.3%	56%	257.4%	21.9%	100.0%

In Kosciusko County, Bowen Center serves slightly more Native Americans, Blacks, and individuals identifying as multi-racial compared to the general population. More school age children are served as well as young adults. The median income of Bowen Center clients is significantly lower than the median in the community and the rate of unemployment and individuals in poverty is significantly higher.

2. Chronic Disease (incidence, mortality rates for chronic disease)

Chronic diseases are those diseases that last three months or more and generally cannot be prevented by a vaccine or cured by medication, nor do they just disappear. They are not passed from person to person and are of long duration and generally slow progression. The four main types of chronic disease are: cardiovascular disease, cancers, chronic respiratory disease and diabetes. Per the Indiana Indicators, the incidence of chronic disease in Kosciusko is higher for diabetes than both the state of Indiana and the USA and higher the incidence of cancer is higher than the national prevalence but lower than the state prevalence.

Table 33: Incidence of Chronic Disease – Kosciusko County

Chronic Disease	Kosciusko County	Indiana	USA
Cancer, new invasive cases (all sites combined) per 100,000 population (age-adjusted)	460.3	466.6	443
Adults (%) 18 and older with medically diagnosed diabetes	11	10.7	9.5
Heart disease hospital admissions per 10,000 population (age-adjusted)	77.3	85.5	NA
Stroke hospital admissions per 10,000 population (age-adjusted)	17.4	20.9	NA

Asthma emergency room visits per 10,000 population (age-adjusted)	24.8	49.9	NA
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Data Source: Indiana Indicators. Orange indicates higher prevalence than national prevalence. Red indicates higher than the state and national prevalence.

The mortality rates for chronic diseases in Kosciusko County are higher than the state and national rates for cancer, stroke, lower respiratory disease, diabetes, and Alzheimer’s. Additionally mortality rates for heart disease are higher than the national rate, but lower than the state rate. Mortality rates for kidney disease, and influenza and pneumonia cannot be used for comparison because of the low number of deaths (less than 20), these rates are considered unstable.

Table 34: Mortality Rates Due to Major Chronic Illnesses Deaths per 100,000 Population – Kosciusko County

Mortality Rates	Cancer	Heart Disease	Stroke	Lower Respiratory	Kidney Disease	Diabetes	Alzheimer's Disease	Influenza & Pneumonia
US	163.20	169.80	36.20	42.10	13.20	21.20	23.50	15.90
Indiana	178.68	185.48	40.39	58.32	18.39	26.25	28.45	15.23
Kosciusko	180.59	179.81	43.62	60.82	14.15	35.78	31.06	14.56

Data Source: Indiana State Department of Health. Orange indicates higher mortality rates than national rates. Red indicates higher than the state and national mortality rates. Please note: Grey shading indicates that due to low numbers of deaths the mortality rates are unstable.

Per the Indiana State Department of Health, nearly 500,000 Indiana adults (10.7%) have been diagnosed with diabetes. According to research, many people are unaware they have diabetes. Of the 25.8 million Americans estimated to have diabetes, 7 million are predicted to be undiagnosed. Diabetes is the seventh leading cause of death in Indiana. Diabetes is a major cause of heart disease and stroke. In addition to adults diagnosed with diabetes, an additional 35% of adults are estimated to have prediabetes, a condition involving impaired glucose tolerance and impaired fasting glucose. Prediabetes is associated with increased risk of developing type 2 diabetes, heart disease, and stroke. Diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputations, and new cases of blindness among adults in the United States. Diabetes and heart disease are also co-morbid conditions with depression. People who have diabetes are twice as likely to develop depression as those who do not. People who have depression are 60% more likely to develop diabetes than those who do not. The table below shows county level modeling of the prevalence of diabetes over time from the Centers for Disease Control (CDC). Data is based the ongoing the Behavioral Risk Factor Surveillance System (BRFSS), weighted via 2010 census data on the population, and extended to the county level via regional, multi-level modeling techniques. Prevalence means that a person responded “yes” to the question, “Has a doctor, nurse or other health professional ever told you that you have diabetes?”

Table 35: Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000 Over Time – Kosciusko County

Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000									
	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	7.6	8.1	7.9	8.1	9.2	8.9	9.3	9.6	10.1

Kosciusko County	8.0	7.6	8.1	8.3	9.3	9.2	9.7	8.7	9.8
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Data Source: CDC. Red indicates county prevalence is higher than the state prevalence.

Kosciusko County has exceeded the state prevalence for diabetes in six of the nine years calculated by the CDC. Per the Indiana State Department of Health, Kosciusko County has two locations for diabetes education and support, with only one being accredited and recognized.

3. Medical Care

The US Department of Health and Human Services has designated Kosciusko County as a medically underserved area based on low-income populations that are considered to be underserved. The USDHHS bases this designation on several factors including population, poverty levels, number of senior citizens, infant mortality, and number of primary care physician hours worked.

Additionally, the US Department of Health and Human Services has designated Kosciusko County as a Health Profession Shortage Area (HPSA) in the area of mental health. There is less than one psychiatrist to every 30,000 people in the population. Kosciusko County is not designated as a HPSA for primary care physicians and dental health.

In addition to designations as medically underserved and health profession shortage areas, Kosciusko County has higher rates of adults and children who lack health insurance compared to both Indiana and the United States population. The ratio of local health department staff to population ratio is lower than the Indiana state ratio.

Table 36: Access to Healthcare – Kosciusko County

	Adults (%) 18 to 64 who currently lack health insurance	Children (%) under age 18 who currently lack health insurance	Adults (%) who could not see a doctor in the previous 12 months due to cost	Primary health care physicians to population ratio	Local health department staff to population ratio
US	20.4	7.1	16.6	1104	NA
Indiana	19.3	8.0	14.4	849	3187
Kosciusko	21.0	9.8	10.5	1334	6447

Data Source: Indiana Indicators. Orange indicates poorer access to healthcare than Indiana rates. Red indicates poorer access to healthcare than Indiana and federal rates.

4. Behaviors and Health Risks

The development of chronic disease is heavily influenced by modifiable risk factors. Examples of modifiable risk factors include: weight gain/obesity, physical activity, healthy food choices and tobacco use. Please note: Tobacco use will be reviewed in the section on substance use. The Robert Wood Johnson Foundation publishes county level health indicators each year. The following table summarizes obesity, physical activity and Food Environmental Index from the County Health Rankings and Roadmaps. The Food Environment Index ranges from 0 (worst) to 10 (best) and equally weights two indicators of the food environment. 1) Limited access to healthy foods estimates the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined

differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile. Low income is defined as having an annual family income of less than or equal to 200 percent of the federal poverty threshold for the family size. 2) Food insecurity estimates the percentage of the population who did not have access to a reliable source of food during the past year.

Table 37: Exercise, Nutrition, and Weight – Kosciusko County

Location	Adults 18 and older considered obese	Adults 20 and older reporting no leisure time physical activity	Adults reporting Access to Exercise	Food Environmental Index (0-10)
US	28.0%	26.2%	NA	NA
Indiana	31.3%	26.8%	75%	7.2
Kosciusko	31.3%	22.8%	70%	7.8

Data Source: County Health Rankings and Roadmaps. Red indicates health behaviors/risk factors higher in the county than the state and/or federal level.

Kosciusko County has a higher obesity rate than the USA and the same rate as Indiana. The CDC has measured the age adjusted obesity percent by county over time based on the BRFSS. Since the BRFSS is based on self-reported weight and height, it is assumed that people will under-report weight, so consequently actual obesity rates are higher. In Kosciusko County, the age adjusted obesity rate has exceeded the state rate in eight of the last nine years, but has declined since 2009.

Table 38: Age Adjusted Obesity over Time – Huntington County

Age-adjusted Obesity Percent									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	24.8	26.4	27.3	26.9	26.2	29.5	29.7		
Kosciusko County	25.2	26.1	27.4	28.5	29.2	32.4	30.5	30.9	29.8

Data Source: CDC. Red indicates higher obesity rates than the state.

The CDC also uses the BRFSS to calculate the Leisure-time Physical Inactivity Prevalence. In Kosciusko County, the level of leisure time physical inactivity has consistently been lower than the Indiana rate over time.

Table 39: Leisure-time Physical Inactivity Prevalence over Time – Kosciusko County

Leisure-time Physical Inactivity Prevalence (Estimate), Age-adjusted per 1000									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	25.3	27.0	25.3	24.3	27.7	27.2	26.4	29.2	25.7
Kosciusko County	25.0	23.1	22.0	21.8	24.8	26.3	25.5	22.0	22.4

Data Source: CDC. Red indicates higher physical inactivity than the state rate.

Indiana Indicators monitors unintentional injury deaths, traffic injury deaths and homicide deaths per 100,000 population (age adjusted). In Kosciusko County the unintentional injury deaths was higher than

the USA and in Indiana. Traffic injury deaths and homicide deaths per 100,000 population (age adjusted) were lower than the state and national rates.

Table 40: Unintentional Injury Deaths – Kosciusko County

Location	Injury (unintentional) deaths per 100,000 population (age-adjusted)	Traffic injury deaths per 100,000 population (age-adjusted)	Homicide deaths per 100,000 population (age-adjusted)
US	39.4	10.5	5.2
Indiana	39.2	12.1	6.1
Kosciusko County	57.8	6.2	0

Data Source: Indiana Indicators. Red indicates higher than state/national rate.

The availability of healthy food choices impacts diabetes and heart health. The US Department of Health and Human Services monitors the availability of healthy food choices by county. Overall, Kosciusko County has a lower availability of higher specialty food stores compared to Indiana. It also has higher per-capita full service restaurant than Indiana overall.

Table 41: Availability of Health Food Choices – Kosciusko County

Location	Supermarkets and other grocery (except convenience) stores		Convenience stores		Specialty food stores		Food (health) supplement stores	
	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)
Indiana	1,004	1.548	193	0.298	347	0.535	195	0.301
Kosciusko	17	2.198	1	0.129	4	0.517	5	0.646
Location	Full-service restaurants		Limited-service restaurants (fast food)		Cafeterias, grill buffets, and buffets		Snack and nonalcoholic beverage bars	
	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)
Indiana	4,433	6.837	4,733	7.300	181	0.279	847	1.306
Kosciusko	64	8.273	54	6.981	1	0.129	10	1.293

Data Source: US Department of Health and Human Services. Red indicates less available healthy food choices compared to state rates.

4. Socio-economic Factors

Public health works to promote the health of communities and populations. Illness is related to the social determinates of health which include such things as: healthy food, housing, education, employment, transportation, personal safety, affordable health care, cultural resources, recreation, clean air and water and protection from discrimination. Per the Indiana State Department of Health and nationally recognized research on public health, socio-economic factors have the greatest impact on health, greater even than that of health behaviors, protective factors, and the clinical care provided. Socio-economic factors include poverty, education, employment, housing and the physical environment.

Table 42: 2014 Estimated Poverty Rates and Median Household Income – Kosciusko County

Location	All Ages in Poverty Percent	Under Age 18 in Poverty Percent	Ages 5 to 17 in Families in Poverty Percent	Median Household Income in Dollars
United States	15.5	21.7	20.4	\$53,657
Indiana	15.2	21.2	19.3	\$49,384
Kosciusko County	12	16.7	15.3	\$54,068

Data Source: US Census. Orange indicates higher poverty rates than Indiana state rates.

Food insecurity refers to USDA’s measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. Kosciusko County is better than the state rate for childhood food insecurity.

Table 43: Childhood Food Insecurity – Kosciusko County

Location	2013 Rank	2013
Indiana		21.8%
Kosciusko County	17	20.10%

Data Source: KidsCount. Red indicates higher than the state percentage for childhood food insecurity.

Consistent with Childhood Food Insecurity, the percent of students receiving free and reduced lunches as well as food stamp recipient and TANF rates are below that of the state average in Kosciusko County.

Table 44: Government Assistance – Kosciusko County

Location	Free or Reduced Price Lunches		Food Stamp Recipients		TANF Recipients	
	Rate for Students Attending Public School 2014	Rank in State (low to high)	Rate per 1,000 2012	Rank for Rate Per 1000 Persons 2012	Rate per 1000 persons for TANF Recipients 2012	RANK (High to Low) for Rate per 1000 persons for TANF recipients
Indiana	49.10%		130		10.8	
Kosciusko	49.00%	47	104	67	2.8	71

Data Source: IPRC. Red indicates higher than the state rate.

The CDC has recently compiled new factors that are measures of the social determinants of health. Currently data is available on a county level but not a state level, so comparisons are limited. Kosciusko County has a lowest percentage of the population living near a park in the service area, as well as the highest percentage of household living with severe problems over a five year period.

Table 45: Physical Environment

Location	Percentage of Population Living Within Half a Mile of a Park, 2010	Percentage of Households Living with Severe Housing Problems, 2007-2011 (5-year)
Kosciusko	6	12.2

Data Source: CDC.

5. Substance Use

According to the World Health Organization, “Tobacco is the only legal product that kills one-half of its users when used as directed.” Tobacco and second hand smoke is a class 1 carcinogen (known to cause cancer) and is in the same classification as asbestos. Use of tobacco products increases risk for cancer, heart disease and stroke. In addition to tobacco, heavy and/or binge drinking is associated with increased health risks as is the use of illegal drugs. Addiction is associated with poor health outcomes and increased socio-economic costs, which in turn increase risks for health concerns.

In Kosciusko County, there are higher rates of current smokers than in United States. Additionally, there is an increased driving deaths due to alcohol impairment compared to Indiana.

Table 46: Substance Use – Kosciusko County

Location	Adults (%) 18 and older who are current smokers	Adults (%) 18 and older who are binge or heavy drinkers	Controlled substance prescriptions filled and entered into INSPECT per person in the county	Driving Deaths due to Alcohol Impairment
US	18.9	5.9	NA	NA
Indiana	22.8	15.9	1.64	26% (963 deaths)
Kosciusko	21.9	11.8	1.3	35% (16 deaths)

Data Sources: Indiana Indicators and County Health Ranking. Red indicates higher than the state (and national, if available) rate. Orange indicates higher than the national, but lower than the state rate.

Northern Indiana has experience one of the highest methamphetamine clandestine lab seizures in the state of Indiana. Methamphetamine production is highly risky and associated with hazardous chemical exposure. The use of methamphetamine, like most illegal drugs, can cause permanent and lasting damage to the brain. In four of the last five years, Kosciusko County was in the top 10 counties in Indiana for methamphetamine lab seizures.

Table 47: Number of Clandestine Methamphetamine Labs Seized by Year – Kosciusko County

Location	2011	2012	2013	2014	2015
Kosciusko	58	47	33	58	58

Data Source: <http://www.in.gov/meth/2330.htm>. Red indicates county was in the top 10 in Indiana for number of labs (not per capita).

The FBI tabulates drug and alcohol arrest rates. The arrests reported represent the following types of crimes: homicide, aggravated assaults, sexual assaults, other assaults, robbery, burglary, larceny-theft, auto thefts, driving under the influence, violations of liquor laws, public drunkenness, stolen property, prostitution, and violations of drug laws. Note that some arrests are directly related to alcohol and drug

use (e.g. public drunkenness) and others are indirectly related (e.g. homicide). The number of alcohol and drug-related arrests was determined by applying a fraction that represents the association that each type of arrest has with alcohol or drug use. For example, driving under the influence is directly related to alcohol use and violating drug laws is directly related to drug use. Each of these arrests were counted as one arrest in computing rate of alcohol and drug arrests, respectively. In contrast, other types of arrests are only associated with alcohol and/or drug use in a fraction of arrests. The alcohol and drug associated fractions used for the arrest data came from the FBI's Uniform Crime Reporting System. After all associations with prior alcohol and drug use were computed, all alcohol-related and drug-related arrests were totaled.

Table 48: FBI Arrest Data – Kosciusko County

Location	Total Population-Agencies report arrests	Alcohol-Related Arrest Rate per 100,000 Persons	Alcohol-Related Arrest Rate per 1,000 Persons	Drug-Related Arrest Rate per 100,000 Persons	Drug-Related Arrest Rate per 1,000 Persons
Indiana	6,537,334	918	9	578	6
Kosciusko	77,090	1,181	12	629	6

Data Source: FBI Arrest Statistics. Red indicates higher than the state rate for arrests.

According to the National Institute on Alcohol Abuse and Alcoholism, over-concentration of alcohol outlets is part of neighborhood economic and social disintegration. The area’s economic base loses its diversity and becomes less attractive to both residents and potential retail customers. Additionally, according to Indiana Prevention Resource Center (IPRC), the over-concentration of alcohol outlets is associated with increased youth drinking and a person who begins drinking as a teen is four times more likely to develop alcohol dependencies than someone who waits until adulthood to use.

Table 49: Alcohol and Tobacco Outlets – Kosciusko County

Location	Total Pop, 2015 est. (Jan)	Jan 2015 Alcohol Licenses (No.) filtered	2015 outlet density per 1,000 persons (based on Jan 2015 pop est)	Tobacco Outlets	Outlets per 1,000 persons	Outlets per 1,000 Youth, 10-17
Indiana	6,613,067	11,289	1.71	8,783	1.34	12.2
Kosciusko	78,330	135	1.72	122	1.58	13.7

Data Source: Indiana Prevention Resource Center. Red indicates higher concentration of outlets compared to the state rate.

6. Mental Health

According to SAMHSA, there is no health without mental health. Good mental health can only occur if there is access to physical health care. Equally, good physical health requires access to mental health care. One of the many risk factors associated with chronic illnesses is the emotional impact on people who are ill and their families. Many chronic illnesses can have a strong effect on an individual’s mental and emotional health. Additionally, mental disorders can affect a person’s ability to cope with an illness and participate in treatment and recovery processes. Many individuals with chronic medical conditions have untreated, co-morbid mental illnesses or substance abuse disorders and this complicates their

recovery from both conditions. Adults who had any mental illness, serious mental illness, or major depressive episodes in the past year had increased rates of hypertension, asthma, diabetes, heart disease, and stroke. Indiana ranks in the top ten of all states for the prevalence of any mental illness and serious mental illnesses. Lack of social or emotional support has been associated with development of mental illness and higher mortality rates. Suicide is in the top ten causes of death for all age groups in Indiana. It is the second leading cause of death for the 15-34 year old age group. Nationally suicide claims more lives than traffic accidents. Per the Indiana Indicators, Kosciusko County has suicide deaths that exceed the state and national rate.

Table 50: Mental Health and Suicide – Kosciusko County

Location	Adults (%) 18 and older without social or emotional support	Suicide deaths per 100,000 population (age-adjusted)
US	19.6	12.6
Indiana	20.1	14.1
Kosciusko	18.6	15.2

Data Source: Indiana Indicators. Red indicates at or exceeding Indiana and Federal rates.

7. Youth Risk Factors

According to the Kids Count in Indiana 2016 Data Book Snapshot, Indiana has the fifth highest rate in the U.S. of first-time victims of child maltreatment. There are two main categories of child maltreatment: abuse and neglect. Further distinctions within the category of abuse are sexual abuse and physical abuse. When referencing Indiana’s data, it is important to note that a child is counted in only one category per investigation using the federal hierarchy of sexual abuse first, then physical abuse, and then neglect.

Table 51: 2014 Substantiated Cases of Child Maltreatment – Kosciusko County

Location	Neglect		Physical		Sexual	
	Number	Percent	Number	Percent	Number	Percent
Indiana	20,302	16.70%	2,373	7.90%	3,017	16.40%
Kosciusko	85	7.00%	25	6.70%	22	11.70%

Data Source: Kids Count in Indiana. Red indicates higher rates of abuse than the state rate.

In Kosciusko County, the percent of substantiated child neglect and sexual abuse is lower than that of the state of Indiana.

Children living in single parent households, as well as children of divorced parents may be at higher risk for socioeconomic burdens and other risk factors relating to health. Indiana as a whole has a slightly higher divorce rate than that of the United states and higher lone parent rates than that of the USA. Kosciusko County has a higher rate of lone male parent families than the state and national rates, but a lower divorce rate than the state and national rate.

Table 52: Families with One Parent Missing and Divorce Rates – Kosciusko County

Location	Lone Parent Male	Lone Parent Female	Lone Parent, Male or Female	Divorced
USA	3.4	11.2	14.6	10.9
Indiana	3.6	11.2	14.8	12.3
Kosciusko	3.8	6	9.8	9.8

Data Source: IPRC. Red indicates higher than state and national rate. Orange indicates higher than national rate, but lower than state rate.

According to IPRC, the five county area has one of the highest rates of juveniles committed to the department of correction. Data has been fairly consistent over time; however, Kosciusko had improved results, whereas their five year average is much higher than the surrounding counties. Kosciusko County ranked 77 out of 92 counties and the five year average is the highest of the five county service area at 17 juveniles committed to the department of correction per year.

Table 53: Number of Juveniles Committed To the Department Of Correction (2014)

Location	2014	State Rank	5 Year average
Kosciusko	11	77 (tied with 3)	17

Data Source: IPRC

Table 54: Juvenile Offenses (2014) Per 1000 Children (0-18 yrs old) population

Location	Delinquency	Miscellaneous	Paternity	Status Offense	Termination of Parental Rights
Huntington	7.1	2.6	8.8	1.2	1.2
Kosciusko	5.4	5.7	6.0	0.1	0.7
Marshall	7.2	5.8	7.2	0.9	1.7
Wabash	11.6	8.0	7.9	5.7	1.9
Whitley	6.5	6.1	7.2	1.8	0.6

Data Source: IPRC. Red indicates higher rates than the five county area and green indicates lower rates than the five county area.

Kosciusko county has lower juvenile offenses per 1000 children in the population.

The Indiana Department of Education tracks graduation rates by school corporations. Two school districts in Kosciusko County have graduation rates below the state graduation rate (88.6% and 79.7% compared to the state 89.6% graduation rate.

Table 55: 2014 Graduation Rates for High Schools in the Area – Kosciusko County

County	School Name	Paid Meals	Free/ Reduced price meals	General Ed	Special Ed	Total Cohort Count	Total Graduates	Total Grad Rate
State of Indiana		95.3%	86.9%	94.1%	74.9%	74391	66655	89.6%
Kosciusko	Wawasee High School	92.4%	86.7%	93.0%	60.9%	184	163	88.6%
	Warsaw Community HS	96.9%	89.4%	96.4%	75.8%	544	510	93.8%

	Tippecanoe Valley High School	92.4%	84.1%	88.9%	77.8%	158	126	79.7%
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Data Source: Indiana Department of Education. ***Due to federal privacy laws, student performance data may not be displayed for any group of fewer than 10 students. Red indicates lower graduation rates than the state.

Interestingly enough, the graduation rates do not reflect the rather high drop-out problems in the service area. The five county area has a population that is 3.5% of the state total. Likewise, the public school enrollment (all ages) is 3.5% of the state total enrollment. But in 2013-14 school year, out of the 3665 students in the state that dropped out of high school, 6.5% (239 students) were in the region.

Kosciusko County has a higher drop out rate than the state rate (0.370% vs 0.35%). Additionally 17.955% of the expulsions involve drugs, weapons or alcohol, significantly higher than the state rate of 8.26%.

Table 56: Education – Absences/Suspensions/Expulsion – Kosciusko County

Location	As a % of the Enrollment			As a % of suspensions & expulsions
	Students who have dropped out	Students Suspended	Students Expelled	Involving Drugs, Weapons, or Alcohol
Indiana	0.350%	6.059%	0.324%	8.260%
Kosciusko	0.370%	3.493%	0.123%	17.955%

Data Source: Indiana Department of Education. Red indicates higher rate than the state rate.

D. Results: Marshall County

1. Comparison of Service Area Demographics to Bowen Center Demographics

Bowen Center service statistics for 2015 were compared to the most recent US census bureau population estimates.

Table 57: Marshall County Demographics compared to Bowen Center Demographics

Population Estimates by Race, 2014	Marshall County		Marshall Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
American Indian or Alaska Native	162	0.3%	3	0.1%	26,354	0.4%
Asian	325	0.7%	2	0.1%	132,406	2.0%
Black	407	0.9%	49	2.0%	630,751	9.6%
Native Hawaiian and Other Pac. Isl.	31	0.1%	0	0.0%	4,093	0.1%
White	45,659	96.9%	2,345	95.3%	5,678,447	86.1%
Two or More Race Groups	523	1.1%	61	2.5%	124,801	1.9%
Population Estimates by Hispanic or Latino Origin (of any race), 2014	Marshall County		Marshall Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Non-Hispanic	42,690	90.6%	2,114	85.9%	6,164,550	93.4%
Hispanic	4,417	9.4%	346	14.1%	432,305	6.6%
Population Estimates by Age, 2014	Marshall County		Marshall Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Preschool (0 to 4)	2,983	6.3%	46	1.9%	434,075	6.4%
School Age (5 to 17)	9,037	19.2%	701	28.5%	1,174,223	17.6%
College Age (18 to 24)	4,057	8.6%	303	12.3%	650,310	10.1%
Young Adult (25 to 44)	10,715	22.7%	734	29.8%	1,668,175	25.3%

Older Adult (45 to 64)	12,720	27.0%	572	23.3%	1,715,911	26.3%
Seniors (65 and older)	7,595	16.1%	104	4.2%	841,108	14.3%
Median Age	39.3		48		37.5	
Income, Unemployment and Poverty	Marshall County		Marshall Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Median Household Income in 2013	\$45,855	96.5%	\$9,514	20.0%	\$47,508	100.0%
October 2015 Unemployment Rate	3.6%	85.7%	23.5%	558.8%	4.2%	100.0%
Poverty Rate in 2013	14%	87.3%	36%	228.7%	15.8%	100.0%
Poverty Rate among Children <18	18%	83.1%	52%	238.4%	21.9%	100.0%

In Marshall County, Bowen Center serves slightly more Blacks and individuals identifying as multiracial, compared to the general population. Bowen also serves more Hispanic/Latinos than the general population, as well as school age children and young adults. The median income is significantly less than the population, while the unemployment rate and poverty rate is significantly higher among Bowen Center clients than Marshall County.

2. Chronic Disease (incidence, mortality rates for chronic disease)

Chronic diseases are those diseases that last three months or more and generally cannot be prevented by a vaccine or cured by medication, nor do they just disappear. They are not passed from person to person and are of long duration and generally slow progression. The four main types of chronic disease are: cardiovascular disease, cancers, chronic respiratory disease and diabetes. Per the Indiana Indicators, the incidence of chronic disease in Marshall County is higher for cancer than both the state of Indiana and the USA. The prevalence rates for all other chronic disease fall below the state and/or national prevalence rates.

Table 58: Incidence of Chronic Disease – Marshall County

Chronic Disease	Marshall County	Indiana	USA
Cancer, new invasive cases (all sites combined) per 100,000 population (age-adjusted)	470.8	466.6	443
Adults (%) 18 and older with medically diagnosed diabetes	10.6	10.7	9.5
Heart disease hospital admissions per 10,000 population (age-adjusted)	70.9	85.5	NA
Stroke hospital admissions per 10,000 population (age-adjusted)	15	20.9	NA
Asthma emergency room visits per 10,000 population (age-adjusted)	32.5	49.9	NA

Data Source: Indiana Indicators. Orange indicates higher prevalence than national prevalence. Red indicates higher than the state and national prevalence.

The mortality rates for chronic diseases in Marshall County are higher than the state and national rates for lower respiratory disease, diabetes, and Alzheimer's. Additionally mortality rates for stroke are higher than the national rate, but lower than the state rate. Mortality rates for Cancer and Heart Disease are lower than both the state and national rates. Mortality rates for kidney disease, and influenza and pneumonia cannot be used for comparison because due to low number of deaths (less than 20), these rates are considered unstable. It is interesting to note that despite having a higher prevalence of cancer in Marshall County, there is a lower mortality rate, possibly indicating there is better early detection and intervention

Table 59: Mortality Rates Due to Major Chronic Illnesses Deaths per 100,000 Population – Marshall County

Mortality Rates	Cancer	Heart Disease	Stroke	Lower Respiratory	Kidney Disease	Diabetes	Alzheimer's Disease	Influenza & Pneumonia
US	163.20	169.80	36.20	42.10	13.20	21.20	23.50	15.90
Indiana	178.68	185.48	40.39	58.32	18.39	26.25	28.45	15.23
Marshall	160.38	161.6	37.14	79.55	18.19	37.09	34.08	11.59

Data Source: Indiana State Department of Health. Orange indicates higher mortality rates than national rates. Red indicates higher than the state and national mortality rates. Please note: Grey shading indicates that due to low numbers of deaths the mortality rates are unstable.

Per the Indiana State Department of Health, nearly 500,000 Indiana adults (10.7%) have been diagnosed with diabetes. According to research, many people are unaware they have diabetes. Of the 25.8 million Americans estimated to have diabetes, 7 million are predicted to be undiagnosed. Diabetes is the seventh leading cause of death in Indiana. Diabetes is a major cause of heart disease and stroke. In addition to adults diagnosed with diabetes, an additional 35% of adults are estimated to have prediabetes, a condition involving impaired glucose tolerance and impaired fasting glucose. Prediabetes is associated with increased risk of developing type 2 diabetes, heart disease, and stroke. Diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputations, and new cases of blindness among adults in the United States. Diabetes and heart disease are also co-morbid conditions with depression. People who have diabetes are twice as likely to develop depression as those who do not. People who have depression are 60% more likely to develop diabetes than those who do not. The table below shows county level modeling of the prevalence of diabetes over time from the Centers for Disease Control (CDC). Data is based the ongoing the Behavioral Risk Factor Surveillance System (BRFSS), weighted via 2010 census data on the population, and extended to the county level via regional, multi-level modeling techniques. Prevalence means that a person responded “yes” to the question, “Has a doctor, nurse or other health professional ever told you that you have diabetes?”

Table 60: Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000 Over Time – Marshall County

Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000									
	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	7.6	8.1	7.9	8.1	9.2	8.9	9.3	9.6	10.1
Marshall County	7.3	7.5	8.1	8.3	8.6	8.4	9.0	9.5	9.1

Data Source: CDC. Red indicates county prevalence is higher than the state prevalence.

Marshall County has exceeded the state prevalence for diabetes in two of the nine years calculated by the CDC. Per the Indiana State Department of Health, Marshall County has no support groups and two locations for diabetes education, with only one being accredited and recognized.

3. Medical Care

The US Department of Health and Human Services has designated Marshall County as a medically underserved area in certain service areas within the county. The USDHHS bases this designation on

several factors including population, poverty levels, number of senior citizens, infant mortality, and number of primary care physician hours worked.

Additionally, the US Department of Health and Human Services has designated Marshall County as a Health Profession Shortage Area (HPSA) in the area of mental health. There is less than one psychiatrist to every 30,000 people in the population. Marshall County is not designated as a HPSA for primary care physicians and dental health.

In addition to designations as medically underserved and health profession shortage areas, Marshall County has higher rates of adults and children who lack health insurance compared to both Indiana and the United States population. The ratio of local health department staff to population ratio is lower than the Indiana state ratio.

Table 61: Access to Healthcare – Marshall County

	Adults (%) 18 to 64 who currently lack health insurance	Children (%) under age 18 who currently lack health insurance	Adults (%) who could not see a doctor in the previous 12 months due to cost	Primary health care physicians to population ratio	Local health department staff to population ratio
US	20.4	7.1	16.6	1104	NA
Indiana	19.3	8.0	14.4	849	3187
Marshall	22.5	10.7	12.7	771	6842

Data Source: Indiana Indicators. Orange indicates poorer access to healthcare than Indiana rates. Red indicates poorer access to healthcare than Indiana and federal rates.

4. Behaviors and Health Risks

The development of chronic disease is heavily influenced by modifiable risk factors. Examples of modifiable risk factors include: weight gain/obesity, physical activity, healthy food choices and tobacco use. Please note: Tobacco use will be reviewed in the section on substance use. The Robert Wood Johnson Foundation publishes county level health indicators each year. The following table summarizes obesity, physical activity and Food Environmental Index from the County Health Rankings and Roadmaps. The Food Environment Index ranges from 0 (worst) to 10 (best) and equally weights two indicators of the food environment. 1) Limited access to healthy foods estimates the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile. Low income is defined as having an annual family income of less than or equal to 200 percent of the federal poverty threshold for the family size. 2) Food insecurity estimates the percentage of the population who did not have access to a reliable source of food during the past year.

Table 62: Exercise, Nutrition, and Weight – Marshall County

Location	Adults 18 and older considered obese	Adults 20 and older reporting no leisure time physical activity	Adults reporting Access to Exercise	Food Environmental Index (0-10)

US	28.0%	26.2%	NA	NA
Indiana	31.3%	26.8%	75%	7.2
Marshall	32.2%	26.6%	62%	7.8

Data Source: County Health Rankings and Roadmaps. Red indicates health behaviors/risk factors higher in the county than the state and/or federal level.

Marshall County has a higher obesity rate than Indiana and USA. Additionally, there is a lower rate of adults reporting access to exercise in Marshall County. The food environmental index is better than the state index in Marshall County.

The CDC has measured the age adjusted obesity percent by county over time based on the BRFSS. Since the BRFSS is based on self-reported weight and height, it is assumed that people will under-report weight, so consequently actual obesity rates are higher. In Marshall County, the age adjusted obesity rate has increased over the nine year reporting period and has exceeded the state rate in eight of the nine years.

Table 63: Age Adjusted Obesity over Time – Marshall County

Age-adjusted Obesity Percent									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	24.8	26.4	27.3	26.9	26.2	29.5	29.7		
Marshall County	25.3	27.0	28.8	28.1	27.8	28.7	31.0	31.8	28.0

Data Source: CDC. Red indicates higher obesity rates than the state.

The CDC also uses the BRFSS to calculate the Leisure-time Physical Inactivity Prevalence. In Marshall County, the level of leisure time physical inactivity was higher than the state average in six of the nine years measured by the CDC.

Table 64: Leisure-time Physical Inactivity Prevalence over Time – Marshall County

Leisure-time Physical Inactivity Prevalence (Estimate), Age-adjusted per 1000									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	25.3	27.0	25.3	24.3	27.7	27.2	26.4	29.2	25.7
Marshall County	27.0	25.8	26.5	28.1	28.2	28.6	28.3	25.6	25.9

Data Source: CDC. Red indicates higher physical inactivity than the state rate.

Indiana Indicators monitors unintentional injury deaths, traffic injury deaths and homicide deaths per 100,000 population (age adjusted). In Marshall County the unintentional injury deaths and traffic injury deaths per 100,000 population (age adjusted) were higher than the state and national rates.

Table 65: Unintentional Injury Deaths – Marshall County

Location	Injury (unintentional) deaths per 100,000 population (age-adjusted)	Traffic injury deaths per 100,000 population (age-adjusted)	Homicide deaths per 100,000 population (age-adjusted)
US	39.4	10.5	5.2

Indiana	39.2	12.1	6.1
Marshall County	49.4	18.1	0

Data Source: Indiana Indicators. Red indicates higher than state/national rate.

The availability of healthy food choices impacts diabetes and heart health. The US Department of Health and Human Services monitors the availability of healthy food choices by county. Overall, Marshall County has a lower availability of specialty food stores and food/health supplement stores compared to Indiana. Marshall County also has higher per-capita fast food restaurant than Indiana overall.

Table 66: Availability of Health Food Choices – Marshall County

Location	Supermarkets and other grocery (except convenience) stores		Convenience stores		Specialty food stores		Food (health) supplement stores	
	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)
Indiana	1,004	1.548	193	0.298	347	0.535	195	0.301
Marshall	9	1.913	1	0.213	2	0.425	1	0.213
Location	Full-service restaurants		Limited-service restaurants (fast food)		Cafeterias, grill buffets, and buffets		Snack and nonalcoholic beverage bars	
	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)
Indiana	4,433	6.837	4,733	7.300	181	0.279	847	1.306
Marshall	28	5.951	41	8.714	0	0.000	2	0.425

Data Source: US Department of Health and Human Services. Red indicates less available healthy food choices compared to state rates.

4. Socio-economic Factors

Public health works to promote the health of communities and populations. Illness is related to the social determinates of health which include such things as: healthy food, housing, education, employment, transportation, personal safety, affordable health care, cultural resources, recreation, clean air and water and protection from discrimination. Per the Indiana State Department of Health and nationally recognized research on public health, socio-economic factors have the greatest impact on health, greater even than that of health behaviors, protective factors, and the clinical care provided. Socio-economic factors include poverty, education, employment, housing and the physical environment.

Table 67: 2014 Estimated Poverty Rates and Median Household Income – Marshall County

Data Source: US Census. Orange indicates higher poverty rates than Indiana State rates.

Location	All Ages in Poverty Percent	Under Age 18 in Poverty Percent	Ages 5 to 17 in Families in Poverty Percent	Median Household Income in Dollars
United States	15.5	21.7	20.4	\$53,657
Indiana	15.2	21.2	19.3	\$49,384
Marshall County	10.9	15.8	14.5	\$52,508

Food insecurity refers to USDA’s measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. Marshall County is below than the state rate for childhood food insecurity.

Table 68: Childhood Food Insecurity – Marshall County

Location	2013 Rank	2013
Indiana		21.8%
Marshall County	45	22.10%

Data Source: KidsCount. Red indicates higher than the state percentage for childhood food insecurity.

Consistent with Childhood Food Insecurity, the percent of students receiving free and reduced lunches is above that of the state average in Marshall County.

Table 69: Government Assistance – Marshall County

Location	Free or Reduced Price Lunches		Food Stamp Recipients		TANF Recipients	
	Rate for Students Attending Public School 2014	Rank in State (low to high)	Rate per 1,000 2012	Rank for Rate Per 1000 Persons 2012	Rate per 1000 persons for TANF Recipients 2012	RANK (High to Low) for Rate per 1000 persons for TANF recipients
Indiana	49.10%		130		10.8	
Marshall	50.60%	54	103	70	3.3	55

Data Source: IPRC. Red indicates higher than the state rate.

The CDC has recently compiled new factors that are measures of the social determinants of health. Currently data is available on a county level but not a state level, so comparisons are limited. Marshall County has a lower percentage of the population living near a park compared to the five county area, as well as the second lowest percentage of household living with severe problems over a five year period.

Table 70: Physical Environment – Marshall County

Location	Percentage of Population Living Within Half a Mile of a Park, 2010	Percentage of Households Living with Severe Housing Problems, 2007-2011 (5-year)
Marshall	7	11.6

Data Source: CDC.

5. Substance Use

According to the World Health Organization, “Tobacco is the only legal product that kills one-half of its users when used as directed.” Tobacco and second hand smoke is a class 1 carcinogen (known to cause cancer) and is in the same classification as asbestos. Use of tobacco products increases risk for cancer, heart disease and stroke. In addition to tobacco, heavy and/or binge drinking is associated with increased health risks as is the use of illegal drugs. Addiction is associated with poor health outcomes and increased socio-economic costs, which in turn increase risks for health concerns.

In Marshall County, there are higher rates of current smokers in the United States.

Table 71: Substance Use – Marshall County

Location	Adults (%) 18 and older who are current smokers	Adults (%) 18 and older who are binge or heavy drinkers	Controlled substance prescriptions filled and entered into INSPECT per person in the county	Driving Deaths due to Alcohol Impairment
US	18.9	5.9	NA	NA
Indiana	22.8	15.9	1.64	26% (963 deaths)
Marshall	21.0	11.1	1.47	10% (4 deaths)

Data Sources: Indiana Indicators and County Health Ranking. Red indicates higher than the state (and national, if available) rate. Orange indicates higher than the national, but lower than the state rate.

Northern Indiana has experience one of the highest methamphetamine clandestine lab seizures in the state of Indiana. Methamphetamine production is highly risky and associated with hazardous chemical exposure. The use of methamphetamine, like most illegal drugs, can cause permanent and lasting damage to the brain. In two of the last five years, Marshall County was in the top 10 counties in Indiana for methamphetamine lab seizures.

Table 72: Number of Clandestine Methamphetamine Labs Seized by Year – Marshall County

Location	2011	2012	2013	2014	2015
Marshall	41	42	33	27	24

Data Source: <http://www.in.gov/meth/2330.htm>. Red indicates county was in the top 10 in Indiana for number of labs (not per capita)

The FBI tabulates drug and alcohol arrest rates. The arrests reported represent the following types of crimes: homicide, aggravated assaults, sexual assaults, other assaults, robbery, burglary, larceny-theft, auto thefts, driving under the influence, violations of liquor laws, public drunkenness, stolen property, prostitution, and violations of drug laws. Note that some arrests are directly related to alcohol and drug use (e.g. public drunkenness) and others are indirectly related (e.g. homicide). The number of alcohol and drug-related arrests was determined by applying a fraction that represents the association that each type of arrest has with alcohol or drug use. For example, driving under the influence is directly related to alcohol use and violating drug laws is directly related to drug use. Each of these arrests were counted as one arrest in computing rate of alcohol and drug arrests, respectively. In contrast, other types of arrests

are only associated with alcohol and/or drug use in a fraction of arrests. The alcohol and drug associated fractions used for the arrest data came from the FBI's Uniform Crime Reporting System. After all associations with prior alcohol and drug use were computed, all alcohol-related and drug-related arrests were totaled.

Table 73: FBI Arrest Data – Marshall County

Location	Total Population-Agencies report arrests	Alcohol-Related Arrest Rate per 100,000 Persons	Alcohol-Related Arrest Rate per 1,000 Persons	Drug-Related Arrest Rate per 100,000 Persons	Drug-Related Arrest Rate per 1,000 Persons
Indiana	6,537,334	918	9	578	6
Marshall	47,197	1,330	13	823	8

Data Source: FBI Arrest Statistics. Red indicates higher than the state rate for arrests.

According to the National Institute on Alcohol Abuse and Alcoholism, over-concentration of alcohol outlets is part of neighborhood economic and social disintegration. The area's economic base loses its diversity and becomes less attractive to both residents and potential retail customers. Additionally, according to Indiana Prevention Resource Center (IPRC), the over-concentration of alcohol outlets is associated with increased youth drinking and a person who begins drinking as a teen is four times more likely to develop alcohol dependencies than someone who waits until adulthood to use.

Table 74: Alcohol and Tobacco Outlets – Marshall County

Location	Total Pop, 2015 est. (Jan)	Jan 2015 Alcohol Licenses (No.) filtered	2015 outlet density per 1,000 persons (based on Jan 2015 pop est)	Tobacco Outlets	Outlets per 1,000 persons	Outlets per 1,000 Youth, 10-17
Indiana	6,613,067	11,289	1.71	8,783	1.34	12.2
Marshall	47,173	78	1.65	75	1.59	13.1

Data Source: Indiana Prevention Resource Center. Red indicates higher concentration of outlets compared to the state rate.

6. Mental Health

According to SAMHSA, there is no health without mental health. Good mental health can only occur if there is access to physical health care. Equally, good physical health requires access to mental health care. One of the many risk factors associated with chronic illnesses is the emotional impact on people who are ill and their families. Many chronic illnesses can have a strong effect on an individual's mental and emotional health. Additionally, mental disorders can affect a person's ability to cope with an illness and participate in treatment and recovery processes. Many individuals with chronic medical conditions have untreated, co-morbid mental illnesses or substance abuse disorders and this complicates their recovery from both conditions. Adults who had any mental illness, serious mental illness, or major depressive episodes in the past year had increased rates of hypertension, asthma, diabetes, heart disease, and stroke. Indiana ranks in the top ten of all states for the prevalence of any mental illness and serious mental illnesses. Lack of social or emotional support has been associated with development of mental illness and higher mortality rates. Suicide is in the top ten causes of death for all age groups in

Indiana. It is the second leading cause of death for the 15-34 year old age group. Nationally suicide claims more lives than traffic accidents. Per the Indiana Indicators, Marshall County has suicide deaths that fall below the state and national rates.

Table 75: Mental Health and Suicide – Marshall County

Location	Adults (%) 18 and older without social or emotional support	Suicide deaths per 100,000 population (age-adjusted)
US	19.6	12.6
Indiana	20.1	14.1
Marshall	17.6	10.0

Data Source: Indiana Indicators. Red indicates at or exceeding Indiana and Federal rates.

7. Youth Risk Factors

According to the Kids Count in Indiana 2016 Data Book Snapshot, Indiana has the fifth highest rate in the U.S. of first-time victims of child maltreatment. There are two main categories of child maltreatment: abuse and neglect. Further distinctions within the category of abuse are sexual abuse and physical abuse. When referencing Indiana’s data, it is important to note that a child is counted in only one category per investigation using the federal hierarchy of sexual abuse first, then physical abuse, and then neglect.

Table 76: 2014 Substantiated Cases of Child Maltreatment – Marshall County

Location	Neglect		Physical		Sexual	
	Number	Percent	Number	Percent	Number	Percent
Indiana	20,302	16.70%	2,373	7.90%	3,017	16.40%
Marshall	137	19.50%	21	9.30%	21	22.10%

Data Source: Kids Count in Indiana. Red indicates higher rates of abuse than the state rate.

In Marshall County, the percent of substantiated child neglect, physical abuse and sexual abuse is higher than that of the state of Indiana.

Children living in single parent households, as well as children of divorced parents may be at higher risk for socioeconomic burdens and other risk factors relating to health. Indiana as a whole has a slightly higher divorce rate than that of the United states and higher lone parent rates than that of the USA. Marshall County has a lower rate of lone parent families than the state and national rates and a very low divorce rate.

Table 77: Families with One Parent Missing and Divorce Rates – Marshall County

Location	Lone Parent Male	Lone Parent Female	Lone Parent, Male or Female	Divorced
USA	3.4	11.2	14.6	10.9
Indiana	3.6	11.2	14.8	12.3
Marshall	2.6	8.5	11.1	1.3

Data Source: IPRC. Red indicates higher than state and national rate. Orange indicates higher than national rate, but lower than state rate.

According to IPRC, the five county area has one of the high rates of juveniles committed to the department of correction. Marshall County ranked 73 out of 92 counties.

Table 78: Number of Juveniles Committed To the Department Of Correction (2014)

Location	2014	State Rank	5 Year average
Marshall	9	73	10.6

Data Source: IPRC

Table 79: Juvenile Offenses (2014) Per 1000 Children (0-18 yrs old) population

Location	Delinquency	Miscellaneous	Paternity	Status Offense	Termination of Parental Rights
Huntington	7.1	2.6	8.8	1.2	1.2
Kosciusko	5.4	5.7	6.0	0.1	0.7
Marshall	7.2	5.8	7.2	0.9	1.7
Wabash	11.6	8.0	7.9	5.7	1.9
Whitley	6.5	6.1	7.2	1.8	0.6

Data Source: IPRC. Red indicates higher rates than the five county area and green indicates lower rates than the five county area.

Marshall County has lower rates of all offense types compared to the five county area.

The Indiana Department of Education tracks graduation rates by school corporations. Overall Marshall County graduations meet or exceed the state rate. Two of the smaller schools fall slightly below the average for the state.

Table 80: 2014 Graduation Rates for High Schools in the Area – Marshal County

County	School Name	Paid Meals	Free/ Reduced price meals	General Ed	Special Ed	Total Cohort Count	Total Graduates	Total Grad Rate
State of Indiana		95.3%	86.9%	94.1%	74.9%	74391	66655	89.6%
Marshall	Culver Community High School	96.3%	82.8%	94.0%	***	58	50	86.2%
	Argos Comm Jr-Sr High School	92.1%	91.7%	94.8%	***	64	58	90.6%
	Bremen Senior High School	91.5%	82.8%	93.0%	***	124	111	89.5%
	Plymouth High School	96.5%	91.6%	95.3%	79.4%	272	249	91.5%
	Triton Jr-Sr High School	94.0%	88.9%	93.2%	***	78	71	91.0%

Data Source: Indiana Department of Education. ***Due to federal privacy laws, student performance data may not be displayed for any group of fewer than 10 students. Red indicates lower graduation rates than the state.

Interestingly enough, the graduation rates do not reflect the rather high drop-out problems in the service area. The five county area has a population that is 3.5% of the state total. Likewise, the public

school enrollment (all ages) is 3.5% of the state total enrollment. But in 2013-14 school year, out of the 3665 students in the state that dropped out of high school, 6.5% (239 students) were in the region.

Marshall County has a lower drop out rate, as well as suspensions, expulsions compared to the state.

Table 81: Education – Absences/Suspensions/Expulsion – Marshall County

Location	As a % of the Enrollment			As a % of suspensions & expulsions
	Students who have dropped out	Students Suspended	Students Expelled	Involving Drugs, Weapons, or Alcohol
Indiana	0.350%	6.059%	0.324%	8.260%
Marshall	0.364%	3.512%	0.234%	6.944%

Data Source: Indiana Department of Education. Red indicates higher rate than the state rate.

E. Results Wabash County

1. Comparison of Service Area Demographics to Bowen Center Demographics

Bowen Center service statistics for 2015 were compared to the most recent US census bureau population estimates.

Table 82: Wabash County Demographics compared to Bowen Center Demographics

Population Estimates by Race, 2014	Wabash County		Wabash Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
American Indian or Alaska Native	237	0.7%	3	0.2%	26,354	0.4%
Asian	158	0.5%	1	0.1%	132,406	2.0%
Black	257	0.8%	37	1.9%	630,751	9.6%
Native Hawaiian and Other Pac. Isl.	7	0.0%	0	0.0%	4,093	0.1%
White	31,220	96.8%	1,846	96.3%	5,678,447	86.1%
Two or More Race Groups	373	1.2%	30	1.6%	124,801	1.9%
Population Estimates by Hispanic or Latino Origin (of any race), 2014	Wabash County		Wabash Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Non-Hispanic	31,476	97.6%	1,835	95.7%	6,164,550	93.4%
Hispanic	776	2.4%	82	4.3%	432,305	6.6%
Population Estimates by Age, 2014	Wabash County		Wabash Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Preschool (0 to 4)	1,678	5.2%	28	1.5%	434,075	6.4%
School Age (5 to 17)	5,301	16.4%	627	32.7%	1,174,223	17.6%
College Age (18 to 24)	3,319	10.3%	201	10.5%	650,310	10.1%
Young Adult (25 to 44)	6,989	21.7%	574	29.9%	1,668,175	25.3%
Older Adult (45 to 64)	8,701	27.0%	410	21.4%	1,715,911	26.3%
Seniors (65 and older)	6,264	19.4%	77	4.0%	841,108	14.3%
Median Age	42.1		26		37.5	
Population Estimates by Households, 2013	Wabash County		Wabash Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Median Household Income in 2013	\$45,833	96.5%	\$11,024	23.2%	\$47,508	100.0%
October 2015 Unemployment Rate	4.1%	97.6%	23.5%	558.8%	4.2%	100.0%
Poverty Rate in 2013	14%	89.9%	61%	385.2%	15.8%	100.0%
Poverty Rate among Children <18	21%	97.3%	65%	299.0%	21.9%	100.0%

Bowen Center serves slightly more Black and individuals identifying as multiracial than the general population in Wabash County, as well as slightly higher rate of Hispanic/Latinos. Additionally, Bowen Center serves a higher proportion of school age children and young adults. As with other counties in Bowen’s service area, the average income of Bowen Center clients is significantly lower, while the unemployment and poverty rates are significantly higher than that of the general population.

2. Chronic Disease

Chronic diseases are those diseases that last three months or more and generally cannot be prevented by a vaccine or cured by medication, nor do they just disappear. They are not passed from person to person and are of long duration and generally slow progression. The four main types of chronic disease are: cardiovascular disease, cancers, chronic respiratory disease and diabetes. Per the Indiana Indicators, the incidence of chronic disease in Wabash County is higher for diabetes than both the state of Indiana and the USA. The prevalence rate for cancer is higher than the national prevalence rate, but lower than the Indiana prevalence. The prevalence rate for heart disease is higher than Indiana rates. The national rates are not available for that particular measure. Stroke and asthma are lower than the Indiana prevalence in Wabash County.

Table 83: Incidence of Chronic Disease – Wabash County

Chronic Disease	Wabash County	Indiana	USA
Cancer, new invasive cases (all sites combined) per 100,000 population (age-adjusted)	457.5	466.6	443
Adults (%) 18 and older with medically diagnosed diabetes	13.9	10.7	9.5
Heart disease hospital admissions per 10,000 population (age-adjusted)	87	85.5	NA
Stroke hospital admissions per 10,000 population (age-adjusted)	19.4	20.9	NA
Asthma emergency room visits per 10,000 population (age-adjusted)	46	49.9	NA

Data Source: Indiana Indicators. Orange indicates higher prevalence than national prevalence. Red indicates higher than the state and national prevalence.

The mortality rates for chronic diseases in Wabash County are higher than the state and national rates for cancer, stroke, lower respiratory disease, diabetes, and Alzheimer’s. Additionally mortality rates for heart disease are higher than the national rate, but lower than the state rate. Mortality rates for kidney disease, and influenza and pneumonia cannot be used for comparison because due to low number of deaths (less than 20), these rates are considered unstable.

Table 84: Mortality Rates Due to Major Chronic Illnesses Deaths per 100,000 Population – Wabash County

Mortality Rates	Cancer	Heart Disease	Stroke	Lower Respiratory	Kidney Disease	Diabetes	Alzheimer's Disease	Influenza & Pneumonia
US	163.20	169.80	36.20	42.10	13.20	21.20	23.50	15.90
Indiana	178.68	185.48	40.39	58.32	18.39	26.25	28.45	15.23
Wabash	180.59	179.81	43.62	60.82	14.15	35.78	31.06	14.56

Data Source: Indiana State Department of Health. Orange indicates higher mortality rates than national rates. Red indicates higher than the state and national mortality rates. Please note: Grey shading indicates that due to low numbers of deaths the mortality rates are unstable.

Per the Indiana State Department of Health, nearly 500,000 Indiana adults (10.7%) have been diagnosed with diabetes. According to research, many people are unaware they have diabetes. Of the 25.8 million Americans estimated to have diabetes, 7 million are predicted to be undiagnosed. Diabetes is the seventh leading cause of death in Indiana. Diabetes is a major cause of heart disease and stroke. In addition to adults diagnosed with diabetes, an additional 35% of adults are estimated to have prediabetes, a condition involving impaired glucose tolerance and impaired fasting glucose. Prediabetes is associated with increased risk of developing type 2 diabetes, heart disease, and stroke. Diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputations, and new cases of blindness among adults in the United States. Diabetes and heart disease are also co-morbid conditions with depression. People who have diabetes are twice as likely to develop depression as those who do not. People who have depression are 60% more likely to develop diabetes than those who do not. The table below shows county level modeling of the prevalence of diabetes over time from the Centers for Disease Control (CDC). Data is based the ongoing the Behavioral Risk Factor Surveillance System (BRFSS), weighted via 2010 census data on the population, and extended to the county level via regional, multi-level modeling techniques. Prevalence means that a person responded “yes” to the question, “Has a doctor, nurse or other health professional ever told you that you have diabetes?”

Table 85: Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000 Over Time – Wabash County

Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000									
	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	7.6	8.1	7.9	8.1	9.2	8.9	9.3	9.6	10.1
Wabash County	7.9	7.8	8.2	8.2	9.1	9.3	11.1	11.3	11.6

Data Source: CDC. Red indicates county prevalence is higher than the state prevalence.

Wabash County has exceeded the state prevalence for diabetes in seven of the nine years calculated by the CDC and at an increasing rate over time. Per the Indiana State Department of Health, Wabash County has one location for diabetes support groups, and one location for education that is not accredited and recognized.

3. Medical Care

The US Department of Health and Human Services has designated Wabash County as a medically underserved area based on low-income populations that are considered to be underserved. The USDHHS bases this designation on several factors including population, poverty levels, number of senior citizens, infant mortality, and number of primary care physician hours worked.

Additionally, US Department of Health and Human Services has designated Wabash County as a Health Profession Shortage Area (HPSA) in the areas of mental health and primary care physicians. There is less

than one psychiatrist to every 30,000 people in the population and the primary care physician to population ratio is less than 1:3,500. Wabash County is not designated as a HPSA for dental health.

In addition to designations as medically underserved and health profession shortage areas, Wabash County has higher rates of children who lack health insurance compared to both Indiana and the United States population. The ratio of local health department staff to population ratio is lower than the Indiana state ratio.

Table 86: Access to Healthcare – Wabash County

	Adults (%) 18 to 64 who currently lack health insurance	Children (%) under age 18 who currently lack health insurance	Adults (%) who could not see a doctor in the previous 12 months due to cost	Primary health care physicians to population ratio	Local health department staff to population ratio
US	20.4	7.1	16.6	1104	NA
Indiana	19.3	8.0	14.4	849	3187
Wabash	18.9	8.5	12.9	1263	5481

Data Source: Indiana Indicators. Orange indicates poorer access to healthcare than Indiana rates. Red indicates poorer access to healthcare than Indiana and federal rates.

4. Behaviors and Health Risks

The development of chronic disease is heavily influenced by modifiable risk factors. Examples of modifiable risk factors include: weight gain/obesity, physical activity, healthy food choices and tobacco use. Please note: Tobacco use will be reviewed in the section on substance use. The Robert Wood Johnson Foundation publishes county level health indicators each year. The following table summarizes obesity, physical activity and Food Environmental Index from the County Health Rankings and Roadmaps. The Food Environment Index ranges from 0 (worst) to 10 (best) and equally weights two indicators of the food environment. 1) Limited access to healthy foods estimates the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile. Low income is defined as having an annual family income of less than or equal to 200 percent of the federal poverty threshold for the family size. 2) Food insecurity estimates the percentage of the population who did not have access to a reliable source of food during the past year.

Table 87: Exercise, Nutrition, and Weight – Wabash County

Location	Adults 18 and older considered obese	Adults 20 and older reporting no leisure time physical activity	Adults reporting Access to Exercise	Food Environmental Index (0-10)
US	28.0%	26.2%	NA	NA
Indiana	31.3%	26.8%	75%	7.2
Wabash	33.0%	30.1%	63%	7.8

Data Source: County Health Rankings and Roadmaps. Red indicates health behaviors/risk factors higher in the county than the state and/or federal level.

Wabash County has a higher obesity rate than Indiana and USA. Additionally, there is a higher rate of adults reporting no leisure time physical activity and a lower rate of adults reporting access to exercise in Wabash County. The food environmental index is better than the state index in Wabash County.

The CDC has measured the age adjusted obesity percent by county over time based on the BRFSS. Since the BRFSS is based on self-reported weight and height, it is assumed that people will under-report weight, so consequently actual obesity rates are higher. In Wabash County, the age adjusted obesity rate has increased over the nine year reporting period and has exceeded the state rate in eight of the 9 years.

Table 88: Age Adjusted Obesity over Time – Wabash County

Age-adjusted Obesity Percent									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	24.8	26.4	27.3	26.9	26.2	29.5	29.7		
Wabash County	25.9	26.2	27.8	28.9	31.1	35.7	36.7	32.8	30.9

Data Source: CDC. Red indicates higher obesity rates than the state.

The CDC also uses the BRFSS to calculate the Leisure-time Physical Inactivity Prevalence. In Wabash County, the level of leisure time physical inactivity was higher than the state average in five of the nine years measured by the CDC.

Table 89: Leisure-time Physical Inactivity Prevalence over Time – Wabash County

Leisure-time Physical Inactivity Prevalence (Estimate), Age-adjusted per 1000									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	25.3	27.0	25.3	24.3	27.7	27.2	26.4	29.2	25.7
Wabash County	28.2	26.3	26.6	25.0	26.0	25.2	28.1	28.6	33.8

Data Source: CDC. Red indicates higher physical inactivity than the state rate.

Indiana Indicators monitors unintentional injury deaths, traffic injury deaths and homicide deaths per 100,000 population (age adjusted). In Wabash County the unintentional injury deaths and traffic injury deaths per 100,000 population were almost double that of the state and national rates.

Table 90: Unintentional Injury Deaths – Wabash County

Location	Injury (unintentional) deaths per 100,000 population (age-adjusted)	Traffic injury deaths per 100,000 population (age-adjusted)	Homicide deaths per 100,000 population (age-adjusted)
US	39.4	10.5	5.2
Indiana	39.2	12.1	6.1
Wabash County	78.6	24.1	0

Data Source: Indiana Indicators. Red indicates higher than state/national rate.

The availability of healthy food choices impacts diabetes and heart health. The US Department of Health and Human Services monitors the availability of healthy food choices by county. Overall, Wabash County has a higher per capita fast food restaurant rate than Indiana.

Table 91: Availability of Health Food Choices – Wabash County

Location	Supermarkets and other grocery (except convenience) stores		Convenience stores		Specialty food stores		Food (health) supplement stores	
	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)
Indiana	1,004	1.548	193	0.298	347	0.535	195	0.301
Wabash	6	1.824	0	0.000	2	0.608	2	0.608
Location	Full-service restaurants		Limited-service restaurants (fast food)		Cafeterias, grill buffets, and buffets		Snack and nonalcoholic beverage bars	
	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)
Indiana	4,433	6.837	4,733	7.300	181	0.279	847	1.306
Wabash	18	5.473	25	7.602	1	0.304	6	1.824

Data Source: US Department of Health and Human Services. Red indicates less available healthy food choices compared to state rates.

3. Socio-economic Factors

Public health works to promote the health of communities and populations. Illness is related to the social determinates of health which include such things as: healthy food, housing, education, employment, transportation, personal safety, affordable health care, cultural resources, recreation, clean air and water and protection from discrimination. Per the Indiana State Department of Health and nationally recognized research on public health, socio-economic factors have the greatest impact on health, greater even than that of health behaviors, protective factors, and the clinical care provided. Socio-economic factors include poverty, education, employment, housing and the physical environment.

Table 92: 2014 Estimated Poverty Rates and Median Household Income – Wabash County

Location	All Ages in Poverty Percent	Under Age 18 in Poverty Percent	Ages 5 to 17 in Families in Poverty Percent	Median Household Income in Dollars
United States	15.5	21.7	20.4	\$53,657
Indiana	15.2	21.2	19.3	\$49,384
Wabash County	15.2	21.3	18.9	\$45,151

Data Source: US Census. Orange indicates higher poverty rates than Indiana State rates.

Wabash County has lower median household income than Indiana and the youth in poverty is higher than the state rate, and all ages in poverty matches the Indiana rate.

Food insecurity refers to USDA’s measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. Childhood food insecurity is higher in Wabash County than in Indiana and Wabash county ranks 70th out of 92 counties in Indiana for childhood food insecurity.

Table 93: Childhood Food Insecurity – Wabash County

Location	2013 Rank	2013
Indiana		21.8%
Wabash County	70	24.00%

Data Source: KidsCount. Red indicates higher than the state percentage for childhood food insecurity.

Despite the rate of Childhood Food Insecurity, the percent of students receiving free and reduced lunches as well as food stamp recipient and TANF rates are below that of the state average in Wabash County.

Table 94: Government Assistance – Wabash County

Location	Free or Reduced Price Lunches		Food Stamp Recipients		TANF Recipients	
	Rate for Students Attending Public School 2014	Rank in State (low to high)	Rate per 1,000 2012	Rank for Rate Per 1000 Persons 2012	Rate per 1000 persons for TANF Recipients 2012	RANK (High to Low) for Rate per 1000 persons for TANF recipients
Indiana	49.10%		130		10.8	
Wabash	48.90%	46	121	53	4.2	38

Data Source: IPRC. Red indicates higher than the state rate.

The CDC has recently compiled new factors that are measures of the social determinants of health. Currently data is available on a county level but not a state level, so comparisons are limited. Wabash County has a higher percentage of the population living near a park and an average percentage of household living with severe housing problems over a five year period.

Table 95: Physical Environment

Location	Percentage of Population Living Within Half a Mile of a Park, 2010	Percentage of Households Living with Severe Housing Problems, 2007-2011 (5-year)
Huntington	30	10.1
Kosciusko	6	12.2
Marshall	7	11.6
Wabash	19	11.4
Whitley	16	8.1

Data Source: CDC.

4. Substance Use

According to the World Health Organization, “Tobacco is the only legal product that kills one-half of its users when used as directed.” Tobacco and second hand smoke is a class 1 carcinogen (known to cause

cancer) and is in the same classification as asbestos. Use of tobacco products increases risk for cancer, heart disease and stroke. In addition to tobacco, heavy and/or binge drinking is associated with increased health risks as is the use of illegal drugs. Addiction is associated with poor health outcomes and increased socio-economic costs, which in turn increase risks for health concerns.

In Wabash County, there are higher rates of current smokers and binge/heavy drinkers than in the United States. Additionally driving deaths due to alcohol impairment match the state rates.

Table 96: Substance Use – Wabash County

Location	Adults (%) 18 and older who are current smokers	Adults (%) 18 and older who are binge or heavy drinkers	Controlled substance prescriptions filled and entered into INSPECT per person in the county	Driving Deaths due to Alcohol Impairment
US	18.9	5.9	NA	NA
Indiana	22.8	15.9	1.64	26% (963 deaths)
Wabash	19.3	19.1	1.61	26% (10 deaths)

Data Sources: *Indiana Indicators and County Health Ranking*. Red indicates higher or equal than the state (and national, if available) rate. Orange indicates higher than the national, but lower than the state rate.

Northern Indiana has experience one of the highest methamphetamine clandestine lab seizures in the state of Indiana. Methamphetamine production is highly risky and associated with hazardous chemical exposure. The use of methamphetamine, like most illegal drugs, can cause permanent and lasting damage to the brain. Over the last five years, Wabash County was not in one of the top 10 counties in Indiana for methamphetamine lab seizures.

Table 97: Number of Clandestine Methamphetamine Labs Seized by Year – Wabash County

Location	2011	2012	2013	2014	2015
Wabash	15	14	18	20	23

Data Source: <http://www.in.gov/meth/2330.htm>. Red indicates county was in the top 10 in Indiana for number of labs (not per capita)

The FBI tabulates drug and alcohol arrest rates. The arrests reported represent the following types of crimes: homicide, aggravated assaults, sexual assaults, other assaults, robbery, burglary, larceny-theft, auto thefts, driving under the influence, violations of liquor laws, public drunkenness, stolen property, prostitution, and violations of drug laws. Note that some arrests are directly related to alcohol and drug use (e.g. public drunkenness) and others are indirectly related (e.g. homicide). The number of alcohol and drug-related arrests was determined by applying a fraction that represents the association that each type of arrest has with alcohol or drug use. For example, driving under the influence is directly related to alcohol use and violating drug laws is directly related to drug use. Each of these arrests were counted as one arrest in computing rate of alcohol and drug arrests, respectively. In contrast, other types of arrests are only associated with alcohol and/or drug use in a fraction of arrests. The alcohol and drug associated

fractions used for the arrest data came from the FBI's Uniform Crime Reporting System. After all associations with prior alcohol and drug use were computed, all alcohol-related and drug-related arrests were totaled.

Table 98: FBI Arrest Data – Wabash County

Location	Total Population-Agencies report arrests	Alcohol-Related Arrest Rate per 100,000 Persons	Alcohol-Related Arrest Rate per 1,000 Persons	Drug-Related Arrest Rate per 100,000 Persons	Drug-Related Arrest Rate per 1,000 Persons
Indiana	6,537,334	918	9	578	6
Wabash	32,710	833	8	448	4

Data Source: FBI Arrest Statistics. Red indicates higher than the state rate for arrests.

According to the National Institute on Alcohol Abuse and Alcoholism, over-concentration of alcohol outlets is part of neighborhood economic and social disintegration. The area’s economic base loses its diversity and becomes less attractive to both residents and potential retail customers. Additionally, according to Indiana Prevention Resource Center (IPRC), the over-concentration of alcohol outlets is associated with increased youth drinking and a person who begins drinking as a teen is four times more likely to develop alcohol dependencies than someone who waits until adulthood to use.

Table 99: Alcohol and Tobacco Outlets – Wabash County

Location	Total Pop, 2015 est. (Jan)	Jan 2015 Alcohol Licenses (No.) filtered	2015 outlet density per 1,000 persons (based on Jan 2015 pop est)	Tobacco Outlets	Outlets per 1,000 persons	Outlets per 1,000 Youth, 10-17
Indiana	6,613,067	11,289	1.71	8,783	1.34	12.2
Wabash	32,184	64	1.99	60	1.86	17.7

Data Source: Indiana Prevention Resource Center. Red indicates higher concentration of outlets compared to the state rate.

5. Mental Health

According to SAMHSA, there is no health without mental health. Good mental health can only occur if there is access to physical health care. Equally, good physical health requires access to mental health care. One of the many risk factors associated with chronic illnesses is the emotional impact on people who are ill and their families. Many chronic illnesses can have a strong effect on an individual’s mental and emotional health. Additionally, mental disorders can affect a person’s ability to cope with an illness and participate in treatment and recovery processes. Many individuals with chronic medical conditions have untreated, co-morbid mental illnesses or substance abuse disorders and this complicates their recovery from both conditions. Adults who had any mental illness, serious mental illness, or major depressive episodes in the past year had increased rates of hypertension, asthma, diabetes, heart disease, and stroke. Indiana ranks in the top ten of all states for the prevalence of any mental illness and serious mental illnesses. Lack of social or emotional support has been associated with development of mental illness and higher mortality rates. Suicide is in the top ten causes of death for all age groups in Indiana. It is the second leading cause of death for the 15-34 year old age group. Nationally suicide

claims more lives than traffic accidents. Per the Indiana Indicators, Wabash County has suicide deaths that exceed the state and national rates.

Table 100: Mental Health and Suicide – Wabash County

Location	Adults (%) 18 and older without social or emotional support	Suicide deaths per 100,000 population (age-adjusted)
US	19.6	12.6
Indiana	20.1	14.1
Wabash	17.4	16.6

Data Source: Indiana Indicators. Red indicates at or exceeding Indiana and Federal rates.

6. Youth Risk Factors

According to the Kids Count in Indiana 2016 Data Book Snapshot, Indiana has the fifth highest rate in the U.S. of first-time victims of child maltreatment. There are two main categories of child maltreatment: abuse and neglect. Further distinctions within the category of abuse are sexual abuse and physical abuse. When referencing Indiana’s data, it is important to note that a child is counted in only one category per investigation using the federal hierarchy of sexual abuse first, then physical abuse, and then neglect.

Table 101: 2014 Substantiated Cases of Child Maltreatment – Wabash County

Location	Neglect		Physical		Sexual	
	Number	Percent	Number	Percent	Number	Percent
Indiana	20,302	16.70%	2,373	7.90%	3,017	16.40%
Wabash	135	21.70%	21	12.00%	34	30.40%

Data Source: Kids Count in Indiana. Red indicates higher rates of abuse than the state rate.

In Wabash County, the percent of substantiated child neglect, physical and sexual abuse is higher than that of the state of Indiana, with sexual abuse almost doubling the state rate.

Children living in single parent households, as well as children of divorced parents may be at higher risk for socioeconomic burdens and other risk factors relating to health. Indiana as a whole has a slightly higher divorce rate than that of the United states and higher lone parent rates than that of the USA. Wabash County has a higher rate of lone male parent families than the state and national rates, but a lower rate of other lone parents and a lower divorce rate.

Table 102: Families with One Parent Missing and Divorce Rates – Wabash County

Location	Lone Parent Male	Lone Parent Female	Lone Parent, Male or Female	Divorced
USA	3.4	11.2	14.6	10.9
Indiana	3.6	11.2	14.8	12.3
Wabash	3.8	7.4	11.2	8.5

Data Source: IPRC. Red indicates higher than state and national rate. Orange indicates higher than national rate, but lower than state rate.

According to IPRC, the five county area has one of the high rates of juveniles committed to the department of correction. Wabash County ranked 63 out of 92 counties for the numbers of juveniles committed to the department of correction.

Table 103: Number of Juveniles Committed To the Department Of Correction (2014)

Location	2014	State Rank	5 Year average
Wabash	7	63 (tied with 7)	6.2

Data Source: IPRC

Table 104: Juvenile Offenses (2014) Per 1000 Children (0-18 yrs old) population

Location	Delinquency	Miscellaneous	Paternity	Status Offense	Termination of Parental Rights
Wabash	11.6	8.0	7.9	5.7	1.9

Data Source: IPRC. Red indicates higher rates than the five county area and green indicates lower rates than the five county area.

Wabash County has higher rates of juvenile offenses compared to the five county area.

The Indiana Department of Education tracks graduation rates by school corporations. Wabash County's graduation rate exceeds the state graduation rate, with the exception of one school (that has a small population and is a residential treatment facility).

Table 105: 2014 Graduation Rates for High Schools in the Area – Wabash County

County	School Name	Paid Meals	Free/ Reduced price meals	General Ed	Special Ed	Total Cohort Count	Total Graduates	Total Grad Rate
State of Indiana		95.3%	86.9%	94.1%	74.9%	74391	66655	89.6%
Wabash	Manchester Jr-Sr High School	96.6%	87.3%	98.0%	50.0%	115	104	90.4%
	Northfield Jr-Sr High School	98.1%	89.5%	96.8%	***	71	68	95.8%
	Southwood Jr-Sr High School	98.6%	100.0%	100.0%	***	93	90	96.8%
	White's Jr-Sr High School	***	62.5%	54.5%	***	27	15	55.6%
	Wabash High School	95.8%	94.9%	97.9%	75.0%	111	103	92.8%

Data Source: Indiana Department of Education. ***Due to federal privacy laws, student performance data may not be displayed for any group of fewer than 10 students. Red indicates lower graduation rates than the state.

Interestingly enough, the graduation rates do not reflect the rather high drop-out problems in the service area. The five county area has a population that is 3.5% of the state total. Likewise, the public school enrollment (all ages) is 3.5% of the state total enrollment. But in 2013-14 school year, out of the 3665 students in the state that dropped out of high school, 6.5% (239 students) were in the region.

Wabash County has 17.65% of the expulsions involve drugs, weapons or alcohol, significantly higher than the state rate of 8.26%

Table 106: Education – Absences/Suspensions/Expulsion – Wabash County

Location	As a % of the Enrollment			As a % of suspensions & expulsions
	Students who have dropped out	Students Suspended	Students Expelled	Involving Drugs, Weapons, or Alcohol
Indiana	0.350%	6.059%	0.324%	8.260%
Wabash	0.200%	0.640%	0.040%	17.647%

Data Source: Indiana Department of Education. Red indicates higher rate than the state rate.

F. Results Whitley County

1. Comparison of Service Area Demographics to Bowen Center Demographics

Bowen Center service statistics for 2015 were compared to the most recent US census bureau population estimates.

Table 107: Whitley County Demographics compared to Bowen Center Demographics

Population Estimates by Race, 2014	Whitley County		Whitley Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
American Indian or Alaska Native	139	0.4%	8	0.5%	26,354	0.4%
Asian	135	0.4%	2	0.1%	132,406	2.0%
Black	152	0.5%	23	1.6%	630,751	9.6%
Native Hawaiian and Other Pac. Isl.	24	0.1%	0	0.0%	4,093	0.1%
White	32,542	97.4%	1,426	96.5%	5,678,447	86.1%
Two or More Race Groups	411	1.2%	18	1.2%	124,801	1.9%
Population Estimates by Hispanic or Latino Origin (of any race), 2014	Whitley County		Whitley Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Non-Hispanic	32,724	98.0%	1,425	96.5%	6,164,550	93.4%
Hispanic	679	2.0%	52	3.5%	432,305	6.6%
Population Estimates by Age, 2014	Whitley County		Whitley Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Preschool (0 to 4)	1,945	5.8%	48	3.2%	434,075	6.4%
School Age (5 to 17)	5,866	17.6%	560	37.9%	1,174,223	17.6%
College Age (18 to 24)	2,650	7.9%	146	9.9%	650,310	10.1%
Young Adult (25 to 44)	7,912	23.7%	396	26.8%	1,668,175	25.3%
Older Adult (45 to 64)	9,672	29.0%	286	19.4%	1,715,911	26.3%
Seniors (65 and older)	5,358	16.0%	41	2.8%	841,108	14.3%
Median Age	41.1		12		37.5	
Population Estimates by Households, 2013	Whitley County		Whitley Bowen Center		Indiana	
	Number	Percent	Number	Percent	Number	Percent
Median Household Income in 2013	\$52,673	111%	\$11,024	23.2%	\$47,508	100.0%
October 2015 Unemployment Rate	3.6%	85.7%	20.4%	486.4%	4.2%	100.0%
Poverty Rate in 2013	9%	56.3%	25%	155.7%	15.8%	100.0%
Poverty Rate among Children < 18	13%	60.3%	60%	275.4%	21.9%	100.0%

In Whitley County, Bowen Center serves slightly higher rates of Black and Hispanics/Latinos than the general population. Significantly more school age children are served. The median income falls

significantly below the county average for Bowen Center Clients; while the unemployment rate and the poverty rate is significantly higher.

2. Chronic Disease (incidence, mortality rates for chronic disease)

Chronic diseases are those diseases that last three months or more and generally cannot be prevented by a vaccine or cured by medication, nor do they just disappear. They are not passed from person to person and are of long duration and generally slow progression. The four main types of chronic disease are: cardiovascular disease, cancers, chronic respiratory disease and diabetes. Per the Indiana Indicators, the incidence of chronic disease in Whitley County is higher for cancer and diabetes than both the state of Indiana and the USA. Heart disease, stroke and asthma are lower than the Indiana prevalence in Whitley County.

Table 108: Incidence of Chronic Disease – Whitley County

Chronic Disease	Whitley County	Indiana	USA
Cancer, new invasive cases (all sites combined) per 100,000 population (age-adjusted)	470.2	466.6	443
Adults (%) 18 and older with medically diagnosed diabetes	11	10.7	9.5
Heart disease hospital admissions per 10,000 population (age-adjusted)	83.5	85.5	NA
Stroke hospital admissions per 10,000 population (age-adjusted)	19.4	20.9	NA
Asthma emergency room visits per 10,000 population (age-adjusted)	41.6	49.9	NA

Data Source: Indiana Indicators. Orange indicates higher prevalence than national prevalence. Red indicates higher than the state and national prevalence.

The mortality rates for chronic diseases in Whitley County are higher than the national rates, but lower than Indiana rates for heart disease and lower respiratory disease. Cancer and stroke mortality rates are less than both the state and national rates. Mortality rates for kidney disease, diabetes, Alzheimer’s disease, and influenza and pneumonia cannot be used for comparison because due to low number of deaths (less than 20), these rates are considered unstable.

Table 109: Mortality Rates Due to Major Chronic Illnesses Deaths per 100,000 Population – Whitley County

Mortality Rates	Cancer	Heart Disease	Stroke	Lower Respiratory	Kidney Disease	Diabetes	Alzheimer's Disease	Influenza & Pneumonia
US	163.20	169.80	36.20	42.10	13.20	21.20	23.50	15.90
Indiana	178.68	185.48	40.39	58.32	18.39	26.25	28.45	15.23
Wabash	149.62	175.62	29.56	55.54	7.65	24.53	21.76	8.99

Data Source: Indiana State Department of Health. Orange indicates higher mortality rates than national rates. Red indicates higher than the state and national mortality rates. Please note: Grey shading indicates that due to low numbers of deaths the mortality rates are unstable.

Per the Indiana State Department of Health, nearly 500,000 Indiana adults (10.7%) have been diagnosed with diabetes. According to research, many people are unaware they have diabetes. Of the 25.8 million Americans estimated to have diabetes, 7 million are predicted to be undiagnosed. Diabetes is the

seventh leading cause of death in Indiana. Diabetes is a major cause of heart disease and stroke. In addition to adults diagnosed with diabetes, an additional 35% of adults are estimated to have prediabetes, a condition involving impaired glucose tolerance and impaired fasting glucose. Prediabetes is associated with increased risk of developing type 2 diabetes, heart disease, and stroke. Diabetes is the leading cause of kidney failure, non-traumatic lower-limb amputations, and new cases of blindness among adults in the United States. Diabetes and heart disease are also co-morbid conditions with depression. People who have diabetes are twice as likely to develop depression as those who do not. People who have depression are 60% more likely to develop diabetes than those who do not. The table below shows county level modeling of the prevalence of diabetes over time from the Centers for Disease Control (CDC). Data is based on the ongoing Behavioral Risk Factor Surveillance System (BRFSS), weighted via 2010 census data on the population, and extended to the county level via regional, multi-level modeling techniques. Prevalence means that a person responded “yes” to the question, “Has a doctor, nurse or other health professional ever told you that you have diabetes?”

Table 110: Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000 Over Time – Whitley County

Diagnosed Diabetes Prevalence (Estimate), Age-adjusted per 1000									
	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	7.6	8.1	7.9	8.1	9.2	8.9	9.3	9.6	10.1
Whitley County	7.4	7.5	8.1	8.5	8.5	7.7	7.9	8.7	9.6

Data Source: CDC. Red indicates county prevalence is higher than the state prevalence.

Whitley County has exceeded the state prevalence in two of the nine years calculated by the CDC and those differences were marginal. Per the Indiana State Department of Health, Whitley County has one accredited and recognized location for diabetes education and support.

3. Medical Care

Whitley County is the only county in the Bowen Center five county core service area that is not recognized as a medically underserved county by the US Department of Health and Human Services. The USDHHS bases this designation on several factors including population, poverty levels, number of senior citizens, infant mortality, and number of primary care physician hours worked.

The US Department of Health and Human Services has designated Whitley County as a Health Profession Shortage Area (HPSA) in the areas of mental health and primary care physicians. There is less than one psychiatrist to every 30,000 people in the population and the primary care physician to population ratio is less than 1:3,500. Whitley County is not designated as a HPSA for dental health.

In addition to designation as a health profession shortage area for mental health, Whitley County has higher rates of children who lack health insurance compared to both Indiana and the United States population. The ratio of local health department staff to population ratio is lower than the Indiana state ratio.

Table 111: Access to Healthcare – Whitley County

	Adults (%) 18 to 64 who currently lack health insurance	Children (%) under age 18 who currently lack health insurance	Adults (%) who could not see a doctor in the previous 12 months due to cost	Primary health care physicians to population ratio	Local health department staff to population ratio
US	20.4	7.1	16.6	1104	NA
Indiana	19.3	8.0	14.4	849	3187
Whitley	16.9	8.1	10.4	1191	4756

Data Source: Indiana Indicators. Orange indicates poorer access to healthcare than Indiana rates. Red indicates poorer access to healthcare than Indiana and federal rates.

4. Behaviors and Health Risks

The development of chronic disease is heavily influenced by modifiable risk factors. Examples of modifiable risk factors include: weight gain/obesity, physical activity, healthy food choices and tobacco use. Please note: Tobacco use will be reviewed in the section on substance use. The Robert Wood Johnson Foundation publishes county level health indicators each year. The following table summarizes obesity, physical activity and Food Environmental Index from the County Health Rankings and Roadmaps. The Food Environment Index ranges from 0 (worst) to 10 (best) and equally weights two indicators of the food environment. 1) Limited access to healthy foods estimates the percentage of the population who are low income and do not live close to a grocery store. Living close to a grocery store is defined differently in rural and non-rural areas; in rural areas, it means living less than 10 miles from a grocery store whereas in non-rural areas, it means less than 1 mile. Low income is defined as having an annual family income of less than or equal to 200 percent of the federal poverty threshold for the family size. 2) Food insecurity estimates the percentage of the population who did not have access to a reliable source of food during the past year.

Table 112: Exercise, Nutrition, and Weight – Whitley County

Location	Adults 18 and older considered obese	Adults 20 and older reporting no leisure time physical activity	Adults reporting Access to Exercise	Food Environmental Index (0-10)
US	28.0%	26.2%	NA	NA
Indiana	31.3%	26.8%	75%	7.2
Whitley	33.0%	19.9%	65%	8.4

Data Source: County Health Rankings and Roadmaps. Red indicates health behaviors/risk factors higher in the county than the state and/or federal level.

Whitley County has a higher obesity rate than Indiana and USA. Additionally, there is a lower rate of adults reporting access to exercise in Whitley County. The food environmental index is better than the state index in Whitley County.

The CDC has measured the age adjusted obesity percent by county over time based on the BRFSS. Since the BRFSS is based on self-reported weight and height, it is assumed that people will under-report weight, so consequently actual obesity rates are higher. In Whitley County, the age adjusted obesity rate has increased over the nine year reporting period and has exceeded the state rate.

Table 113: Age Adjusted Obesity over Time – Whitley County

Age-adjusted Obesity Percent									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	24.8	26.4	27.3	26.9	26.2	29.5	29.7		
Whitley County	26.5	26.7	27.5	28.8	29.2	32.3	33.0	32.0	31.6

Data Source: CDC. Red indicates higher obesity rates than the state.

The CDC also uses the BRFSS to calculate the Leisure-time Physical Inactivity Prevalence. In Whitley County, the level of leisure time physical inactivity was higher than the state average in two of the nine years measured by the CDC.

Table 114: Leisure-time Physical Inactivity Prevalence over Time – Whitley County

Leisure-time Physical Inactivity Prevalence (Estimate), Age-adjusted per 1000									
Location	2004	2005	2006	2007	2008	2009	2010	2011	2012
Indiana	25.3	27.0	25.3	24.3	27.7	27.2	26.4	29.2	25.7
Whitley County	27.8	26.3	25.1	24.8	23.9	20.1	18.8	19.0	22.7

Data Source: CDC. Red indicates higher physical inactivity than the state rate.

Indiana Indicators monitors unintentional injury deaths, traffic injury deaths and homicide deaths per 100,000 population (age adjusted). In Whitley County the traffic injury deaths per 100,000 population (age adjusted) higher than the state and national rates.

Table 115: Unintentional Injury Deaths – Whitley County

Location	Injury (unintentional) deaths per 100,000 population (age-adjusted)	Traffic injury deaths per 100,000 population (age-adjusted)	Homicide deaths per 100,000 population (age-adjusted)
US	39.4	10.5	5.2
Indiana	39.2	12.1	6.1
Whitley County	Not available	15.1	0

Data Source: Indiana Indicators. Red indicates higher than state/national rate.

The availability of healthy food choices impacts diabetes and heart health. The US Department of Health and Human Services monitors the availability of healthy food choices by county. Overall, Whitley County has higher per-capita full service restaurant than Indiana overall.

Table 116: Availability of Health Food Choices – Whitley County

Location	Supermarkets and other grocery (except convenience) stores		Convenience stores		Specialty food stores		Food (health) supplement stores	
	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)	# stores	Per Capita (10,000 population)

Indiana	1,004	1.548	193	0.298	347	0.535	195	0.301
Whitley	5	1.502	2	0.601	1	0.300	2	0.601
Location	Full-service restaurants		Limited-service restaurants (fast food)		Cafeterias, grill buffets, and buffets		Snack and nonalcoholic beverage bars	
	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)	# Establishments	per Capita (10,000)
Indiana	4,433	6.837	4,733	7.300	181	0.279	847	1.306
Whitley	25	7.509	24	7.209	1	0.300	4	1.201

Data Source: US Department of Health and Human Services. Red indicates less available healthy food choices compared to state rates.

4. Socio-economic Factors

Public health works to promote the health of communities and populations. Illness is related to the social determinates of health which include such things as: healthy food, housing, education, employment, transportation, personal safety, affordable health care, cultural resources, recreation, clean air and water and protection from discrimination. Per the Indiana State Department of Health and nationally recognized research on public health, socio-economic factors have the greatest impact on health, greater even than that of health behaviors, protective factors, and the clinical care provided. Socio-economic factors include poverty, education, employment, housing and the physical environment.

Table 117: 2014 Estimated Poverty Rates and Median Household Income – Whitley County

Location	All Ages in Poverty Percent	Under Age 18 in Poverty Percent	Ages 5 to 17 in Families in Poverty Percent	Median Household Income in Dollars
United States	15.5	21.7	20.4	\$53,657
Indiana	15.2	21.2	19.3	\$49,384
Whitley County	9.4	13.2	12.6	\$59,266

Data Source: US Census. Orange indicates higher poverty rates than Indiana State rates.

Food insecurity refers to USDA’s measure of lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. Whitley County is better than the state rate for childhood food insecurity and ranks 7th in the state.

Table 118: Childhood Food Insecurity – Whitley County

Location	2013 Rank	2013
Indiana		21.8%
Whitley County	7	18.70%

Data Source: KidsCount. Red indicates higher than the state percentage for childhood food insecurity.

Consistent with Childhood Food Insecurity, the percent of students receiving free and reduced lunches as well as food stamp recipient and TANF rates are below that of the state average in Whitley County.

Table 119: Government Assistance – Whitley County

Location	Free or Reduced Price Lunches		Food Stamp Recipients		TANF Recipients	
	Rate for Students Attending Public School 2014	Rank in State (low to high)	Rate per 1,000 2012	Rank for Rate Per 1000 Persons 2012	Rate per 1000 persons for TANF Recipients 2012	RANK (High to Low) for Rate per 1000 persons for TANF recipients
Whitley	31.50%	5	82	83	1.1	90

Data Source: IPRC. Red indicates higher than the state rate.

The CDC has recently compiled new factors that are measures of the social determinants of health. Currently data is available on a county level but not a state level, so comparisons are limited. Whitley County has a higher percentage of the population living near a park, as well as the lowest percentage of household living with severe housing problems over a five year period.

Table 120: Physical Environment

Location	Percentage of Population Living Within Half a Mile of a Park, 2010	Percentage of Households Living with Severe Housing Problems, 2007-2011 (5-year)
Huntington	30	10.1
Kosciusko	6	12.2
Marshall	7	11.6
Wabash	19	11.4
Whitley	16	8.1

Data Source: CDC.

5. Substance Use

According to the World Health Organization, “Tobacco is the only legal product that kills one-half of its users when used as directed.” Tobacco and second hand smoke is a class 1 carcinogen (known to cause cancer) and is in the same classification as asbestos. Use of tobacco products increases risk for cancer, heart disease and stroke. In addition to tobacco, heavy and/or binge drinking is associated with increased health risks as is the use of illegal drugs. Addiction is associated with poor health outcomes and increased socio-economic costs, which in turn increase risks for health concerns.

In Whitley County, there are higher rates of current smokers than in the US and higher rates of binge/heavy drinkers than in Indiana and the United States.

Table 121: Substance Use – Whitley County

Location	Adults (%) 18 and older who are current smokers	Adults (%) 18 and older who are binge or heavy drinkers	Controlled substance prescriptions filled and entered into INSPECT per person in the county	Driving Deaths due to Alcohol Impairment
US	18.9	5.9	NA	NA
Indiana	22.8	15.9	1.64	26% (963 deaths)

Whitley	21.5	21.1	1.31	21% (6 deaths)
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Data Sources: *Indiana Indicators and County Health Ranking*. Red indicates higher than the state (and national, if available) rate. Orange indicates higher than the national, but lower than the state rate.

Northern Indiana has experience one of the highest methamphetamine clandestine lab seizures in the state of Indiana. Methamphetamine production is highly risky and associated with hazardous chemical exposure. The use of methamphetamine, like most illegal drugs, can cause permanent and lasting damage to the brain. Over the last five years, Whitley County was not in one of the top 10 counties in Indiana for methamphetamine lab seizures.

Table 122: Number of Clandestine Methamphetamine Labs Seized by Year – Whitley County

Location	2011	2012	2013	2014	2015
Whitley	8	8	8	14	5

Data Source: <http://www.in.gov/meth/2330.htm>. Red indicates county was in the top 10 in Indiana for number of labs (not per capita)

The FBI tabulates drug and alcohol arrest rates. The arrests reported represent the following types of crimes: homicide, aggravated assaults, sexual assaults, other assaults, robbery, burglary, larceny-theft, auto thefts, driving under the influence, violations of liquor laws, public drunkenness, stolen property, prostitution, and violations of drug laws. Note that some arrests are directly related to alcohol and drug use (e.g. public drunkenness) and others are indirectly related (e.g. homicide). The number of alcohol and drug-related arrests was determined by applying a fraction that represents the association that each type of arrest has with alcohol or drug use. For example, driving under the influence is directly related to alcohol use and violating drug laws is directly related to drug use. Each of these arrests were counted as one arrest in computing rate of alcohol and drug arrests, respectively. In contrast, other types of arrests are only associated with alcohol and/or drug use in a fraction of arrests. The alcohol and drug associated fractions used for the arrest data came from the FBI's Uniform Crime Reporting System. After all associations with prior alcohol and drug use were computed, all alcohol-related and drug-related arrests were totaled.

Table 123: FBI Arrest Data – Whitley County

Location	Total Population-Agencies report arrests	Alcohol-Related Arrest Rate per 100,000 Persons	Alcohol-Related Arrest Rate per 1,000 Persons	Drug-Related Arrest Rate per 100,000 Persons	Drug-Related Arrest Rate per 1,000 Persons
Indiana	6,537,334	918	9	578	6
Whitley	33,497	658	7	354	4

Data Source: *FBI Arrest Statistics*. Red indicates higher than the state rate for arrests.

According to the National Institute on Alcohol Abuse and Alcoholism, over-concentration of alcohol outlets is part of neighborhood economic and social disintegration. The area's economic base loses its diversity and becomes less attractive to both residents and potential retail customers. Additionally, according to Indiana Prevention Resource Center (IPRC), the over-concentration of alcohol outlets is

associated with increased youth drinking and a person who begins drinking as a teen is four times more likely to develop alcohol dependencies than someone who waits until adulthood to use.

Table 124: Alcohol and Tobacco Outlets – Whitley County

Location	Total Pop, 2015 est. (Jan)	Jan 2015 Alcohol Licenses (No.) filtered	2015 outlet density per 1,000 persons (based on Jan 2015 pop est)	Tobacco Outlets	Outlets per 1,000 persons	Outlets per 1,000 Youth, 10-17
Indiana	6,613,067	11,289	1.71	8,783	1.34	12.2
Whitley	33,275	53	1.59	54	1.61	14.4

Data Source: Indiana Prevention Resource Center. Red indicates higher concentration of outlets compared to the state rate.

6. Mental Health

According to SAMHSA, there is no health without mental health. Good mental health can only occur if there is access to physical health care. Equally, good physical health requires access to mental health care. One of the many risk factors associated with chronic illnesses is the emotional impact on people who are ill and their families. Many chronic illnesses can have a strong effect on an individual’s mental and emotional health. Additionally, mental disorders can affect a person’s ability to cope with an illness and participate in treatment and recovery processes. Many individuals with chronic medical conditions have untreated, co-morbid mental illnesses or substance abuse disorders and this complicates their recovery from both conditions. Adults who had any mental illness, serious mental illness, or major depressive episodes in the past year had increased rates of hypertension, asthma, diabetes, heart disease, and stroke. Indiana ranks in the top ten of all states for the prevalence of any mental illness and serious mental illnesses. Lack of social or emotional support has been associated with development of mental illness and higher mortality rates. Suicide is in the top ten causes of death for all age groups in Indiana. It is the second leading cause of death for the 15-34 year old age group. Nationally suicide claims more lives than traffic accidents. Per the Indiana Indicators, Whitley County has lower suicide deaths than the state and national average.

Table 126: Mental Health and Suicide – Whitley County

Location	Adults (%) 18 and older without social or emotional support	Suicide deaths per 100,000 population (age-adjusted)
US	19.6	12.6
Indiana	20.1	14.1
Whitley	14.0	12.5

Data Source: Indiana Indicators. Red indicates at or exceeding Indiana and Federal rates.

7. Youth Risk Factors

According to the Kids Count in Indiana 2016 Data Book Snapshot, Indiana has the fifth highest rate in the U.S. of first-time victims of child maltreatment. There are two main categories of child maltreatment: abuse and neglect. Further distinctions within the category of abuse are sexual abuse and physical abuse. When referencing Indiana’s data, it is important to note that a child is counted in only one

category per investigation using the federal hierarchy of sexual abuse first, then physical abuse, and then neglect.

Table 127: 2014 Substantiated Cases of Child Maltreatment – Whitley County

Location	Neglect		Physical		Sexual	
	Number	Percent	Number	Percent	Number	Percent
Indiana	20,302	16.70%	2,373	7.90%	3,017	16.40%
Whitley	62	17.70%	6	4.20%	12	21.10%

Data Source: Kids Count in Indiana. Red indicates higher rates of abuse than the state rate.

In Whitley County, the percent of substantiated child neglect and sexual abuse is higher than that of the state of Indiana.

Children living in single parent households, as well as children of divorced parents may be at higher risk for socioeconomic burdens and other risk factors relating to health. Indiana as a whole has a slightly higher divorce rate than that of the United States and higher lone parent rates than that of the USA. Whitley County has a lower rate of lone parent families than the state and national rates, but a higher divorce rate than the national rate.

Table 128: Families with One Parent Missing and Divorce Rates – Whitley County

Location	Lone Parent Male	Lone Parent Female	Lone Parent, Male or Female	Divorced
USA	3.4	11.2	14.6	10.9
Indiana	3.6	11.2	14.8	12.3
Whitley	2.7	6.3	9	13.3

Data Source: IPRC. Red indicates higher than state and national rate. Orange indicates higher than national rate, but lower than state rate.

According to IPRC, the five county area has one of the high rates of juveniles committed to the department of correction. All counties, with the exception of Whitley, are in the lower half of the state ranking. Whitley County ranked 17 out of 92 counties.

Table 129: Number of Juveniles Committed To the Department Of Correction (2014)

Location	2014	State Rank	5 Year average
Whitley	1	17 (tied with 10)	2

Data Source: IPRC

Table 130: Juvenile Offenses (2014) Per 1000 Children (0-18 yrs old) population

Location	Delinquency	Miscellaneous	Paternity	Status Offense	Termination of Parental Rights
Whitley	6.5	6.1	7.2	1.8	0.6

Data Source: IPRC. Red indicates higher rates than the five county area and green indicates lower rates than the five county area.

Whitley County has lower rates of juvenile offenses compared to the five county area.

The Indiana Department of Education tracks graduation rates by school corporations. All three high schools in Whitley County exceed the state graduation rate.

Table 131: 2014 Graduation Rates for High Schools in the Area – Whitley County

County	School Name	Paid Meals	Free/ Reduced price meals	General Ed	Special Ed	Total Cohort Count	Total Graduates	Total Grad Rate
State of Indiana		95.3%	86.9%	94.1%	74.9%	74391	66655	89.6%
Whitley	Whitko High School	92.7%	93.3%	95.0%	81.8%	147	134	91.2%
	Churubusco Jr-Sr High School	97.5%	95.2%	97.8%	91.7%	104	98	94.2%
	Columbia City High School	97.2%	87.5%	97.6%	74.2%	281	266	94.7%

Data Source: Indiana Department of Education. ***Due to federal privacy laws, student performance data may not be displayed for any group of fewer than 10 students. Red indicates lower graduation rates than the state.

Interestingly enough, the graduation rates do not reflect the rather high drop-out problems in the service area. The five county area has a population that is 3.5% of the state total. Likewise, the public school enrollment (all ages) is 3.5% of the state total enrollment. But in 2013-14 school year, out of the 3665 students in the state that dropped out of high school, 6.5% (239 students) were in the region.

Whitley County has a lower dropout rate than the state rate, as well as a lower suspension and expulsion rate. The rate of suspension and expulsions involving drugs, weapons or alcohol are only slightly higher than the state rates.

Table 132: Education – Absences/Suspensions/Expulsion – Whitley County

Location	As a % of the Enrollment			As a % of suspensions & expulsions
	Students who have dropped out	Students Suspended	Students Expelled	Involving Drugs, Weapons, or Alcohol
Indiana	0.350%	6.059%	0.324%	8.260%
Whitley	0.218%	3.176%	0.187%	8.333%

Data Source: Indiana Department of Education. Red indicates higher rate than the state rate.

III. Community Health Needs

A. Prioritized Community Health Needs

In order to prioritize the community health needs in each county, a summary of all health needs that exceeded state and/or federal benchmarks were reviewed by Bowen Center executive leadership and county leadership. Through this review process, the Bowen Center selected the following prioritized community health needs for each county in the primary service area.

1. **Huntington County**

- **Adult Diabetes:** There is higher adult diabetes prevalence in Huntington County (12.5% vs. 9.5% nationally) and Huntington County has exceeded the state rate in 8 of the last 9 years.
- **Tobacco and Alcohol Use:** In Huntington County, there is a high rate of current smokers and binge drinking. The rate of smokers is 25.7% in Huntington County vs. 18.9% USA. Rates of binge drinking: 22.2% in Huntington County vs. 5.9% USA
- **Suicide:** There is increased suicide rates of 14.1 per 100,000 in Huntington County compared to 12.6 nationally.

2. **Kosciusko County**

- **Suicide:** In Kosciusko County, there is increased suicide rates of 15.2 per 100,000 compared to 14.1 in Indiana and 12.6 nationally.
- **Substance Related Issues:** Current smokers are 21.9% in Kosciusko County vs. the national average of 18.9%. Higher rates of driving deaths due to alcohol impairment (35% in Kosciusko vs. 26% in Indiana). Alcohol arrests rates are 12 per 1000 persons in Kosciusko compared to 9 per 1000 for the state. Kosciusko County ranks in the top five counties in Indiana for clandestine methamphetamine lab seizures for four of the last five years.
- **Youth Related Issues:** Kosciusko is ranked 77 out of 92 counties in Indiana for juveniles committed to the department of correction. Graduation rates in Kosciusko fall below the state graduation rate of 79.7% compared to the state 89.6%. High School Drop Out Rate is higher in Kosciusko than the state (0.37% vs. 0.35%). Expulsions involving drugs, weapons or alcohol are 17.955% in Kosciusko vs. the state rate of 8.26%.

3. **Marshall County**

- **Lack of Health Insurance:** Adults who lack health insurance are 22.5% in Marshall County vs. 20.4% nationally. Children in Marshall County who lack health insurance are below the national rate 10.7% vs 7.1%.
- **Adult Obesity:** There is higher adult obesity prevalence in Marshall County (32.2% vs. 28.0% nationally) and the obesity rate in Marshall County exceeded the state rate in 9 of last 9 years.
- **Physical Inactivity:** Only 62% of the adults in Marshall County reported access to exercise compared to 75% of the adults in Indiana. In Marshall County, the level of leisure time physical inactivity was higher than the state average in six of the nine years tracked.

4. **Wabash County**

- **Adult Diabetes:** There is a higher rate of diabetes (13.9% of population in Wabash County vs. 9.5% for US). Additionally, there is a higher diabetes mortality rate in Wabash County than in the US (35.78 vs. 21.20). Diabetes prevalence over time in Wabash County has exceeded US in seven of the nine years measured.
- **Obesity Rates:** Obesity rates exceed national rates in Wabash County (33.0% vs. 28.0%). Age adjusted obesity rate has increased over the nine year reporting period and has exceeded the state rate in eight of the nine years.

- **Unintentional Injury Deaths:** In Wabash County, unintentional injury deaths (78.6 vs. 39.4) and traffic injury deaths (24.1 vs. 10.5) per 100,000 population were almost double that of the state and national rates.
- **Alcohol Use:** Binge/heavy drinker rates exceed state and national rates (19.1% vs. 5.9%) in Wabash County. Driving deaths due to alcohol impairment match the state rate of 26%. The rate of alcohol outlets per 1,000 population is higher in Wabash than the state (1.99 vs. 1.71).
- **Child Neglect, Physical and Sexual Abuse:** In Wabash County, the percent of substantiated child neglect (21.7% vs. 16.7%), physical (12% vs. 7.9%), and sexual abuse is higher than that of the state of Indiana, with sexual abuse almost doubling the state rate at 30.4% vs. 16.4%.
- **School Expulsions:** Wabash County ranked 63 out of 92 counties for the numbers of juveniles committed to the department of correction. Wabash also has higher rates of juvenile offenses. Wabash County has 17.65% of the expulsions involve drugs, weapons or alcohol, significantly higher than the state rate of 8.26%

5. Whitley County

- **Adult Obesity:** In Whitley County, the percent of adults considered obese is greater than that of the US (33% vs. 28%) and has exceeded the state rate in nine of the last nine years.
- **Tobacco Use:** The percent of adults who smoke exceeds national rate (21.5% vs. 18.9%) in Whitley County. The rate of tobacco outlets per 1000 persons (1.61 vs. 1.34) and tobacco outlets per 1,000 youth (12.2 vs. 14.4) exceed the state rate as well.
- **Children Health Insurance:** In Whitley County, 8.1% of children lack health insurance compared to 7.1% of the US population.

B. Other Facilities and Resources to Meet Needs in Community

Bowen Center has established positive relationships with many other agencies and resources in the communities served. Action plans to address the prioritized community needs include participating agencies, facilities and resources that will be used in conjunction with Bowen Center services to meet the community health needs.

IV. Adopted Implementation Plan

A. Huntington County

1. Health Care Needs to Be Addressed by Bowen Center

Based on the results of the assessments, the prioritized needs that were identified in Huntington County include:

- High Adult Diabetes Prevalence
- High rate of current smokers and binge drinking
- Increased suicide rates compared to state and national statistics

2. Execution of the Plan

For each of the prioritized needs, the Bowen Center has developed an action plan outlining the action steps, responsible parties, and timeline to complete the goals.

Health Care Need	Action Steps	Responsible Parties	Timeline
<p>High Adult Diabetes Prevalence: Provide adults with Diabetes education and resource assistance.</p>	<ul style="list-style-type: none"> • Provide assistance to clients who identify themselves as diagnosed with diabetes. A spreadsheet of identified diabetic clients will be maintained. • Provide a release of information for communication with the primary care physician to ensure A1C levels are routinely checked with appointment dates. • Provide contacts to referral agencies who promote diabetes education and nutrition. • Share data with participating insurers. 	<p>Bowen Center Office Managers</p> <p>Identified Primary Care Physician</p> <p>Referral by Bowen staff to Community Agencies such as Purdue Extension and Parkview Hospital.</p>	<p>Started January 2016 and will be monitored monthly.</p> <p>Ongoing</p>
<p>High rate of current smokers and binge drinking: Substance-Abuse Prevention Treatment Assistance</p>	<ul style="list-style-type: none"> • Use (LCC) funds for 20 individuals to receive the financial assistance necessary to attend treatment. • Offer assistance to 6 individuals with payment for drug screen fees by January 2017. Offer assistance to 6 individuals for payment toward resource materials for substance abuse treatment. • Create a collaborative list of substance abuse service providers and support groups to link clients to services needed. 	<p>Local Anti-Drug Task Force Committee in Each Community</p> <p>Licensed Addictions Counselor (LAC)</p> <p>Drug Court Team</p>	<p>Yearly Grant Cycle January 2016 to December 2016</p> <p>Ongoing</p>
<p>Suicide Rates: Increase awareness and provide education of suicide prevention for adults.</p>	<ul style="list-style-type: none"> • Inclusion of more specific adult community service providers. • Create a Suicide Prevention Task Force for adults by 	<p>Community Partners such as: VA, Senior Center, Salvation Army, AA and NA groups, Bowen Center</p>	<p>September 2016 and Ongoing</p>

	<p>September 2016.</p> <ul style="list-style-type: none"> Director will meet with the task force to promote protocol for counseling services at the Bowen Center. 	Bowen Center	
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3. Health Care Needs Not to Be Addressed and Reason

All prioritized health care needs are being addressed in Huntington County.

B. Kosciusko County

1. Health Care Needs to Be Addressed by Bowen Center

Based on the results of the assessments, the prioritized needs that were identified in Kosciusko County include:

- Increased Suicide Rates
- Substance Related Issues
- Youth Related Issues

2. Execution of the Plan

For each of the prioritized needs, the Bowen Center has developed an action plan outlining the action steps, responsible parties, and timeline to complete the goals.

Health Care Need	Action Steps	Responsible Parties	Timeline
Suicide Rates: Increase awareness and provide education of suicide prevention for county population.	<ul style="list-style-type: none"> Collaborate with community service providers. 	Bowen Center - Leadership	Summer 2016
	<ul style="list-style-type: none"> Develop and promote a protocol to assist community partners in conducting basic risk assessments. 	Bowen Center & Community Agencies	Summer 2016
	<ul style="list-style-type: none"> Explore and assess the community need for a standalone suicide prevention task force. 	Bowen Center – Leadership, KOSC Cares & Community Agencies	Fall 2016
Substance Use: Substance-Abuse prevention, treatment, and assistance	<ul style="list-style-type: none"> Recovery Works, Medication Assistance Treatment (MAT) and Drug Court programs – promote and support the expansion of services with community service providers. 	Bowen Center Leadership and Drug Court and Probation	Summer 2016 – Ongoing
	<ul style="list-style-type: none"> Continue to support the Director of Substance Abuse through program expansion and support 	Bowen Center Leadership	Summer 2016 – Ongoing
Youth Issues: Increase youth related services	<ul style="list-style-type: none"> Student Assistance Programs (SAP) – promote with school administration and 	Community Partners such as: Youth Clubs, KOSC Cares,	Summer & Fall 2016 – Ongoing

	community partners with an emphasis on addressing and reducing youth related issues such as graduation rates, dropout rates, expulsions involving drugs, weapons or alcohol and involvement with the Department of Correction.	Physicians, the Department of Corrections.	
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3. Health Care Needs Not to Be Addressed and Reason

All prioritized health care needs are being addressed in Kosciusko County.

C. Marshall County

1. Health Care Needs to Be Addressed by Bowen Center

Based on the results of the assessments, the prioritized needs that were identified in Marshall County included:

- High rate of adult and children that lack health insurance
- High rate of adult obesity
- Lack of access to exercise

2. Execution of the Plan

For each of the prioritized needs, the Bowen Center has developed an action plan outlining the action steps, responsible parties, and timeline to complete the goals.

Health Care Need	Action Steps	Responsible Parties	Timeline
Lack of Health Insurance: Provide adults and children access to a Health Care Navigator and education on other community resource to obtain health insurance	<ul style="list-style-type: none"> • Provide assistance to clients who lack health insurance and schedule with our Health Care Navigator • Continue to monitor new established relationship with Sherriff’s Department in getting community membership enrolled. • Connect with Plymouth’s Mayor and all Marshall County Schools’ Guidance Counselors to provide information of dates and times Bowen Center has Health Care Navigator available. • Meet with the President of St Joseph Hospital, Plymouth Campus to facilitate a 	Bowen Center Office Managers Sherriff Hassell Mark Senter, Plymouth Mayor Marshall County School Guidance Departments Loretta Schmidt, SJRMC President	Ongoing Started this collaboration February 2016 By July 31 st 2016 Loretta Schmidt, SJRMC President May 12 th 2016

	partnership in usage of Bowen and St. Joseph Navigator		
Adult Obesity: Create a pamphlet that lists out resources in Marshall County that obese adult could use as a tool in losing weight.	<ul style="list-style-type: none"> • Compile a list with information on all weight loss programs in Marshall County in one handout that can be used at the Bowen office and in the community • Provide a hand out with education on what it means to be obese and give to clients and organizations in the community. • Coordinate with a nutritionist/dietician in Marshall County on a community speaking engagement on obesity and weight loss. 	Bowen Leadership Martin's/Kroger/ Lifeplex	August 31,2016
Physical Inactivity: Increase awareness and provide education on current established opportunities in Marshall County to increase activity levels.	<ul style="list-style-type: none"> • Connect with owners of Lifeplex and ACE to discuss scholarship opportunities for individuals unable to access this resource • Reach out to the owner of The Zone to create a monthly open gym time that any member of the community can attend • Identify all gyms and recreation centers in Marshall County and create a list that can be provided to clients and community members. Include information gathered from coordination with Lifeplex, ACE gym and The Zone. 	Mary Holm-Lifeplex Cindy Danielson-ACE Ted Hayden, Owner of The Zone Bowen Leadership	August 31,2016

3. Health Care Needs Not to Be Addressed and Reason

All prioritized health care needs are being addressed in Marshall County.

D. Wabash County

1. Health Care Needs to Be Addressed by Bowen Center

Based on the results of the assessments, the prioritized needs that were identified in Wabash County included:

- Adult Diabetes.
- Obesity Rates.
- Unintentional Injury Deaths.
- Alcohol Use.
- Child Neglect, Physical and Sexual Abuse.
- School Expulsions

2. Execution of the Plan

For each of the prioritized needs, the Bowen Center has developed an action plan outlining the action steps, responsible parties, and timeline to complete the goals.

Health Care Need	Action Steps	Responsible Parties	Timeline
Rate of Diabetes	During assessment of a new client inquiry is made of the presence of diabetes. If this concern is identified there is collaboration with the client's primary care physician to treat the condition.	Bowen Center to collaborate with Primary Care Physician.	Within 24 hours.
Obesity Rates	1. Provide community education groups at the YMCA and Friends Church on health education to promote healthier eating and lifestyle. 2. Expansion of the community gardens. 3. Expansion of the walkway system. 4. Promotion of the various 5K Run/Walk events. 5. Promotion of health fairs.	Bowen Center, YMCA, Wabash City Schools, Parkview Hospital, Tobacco Free Coalition, The Coalition of Churches and City Government.	Ongoing and Currently in process.
Unintentional Injury Deaths	Prevention is undertaken by way of provision of substance abuse recovery services. Many unintentional deaths (especially traffic related) are influence by substance abuse. When an individual is identified as having a substance abuse concern they are referred to Bowen Center through numerous referral sources including: self, employer, court, probation, primary care physician, churchs, and educational institutions.	Referral source and the Bowen Center	Ongoing as identified.
Binge Drinker Rates	The AACTION Committee of Wabash County is comprised of representatives from the Wabash County Bowen Center, Wabash County Probation Department,	The AACTION Committee of Wabash County. Specifically assigned to Manchester	September 19, 2016 at 7:00 PM.

	<p>Tobacco Free Coalition, MSD Schools of Wabash County, Wabash County Drug Task Force, Manchester University, and Hands of Hope. The Committee granted funds to each group to focus on specific tasks associated with Alcohol and Drug related concerns. The committed allotted funds to Manchester University to specifically provide a community wide education event that focuses on the effects of Alcohol Binge Drinking. It will be held on the campus of Manchester University on September 19, 2016 at 7:00PM.</p>	<p>University.</p>	
<p>Child Sexual Abuse</p>	<p>It is expected that reported rates will be higher in Wabash County. Wabash County DCS has initiated an education program in each of the schools in Wabash County specifically targeting sexual abuse. A speaker (Terry Hall) who specializes in the area of sexual abuse gives a presentation each fall. Students are the focus but it is open to the public also. The purpose is to educate individuals on good and bad touch as well as what to do when sexual abuse is suspected or identified. When it is identified that a child has been the victim of Child Sexual Abuse there is a referral from the Wabash County Department of Child Services to the Bowen Center or similar mental health services provider.</p>	<p>Wabash County Department of Child Services (DCS), Wabash County Bowen Center, and other mental health service providers as necessary.</p>	<p>This proactive educational program is intentionally scheduled each fall. Report, investigation, and treatment are ongoing as identified.</p>
<p>Child Neglect and Physical Abuse of Child</p>	<p>There is a collaborative relationship between Bowen Center, the three school corporations, and the Department of Child Services in identifying, reporting, and treating child neglect and physical abuse cases. (This may result in a higher incidence of reporting.) There is ongoing education between Bowen Center, the school corporations,</p>	<p>Wabash County Bowen Center, the three school corporations in Wabash County, and Wabash County Department of Child Services.</p>	<p>This is ongoing. When the issue of concern is identified it is reported to the Department of Child Service the same day. The Department of Child Services</p>

	and the Department of Child Services of what constitutes child neglect, child physical abuse, and how to assist families build skills to counteract this concern. These three agencies then work together with the families to develop a treatment plan to build necessary skills to meet the needs of the child(ren).		will then investigate the report within the state designated timeline. If need is verified the family will be referred for services and services are initiated within 7 days.
School Expulsions	All three school corporations have developed and implemented alternative school programs. The purpose is to decrease the prevalence of suspension, expulsion, and dropout of students. There is specialized programming with smaller class rooms and more one on one assistance. Also Bowen Center provides behavioral/mental health treatment for these students to assist in development of skills that will promote effective participation in the school environment.	Wabash City Schools, MSD of Wabash County, Manchester Community Schools, and Wabash County Bowen Center.	This is ongoing. Implementation timeline can vary slightly between school corporations but is usually timely within the week of instigating incident.

3. Health Care Needs Not to Be Addressed and Reason

All prioritized health care needs are being addressed in Wabash County.

E. Whitley County

1. Health Care Needs to Be Addressed by Bowen Center

Based on the results of the assessments, the prioritized needs that were identified in Whitley County included:

- High adult obesity
- High rate of current smokers
- Lack of children with health insurance

2. Execution of the Plan

For each of the prioritized needs, the Bowen Center has developed an action plan outlining the action steps, responsible parties, and timeline to complete the goals.

Health Care Need	Action Steps	Responsible Parties	Timeline
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<p>Obesity: Provide adults with nutritional education and resource assistance.</p>	<ul style="list-style-type: none"> • Provide assistance to clients who identify themselves as being obese and/ or labeled obese by nationally accepted standards. • A spreadsheet of identified obese adult clients will be maintained. • Provide a release of information for communication with the primary care physician. • Provide contacts to referral agencies who promote nutritional education, resources and guidance. 	<p>All Bowen Center Staff Identified Primary Care Physician</p> <p>Referral by Bowen staff to Community Agencies such as Purdue Extension and Parkview Whitley Hospital.</p>	<p>June 2016 and will be monitored monthly.</p> <p>Ongoing</p>
<p>Tobacco Use: Smoking Cessation</p>	<ul style="list-style-type: none"> • Provide information to 1-800-QUITNOW program including assisting client to complete referral. • Coordinate with client and insurance provider and/ or medical provider additional medicinal options to assist with 'heavy' smokers or addicts. • Create treatment plan goals every 60-90 that addresses smoking and develops alternative coping skills. • Provide clients with information and education on why smoking is harmful to body. 	<p>All Bowen Center Staff Primary Care Physician</p>	<p>June 2016 and will be monitored monthly for new clients; or alongside with treatment plan every 60-90 days</p> <p>Ongoing</p>
<p>Health Insurance for Children: Promotion and awareness of Navigators and access to health insurance for children/ families.</p>	<ul style="list-style-type: none"> • Provide information on Navigators within Bowen Center, Bright Point and ASPIN. • Inform community partners, schools, and community of availability to sign up for marketplace free of charge. 	<p>All Bowen Center Staff Bright Point ASPIN</p>	<p>Started in 2015</p> <p>Ongoing</p>

3. Health Care Needs Not to Be Addressed and Reason

All prioritized health care needs are being addressed in Whitley County.

V. Dissemination of Community Health Needs Assessment

This needs assessment has been posted on the Bowen Center website for public dissemination of information along with statement indicating that a copy will be provided upon request.

VII. Data Sources

<http://www.stats.indiana.edu/profiles/>

<http://www.indianaindicators.org/>

<http://www.in.gov/isdh/reports/mortality/2013/toc.htm>

<http://datawarehouse.hrsa.gov/tools/analyzers/MuaFind.aspx>

<http://datawarehouse.hrsa.gov/tools/analyzers/HpsaFindResults.aspx>

<http://www.countyhealthrankings.org/app/indiana/2015>

<http://www.in.gov/meth/2330.htm>

<http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

<http://www.drugs.indiana.edu/>

<http://nccd.cdc.gov/DHDSPAtlas/Reports.aspx>

http://www.cdc.gov/diabetes/atlas/countydata/County_ListofIndicators.html

<http://www.census.gov/did/www/saipe/data/interactive/saipe.html>

[Indiana Youth Institute](#)

<http://datacenter.kidscount.org/data#IN/5/0/char/0>

<http://www.drugs.indiana.edu/prev-stat/county-profiles-data/county-profiles-gis-in-prevention>

<http://compass.doe.in.gov/dashboard/statereports.aspx>

<http://www.doe.in.gov/accountability/find-school-and-corporation-data-reports>