Rush County Community Assessment

Conducted By:

Rush County Health Department

Indiana University Richard M. Fairbanks School of Public Health

The Polis Center @ IUPUI

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EXECUTIVE SUMMARY

INTRODUCTION

> "**Community health assessment** involves a process of collecting, analyzing, and using data to educate and mobilize communities, develop priorities, garner resources, and plan actions to improve the public's health."
>
> -Public Health Accreditation Board[1]

In 2009, Rush County Health Department (RCHD) partnered with the Indiana University School of Medicine's Department of Public Health to conduct a community health assessment (CHA) as a prerequisite for public health accreditation with the Public Health Accreditations Board. In 2012, RCHD applied and began the process of accreditation. Public health accreditation requires CHAs to be conducted every five years. Therefore, in 2014, RCHD partnered with the Indiana University Richard M. Fairbanks School of Public Health and the Polis Center @ IUPUI to conduct another CHA. This report outlines the methods used to conduct the CHA and the results that were found, as well as some brief recommendations for future steps the RCHD can take.

BACKGROUND

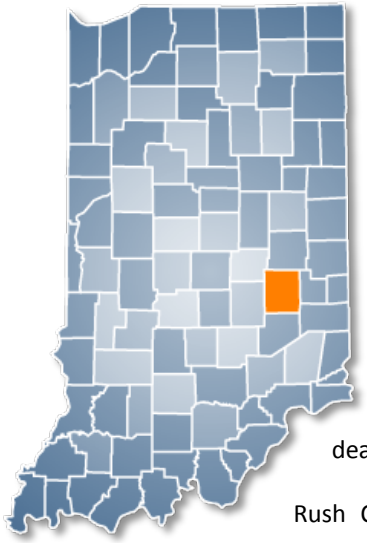

Figure 1: Map of Indiana Indicating Location of Rush County

Rush County is located southeast of Indianapolis, IN (see Figure 1) and has a population of 17,004[6] making it 77th in size out of the 92 Indiana counties. Robert Wood Johnson Foundation's County Health Rankings ranked Rush County 69th in overall health outcomes and 29th in health factors.[2] Table 1 summarizes the findings of the County Health Rankings further. Evidence to compute the rankings comes from scientifically supported data based on external content experts and can be used to inform progress, but are not the only measures. If all the counties improve the rankings would stay the same. There is also a time delay in seeing results of changes. For example, if smoking rates are decreased it will still take several years before the preventable deaths due to smoking will be counted, reported and reflect that change.

Rush County has more overall deaths per 100,000 population and more premature deaths than the rate for Indiana. More people report their overall health as fair or poor than compared to the state rate overall. Rush County has fewer physically and mentally unhealthy days over the previous 30 days than reported for the state and about the same rate of preventable hospitalizations from ambulatory care-sensitive conditions. Rates are reported per population as noted and are age-adjusted.[3]

Table 1: Rush County Health Factors Ranking, Robert Wood Johnson Foundation

Health Factors	Ranking	Definition
Health Behaviors	**25**	The Health Behaviors ranking score includes data on tobacco use, diet and exercise, alcohol and drug use and sexual activity.
Clinical Care	**45**	Clinical Care ranking is determined by data on access to care and quality of care.
Social & Economical Factors	**31**	Social & Economic factors includes data about education, employment, income, family and social support and community safety.
Physical Environment	**35**	Physical Environment ranking includes data on air and water quality and housing and transit.

METHODS

The Rush County CHA describes the health status of the Rush County community and is intended to be a resource for planning and resource allocation.

The key elements of the assessment presented in the report are:

- Phone and face-to-face interviews with health care providers and other key residents of the community
- Completion of the CDC CHANGE Tool with health providers and other key residents of the community
- Distribution and completion of community surveys of community members who attended the county fair
- Identification and mapping of health and social-demographic factors in Rush County and the surrounding counties
- Identification and presentation of publically-available data that can contribute to an understanding of the community's health

PROMINENT THEMES

LEVEL OF TOBACCO USE

- A total of 22% of adults report smoking
- Reported smoking in households of school aged children continues to be high (approximately 50% of fifth graders report living with a smoker)
- Among pregnant women 28.8% report smoking before delivery
- Key Informant interviews identified tobacco use as their primary concern

LEVEL OF OBESITY

- A total of 32% of adults are reported as being obese and this trend is getting worse in Rush County
- Physical inactivity is reported at 34% which is remaining the same from previous years
- Only 40% of adults report access to exercise opportunities compared to 64% for Indiana
- Community survey results indicated that obesity was a major health concern

CHRONIC DISEASE

- Lung Cancer incidence is 81.1 per 100,000 which is higher than the state rate
- Lung cancer mortality is 74.3 per 100,000 which is higher than the state rate
- Diabetes prevalence rate is 11.6 per 100,00 which is higher than the state rate
- Emergency room visits for asthma is 61.9 per 100,00 which is higher than the state rate
- Stroke hospitalizations 23.6 per 100,000 and Stroke Mortality 51.1 per 100,000 are higher than the state rate
- Community survey results indicated cancer was a major health concern

TEENAGE PREGNANCY

- Rush County has 46 teenage births per 1000 live births compared to the state rate of 37.5
- Teenage pregnancy rates have been consistently higher than the state rate since 2004 (with the exception of 2009)
- A total of 71.6% of teens started prenatal care during the first trimester

RECOMMENDATIONS

After the initial CHA in 2009, RCHD chose four priority areas to address—tobacco cessation, motor vehicle accidents, physical activity, and teenage pregnancy. Through partnerships with various community organizations, strategic initiatives were put in place to improve the outcomes in these four areas of public health. Based on the results of the 2014 CHA, there has been some success—motor vehicle accidents no longer present as a major theme based on the data collected and analyzed, and physical activity has also improved. However, the areas of tobacco cessation and teenage pregnancy still appear to need additional attention.

Similar to the 2009 CHA, four themes have emerged from the data collected from this CHA: Tobacco Use, Obesity, Chronic Disease, and Teenage Pregnancy. Additional resources and more comprehensive recommendations can be found in the Recommendations portion of the full report.

INTRODUCTION

In 2009, Rush County Health Department (RCHD) partnered with the Indiana University School of Medicine's Department of Public Health to conduct a community health assessment (CHA) as a prerequisite for public health accreditation with the Public Health Accreditations Board. A CHA "involves a process of collecting, analyzing, and using data to educate and mobilize communities, develop priorities, garner resources, and plan actions to improve the public's health[1]." In 2012 RCHD applied and began the process of accreditation. Public health accreditation requires CHAs to be conducted every five years. Therefore, in 2014, RCHD partnered with the Indiana University Richard M. Fairbanks School of Public Health and the Polis Center @ IUPUI to conduct another CHA. This report outlines the methods used to conduct the CHA and the results that were found, as well as some brief recommendations for future steps the RCHD can take.

Project Partners:

Rush County Health Department: The Rush County Health Department (RCHD) was established to promote and enforce public health laws and needs. The Rush County Health Department:

- Records vital records including births, deaths and legal name changes.
- Investigates environmental concerns/complaints and oversees residential/commercial sewage disposal systems in the county.
- Provides public health nursing, childhood immunizations and tracks communicable disease in the county.

The health department is headed by the Health Officer, Dr. Dorothy Boersma, who is responsible for planning, coordinating, and educating on any health emergency issues for Rush County.

IU Richard M. Fairbanks School of Public Health: The Indiana University Richard M. Fairbanks School of Public Health at IUPUI is a leader in improving the health of the people of Indiana, the nation and the world. Its mission is to cultivate innovative, interdisciplinary, community engaged education, research and service and prepare leaders in public health and health care. The school offers undergraduate degrees in public health, as well as a Masters of Public Health, Masters of Health Administration, and doctorates in epidemiology, biostatistics, and health policy and management.

Polis Center @ IUPUI: The Polis Center @ IUPUI is a self-funded research unit of the IU School of Liberal Arts at IUPUI. Their approach to understanding the communities in which we live is entrepreneurial and innovative, finding practical, effective, and cost-efficient ways for communities to enhance their capacity for meaningful change. They developed the nation's largest community information system, SAVI, as an interactive data and mapping resource for individuals and organizations in Central Indiana. The Polis Center works with professional and scholarly communities, especially through application of digital technologies such as Geographic Information Systems (GIS) and other geospatial tools.

METHODS

KEY INFORMANT INTERVIEWS

The Rush County Health Department Medical Director generated a potential list of health providers and residents to interview and complete the CHANGE Tool. The goal was to have at least two individuals or organizations interviewed for each sector. Each individual was asked what were two health concerns or initiatives that were being addressed well and what were issues that need to be improved within Rush County and then specific interaction or suggestions for the Rush County Health Department.

A total of 10 health providers in Rush County were interviewed.

A total of 24 community members (including providers) assisted in completing the CHANGE Tool.

A total of7 Rush County residents were interviewed as part of this community assessment update.

CHANGE TOOL SUMMARY

The CHANGE Tool is designed to help communities through the community health assessment process, as well as define and prioritize possible areas of improvement.[4] According to the CHANGE Tool Action Guide, "the CHANGE Tool provides community teams with the data needed to strategize for change, identify the policies for change, and build the partnerships for change."[5] There are five sectors measured by the CHANGE Tool (Figure 2): Community-at-large, Community Institution/Organization, Health Care, School, and Work Site.

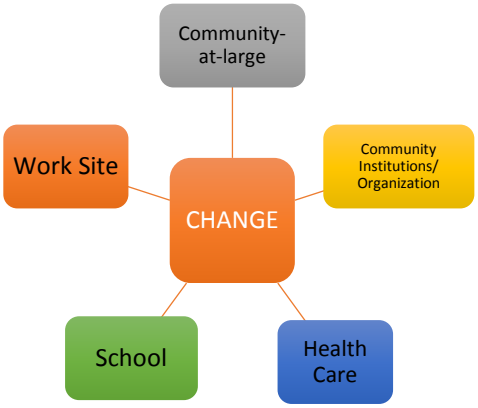

Figure 2: CHANGE Tool Sectors

The purpose of the CHANGE tool is to:

- Identify community strengths and areas for improvement
- Identify and understand the status of community health needs
- Define improvement areas to guide the community towards population-based strategies that create a healthier environment
- Assist with prioritizing community needs and consider appropriate allocation of available resources[4]

The CHANGE Tool allows a community team to track progress in areas of interest (for example, physical activity or nutrition) across a five-point scale. This allows incremental changes to be noted, usually on an annual basis. The community team can track health-related policies, as well as systems and environmental changes, and the impact they may have on community health.[4] The CHANGE Tool can also assist with the development of a Community Action Plan or program evaluations.[5]

COMMUNITY SURVEY

A community survey (Appendix A) was developed to further examine the community's attitudes, beliefs, and overall view of individual health as well as the health of the community. The survey included general demographic information and questions about Rush County quality of life. Two additional questions were included from the key informant interviews:

- What do you think are the top two health issues in Rush County?
- What are two things that could be done to address these issues?

The survey was distributed at the Rush County Fair, June 23-June 27, 2014. Two of the co-authors and two volunteers assisted with survey distribution. A total of 144 total surveys were filled out.

SOCIAL-DEMOGRAPHIC FACTORS MAPPING

Maps of the health facilities in Rush County and surrounding counties were developed for the project by The Polis Center at Indiana University using Geographic Information Systems (GIS). Different maps show the health facilities, churches, social services, and recreation Facilities and Trails. The counties included in the mapping are Rush County in the center, and the surrounding counties of Hancock, Henry, Fayette, Franklin, Decatur and Shelby. The facility data was provided to the Polis Center from the Indiana State Department of Health, based on licensing information.

SECONDARY DATA

Data was retrieved from several publicly available databases to corroborate with community input. Brief descriptions of the data sources can be found in Appendix B. The following sources were used:

- Robert Wood Johnson Foundation's County Health Rankings
- Indiana Indicators
- Annie E. Casey Foundation's Kids Count Data Center
- Rush County Schools Annual Health Services Report
- Indiana State Department of Health
- National Cancer Institute's State Cancer Profiles
- STATS Indiana
- American Community Survey

RESULTS

KEY INFORMANT INTERVIEWS AND CHANGE TOOL

In this section, detailed information regarding the interviews, community strengths and concerns and the summary of the findings from the CHANGE tool have been provided. This information has been further divided according to the each sector of the CHANGE tool (Community-At- Large, Community Institutions/ Organizations, Health Care, School, and Work Site).

COMMUNITY-AT-LARGE

Rush County is a rural county in Indiana, with a population of 17,004 living within 409 square miles (density population of approximately 42 residents per square mile). The median income is $44,979, and 14.2% of the population falls below the poverty line. In 2014, 12.9% of Rush County residents do not hold a high school diploma, and 7.0% are unemployed.[2]

The Community-At-Large sector focuses on efforts that affect the community as a whole in five areas: physical activity, nutrition, tobacco use, chronic disease management, and leadership. Based on information from the most recent health reports, only the areas of physical activity and tobacco use were measured. Seven completed CHANGE Tools were filled out to rate the community on a five-point scale on both policy and environment in the areas of physical activity and tobacco use. Through these interviews key items that stood out were:

COMMUNITY STRENGTHS	*COMMUNITY CONCERNS*
• Partners for a Healthy Rush County are working to bring a fitness program to community • Organizations receive grants from the Rush County Foundation to benefit residents' health (such as expanding bike trails and adding mile markers) • A fitness walk has taken place • Community members are invested to make changes • Wellness campaigns have been initiated and have policies • Leadership finances community improvements such as parks, recreation, sports facilities, and pedestrian enhancements, as well as establishes policies • Website for Healthy Rush County has program information • Rush County has a tobacco quit line and referral system in place (1-800-QUIT-NOW) • Rush County follows Indiana state laws on tobacco-free indoor public places • Rush County has a management program to improve transportation safety	• Smoking is identified as a health concern • Lack of bike programs is a concern • Public transportation is limited to a bus for the elderly • High levels of obesity • High levels of chronic diseases, such as diabetes, COPD, heart disease • Barriers to more physical activity: times classes are offered, cost of membership in fitness clubs, communication of programs that are available • Few addition elements are in place for expanded smoke-free policies for both indoors and outdoors • Enforcement and policy of a ban on selling single cigarettes are not in place • Few elements and policies are in place in the public policy process for community changes focused on chronic diseases • Few elements and policies in place to participate in community partnerships to address chronic diseases • Rush County does not have as much focus on financing bike lanes

Table 2: Community-At-Large CHANGE Tool Summary

	Physical Activity Policy (%)	Physical Activity Environ (%)	Tobacco Use Policy (%)	Tobacco Use Environ (%)
Individual 1	53.13	52.31	53.03	50.0
Individual 2	43.28	41.79	45.45	43.64
Individual 3	75.76	71.64	49.09	41.82
Individual 4	33.96	76.19	92.73	43.64
Individual 5	45.59	44.78	52.73	52.73
Individual 6	50.75	48.48	49.09	45.45
Individual 7	54.55	51.56	44.0	42.0

From Table 2 it can be inferred that tobacco is an area of concern for Rush County health. Tobacco was also stated as a concern during key informant interviews. Levels of physical activity are also of concern. The CHANGE Tool indicated that Rush County leadership scores fairly high in support of trails, public recreation facilities, and financing of pedestrian enhancements. This was a theme that was shared during interviews as well. Both interview and CHANGE tool data showed community involvement as a strength in Rush County.

COMMUNITY INSTITUTIONS AND ORGANIZATIONS

Four interviews were completed for the Community Organizations and Institutions section from the Mayor's office, a local church, the Senior Center, and the Boys and Girls Club. Three institutions' representatives completed the CHANGE Tool in the areas of physical activity, nutrition, and tobacco use. Nutrition and tobacco use policies were noted as areas of concern. Additionally, health care provider's attitude and comfort level with older adults was noted as a concern.

COMMUNITY STRENGTHS	*COMMUNITY CONCERNS*
• In this rural community, small grassroots efforts can be effective in making change • Community wide fitness program and tobacco cessation efforts are being offered • Active older adults that can get out and enjoy socializing, playing bingo, and eating together	• Obesity • Smoking • Heart Disease • Attitudes toward older people • Dementia

Table 3: Community Organizations and Institutions CHANGE Tool Summary

	Site #1	Site #1	Site #2	Site #2	Site #3	Site #3
Section	Policy (%)	Environ (%)	Policy (%)	Environ (%)	Policy (%)	Environ (%)
Physical Activity	100	100	n/a	n/a	60	60
Nutrition	100	85.7	73.3	66.7	100	100
Tobacco Use	100	100	100	73.33	73.33	73.33
Demographic Information						
Community Setting	Rural		Rural		Rural	
# Individuals Served	800		150		120	
Target Population	Children/youth		Adults and children		Seniors/ Older adult	
Grades Served (children/youth)	K to 8		Pre-K to 12		No grades served	
Institution Type	Boys and Girls Club		Faith Organization		Senior Center	
Profit Type	Public		Private		Private	
Profit Type	Non-profit		Non-profit		Non-profit	

Table 3 summarizes information from the CHANGE Tool from three sites. From this summary, it can be discerned that the areas of physical activity and tobacco use are more problematic for Site #3, while nutrition is an area for improvement for Site #2.

HEALTH CARE

Four key informant interviews were conducted with health professionals representing Rush Memorial Hospital, Fenimore Eye Care, the Rush County Department of Health, and Meridian Health Care. Rush Memorial Hospital is a public, not-for-profit hospital that employs over 350 staff and sees approximately 4,500 patients on a monthly basis. Fenimore Eye Care is a private, for-profit public clinic that employs three staff and sees approximately 180 patients on a monthly basis. The Rush County Health Department staff consists of the medical director, two public health nurses, and environmentalist, a receptionist, and vital records clerk. The health department provides a variety of services, including immunizations; septic, well, and restaurant inspections; flu clinics; vital record services; senior health screenings; emergency preparedness and response; and home visits for chronic disease management. Meridian Health Care is a new Federally Qualified Health Center (FQHC). The center employs physicians, nurse practitioners, a nurse-health educator, a social worker, and a behavioral health specialist. The Women, Infants, and Children (WIC) program is also located within the building. Meridian Health Care is the Safety Net site for Tobacco Free Rush County. They are beginning to be involved with health coalitions in the community, in addition to assisting with immunizations for Kindergarten Round Up and being a part of the Indiana State Department of Health Chronic Care Model consortium for diabetes and hypertension. Information from these four key informant interviews was analyzed using the CHANGE Tool. A summary of the key informant interviews is included below:

COMMUNITY STRENGTHS	*COMMUNITY CONCERNS*
• The fitness team • Increased number of primary care providers • Interaction among health providers in the community	• Obesity • Tobacco Use • Diabetes • Hypertension • Lack of Physical Activity • Inadequate number of mental health services

Table 4: Health Care CHANGE Tool Summary

	Site 1	Site 1	Site 2	Site 2	Site 3	Site 3	Site 4	Site 4	Site 5	Site 5
	Policy (%)	Environ. (%)	Policy (%)	Environ. (%)	Policy (%)	Environ. (%)	Policy (%)	Environ (%)	Policy (%)	Environ (%)
Physical Activity	26.67	40	n/a	n/a	n/a	n/a	100	100	75.0	75.0
Tobacco Use	92	92	63.3	63.3	100	100	100	100	82.0	82.0
Chronic Disease Management	60	75	60	60	100	100	100	100	n/a	n/a
Leadership	38	61.02	60	60	100	100	94.2	86.5	n/a	n/a
Demographic Information										
Number of staff	250-499		Under 20		Under 20		Under 20		20-99	
Sector Type	Public		Private		Public		Public		Public	
Profit Type	Non-profit		For-profit		Non-profit		Non-profit		Non-profit	
Type of Health Care Org.	Hospital		Clinic		Local Health Dept.		FQHC		Healthcare Associates	
Number of Patients/ Month	4567		180		30		1300		240	

Table 4 summarizes the results of the CHANGE Tool for the Health Care sector. In general, the smaller non-profit health care organizations do better across the board than some of the other larger organizations. It should be noted that tobacco use is still an area of concern, even in the health care sector.

SCHOOL

A key informant interview with the School Health Coordinator from Rush County School District was used to fill out the CHANGE Tool for the school sector at the district level. In addition, an elementary school nurse was interviewed to fill out the CHANGE Tool for two additional elementary schools.

COMMUNITY STRENGTHS	*COMMUNITY CONCERNS*
• Nursing services provided at every school • Lunch program is in compliance with national statutes • Community health partners assist with events and programs • Every school has an anti-bullying policy • Physical Education programs grant is in place • Monday meetings are held to allow community members to be aware of what is happening in the community and schools	• Need for adequate time for physical education • Overweight and obesity amongst students • Smoking and the number of students who live with smokers • Tobacco, alcohol, and drug use within the community • Leadership—need for a school wellness committee

Table 5: School CHANGE Tool Summary

Module	**Site #1**	**Site #1**	**Site #2**	**Site #2**	**Site #3**	**Site #3**
	Policy (%)	Environ (%)	Policy (%)	Environ (%)	Policy (%)	Environ (%)
District	88.0%	91.0%	88.0%	91.0%	88.0%	91.0%
Physical Activity	76.0%	84.0%	88.0%	84.0%	88.0%	84.0%
Tobacco Use	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Demographic Information						
# of Students	2490		289		322	
School Level	District		Elementary		Elementary	
Type of School	Public		Public		Public	
School Setting	Rural		Rural		Rural	

The school district scored 88.0% in policy response, and 91.0% in environmental response, indicating that school policies and environment are in close alignment. The CHANGE Tool was used to measure policy response and environmental response across the more specific categories of physical activity and tobacco use. Table 5 outlines the scoring for each of these categories. While tobacco use scored well on the CHANGE Tool, interviewees indicated that it was still an area of concern. Physical activity is also an area for improvement and could help to combat childhood obesity and overweight.

WORK SITE

Interviews were conducted with three representatives of local work sites about health-related work site issues. Representatives from the Trane Company, Rush County School District, and a healthcare provider assisted with filling out the CHANGE Tool. The Trane Company is a manufacturing facility that employs 150 individuals. Rush County School District is the top employer of the county, with 400-500 FTE employees and 200-300 part-time employees. The healthcare facility is a not-for-profit healthcare center with approximately 40 employees.

COMMUNITY STRENGTHS	*COMMUNITY CONCERNS*
• Tobacco-free work sites • Discounted fees for fitness clubs • Vending machines offer healthy food choices • Participation in community events	• Obesity • Use of tobacco

Table 6: Work Site CHANGE Tool Summary

	Site #1	Site #1	Site #2	Site #2	Site #3	Site #3
	Policy (%)	Environ (%)	Policy (%)	Environ (%)	Policy (%)	Environ (%)
Physical Activity	91.11	91.11	93.33	96.67	58.33	58.33
Tobacco Use	100	100	100	100	76.00	76.00
Demographic Information						
Number of Employees	100-240		400-500		20-99	
Sector Type	Private		Public		Public	
Profit Type	For-Profit		Not-for-Profit		Not-for-Profit	
Type of Institution	Manufacturing		School District		Healthcare	

Based on the results of the CHANGE Tool (Table 6), it is clear that some work sites have stronger wellness policies in place than others. Ironically, the healthcare work site scored much lower for both physical activity and tobacco use. For other work sites, tobacco use policies seemed to be effective, but physical activity could still be improved.

COMMUNITY SURVEY RESPONSES

Community surveys (Appendix A) were distributed at the Rush County Fair, July 23-27, 2014. A total of 144 surveys were eligible to be used and 3 were omitted due to incomplete information. In addition, 38 individuals declined to fill out the survey, while 22 individuals lived outside of Rush County and were ineligible to participate. Surveys asked for basic demographic information (age and gender), as well as seven yes/ no questions regarding quality of life in Rush County. Finally, two open-ended questions asked what the top two health issues are in Rush County, and potential actions that could be taken to address those issues.

Individuals aged 18-91 years filled out the survey, the mean age being 48.9 years. A majority of the participants were female (Figure 3).

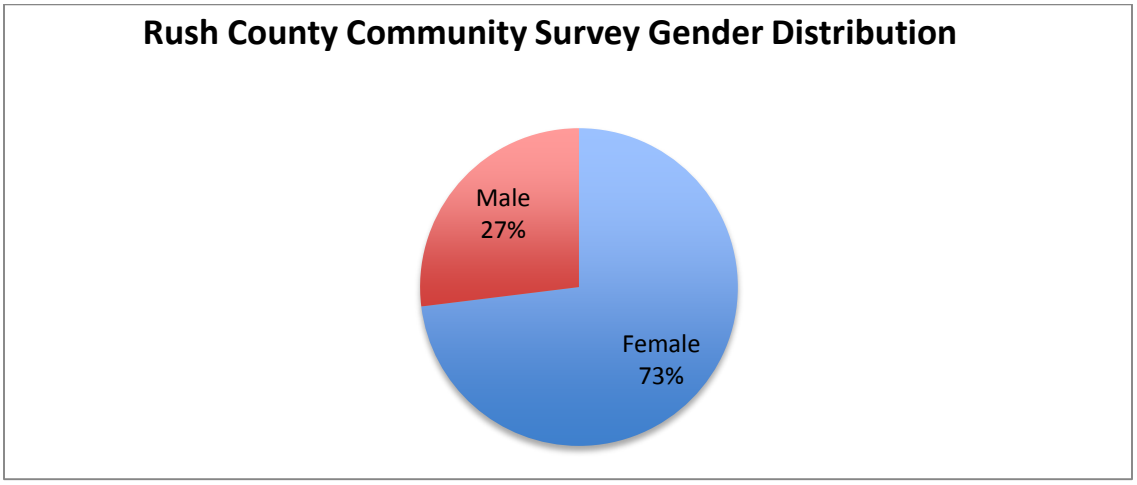

Figure 3: Rush County Community Survey Gender Distribution

In general, residents of Rush County found the county to be safe, enjoyed their quality of life, felt comfortable raising children or growing old in the community, and recognized sources of community support during times of stress or need. A majority of individuals were satisfied with the health care system, although there are a notable number of individuals who were not. A majority of individuals in Rush County do not feel that there is enough economic opportunity. Economic opportunity and socioeconomic status is a key social determinant of health, and can have a large impact on the health of a community and population. A summary of the quality of life indicators can be found in Figure 4.

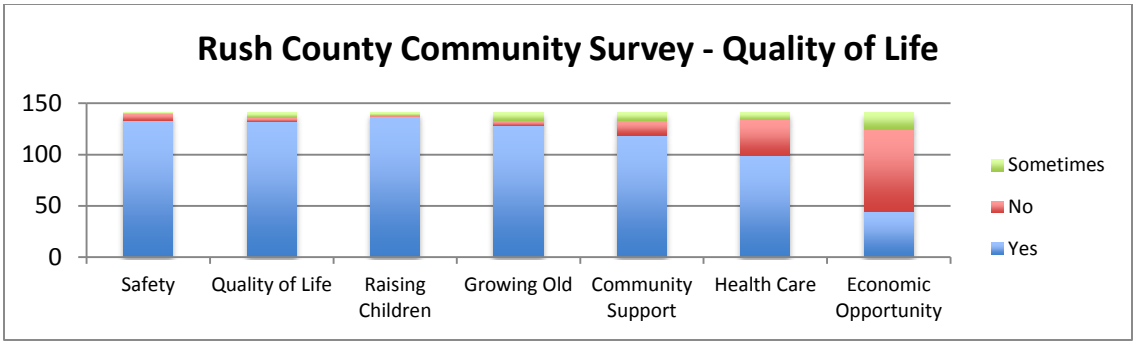

Figure 4: Rush County Community Survey Quality of Life

Participants were asked what they thought the top two health issues in Rush County were. Figure 5 provides a summary of the results. The most identified health issue was cancer, followed by obesity, access to care, heart disease, diabetes, and drug abuse.

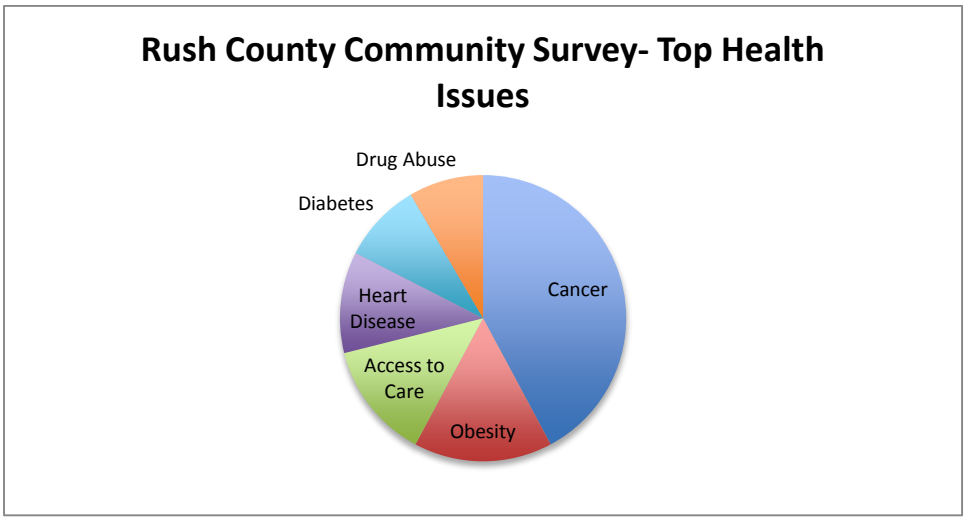

Figure 5: Rush County Community Survey Top Health Issues

Participants were also asked for potential solutions or actions to take to address the health issues they mentioned. Two suggestions were provided more often than others—education (relating to health issues, prevention, and specific topics) and addressing any potential environmental contaminants in the community (from agriculture and other industries). Figure 6 provides a summary of the results. Other suggestions included recruitment of healthcare providers, improvement of healthcare services, research, improved community services, and changes to personal lifestyle. It should be noted that a majority of these suggestions take place in the upper levels of the socioecological model. This could mean a variety of things—community members may feel that they don't have control over their own health, due to minimal levels of health efficacy. They could see health issues as a responsibility of the health care sector or overall community, rather than individual.

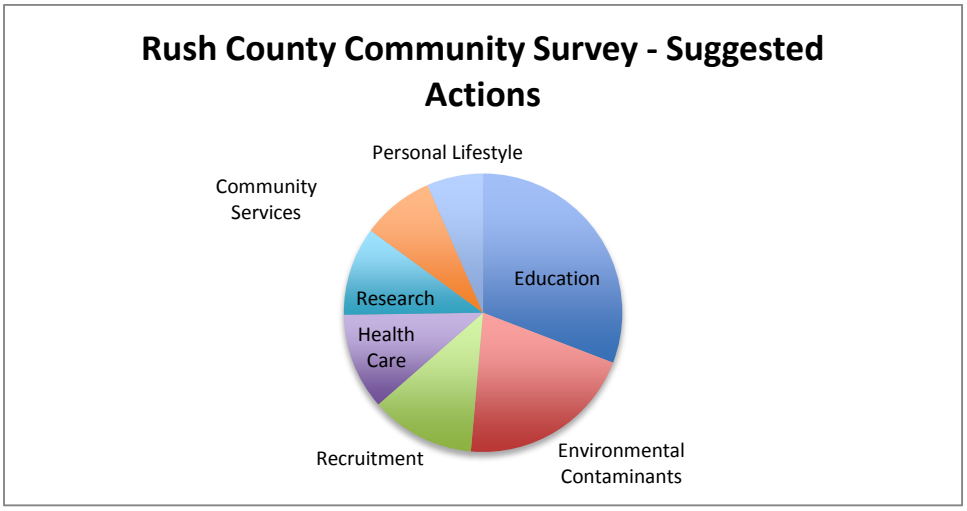

Figure 6: Rush County Community Survey Suggested Actions

SECONDARY DATA & COMMUNITY MEASURES

Numerous secondary data sources were used to characterize the Rush County population and to measure community health status in terms of both health factors and health outcomes. In addition to data about general population demographics (e.g., age, race, marital status), health indicators were collected in three major domains A) Socioeconomic and Environmental Factors, B) Behaviors, Stress and, Physical Conditions, and C) Health Outcomes. Within these three domains, eight health indicator groups were collected.

A. Socioeconomic and Environmental Factors

1. *Socioeconomic Factors (Economy and Education)*
2. *Environmental Factors (Physical Environment, Built Environment, and Public Safety)*

B. Behaviors, Stress and Physical Conditions

3. *Health Behaviors and Physical Conditions (Wellbeing; Exercise, Nutrition, and Weight; Substance Use and Abuse)*
4. *Access to Care (Access to Health Care Services and Public Health Capacity; Health Insurance)*
5. *Stress (Mental Health)*

C. Health Outcomes

6. *Maternal, Fetal and Infant Health (Birth Statistics; Teen Births)*
7. *Illness (Morbidity) and Injury (Infectious Diseases; Chronic Diseases; Injury)*
8. *Death (Mortality) (Mortality Statistics)*

Over 50 community measures were collected across these domains and indicator groups as depicted in Appendix C. Whenever possible, benchmark data were collected that allow Rush County to be compared with Indiana. A table depicting these indicators within the CHANGE Tool sectors, as well as a description, can also be found in Appendix D. Brief descriptions of the data sources used can be found in Appendix B. Additional data not included in the CHA report can be found in Appendix E.

1. SOCIOECONOMIC FACTORS

ECONOMY

EMPLOYMENT AND EARNINGS BY INDUSTRY

Measure: The ratio of the population employed in the various sectors of the economy (e.g., farm, government, manufacturing, retail trade, etc.)

Data Source(s): STATS Indiana, US Bureau of Economic Analysis[6]

Year: 2012

Reason for Measure: This measure depicts how one economic sector or industry fares in comparison to another with respect to that industry's market share and income generation potential in Rush County compared to Indiana.

Table 7: Employment and Earnings by Industry in 2012

Employment and Earnings by Industry in 2012	Indiana Percentage Distribution	Indiana Earnings	Rush Co. Percentage Distribution	Rush County Earnings
Farm	1.6%	$2,820,775	20.6%	$61,901
Nonfarm	98.4%	$173,116,498	79.4%	$238,556
Government	13.8%	$24,256,895	17.8%	$53,513
Private*	84.6%	$148,859,603	61.6%	$185,043
Manufacturing	21.3%	$37,514,322	19.9%	$59,755
Retail trade	6.2%	$10,868,041	5.8%	$17,567
Health Care, Social Services	12.5%	$21,954,630	4.6%	$13,935
Trans., Warehousing	4.3%	$7,593,620	6.6%	$19,916
Construction	6.2%	$10,994,949	5.1%	$15,291

*Top three sectors of private employment for both Indiana and Rush County are shown.

Table 7 compares employment and earnings across industry sectors in Rush County, as well as against the state of Indiana. Farming and manufacturing are the two largest industries in Rush County, and farming is comparatively higher in Rush County than in Indiana.

UNEMPLOYMENT RATE

Measure: The percent of the population unemployed or actively seeking work.

Data Source(s): The Polis Center, American Community Survey[7,8]

Year: 2007- 2011

Reason for Measure: Level of unemployment can be directly related to loss of income, social contact in the workplace, social reputation, and access to health insurance, which can have a direct or indirect negative impact on the health of an individual and his/her family.[3]

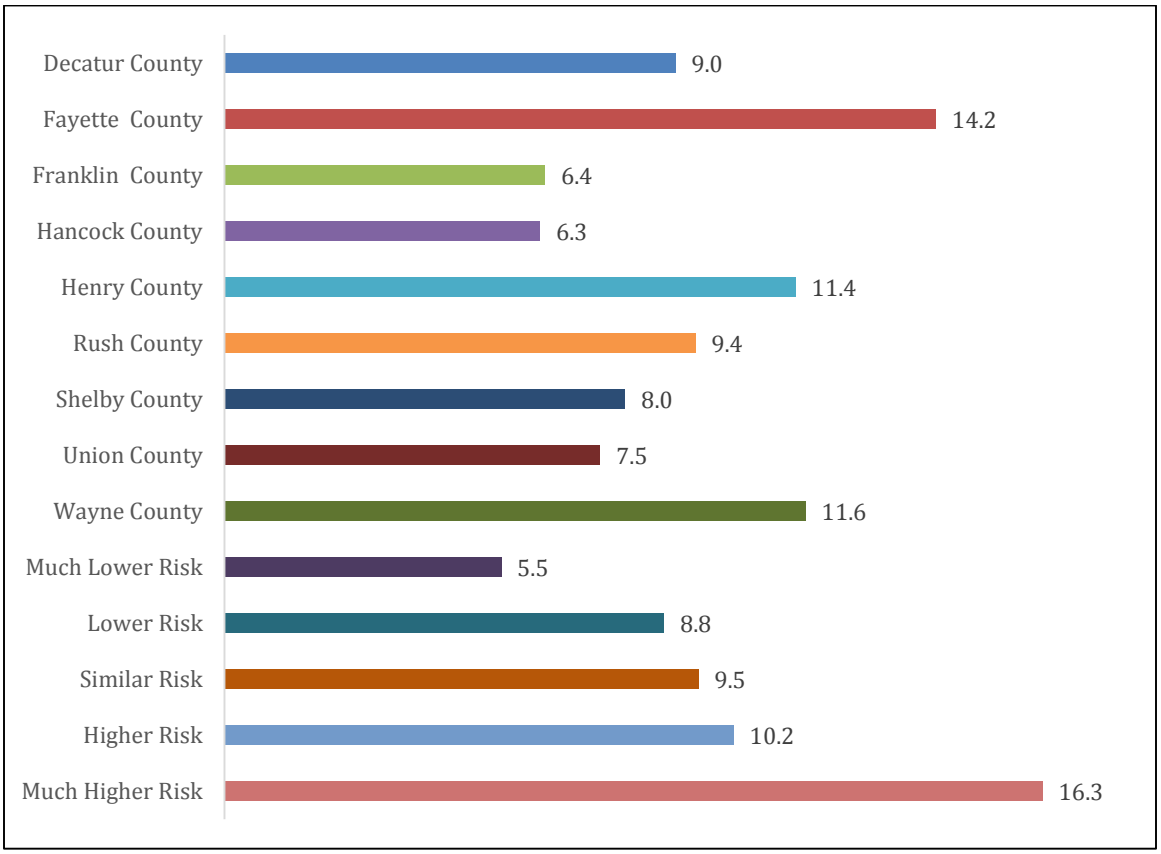

Figure 7 Percent of Unemployment in Rush County and Surrounding Counties

Rush County and its surrounding counties have this percent ranging from 6.3%- 14.2%. The county that fares worst is Fayette County with its unemployment rate at 14.2%, while Hancock County fares best with its unemployment rate at 6.3%. Rush County fares moderately with its rate of unemployment at 9.4%.

LABOR FORCE

Measure: The total resident labor force both employed and unemployed in the Rush County and the unemployment rate in comparison to Indiana.

Data Source(s):- STATS Indiana, US Bureau of Labor Statistics[6]

Year: 2012

Reason for Measure: This measure indicates the economy's ability to provide jobs for a growing population while observing the demographic patterns in employed and unemployed sections of the population of concern. For example: the average age of the employed and unemployed population, the unemployment rate, and the change in the unemployment rate over the years.

Table 8: Rush County and Indiana Labor Force in 2012

Labor Force in 2012	Indiana Total	Rush County, IN Total
Total Resident Labor Force	3,149,743	8,812
Employed	2,885,750	8,113
Unemployed	263,993	699
Unemployment Rate	8.4%	7.9%
5-year % change	82.6%	71.7%
February Unemployment Rate	6.9%	6.0%

Table 8 depicts the labor force in Rush County and the state of Indiana in 2012. Rush County's unemployment rate fell below the state rate of 8.4%.

FAMILIES LIVING IN POVERTY

Measure: The percentage of the families living below the poverty line.

Data Source(s):- The Polis Center, American Community Survey[7,8]

Year: 2007- 2011

Reason for Measure: This indicator provides an idea about the size of the section of the population living below the poverty line, along with identifying the severity of childhood poverty, thus indicating the status of economics, employment, availability of resources, etc. Poverty, along with the other factors like low education and low income, can be linked to various chronic diseases.[3]

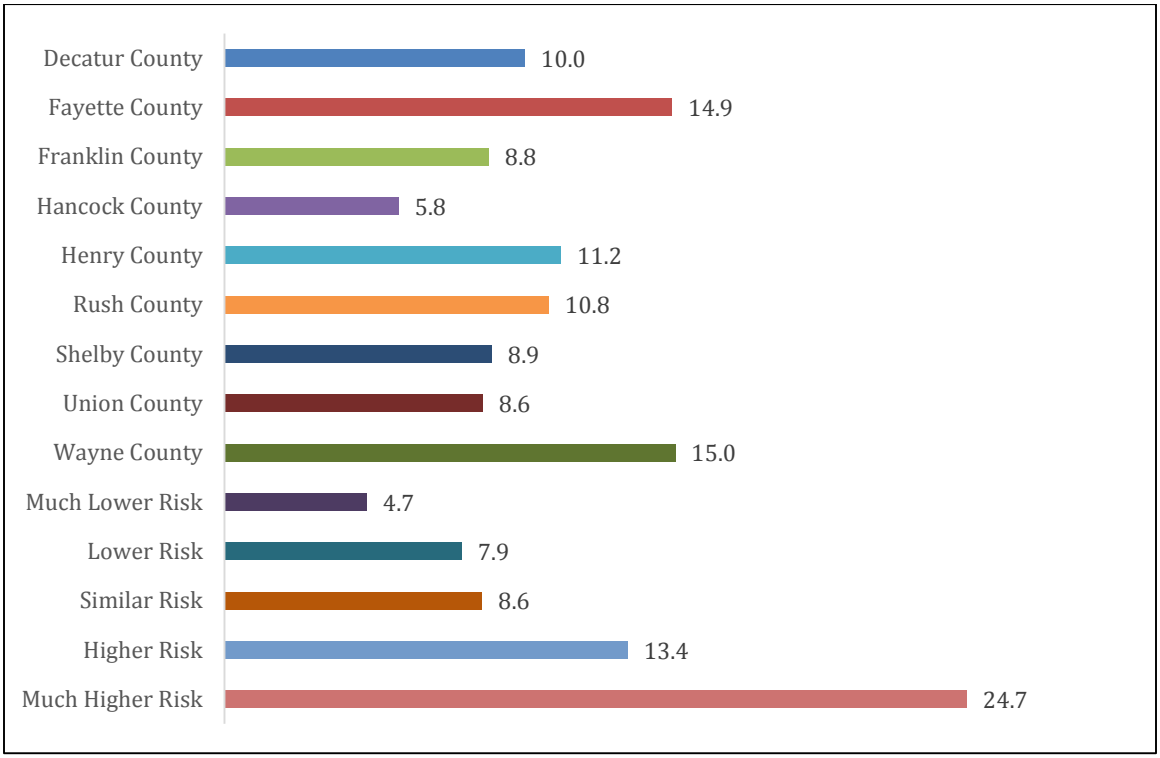

Figure 8: Percentage of Families Living Below Poverty Line in Rush County and Surrounding Counties

The percentage of families living below the poverty line in Rush County and its surrounding counties (Figure 8) lie between 5.8% (Hancock County) and 15.0% (Wayne County). Rush County lies in between, with 10.8% of its families living below the poverty line.

VACANT HOUSING

Measure: The percent of the vacant housing.

Data Source(s): The Polis Center, American Community Survey[7,8]

Year: 2007- 2011

Reason for Measure: This measure provides an idea of the housing market, for example if there is a housing shortage or not in Rush County with respect to its surrounding counties.

This indicator is measured as the percent of vacant housing from 2007- 2011 (American Community Survey).

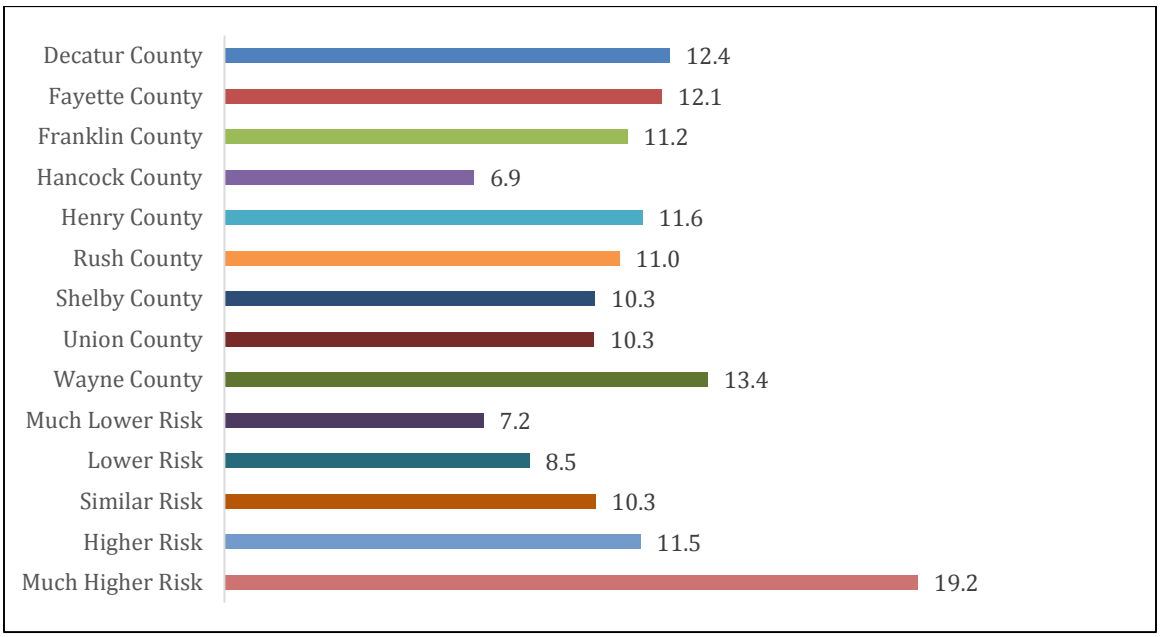

Figure 9: Percent of Vacant Housing in Rush County and Surrounding Counties

As suggested by the graph above (Figure 9), the percent of vacant housing in Rush County is very similar to that of its surrounding counties like Decatur, Fayette, Franklin, Henry, Shelby and Union. Of all the surrounding counties of Rush County, Wayne County has got the highest percentage of vacant housing (13.4%) and Hancock County has the lowest (6.9%).

EDUCATION

EDUCATIONAL ATTAINMENT

Measure: The highest degree of education an individual has completed.

Data Source (s): STATS Indiana, US Census Bureau[6]

Year: 2000

Reason for Measure: People with higher levels of education and higher income have lower rates of many chronic diseases compared to those with less education and lower income levels.[3]

Table 9: Educational Attainment as a Percentage of Population 25 and Older in Rush County and Indiana

Educational Attainment as a Percentage of Population 25 and Older (2000 Census)	Indiana	Rush County
Less Than 9th Grade	5.3%	6.5%
9th to 12th No Diploma	12.6%	13.9%
High School Grad (inc. equiv.)	37.2%	50.9%
Some College, No Degree	19.7%	14.1%
Associate Degree	5.8%	4.3%
Bachelor's Degree	12.2%	7.2%
Graduate or Prof. Degree	7.2%	3.1%

Source: US Census Bureau

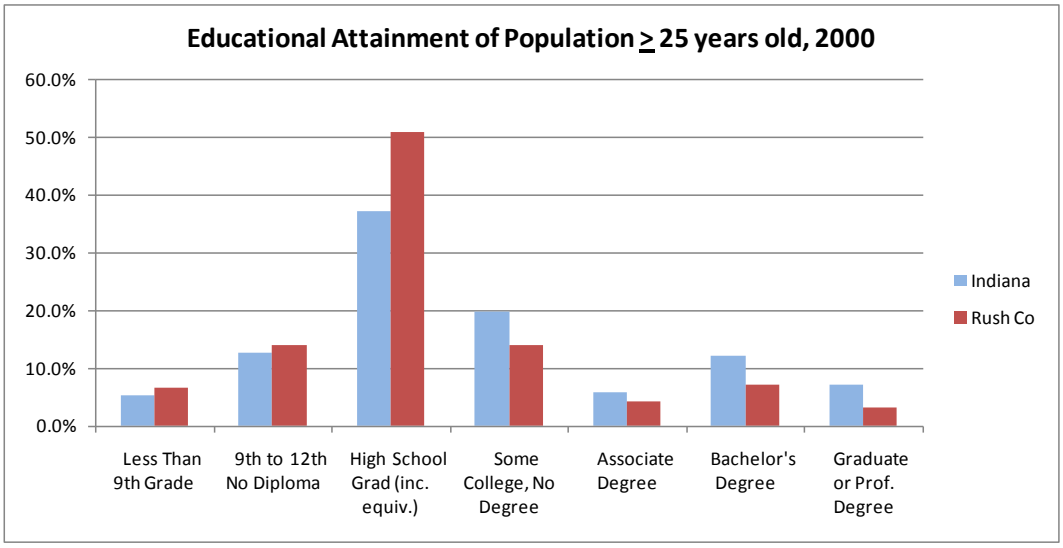

Figure 10: Educational Attainment of Population Greater Than 25 Years Old, 2000

According to the graph (Figure 10) the percent of educational attainment of the population 25 years or older is low overall in Rush County, when compared to Indiana. The educational attainment prior to high school and the attainment of a high school degree or equivalent (GED) had been higher in the Rush County when compared to Indiana; this difference is not significant except in the percent of education attainment pertaining to the high school graduation or equivalent degree.

POPULATION WITH NO DIPLOMA

Measure: The percent of the population without the high school diploma.

Data Source (s): The Polis Center, American Community Survey[7,8]

Year: 2007- 2011

Reason for Measure: People with higher levels of education and higher income have lower rates of many chronic diseases compared to those with less education and lower income levels.[3]

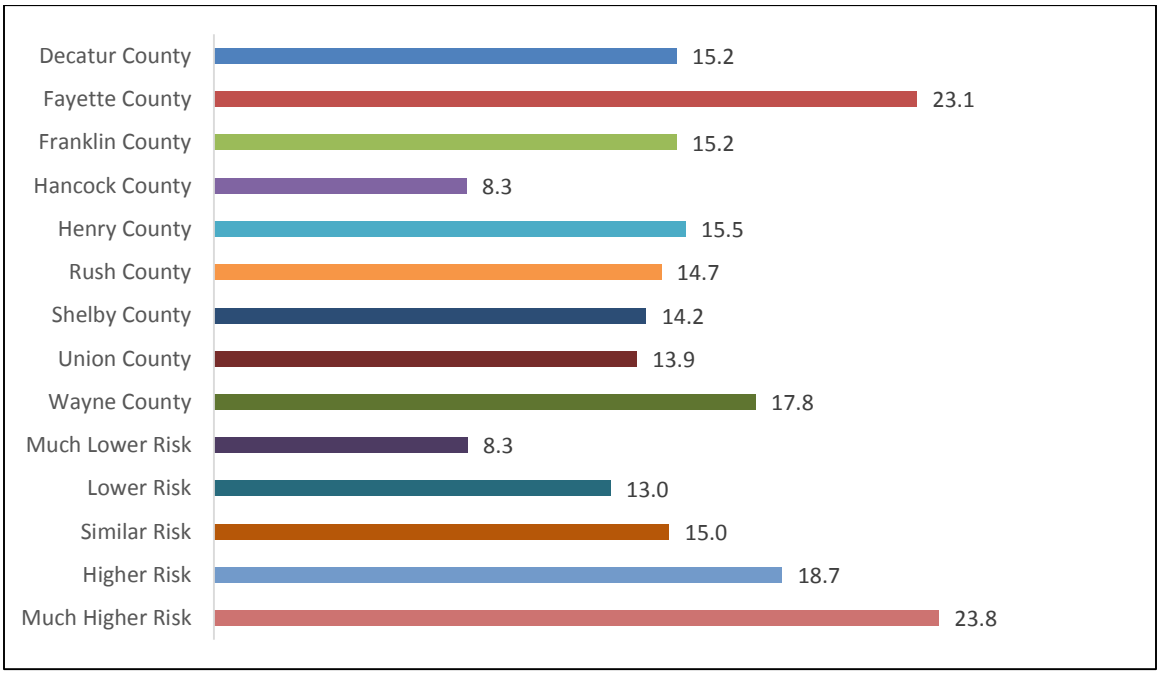

Figure 11: Percent of Population without High School Diploma in Rush County and Surrounding Counties

On drawing comparisons between Rush County and its surrounding counties (Figure 11) the percent of the population without a high school diploma in the years 2007- 2011 lies between 8.3% and 23%. Rush County fares moderately with this percent being 14.7% while Fayette County fares worst with the percent of the population without the high school diploma being 23% and Hancock County fares best with 8.3%.

2. ENVIRONMENTAL FACTORS

PHYSICAL ENVIRONMENT

DRINKING WATER SAFETY

Measure: The percent of the population exposed to the water exceeding the violation limit in the past year.

Data Source(s): The Polis Center, Community Health Rankings[7,2]

Year: 2012

Reasons for Measure: Sources of drinking water vary. There is a wide spectrum available for potable water when it comes to cleanliness. Some water taps (like EPA- regulated water taps) have to pass stringent standards of the Environmental Protection Agency (EPA) regarding cleanliness. Other water sources may need to be checked regularly for water filter status, proximity of a septic tank to the public well, level of fluoridation, drinking water treatment, and whether it is safe to drink water from a particular source, etc.[2]

This indicator is measured as the percent of population exposed to the water exceeding violation limit in the past year.[2]

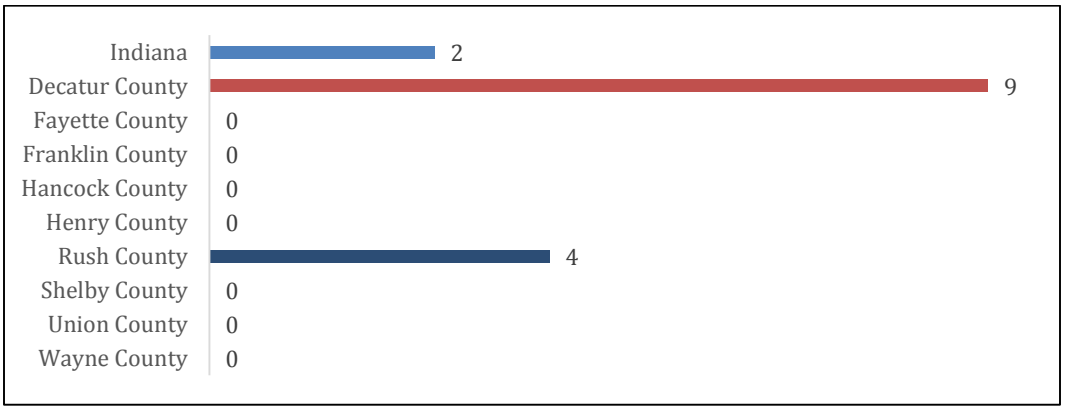

Figure 12: Percent of Population Exposed to Water Exceeding the Violation Limit in the Past Year

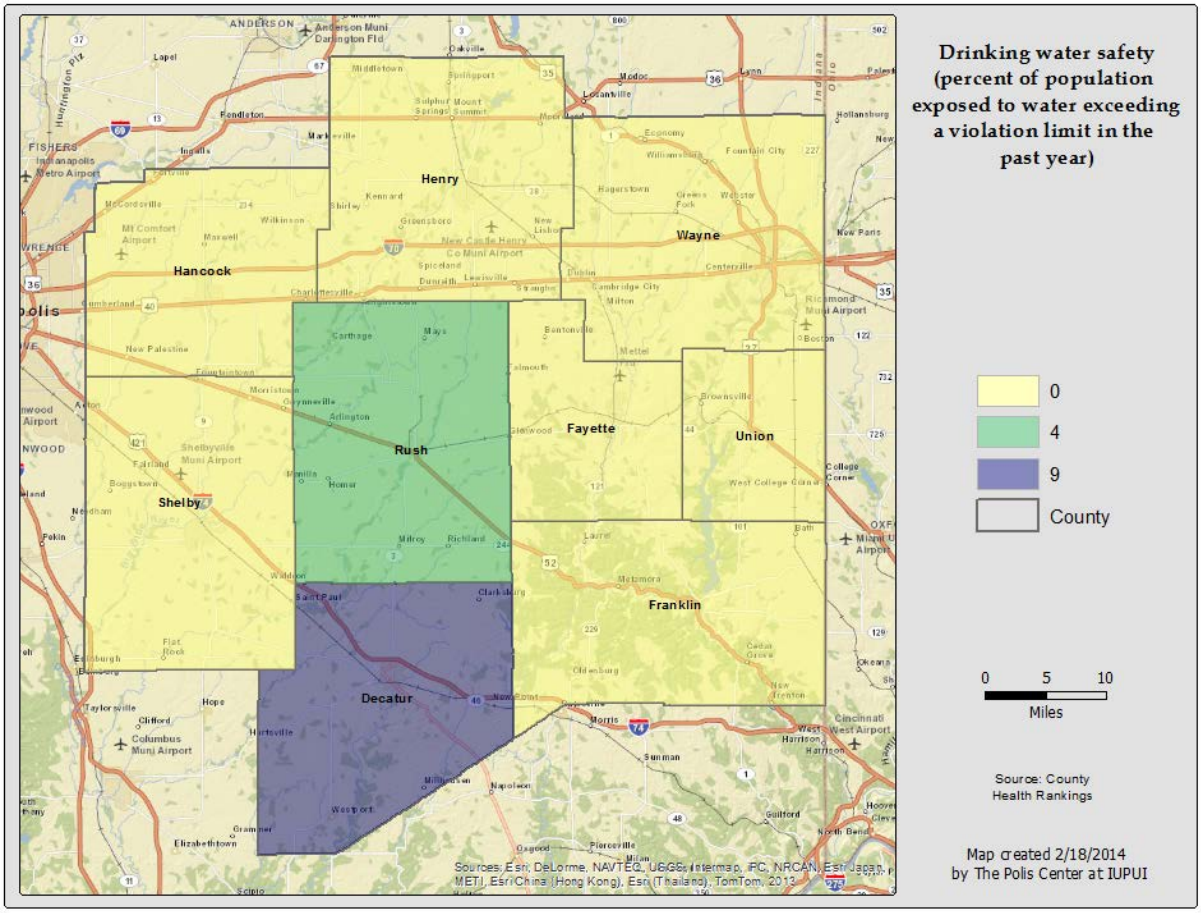

Figure 13: Drinking Water Safety Map of Rush County and Surrounding Counties

The graph and the map (Figures 12 and 13) shows both Rush County and the surrounding counties comparing the percent of population exposed to the water exceeding violation limit in the past years. Rush County does not fare well when it comes to the measurement when compared to Indiana. Rush County has this percent up to 4% while Indiana has it at 2%. Of the surrounding counties, Decatur County has the highest percent (9%) of the population exposed to the water exceeding the violation limit in the past year.

BUILT ENVIRONMENT

EARLY CHILDHOOD

Measures: The total number of licensed childcare centers, available slots for children, and related features for the most recent five years.

Data Source(s): Kids Count Data Center, Indiana Youth Institute[9]

Year: 2008-- 2012

Reason for Measure: This measure provides an overall idea about the adequacy of the licensed child care homes, availability of the slots for the children in the licensed child care, number of children receiving the child care vouchers, monthly average of the children on waiting list for the child care vouchers etc. to achieve the overall development of a child and to determine how Rush County compares to Indiana.

Table 10: Early Childhood Counts for Rush County and Indiana

Early Childhood (Most recent 5 years are shown)						
		Trend Data				
		2008	2009	2010	2011	2012
# of Licensed Child Care Centers	Rush	0	0	0	0	0
	IN	598	594	597	612	598
# of Licensed Child Care Homes	Rush	8	9	9	9	10
	IN	3,067	3,051	3,040	2,994	2,874
# of Early Head Start Participants	Rush	0	0	0	0	0
	IN	908	908	1,945	1,945	1,897
# of slots Available for Children in Licensed Child Care	Rush	96	106	112	112	124
	IN	99,327	99,813	101,762	103,386	100,862
# of Licensed Child Care Slots per 100 Children, Age 0-4	Rush	8.9	10.1	10.9	10.9	12.7
	IN	22.8	23	23.4	23.8	23.4
# of Children Receiving Child Care Vouchers	Rush	39	41	38	47	29
	IN	55,935	55,360	52,307	46,730	53,041
# of Monthly Average of Children on Waiting List for Child Care Vouchers	Rush	7	10	18	9	5
	IN	5,831	8,488	10,612	13,652	7,358

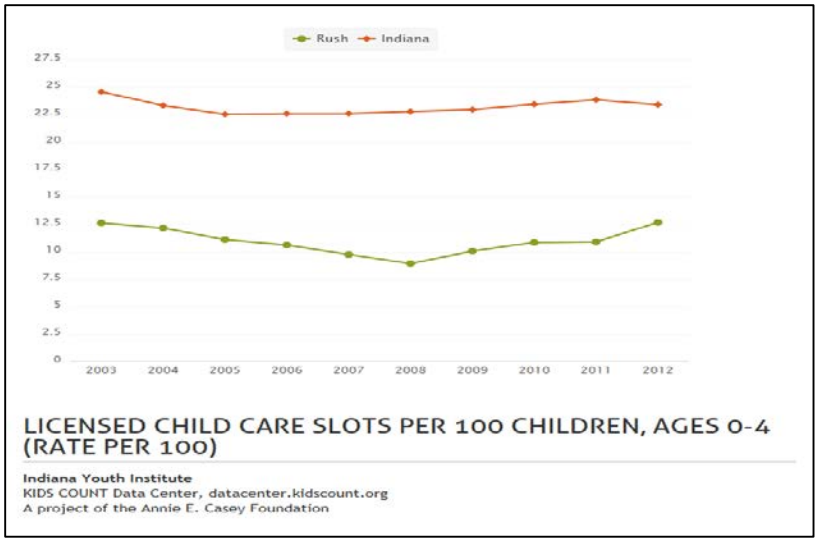

Figure 14: Licensed Child Care Slots per 100 Children, Ages 0-4 (Rate per 100)

The number of licensed childcare slots per 100 children has been consistently lower than in Indiana as a state. Though, an upward trend has been seen in the year 2011 (Figure 14).

3. HEALTH BEHAVIORS AND PHYSICAL CONDITIONS

EXERCISE, NUTRITION, AND WEIGHT

STUDENT HEALTH FACTORS

Measures: 1) Body Mass Index (BMI) (a measure of relative weight based on an individual's mass and height), 2) percent of students living with a smoker, and 3) number of students smoking.

Data Source(s): Rush County Schools Annual Health Services Report[10]

Year: 2012- 2013

Reason for Measures: This measure provides perspective on the health status of the students in the Rush County.

Over the past several school years, the school district has conducted body mass index (BMI) measurements among public school students, K-8. This data was made available to us in the Rush County Schools Annual Health Services Report. Table 11 reports the BMI for elementary students while Table 12 reports the BMI for middle school students.

Table 11: 2012-2013 BMI Measurements for Rush County Elementary Students

2012-2013 BMI Measurements for Elementary Students								
Grade	BMI Classification							
	<16	16-20	21-25	26-30	31-35	36-40	41-45	>45
Pre-K & K	99	117	12	1				
1	58	99	23	7	1			
2	57	92	33	13	2			
3	40	97	35	19	3	1		
4	28	102	68	25	10			
5	20	102	68	25	10			
6	9	92	50	27	15	6	1	
Total	311	611	274	117	37	7	1	

Table 12: 2012-2013 BMI Measurements for Rush County Middle School Students

2012-2013 BMI Measurements for Middle School Students								
Grade	BMI Classification							
	<16	16-20	21-25	26-30	31-35	36-40	41-45	>45
7	6	90	55	37	20	1		4
8	4	63	71	29	20	11	2	1
Total	10	153	126	66	40	12	2	5

ADULT OBESITY

Measure: The percent of adults with BMI of or greater than 30 kg/m^2.

Data Source(s): The Polis Center, Community Health Rankings[7,2]

Year: 2009

Reason for Measure: Obesity is a chronic, multifactorial disease with complex psychological, environmental (social and cultural), genetic, physiologic, metabolic and behavioral causes and consequences. Environmental and behavioral changes brought about by economic development, modernization, and urbanization have also been linked to the rise in obesity. BMI is one indicator used to measure the potential health risks associated with being overweight or obese (NIH, 2012).

This indicator is measured as the percent of adults with BMI of or greater than 30 kg/m^2 (CHR, 2009).

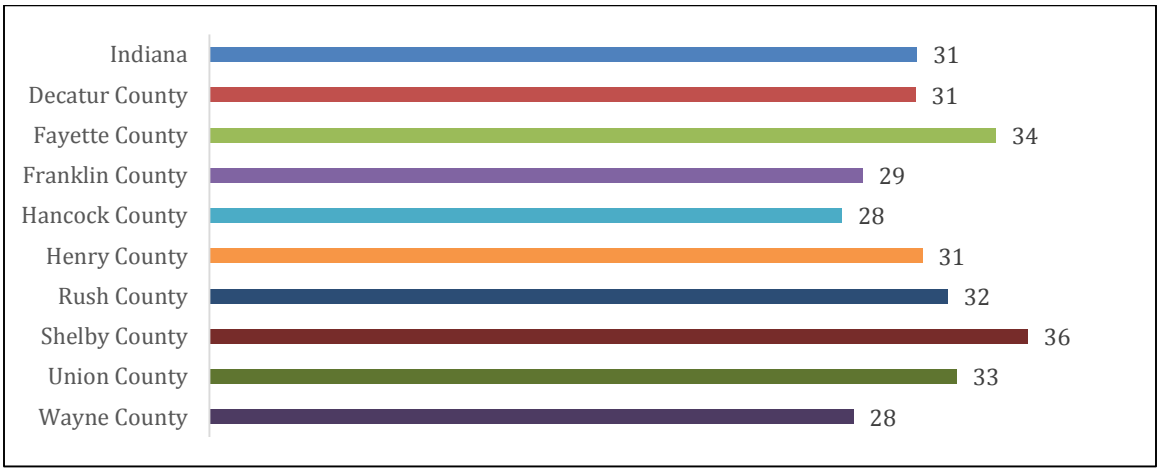

Figure 15: Percent of adults with BMI of or great than 30

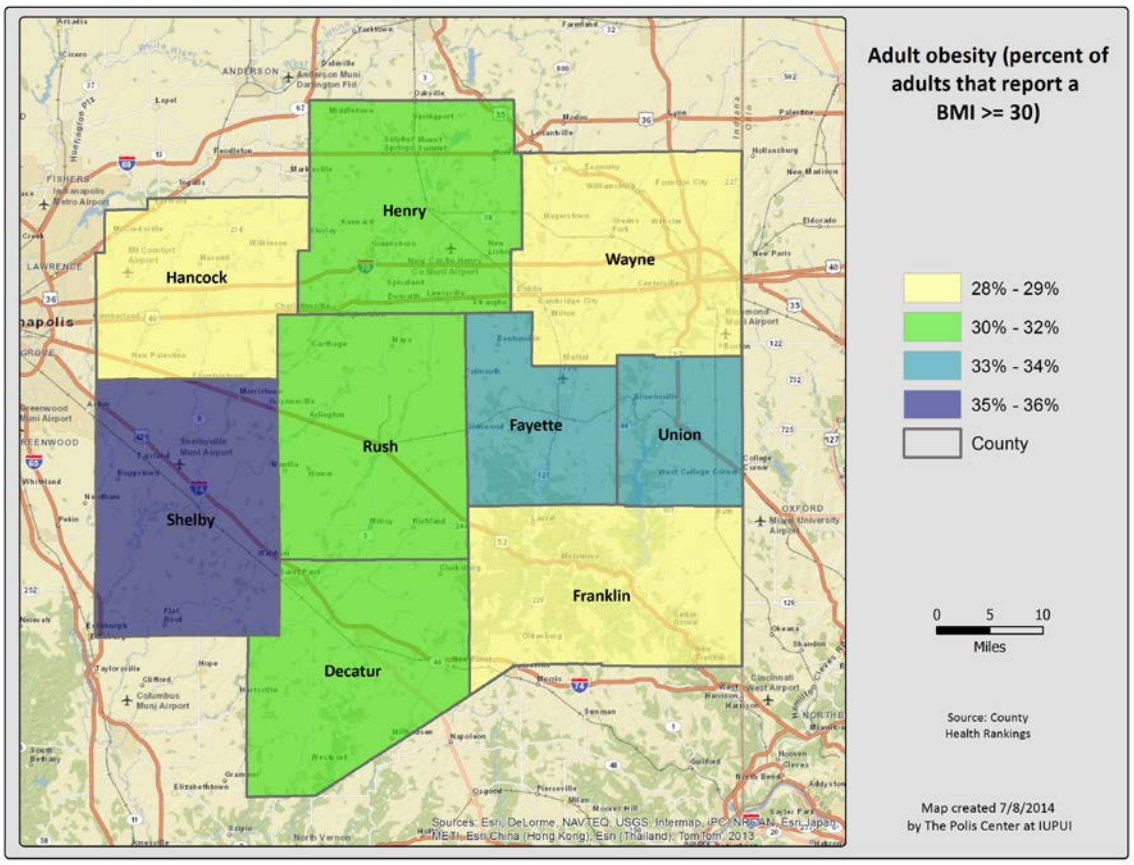

Figure 16: Map of BMI percentages in Rush County and surrounding counties

The graph and the map (Figures 15 and 16*)* depict the percent of adults with BMI greater than 30. The highest and the lowest percent for this indicator for Rush County and its surrounding counties is 36% for Shelby County and 28% for Wayne County. Rush County fares poorly for this indicator when compared to its surrounding counties, with 32% of its population having BMI greater than 30. When compared to Indiana, Rush County fares very similarly, as the percent of adults with BMI more than or equal to 30 for Indiana is 31% and Rush County is 32%.

SUBSTANCE USE AND ABUSE

MOTHERS WHO REPORTED SMOKING DURING PREGNANCY

Measure: The percentage of women who reported they had smoked for any length of time during their pregnancy.

Data Source (s): Kids Count Data Center, Indiana Youth Institute[9]

Year: 2007- 2011

Reason for Measure: Smoking during pregnancy is associated with many adverse outcomes for children, such as intrauterine growth retardation, premature birth, low birth weight, stillbirth and infant mortality, as well as with negative consequences for subsequent health and development. Mothers who are exposed to the second-hand (i.e., environmental) smoke are also more likely to have babies with lower weights, putting them at risk for many health problems. Infants whose mothers smoke during pregnancy are three times more likely to die from Sudden Infant Death Syndrome (SIDS) than babies whose mothers do not smoke during pregnancy. Children born to the mothers who smoked while pregnant have a higher risk of developing childhood asthma. In addition, maternal smoking during pregnancy is a risk factor for early childhood obesity. Smoking during pregnancy is also associated with behavioral problems later in childhood. For example, smoking by the mother during pregnancy has been found to be associated with Attention Deficit Hyperactivity Disorder (ADHD) and may also lead to problems with substance abuse and criminal behavior when children reach adulthood.[11, 12]

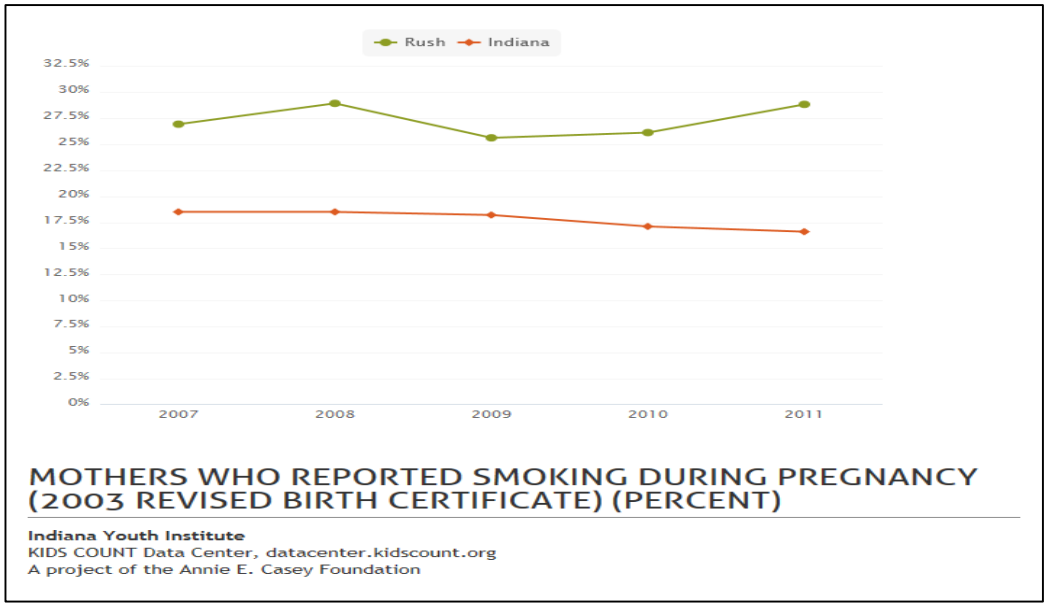

Figure 17: Mothers who reported smoking during pregnancy

The graph (Figure 17) depicts a comparison of the percent of the mothers who reported smoking during pregnancy for Rush County and Indiana. This percent has been fairly high for Rush County for the years 2007- 2011, when compared to Indiana, with 27.5% of mothers reporting smoking during pregnancy in the year 2007 (which was just above 17.5% for Indiana in 2007) and almost 30% of mothers reported smoking during pregnancy in the year 2011 for Rush County (which was just below 17.5% for Indiana in 2011).

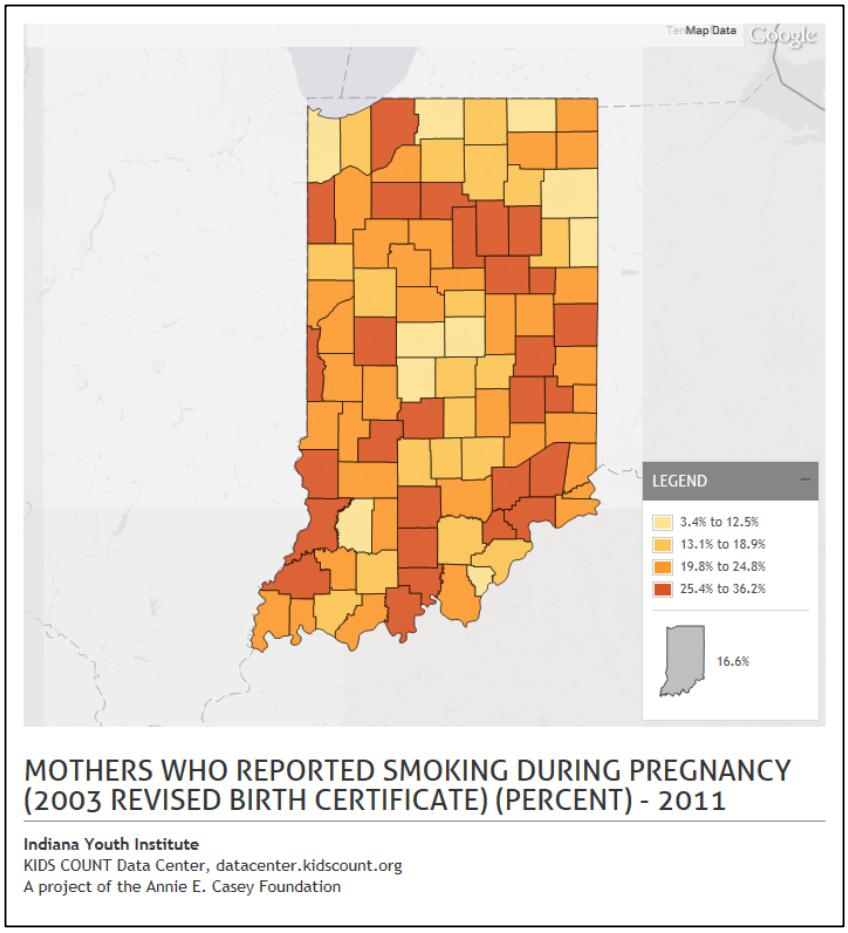

Figure 18: Map of mothers who reported smoking during pregnancy in Indiana

The map (Figure 18) depicts that 16.6% of mothers reported smoking during pregnancy for Indiana in 2011. When we look at Rush County, this percent falls in the bracket of 25.4% to 36.2%, which is higher when compared to Indiana.

ADULT SMOKING

Measure: The percent of adults that smoke.

Data Source(s): The Polis Center, Community Health Rankings[7,2]

Year: 2005-2011

Reason for Measure: Smoking is the largest cause of preventable death in the world and is responsible for several diseases, such as various types of cancer, long-term (chronic) respiratory diseases, and heart disease, as well as premature death. Over 440,000 people in the United States die because of smoking each year. According to the Centers for Disease Control and Prevention (CDC), in the United States alone, $92 billion are lost each year from lost productivity resulting from smoking-related deaths. Of the more than 2.4 million deaths in the United States annually, over 440,000 are caused by smoking.[2]

This indicator is measured as the percent of adults that smoke (CHR, 2005- 2011).

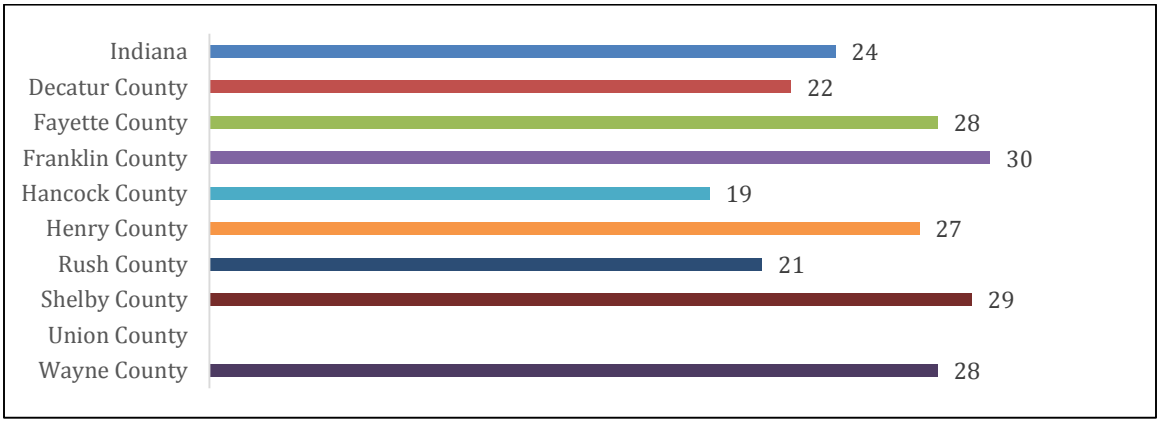

Figure 19: Percent of adults that smoke in Rush County and surrounding counties

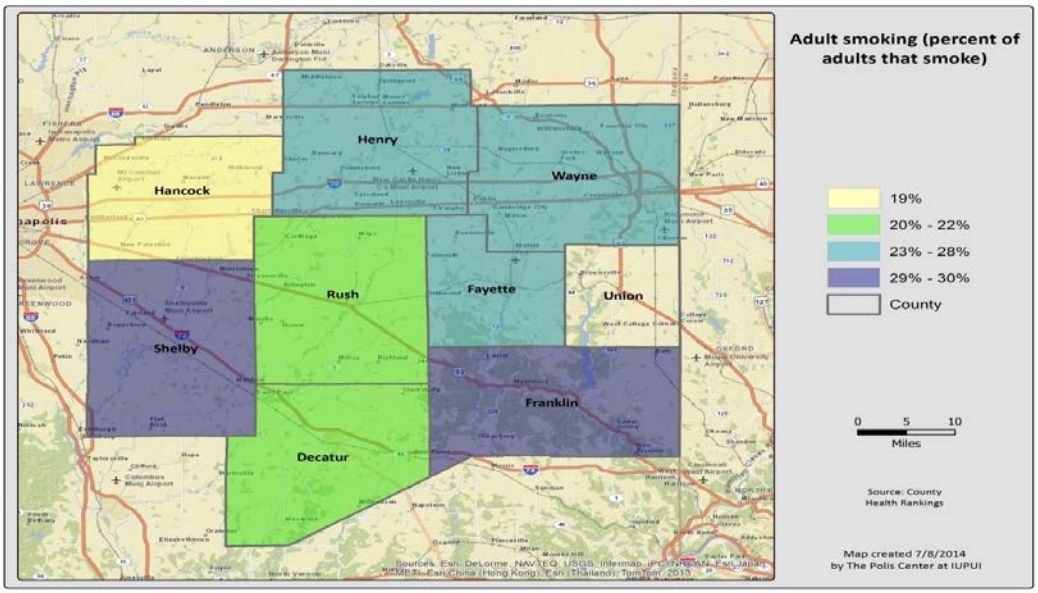

Figure 20: Map of percent of adults who smoke in Rush County and surrounding counties

The graph and the map (Figures 19 and 20) depict a comparison of the percent of adults who smoke, between Rush County and the surrounding communities. The highest and the lowest percent of adults smoking is 30% (Franklin County) and 19% (Hancock County). Rush County fares well in comparison to its surrounding counties. The percent of adults who smoke in Rush County is 21%. Rush County also fares well when compared to Indiana where the percent of adults smoking is 24%.

Additionally, the Rush County Schools Health Index Report reported findings from the anti-smoking program, "Tar Wars" provided to the fifth graders in Rush County public schools. According to the brief survey results reported in Table 13, approximately half of all students report living with a smoker, a known risk fact for initiating smoking.

Table 13: Percent of fifth graders who report living with smoker in Rush County

"Tar Wars" Survey of Rush County 5th Graders		
	% Live with a Smoker	**# Admit Trying Tobacco**
2004-2005	53.50%	31
2005-2006	53.10%	31
2006-2007	53.80%	24
2007-2008	54.30%	5
2008-2009	52.50%	11
2009-2010	2.80%	9
2010-2011	49.70%	15
2011-2012	50.80%	12
2012-2013	49.70%	6

4. ACCESS TO CARE

ACCESS TO HEALTH CARE SERVICES AND PUBLIC HEALTH CAPACITY

RATIO OF POPULATION TO PRIMARY CARE PHYSICIANS

Measure: The ratio of the population to primary care physicians.

Data Source(s): The Polis center, American Community Survey[7,8]

Year: 2007- 2011

Reason for Measure: Easy and readily available access to primary health care providers is as important as other aspects of health care like having health insurance. The presence of a balanced and satisfactory ratio of primary care physicians to the population in a community ensures efficient preventive and primary care as well as referrals to the specialists when needed.[3]

This indicator was measured as the ratio of the population to primary care physicians (ACS, 2007- 2011).

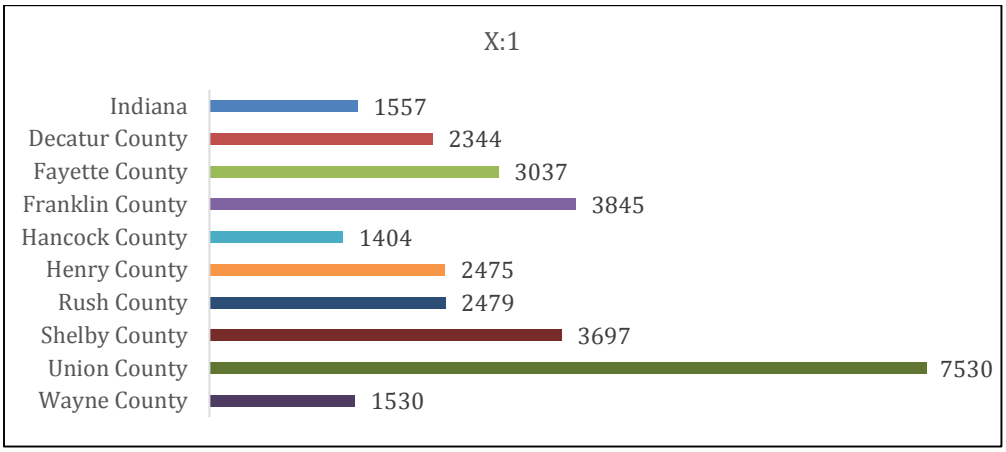

Figure 21: Ration of population to primary care physicians in Rush County and surrounding counties

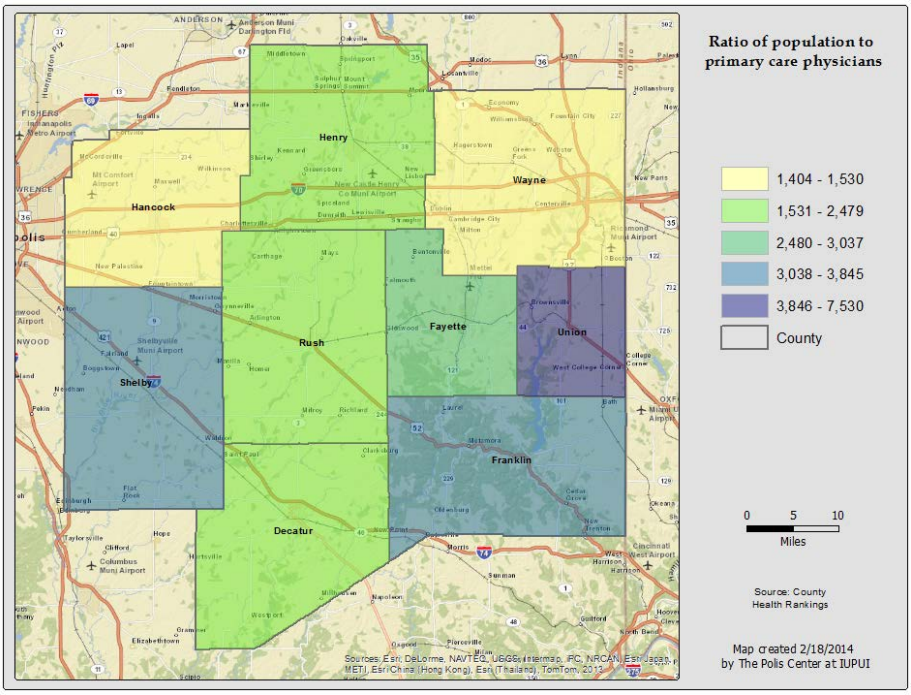

Figure 22: Map of ration of population to primary care physicians

The graph and the map (Figures 21 and 22) depict the ratio of the population to primary care physicians in Rush County and its surrounding counties. This ratio ranges from 1,404 (Hancock County) to 7,530 (Union County). In Rush County, this ratio is at 2,479, faring poorly when compared to Indiana with the ratio of 1,557 population to primary care physicians.

HEALTH CARE SECTOR

Measure: The total measure of various aspects related to hospital services provided, size of health workforce, etc.

Data Source(s): ISDH Hospital Service Report,[13] ISDH Audit Report,[14] Indiana Center for Health Workforce Studies[15]

Year: 2010- 2012

Reason for Measure: This measure obtains an overview of the standing of Rush County when compared to its surrounding counties in terms of types of hospital services obtained, total ED visits, net patient account receivable, number of encounters in the various diagnostic categories, estimation of uninsured according to the various sections of the society based on gender, age and income level, and the measurement of the health workforce, in comparison to the surrounding counties of Rush.

HOSPITAL SERVICES

Rush Memorial Hospital is the only Rush County hospital listed in the Indiana Hospital Directory. Rush Memorial Hospital is a critical access hospital, with 232 total hospital full time equivalents reported in 2011. The Indiana State Department of Health Hospital Service Report was used to derive hospital service utilization (Table 14), emergency department visits (Table 15), and number of outpatient discharges by diagnostic group (Table 16) reported for 2011.

Table 14: Rush Memorial hospital service utilization 2011

Hospital Service Description	Number of Set-up Beds	Number of Discharges	Number of Patient Days	Annual Total Charges
Medical/ Surgical	25	796	2075	$2,516,282
Swing Bed Program	N/A	68	542	$128,993
Total Acute	25	864	2617	N/A

EMERGENCY DEPARTMENT VISITS

Table 15: Rush Memorial emergency department visits 2011

Total ED Visits	ED Injury Visits	Ed Injury Admissions
9587	2186	8

HOSPITAL SERVICES BY DIAGNOSTIC GROUP

The 2011 Hospital Service Report for Rush Memorial Hospital was also obtained online from the Indiana State Department of Health and was used to characterize outpatient encounters by diagnostic group. These are shown in the following table in order of descending number of encounters. It appears that the respiratory and neoplasms diagnostic categories are the most common.

Table 16: Outpatient encounters by diagnostic group

Diagnostic Category	Number of Encounters
Respiratory	1357
Neoplasms	1178
Digestive Diseases	875
Nervous	873
Musculoskeletal	806
Diseases of Blood	564
Genitourinary	561
Skin	483
Circulatory	301
Infectious Disease	280
Other/ Known	32,121
Total Encounters	42,207

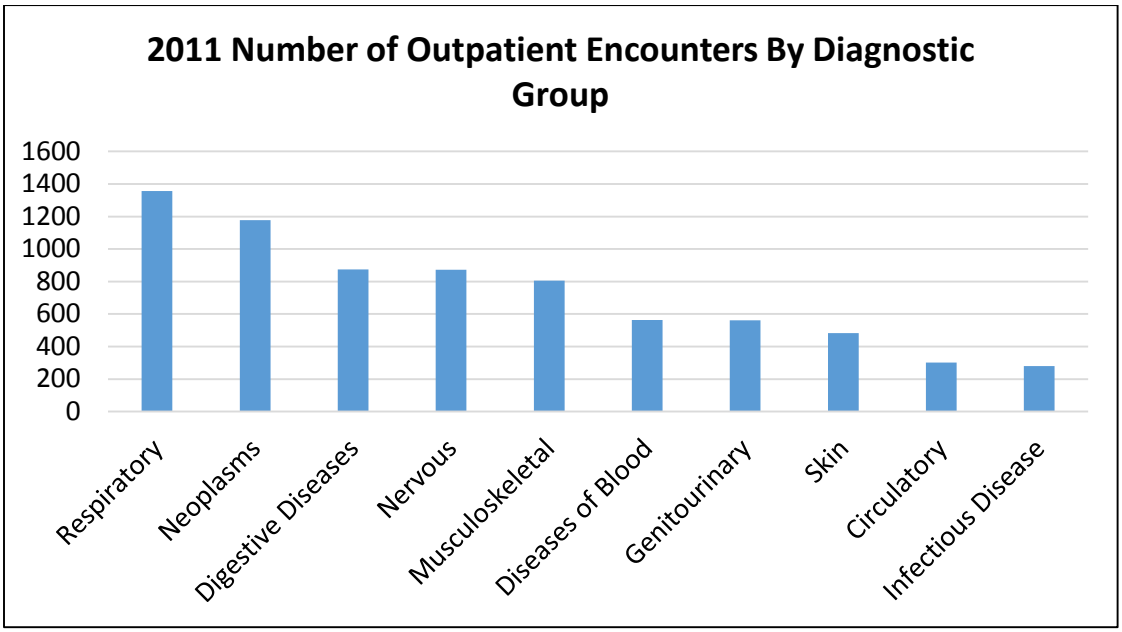

Figure 23: 2011 Number of outpatient encounters by diagnostic group

The graph (Figure 23) indicates the number of the outpatient encounters by the diagnostic group. Thus the number was the highest for the Respiratory group (followed by the Neoplasms (Cancer) and Digestive diseases respectively. The Digestive diseases were closely followed by the Nervous and Musculoskeletal diseases. The lowest group of illnesses was that of the Circulatory and Infectious diseases respectively, which almost had similar number of outpatient encounters.

PATIENT ACCOUNTS RECEIVABLE

Rush Memorial Hospital has agreements with third-party payers that provide for payments to the Hospital at amounts different from its established rates. A summary of the payment arrangements with major third-party payers follows:

1. Medicare- Inpatient acute care services and outpatient services rendered to Medicare program beneficiaries are paid at prospectively determined rates. These rates vary according to a patient classification system that is based on clinical, diagnostic, and other factors. Inpatient non-acute services and defined capital and medical education costs related to Medicare beneficiaries are paid based on a cost reimbursement methodology. The Hospital is reimbursed for cost reimbursable items at a tentative rate with final settlement determined after submission of annual cost reports by the Hospital and audits thereof by the Medicare fiscal intermediary.
2. Medicaid- Inpatient and outpatient services rendered to Medicaid program beneficiaries are reimbursed under a cost reimbursement methodology. The Hospital is reimbursed at a tentative rate with final settlement determined after submission of annual cost reports by the Hospital and audits thereof by the Medicaid fiscal intermediary.

Table 17: Patient accounts receivable for Rush Memorial Hospital, 2011

Patient Accounts Receivable	FY 2010
Receivable from patients and their insurance carriers	$4,616,435
Receivable from Medicare	$2,038,130
Receivable from Medicaid	$690,089
Total Patient Accounts Receivable	$7,344,654
Less allowance for uncollectible amounts	$3,198,561
Patient Account Receivable, net	$4,146,093

Revenue from the Medicare and Medicaid programs accounted for approximately 41% and 16%, respectively, of the Hospital's net patient revenue for the year ending 2010. Laws and regulations governing the Medicare and Medicaid programs are extremely complex and subject to interpretation.

As a result, there is at least a reasonable possibility that recorded estimates will change by a material amount in the near term. The 2010 net patient service revenue increased approximately $1,205,000 due to removal of allowances previously estimated that are no longer necessary as a result of final settlements and years that are no longer subject to audits, reviews, and investigations.

HEALTH WORKFORCE MEASURES

The Indiana Center for Health Workforce Studies in collaboration with the Indiana Area Health Education Centers Program produced the 2012 Indiana Primary Care Clinician Workforce Report.

The ISDH region 6 includes Blackford, Delaware, Fayette, Grant, Henry, Howard, Jay, Madison, Randolph, Rush, Tipton, Union, and Wayne Counties, out of which all except Delaware, Howard, Madison, and Tipton are considered rural.

Two primary measures were used to evaluate the status of Indiana's primary care workforce: the proportion of primary care clinician FTEs "nearing retirement" (age 55 and older) and the (weighted) ratio of primary care clinician FTEs per 100,000 population in each county. Analyses of FTE, retirement age, and ratio of primary care clinician FTEs to population were carried out at the state level (and urban versus rural counties), by AHEC region, and by ISDH public health region. Overall, there were 51 primary care clinician FTEs per 100,000 populations, far short of the recommended 100 per 100,000 to provide adequate access to primary care. Comparing urban counties to rural counties, a majority of primary care providers practiced in urban counties. However, a greater proportion of rural primary care providers were age 55 or older than those working in urban counties.

Table 18: Number of health care professionals in Indiana, ISDH region, and Rush County

Category	Indiana (FTEs)	ISDH Region 6 (FTEs per 100,00 population)	Rush Co. (FTEs per 100,000 population)
Physicians	2,880	25	13
Physician Assistant	96	1	0
Nurse Practitioner	975	9	6

Priorities for community development of increased access to health care were established based on need and interest by the Indiana Primary Health Care Association (IPHCA). These factors include poverty, unemployment, shortage designations, county health rankings risk and health factors, interest, and base of support. Rush County is included in the priority counties.

PREVENTABLE HOSPITAL STAYS

Measure: The rate (per 1000 Medicare enrollees) of preventable hospital stays (ambulatory care sensitive conditions).

Data Source(s): The Polis Center, Community Health Rankings[7,2]

Year: 2010

Reason for Measure: Preventable hospital stays can be a significant indicator of the hospital admission rates in populations and communities, which can vary depending on access to primary care, care-seeking behaviors, and the quality of care available. As hospitalization tends to be costlier than outpatient or primary care, potentially preventable hospitalizations often are tracked as markers of health system efficiency. The number and cost of potentially preventable hospitalizations also can be calculated to help identify potential cost savings associated with reducing these hospitalizations overall and for specific populations. Therefore, a high rate of preventable hospital stays can basically be a reflection of the problem in accessing sufficient and timely primary care.

This indicator is measured as the rate (per 1,000 Medicare enrollees) of preventable hospital stays (ambulatory care sensitive conditions)(CHR,2010).

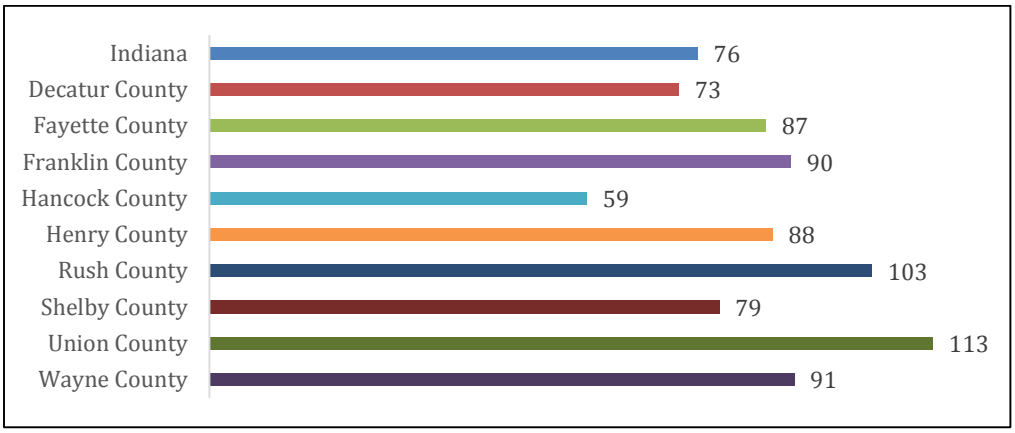

Figure 24: Rate (per 1000 Medicare enrollees) of preventable hospital stays (ambulatory care sensitive conditions) in Rush Count and surrounding counties

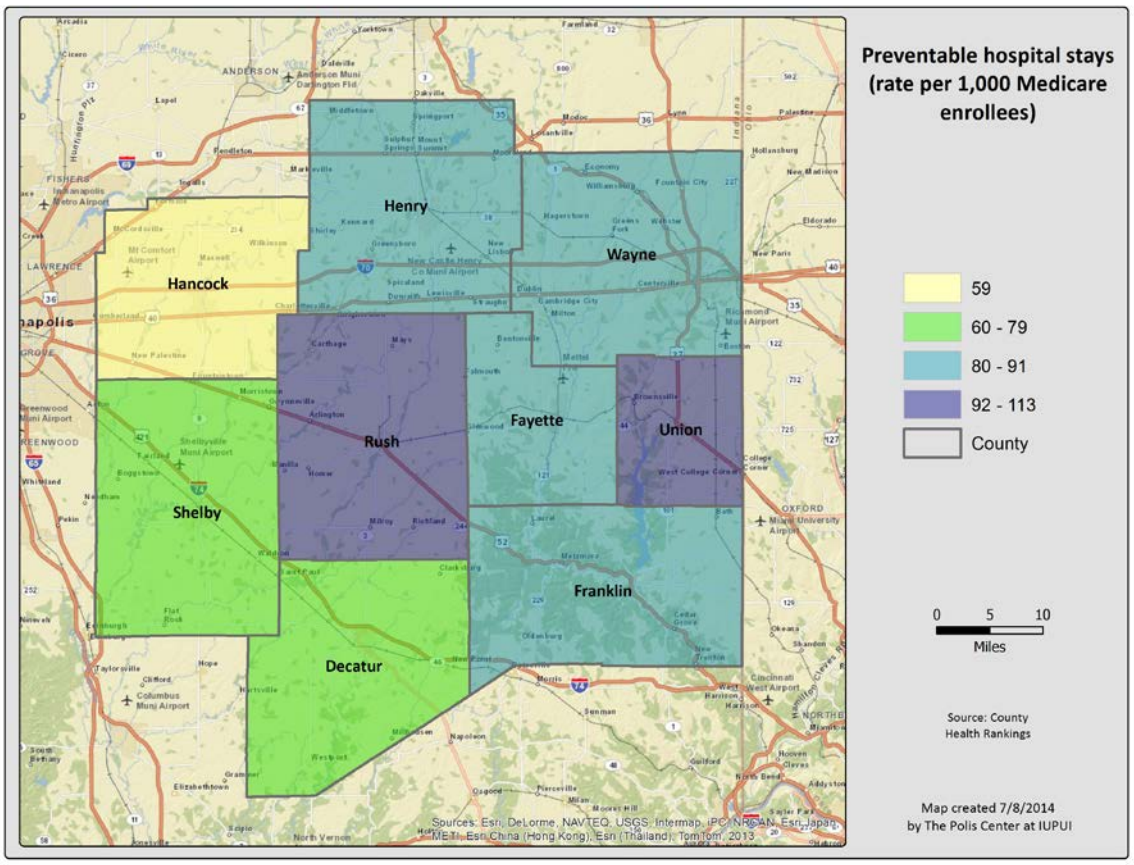

Figure 25: Map of rate of preventable hospital stays

This graph and the map (Figure 24 and 25) depict the rate (per 1,000 Medicare enrollees) of preventable hospital stays for ambulatory care sensitive conditions. This rate ranged from 59 to 113 for Rush County and its surrounding counties with the rate of preventable hospital stays in Rush County being 103. This rate for Indiana is much lower than Rush County at 76.

MOTHERS WHO RECEIVED FIRST TRIMESTER PRENATAL CARE

Measure: The percentage of mothers who received prenatal care in their first trimester

Data Source (s): Kids Count Data Center, Indiana Youth Institute[9]

Year: 2007- 2011

Reason for Measure: During pregnancy, regular checkups (otherwise known as prenatal care) are very important. This consistent care can help keep the mother and her baby healthy, spot problems if they occur, monitor the growth of the baby and prevent problems during delivery.[16]

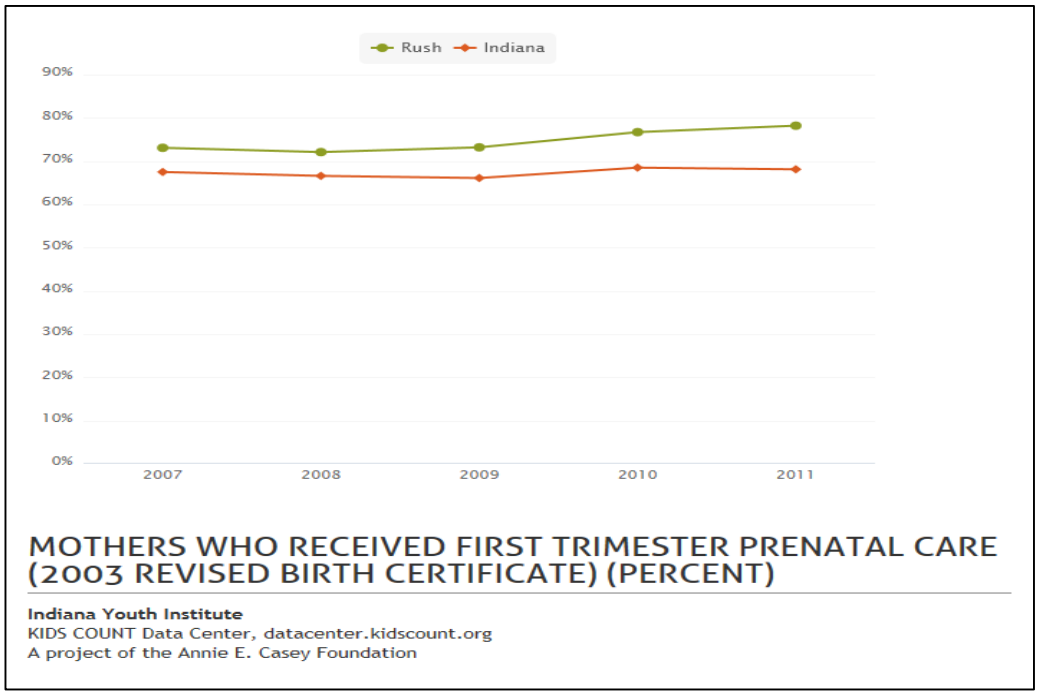

Figure 26: Mothers who received first trimester prenatal care

The graph (Figure 26) depicts the percent of mothers who received first trimester prenatal care (2007-2011). Rush County fares better than Indiana with more than 70% (approximately 73%) mothers receiving care in 2007, and increased to almost 80% in 2011. Indiana's percentage is less than 70% (approximately 68%), and increased to 70% in 2011.

HEALTH INSURANCE

UNINSURED ESTIMATES

Measure: The estimated number and percent of uninsured population according to the particular demographic groups like gender, age and income level.

Data Source(s):- Indiana Indicators[3]

Year: 2012

Reason for Measure: Lack of proper health insurance can be a significant barrier in obtaining not only primary and specialized health care services but also preventive health care.[3]

Uninsured individuals face great challenges in obtaining health care, and this can be compounded in rural communities where access options tend to be more limited.

These estimates are concerned primarily with those under the age of 65 due to Medicare eligibility. Rush County uninsured estimates for 2012 are comparable to those for the state at about 16.5%, which increased from the uninsured estimate in 2005 of 14%. More men than women are uninsured, and more adults than children are uninsured.

Table 19: Uninsured estimates in Rush County and Indiana, by age, gender, and income

	Rush County			Indiana		
Population Groups	Estimated Number Uninsured	Number in Demographic Group	Estimated Percent Uninsured	Estimated Number Uninsured	Number in Demographic Group	Estimated Percent Uninsured
Both sexes, under 65, all income levels	2,331	14,122	16.5	911,449	5,480,890	16.6
Both sexes, under 65, </= 200% poverty	1,404	5,353	26.2	564,296	1,986,954	28.4
Males, under 65, all income levels	1,267	7,130	17.8	478,285	2,732,424	17.5
Females, under 65, all income levels	1,064	6,992	15.2	433,164	2,748,465	15.8
Adults 18-64, both sexes, all income levels	1,959	10,125	19.3	781,001	3,923,258	19.9
Children (under 19), both sexes, all income levels	410	4,233	9.7	142,489	1,636,982	8.7

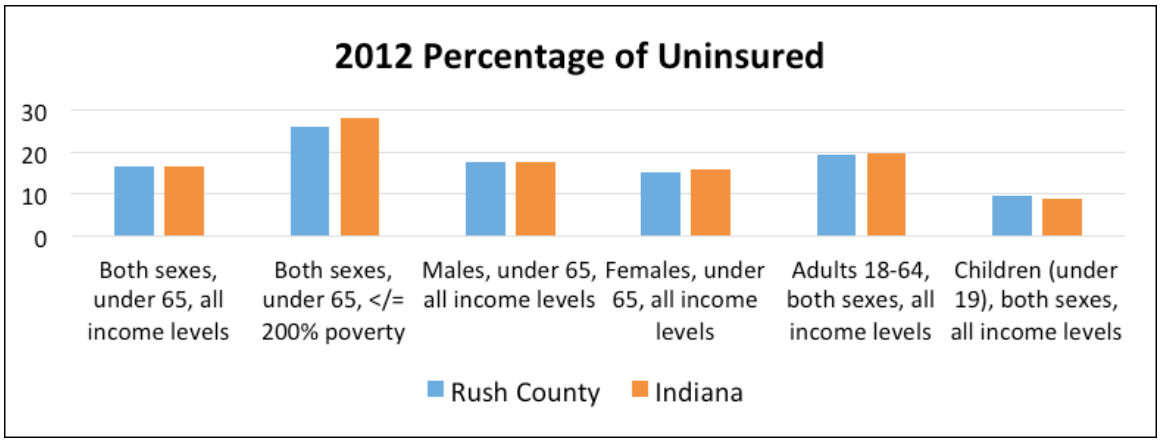

Figure 27: Percentage of uninsured in Rush County and Indiana, by age, gender, and income

Percentage of Poverty Guideline (For example, 200% poverty) = Income / Poverty Guideline for the Household Size

The graph (Figure 27) depicts the percentage of uninsured for both Rush County and Indiana, according to gender, age group, and income level for the year 2012. Indiana and Rush County fare almost similarly for all the subgroups, both the sexes under 65 years living at or below the poverty level have the highest percent of uninsured population followed by the subgroups of adults of both the sexes of age group 18- 64 including all income levels. The percent of uninsured was lowest for children under 19 years, for both the sexes at all the income levels for both Indiana and Rush County.

5. STRESS

MENTAL HEALTH

POOR MENTAL HEALTH DAYS

Measure: The average number of poor mental health days in the past 30 days.

Data Source(s):- The Polis Center, Community Health Rankings[7,2]

Year: 2005-2011

Reason for Measure: This measure provides information regarding mental health in Rush County.

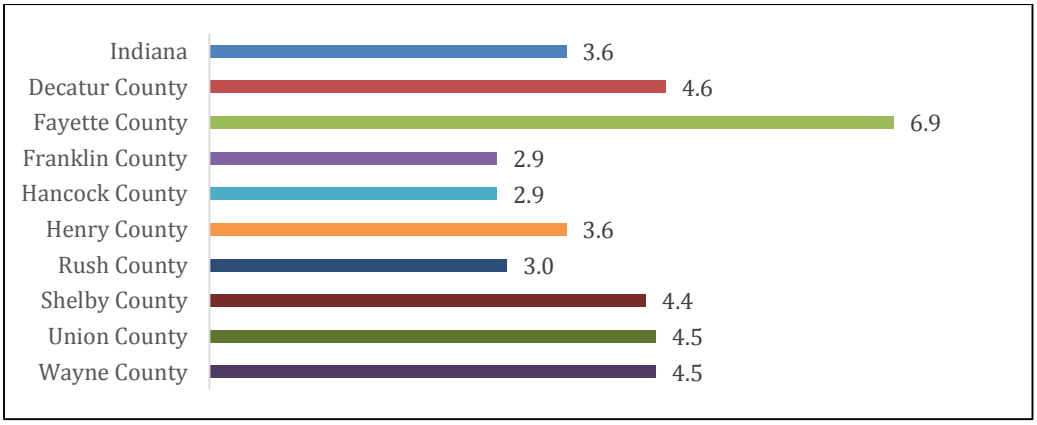

Figure 28: Average number of poor mental health days in past 30 days for Rush County and surrounding counties

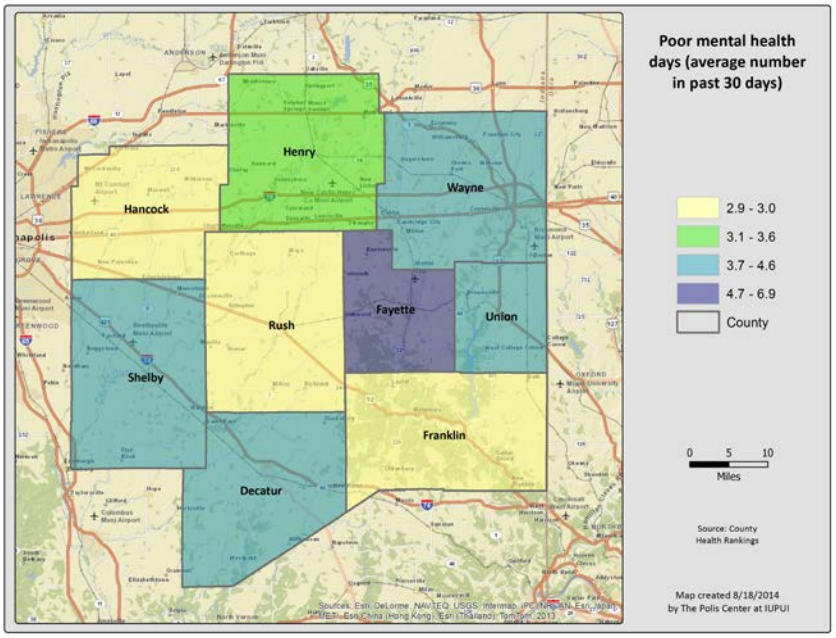

Figure 29: Map of poor mental health days

The graph and the map (Figures 28 and 29*)* depict a comparison of average number of poor mental health days in the past 30 days between Rush County and its surrounding counties, along with Indiana. The counties with the highest and the lowest average number of poor mental health days in the past 30 days are Fayette County (6.9 days) and Franklin and Hancock County (2.9 days). Rush County fares well with respect to the surrounding counties as the average number of the poor mental health days in the past 30 days as reported in the county are 3.0 days. Rush County also fares well in comparison to Indiana where Indiana reports 3.6 numbers of average days of poor mental health in the past 30 days.

6. MATERNAL, FETAL, AND INFANT HEALTH

BIRTH STATISTICS

BIRTH STATISTICS (NATALITY)

Measure: Birth rates (total number of births per 1000 of a population each year), pregnancy rates (success rate of pregnancy or percentage of all attempts that lead to pregnancy) and induced terminations in comparison to Indiana.

Data Source(s): STATS Indiana, Indiana State Department of Health[6, 17]

Year: 2011- 2012

Reason for Measure: This measure provides an overlook as of where Rush County stands in comparison to Indiana with respect to live births, general fertility rate, birth weight of the babies, smoking and drinking by mothers during pregnancy, age-specific birth rates, reported pregnancies, induced termination, etc.

The following tables represent data on Rush County birth rates, pregnancy rates, and induced terminations in comparison to Indiana. All of the data was obtained from the Indiana State Department of Health's Natality Reports.[17]

Significant differences between Rush County and Indiana was that only 1 of the 170 births occurred in Rush County. This data is consistent with the fact that no obstetric services are available at Rush Memorial Hospital, the sole hospital in the county. When compared to the state, Rush County has lower pre-term births reported, lower rate of induced pregnancy terminations, and a higher rate of mothers receiving care in the 1st trimester. However, Rush County has a much higher percentage (28.8%) of mothers who smoke during pregnancy than state at large.

Table 20: Natality Report 2011- Indiana and Rush County

Natality Report 2011	Indiana	Rush County
Total Live Births by Place of Residence	83,750	170
White	82.8%	97.6%
Black	11.8%	0.0%
Other	5.4%	2.4%
Total Live Births Occurring *in* Rush County	--	1
General Fertility Rate (Live Births per 1,000 women aged 15-44)	65.1	56.6
Percent Low Birth Weight	8.1%	7.1%
Percent Very Low Birth Weight	1.5%	**
Percent Preterm (<37 weeks)	10.0%	8.8%
Percent Mothers with Prenatal Care in 1st Trimester	68.1%	78.2%
Percent Mothers who Drank Alcohol During Pregnancy	n/a*	n/a*
Percent Mothers who Smoked During Pregnancy*	16.6%	28.8%
Percent Mothers Unmarried	42.7%	51.2%
**Rush County proportion is significantly higher than state*		

**= Percentages have been suppressed when there are fewer than 5, including 0, birth outcomes,

n/a*= In 2007, information no longer asked.

Table 21: Number of live births and reported pregnancies by age of mother and age-specific rates

Number of Live Births and Reported Pregnancies by Age of Mother and Age-Specific Rates*								
2011	Indiana				Rush Co.			
Age of Mother	Number	Age-Specific Live Birth Rate	Number	Age-Specific Reported Pregnancy Rate	Number	Age-Specific Live Birth Rate	Number	Age-Specific Reported Pregnancy Rate
10-14	93	0.1	139	0.6	**	**	**	**
15-17	2,135	2.5	2,483	18.7	7	18.8	8	21.5
18-19	5,782	6.9	6,625	70.1	21	117.3	24	134.1
20-24	22,239	26.6	25,240	40.0	53	50.8	58	58.1
25-29	25,785	30.8	27,996	110.0	49	109.1	54	119.3
30-34	18,771	22.4	20,257	134.7	29	117.2	32	129.2
35-39	7,283	8.7	8,099	97.3	8	61.2	10	67.5
40-44	1,543	1.8	1,827	40.2	**	16.7	**	20.8
45+	68	0.1	90	8.6	**	**	**	**
Unknown	51	0.1	88	0.4	**	**	**	**
Total:	83,750	--	92,844	72.1	170	--	189	62.9

**Rates are per 1,000 women in specified age group*

Reported pregnancies include resident live births and fetal deaths, and induced terminated pregnancies that occurred in Indiana-to-Indiana residents.

***Numbers less than 5, including 0, in an age group have been suppressed to protect confidentiality.*

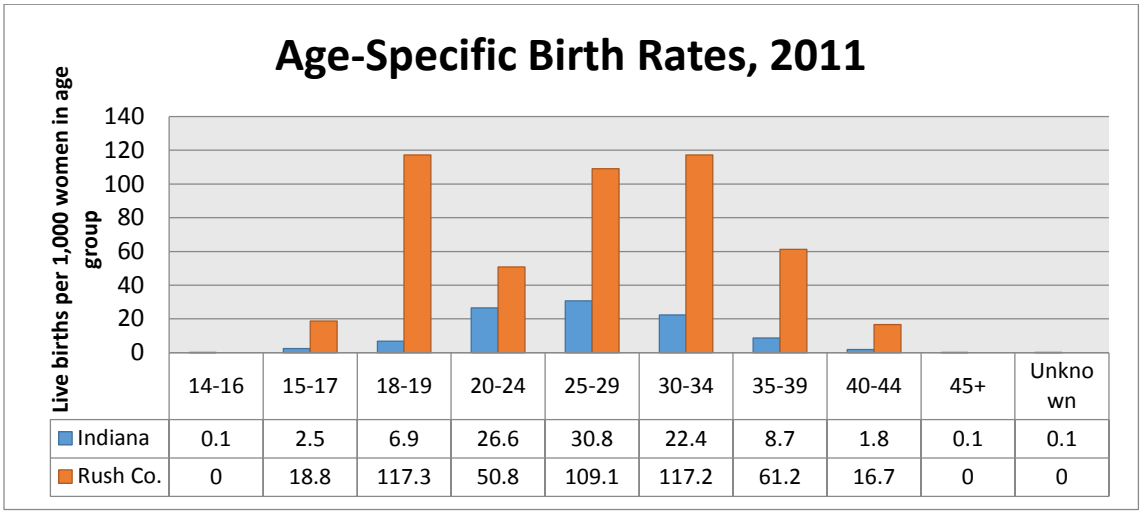

Figure 30: Age-specific birth rates in Rush County and Indiana, 2011

Rush County has significantly higher age- specific birth rates for all the age- groups when compared to that of the Indiana. The biggest difference is especially seen in the age- groups of 18-19, 25- 29, 30- 34 and 35-39 years (Figure 30).

TEEN BIRTHS

TEEN BIRTH RATE

Measure: Rate of births to women aged 15-19, per 1,000 women or the measure of the frequency of births among female teens.

Data Source(s): Kids Count Data Center, Indiana Youth Institute[9]

Year: 2002- 2011

Reason for Measure: Reducing the rate of teen pregnancy is one of the most strategic and direct means available to improve overall child well-being and to reduce persistent child poverty. Teen pregnancy has serious consequences for the teen mother, the child, and to society in general. Teenage mothers are less likely to complete their school education. Serious health risks are associated with teenage mothers like poor weight gain, pregnancy induced hypertension, anemia, cephalopelvic disproportion, etc. Problems associated with the babies born to teenage mothers or the children of teenage mothers are higher rates of low birth weight and other medical issues like Sudden Infant Death Syndrome (SIDS), chronic respiratory problems, mental retardation, cerebral palsy etc. These children may also receive less medical care and treatment, inadequate parenting, and are more likely to become the victims of abuse and neglect.[17] Teen pregnancy and childbearing bring substantial social and economic implications owing to the immediate and long term care of the children born to teen parents.[18, 19]

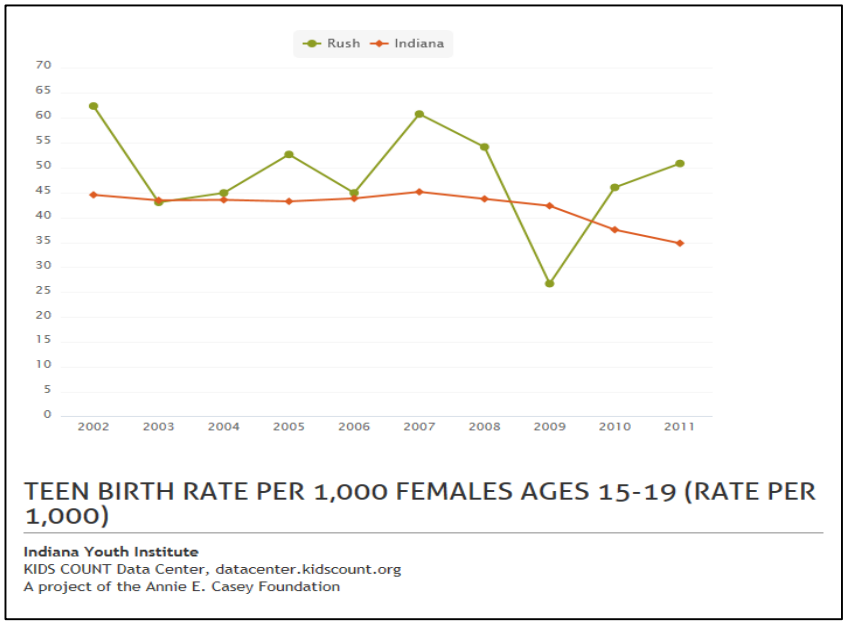

Figure 31: Teen birth rate per 1,000 females ages 15-19 in Rush County and Indiana

The graph (Figure 31) depicts the rate of teen births per 1000 females (ages 15- 19 years) from 2002- 2011. Though overall Rush County fares poorly compared to Indiana, trends of this health indicator have not been consistent over the years, when compared to Indiana, where the rate of teen births have decreased since 2009. The rate was highest for Rush County for the years 2002 (at approximately 62%) followed by the 2007 (at approximately 61%). The year 2007, was followed by a sharp dip in the teen birth rate in 2009 (at approximately 27%). This dip rose again in the years 2010 (at approximately 46%) and 2011 (at approximately 52%).

7. ILLNESS (MORBIDITY)

INFECTIOUS DISEASE

SEXUALLY TRANSMITTED DISEASES (CHLAMYDIA)

Measure: The Chlamydia rate per 100,000 population.

Data Source (s):- The Polis Center, Community Health Rankings[7, 2]

Year: 2010

Reason for Measure: Chlamydia is the most frequently reported sexually transmitted infection in the country and is caused by the bacterium, Chlamydia trachomatis. Symptoms of chlamydia, if left untreated, can lead to serious complications and irreversible reproductive implications like infertility.[20, 2]

This indicator was measured as the Chlamydia rate per 100,000 population (CHR, 2010).

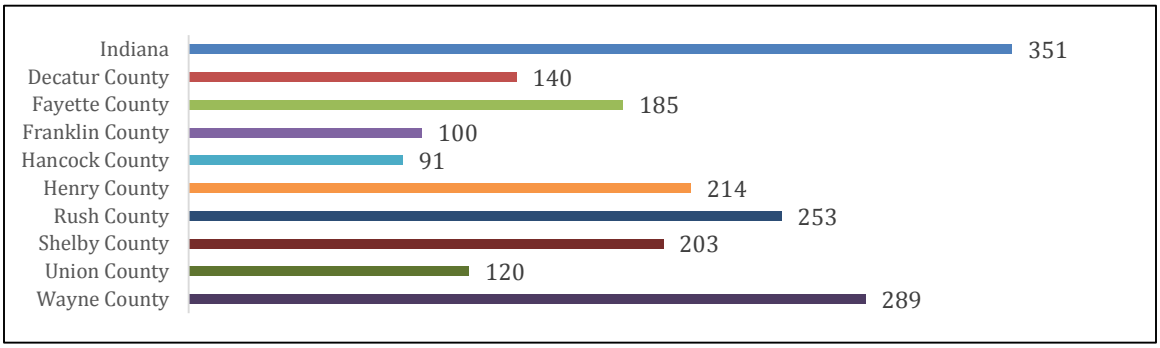

Figure 32: Chlamydia rate per 100,000 in Rush County and surrounding counties

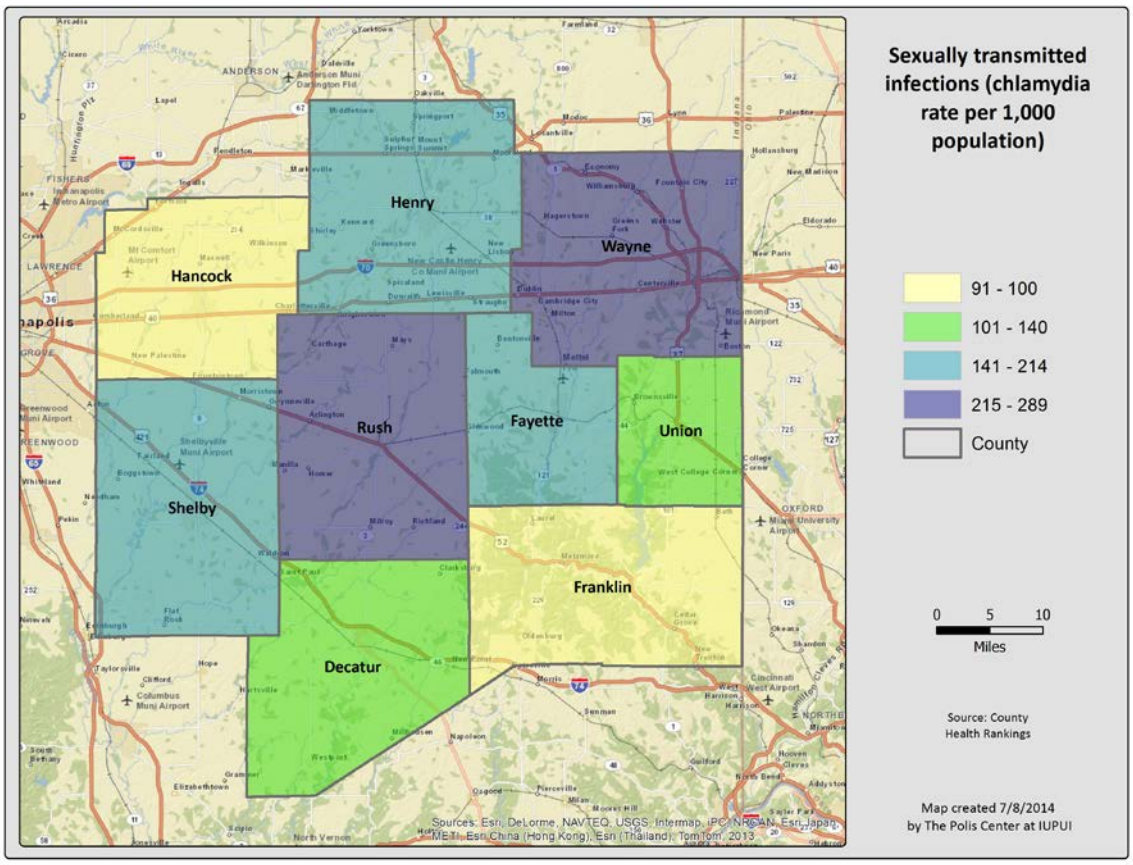

Figure 33: Map of chlamydia rates in Rush County and surrounding counties

The graph and the map (Figure 32 and 31) above depict the comparison of the Chlamydia rate/ 100,000 population between Rush County and its surrounding counties. The counties with the highest and the lowest rates of chlamydia are Wayne County (289 cases of chlamydia/ 100,000 population) and Hancock County (91 cases of chlamydia/ 100,000 population), respectively. Though Rush County does not fare very well with respect to the other counties as it has second highest rate of chlamydia (253 cases/100,000 population), the county fares better than Indiana which has the rate of 351 cases of chlamydia/ 100, 000 population.

INFECTIOUS DISEASES

Measure: The number of cases and the rate of prevalence (per 100,000) of major infectious diseases like HIV, AIDS, HIV/AIDS, Hepatitis C (Chronic and Acute) and STDs like Chlamydia, Gonorrhea and Syphilis

Data Source(s): STATS Indiana, Indiana State Department of Health (Epidemiology Profile)[6, 21]

Year: 2008, 2009, 2011

Reason for Measure: It is important to know the burden of various diseases that occur due to infections in a community in general, a majority of which are largely preventable by administration of vaccines, maintaining proper sanitation and hygienic habits, such as hand-washing. Moreover, health system weaknesses have allowed many infectious diseases to develop resistance to front-line treatments, rendering routinely used antibiotic drugs ineffective and making it more imminent to pay attention to the prevalence and incidence of occurrence of infectious diseases burden in a given community.

The 2009 Indiana Report of Infectious Diseases provides case numbers and rates in Indiana during 2009 for 58 reportable infectious diseases. For 23 of these diseases, there were no observed cases in Indiana. Of the remaining 35 diseases, county rates were reported for that disease only when more than 5 cases occurred in the county. Hepatitis C (both chronic and acute) was the only infectious disease of these 35 for which Rush County had more than 5 cases, and therefore a county rate was reported. The Rush County rate for Hepatitis C was much lower than the statewide rate.[21]

Table 22: Rates of Hepatitis C for Rush County and Indiana

2011	Indiana Cases	Indiana Rate (per 100,000)	Rush County Case	Rush County Rate (per 100,000(
Hepatitis C (Chronic and Acute)	5,514	85.04	7	40.25

Note: Information regarding Hepatitis C was reported by the Indiana State Department of Health in their Epidemiology Profile 2011. http://www.in.gov/isdh/files/At_a_Glance%286%29.pdf. [21] Information regarding the incidence of sexually-transmitted diseases, including HIV/AIDS was reported by the Indiana State Department of Health in their Epidemiology Profile 2009. http://www.in.gov/isdh/files/Question_2%281%29.pdf [22]

Table 23 shows that Rush County has a much lower prevalence of HIV/AIDS than the state at large (2008).

Table 23: HIV/ AIDS incidence and prevalence rates for Rush County and Indiana

	RUSH COUNTY		INDIANA	
	Number	Rate per 100,000	Number	Rate per 100,000
Prevalence of Infected Persons with HIV/AIDS, 2008	<5	17.3	9,282	145.6
Incidence of HIV, AIDS, and HIV/AIDS, 2008	0		483	7.6

Note: Information regarding Hepatitis C was reported by the Indiana State Department of Health in their Epidemiology Profile 2011. http://www.in.gov/isdh/files/At_a_Glance%286%29.pdf. Information regarding the incidence of sexually-transmitted diseases, including HIV/AIDS was reported by the Indiana State Department of Health in their Epidemiology Profile 2009. http://www.in.gov/isdh/files/Question_2%281%29.pdf

CHRONIC DISEASE

DIABETES, HEART DISEASE AND STROKE

Measure: The percentage of adults diagnosed (prevalence, hospitalization per 10,000 and mortality per 100,000) with diabetes, heart diseases and stroke than the state rate.

Data Source(s): Indiana Indicators[3]

Year: 2011- 2012

Reason for Measure: *Diabetes-* Diabetes is a group of diseases resulting in high levels of blood glucose (form of sugar) due to defects in insulin production, action, or both which can lead to serious complications and premature death. People with diabetes can work with their health care providers and support systems to take action, control the disease, and lower their risk for complications. Typically, diabetes is preventable if people incorporate healthy eating and exercise habits into their daily routines.[23]
Heart Diseases and Stroke- Heart diseases and stroke are both leading causes of death in Indiana, killing approximately 13,000 and 30,000 residents each year, respectively. Heart diseases are also a major causative factor that can precipitate stroke in an individual. Typically, heart disease is preventable if people incorporate healthy eating, exercise, and stress reduction habits into their daily routines.[2]

Rush County had a higher percentage of adults diagnosed with diabetes then the state rate.

Table 24: Diabetes statistics for Rush County and Indiana

Indicator	Rush County	Indiana	Range in counties
Diabetes Prevalence	11.6	10.3	13 to 8
Diabetes Mortality (per 100,000)	21.0	24.1	49 to 13
Heart disease hospitalization per 10,000	81.8	89.4	133 to 30
Stroke Hospitalizations	23.6	21.5	38 to 9
Stroke Mortality	51.1	45.2	102 to 28

RESPIRATORY DISEASES

Measure: The percent of emergency room visits due to Asthma (both adults and children) and the percent related to mortality due to chronic lower respiratory diseases.

Data Source(s): Indiana Indicators[2]

Year: 2011- 2012

Reason for Measure: Asthma is a serious public health concern that affects approximately 7 million children and 18.7 million adults in the United States. In addition, chronic lower respiratory diseases (e.g., emphysema) are a leading cause of death in Indiana, killing approximately 3,800 residents each year.[2]

Rush County has more Emergency room visits for Asthma and Child Asthma episodes and higher Chronic Lower Respiratory Disease Mortality Rates then the State.

Table 25: Asthma emergency department visits and chronic lower respiratory disease mortality in Rush County and Indiana

Indicator	Rush County	Indiana	Range among counties
Asthma ED visits	61.9	46.8	115 to 7
Child Asthma ED visits	94.3	59.8	103 to 11
Chronic Lower Respiratory Disease Mortality	74.4	53.6	97 to 30

CANCER INCIDENCE

Measure: Age- adjusted incidence of various cancers per 100,000 population especially the lung and bronchus.

Data Source(s): National Cancer Institute[24]

Year: 2006- 2010

Reason for Measure: According to the American Cancer Society, in 2011 an estimated 34,050 Indiana residents were diagnosed with cancer, amounting to almost four new cases of cancer diagnosed every hour of every day.[3]

The following tables (Tables 26 and 27) provide age-adjusted incidence and mortality rates for top cancer sites (breast, prostate, lung & bronchus, and colon & rectum). Rush County incidence and mortality rates were suppressed for others of the top ten sites due to small case numbers (less than four). Maps that provide quartile comparison of rates for all counties in Indiana are also included (Figures 34 and 35).

Table 26: Comparison of cancer incidence rates in top sites for Rush County and Indiana, 2006-2010

	RUSH COUNTY			INDIANA			
2006-2010	**Age-adjusted incidence rate (per 100,000)**	**95% C.I.**	**Average Annual Number of Cases**	**Age-adjusted incidence rate (per 100,000)**	**95% C.I.**	**Average Annual Number of Cases**	**Rush/Indiana Incidence Ratio**
Breast-Female	94.4	(70.1, 124.8)	10	117.4	(115.8, 119.0)	4,287	.80
Prostate-Male	96.1	(70.9, 127.7)	10	122.4	(120.6, 124.2)	3,813	.785
Colon & Rectum	46.2	(34.2, 61.2)	10	47.5	(46.8, 48.2)	3,214	.97
Lung and Bronchus	71.9	(56.7, 90.0)	16	77.4	(76.4, 78.3)	5,227	.93
All Sites Combined	418.8	(380.3, 460.4)	88	457.8	(455.5, 460.1)	31,054	.91

Table 27: Comparison of cancer mortality rates in top sites for Rush County and Indiana, 2006-2010

	RUSH COUNTY			INDIANA			
2006-2010	**Age-adjusted morality rate (per 100,000)**	**95% C.I.**	**Annual Number of Deaths**	**Age-adjusted mortality rate (per 100,000)**	**95% C.I.**	**Annual Number of Deaths**	**Rush/Indiana Mortality Ratio**
Breast-Female	27.7	(15.6, 46.2)	3	23.9	(23.2, 24.6)	909	1.16
Prostate-Male	Supp.	Supp.	Supp.	23.2	(22.9, 23.2)	588	
Colon & Rectum	16.0	(9.5, 25.8)	4	17.4	(17.0, 17.9)	1,180	.92
Lung and Bronchus	65.8	(51.4, 83.2)	14	60.5	(59.6, 61.3)	4,070	1.09
All Sites Combined	205.8	(179.4, 235.2)	44	192.5	(191.1, 194.1)	13,015	1.07

When all cancer sites are combined, Rush County had incidence rates that are lower than the state rates. However, Rush County residents have substantially higher mortality rates from cancer than is observed throughout the state. Particularly, Rush County has a higher mortality from breast and lung cancer. While Rush County has lower incidence rates than other cancers as observed in the state, the mortality rates are comparable or higher.

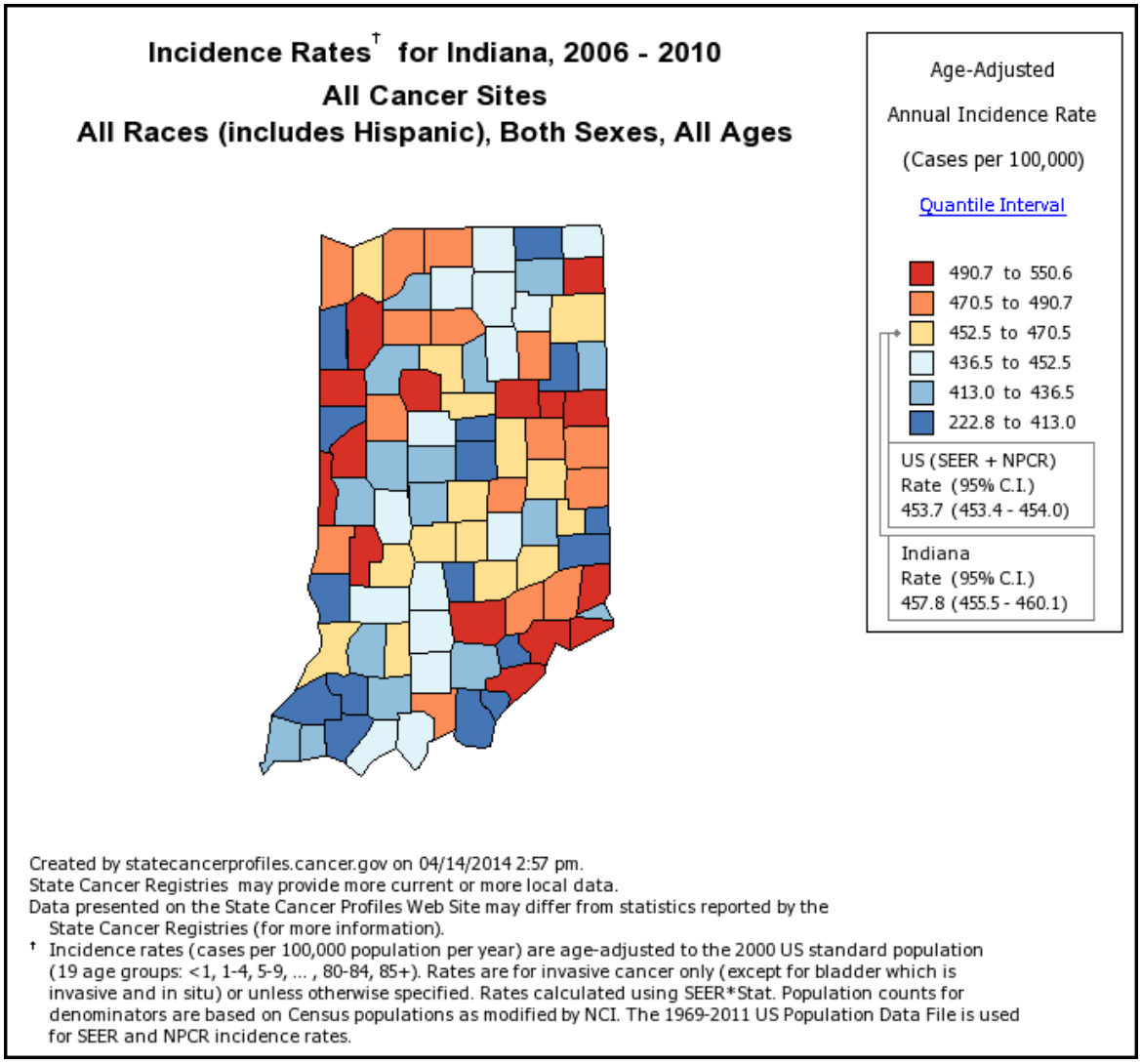

Figure 34: Incidence rates for Indiana for all cancer sites, 2006-2010

This map (Figure 34) depicts the state of Indiana with color-coded counties showing the annual incidence rate of all cancers in all the races, ages and both the sexes. Indiana has 457.8 cases of cancers per 100,000 population (Range: 455.5- 460.1), while Rush County has a range of 413.0- 436.5 cases of cancer per 100,000 population, which is better than Indiana.

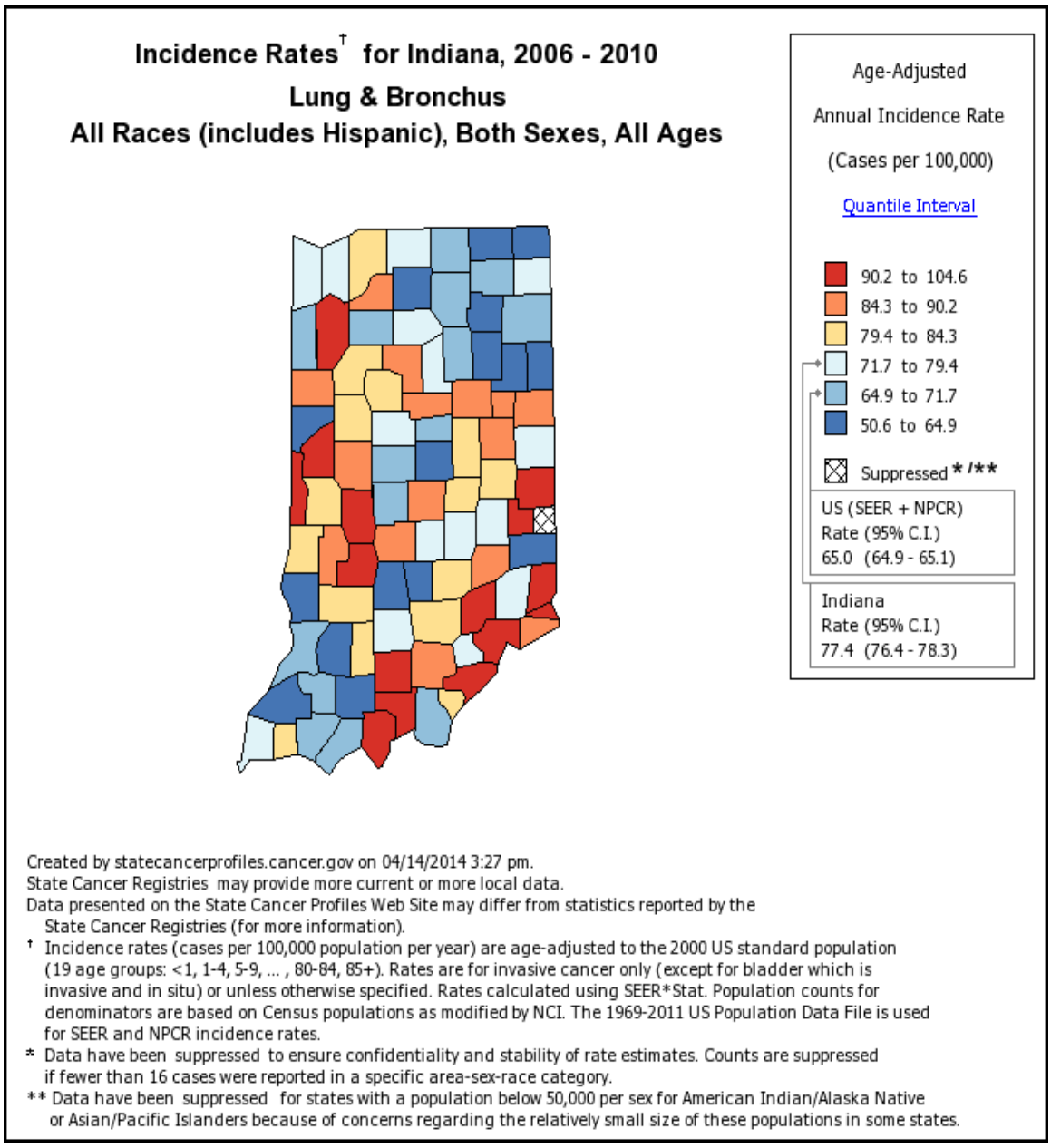

Figure 35: Incidence rates for lung & bronchus cancer in Indiana, 2006-2010

The map (Figure 35) depicts the annual incidence rate of lung and bronchus cancer for all the races, ages and for both the sexes. The annual incidence rate for the lung and bronchus cancer for Indiana is 77.4 (Range: 76.4- 78.3) cases per 100,000 population while that of Rush is 71.7- 79.4 cases per 100,000 population, which is similar to the annual incidence rate of these cancers in Indiana.

INJURY

INJURY EMERGENCY DEPARTMENT VISITS AND HOSPITALIZATIONS

Measure: ED visits per 10,000 population due to injury (age- adjusted) and rate of hospitalization per 10,000 population due to injury (age- adjusted).

Data Source(s): Indiana Indicators[3]

Year: 2011

Reason for Measure: According to the statistics presented by the CDC, approximately 29 million people are treated in emergency departments every year due to various forms of injuries and violence each year. More than 2.8 million people are hospitalized as a result of violence and injuries each year.[3]

Rush County has more unintentional injury mortality more injury emergency department visits, more hospitalizations due to injury, and longer drive time to the nearest trauma center compare to the state rates.

Table 28: Injury statistics for Rush County and Indiana

Indicator	Rush County	Indiana	Goal	Range among counties
Unintentional injury mortality (per 100,000)	45.3	38.5	36	91 to 22
Injury ED visits (per 10,000)	1,257.5	851	753	1,584 to 101
Injury hospitalizations (per 10,000)	51.6	49.5	56	88 to 17
Trauma hospital travel time (min.)	60.2	36.2	N/Q	102 to 3

8. DEATH (MORTALITY)

MORTALITY STATISTICS

MAJOR CAUSES OF MORTALITY

Measure: Mortality/ 100,000 for Major Causes

Data Source(s): Indiana State Department of Health, Indiana Mortality Report[25]

Year: 2011

Reasons for Measure:- This measure helps to illustrate the major causes of death in Rush County.

Table 29 reflects select causes of death among Rush County residents and how the rate or number of deaths compares to that in the state at large. Three major groups of mortality data are shown below: 1) deaths from select diseases, 2) deaths from external causes – primarily injuries sustained from accidents, suicide, and homicide, and 3) infant/fetal deaths. All data shown below were derived from reports prepared by the Indiana State Department of Health. Links to the source website are provided.

Based on mortality data from 2011, Rush County has a higher age-adjusted rate of death per 100,000 for major cardiovascular diseases and cancer. Cancer will be examined further in another section for the years 2006-2010. Rush County also had an overall higher age-adjusted rate for all mortality causes. Additionally, in 2011, there were 5 deaths due to external causes among Rush County residents. All of those deaths were from motor vehicle accidents.

The infant death rate among Rush County residents was substantially lower than the statewide infant death rate in 2011. In fact, there were no report infant deaths in 2011 for Rush County. This may be because Rush County residents leave the county, since the county hospital does not deliver babies.

Table 29: Indiana and Rush County mortality, 2011

Indiana Mortality Report: 2011	Indiana	Rush County	Rush County Deaths
	Age-Adjusted Rate	*Age-Adjusted Rate*	*Number*
All Causes	824.30	958.58	206
Tuberculosis	.07		
Syphilis	0		
HIV Disease	1.44		
Cancer	184.8	244.47	51
Diabetes mellitus	25.13	U	0
Alzheimer's disease	28.86	U	5
Major cardiovascular disease	248.06	330.99	73
Influenza & pneumonia	14.81	U	0
Chronic lower respiratory disease	.16	U	14
Peptic ulcer	.88	U	0
Chronic liver disease and cirrhosis	9.31	U	5
Kidney disease	19.28	U	7
Pregnancy, childbirth and the puerperium	.70	U	0
Certain conditions originating in the perinatal period	4.86	U	0
Congenital malformations, deformations, and chromosomal abnormities	4.33	U	0
SIDS		U	0
Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	10.24	U	0
All other disease (residual)	94.84	159.63	36
Deaths from External causes			
Motor vehicle accidents	11.50	U	5
All other and unspecified accidents and adverse effects		U	
Suicide	13.38	U	0
Homicide	4.87	U	0
All other external causes	2.31	U	0

Source: Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team.

** Numbers less than 5, including 0, for at least one sex or race grouping, have been suppressed to protect confidentiality.

U = The rate is unstable when there are fewer than 20 deaths.

Deaths from Tuberculosis, Syphilis, and HIV are included in All Other Diseases to maintain confidentiality.

These 39 selected causes of death are used for national reporting in the National Vital Statistics Report. For additional information, see the Technical Notes.

Age-adjusted rates are per 100,000 population. For additional information, see the Technical Notes.

Population data from the July 1, 2011, bridged race estimates, resident population on CDC WONDER On-line database, downloaded April 19, 2013. For additional information, see the Technical Notes.

Race of 'Other' includes unknown race. 'Hispanic' ethnicity is also reported; Hispanics can be members of any race.

RELATIVE SOCIAL RISK IN RUSH COUNTY REGION

Because socio-economically disadvantaged residents are known to be at greater risk for poor health outcomes, it is important to understand where these populations are concentrated when assessing community health and when designing and evaluating associated health interventions. Socioeconomic status can vary widely across a county and a region. The Social Influences on Health Index (SiHi), developed locally by the IUPUI-based Neighborhood Index Research (NIR) team, is a measure of comparative social risk that allows areas of higher relative social risk to be identified (publication pending). The index incorporates six different socioeconomic variables, chosen based on published evidence of their individual strength as social determinants of health. In the map below, yellow symbolizes much lower social risk than the region as a whole, while dark blue symbolizes much higher social risk. Areas in the darker green color are those with a social risk similar to that of the region as a whole.

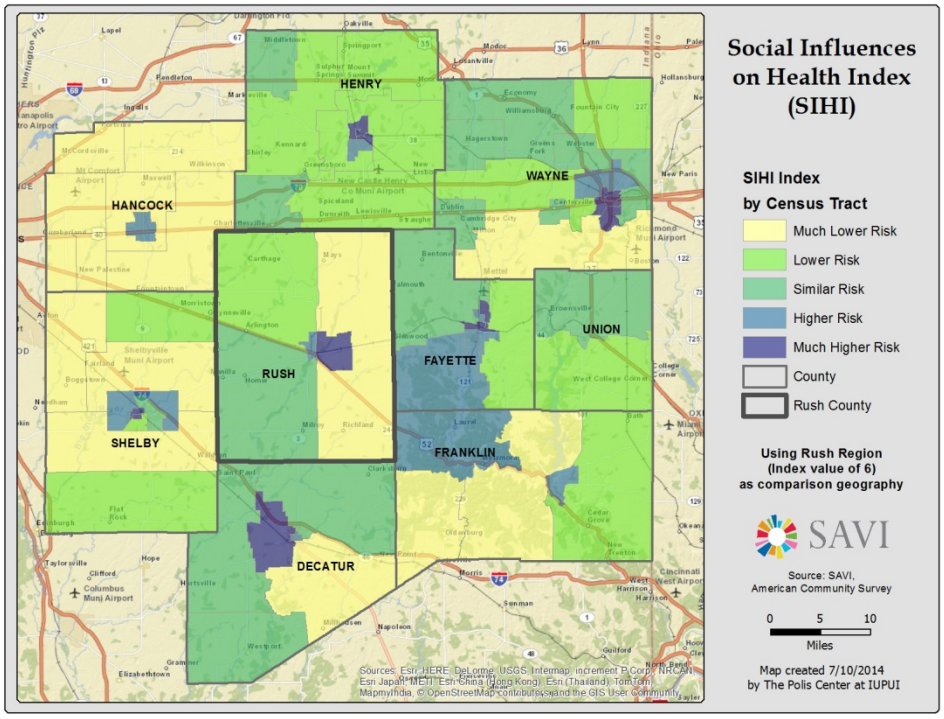

Figure 36: Social risk geographic area groups in Rush County region

RUSH COUNTY ASSET MAPS

Maps of the health facilities in Rush County and surrounding counties were developed for the project by The Polis Center at Indiana University using Geographic Information Systems (GIS). Different maps show the health facilities, churches, social services, and recreation Facilities and Trails. The counties included in the mapping are Rush County in the center, and the surrounding counties of Hancock, Henry, Fayette, Franklin, Decatur and Shelby. The facility data is provided to the Polis Center from the Indiana State Department of Health, based on licensing information.

The first two maps (Figures 37 and 38) identify the health facilities in Rush and surrounding counties. The key identifies the symbols for each of the health facilities mapped.

- Henry County has the most health facilities (15), including a hospital, eleven long term care centers, two hospices one renal dialysis centers
- Hancock County has the next largest health clinics with one hospital, nine long term care centers, one hospice
- Decatur County has nine long term care facilities and one dialysis centers
- Fayette also has ten health facilities with one hospital, eight health facilities, and one end stage renal dialysis center
- Rush County has one hospital, three long term care, one clinic and one end stage renal dialysis center
- Franklin County has one skilled nursing facility

The third GIS map (Figure 39) is specific for Rushville, IN. It maps churches, social service agencies, health facilities, recreation facilities and trails.

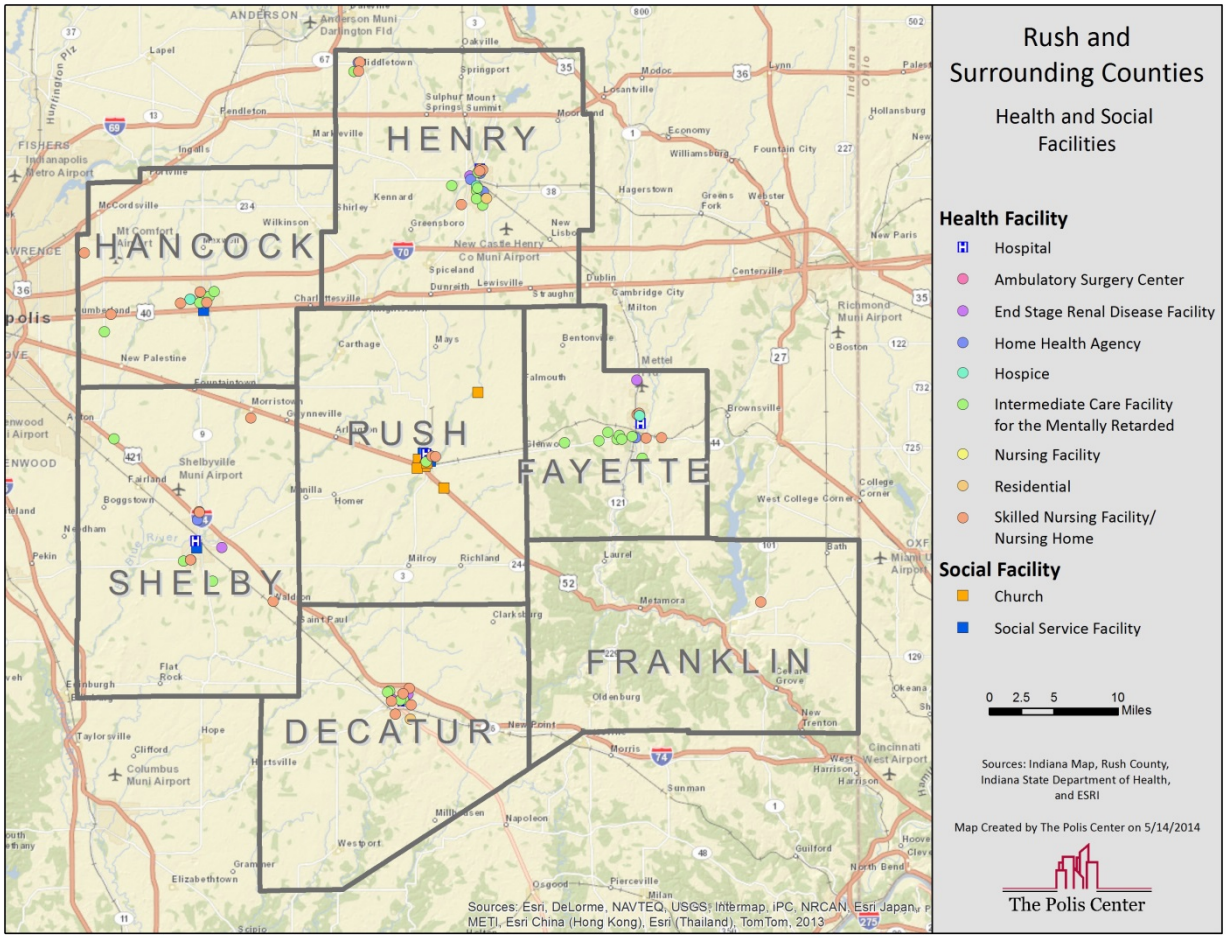

Figure 37: Rush County and surrounding counties- Health and social facilities

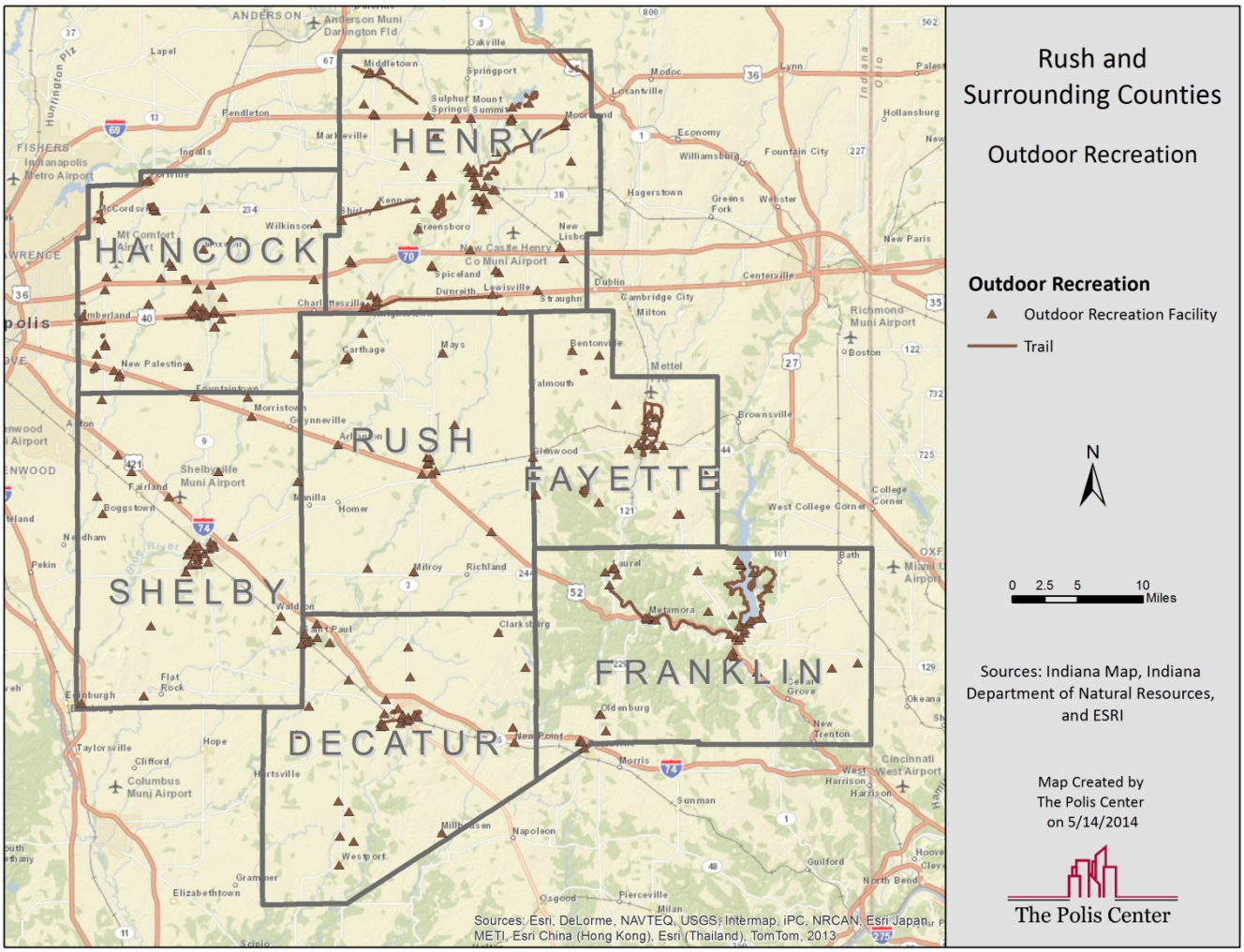

Figure 38: Rush County and surrounding counties- Outdoor recreation facilities

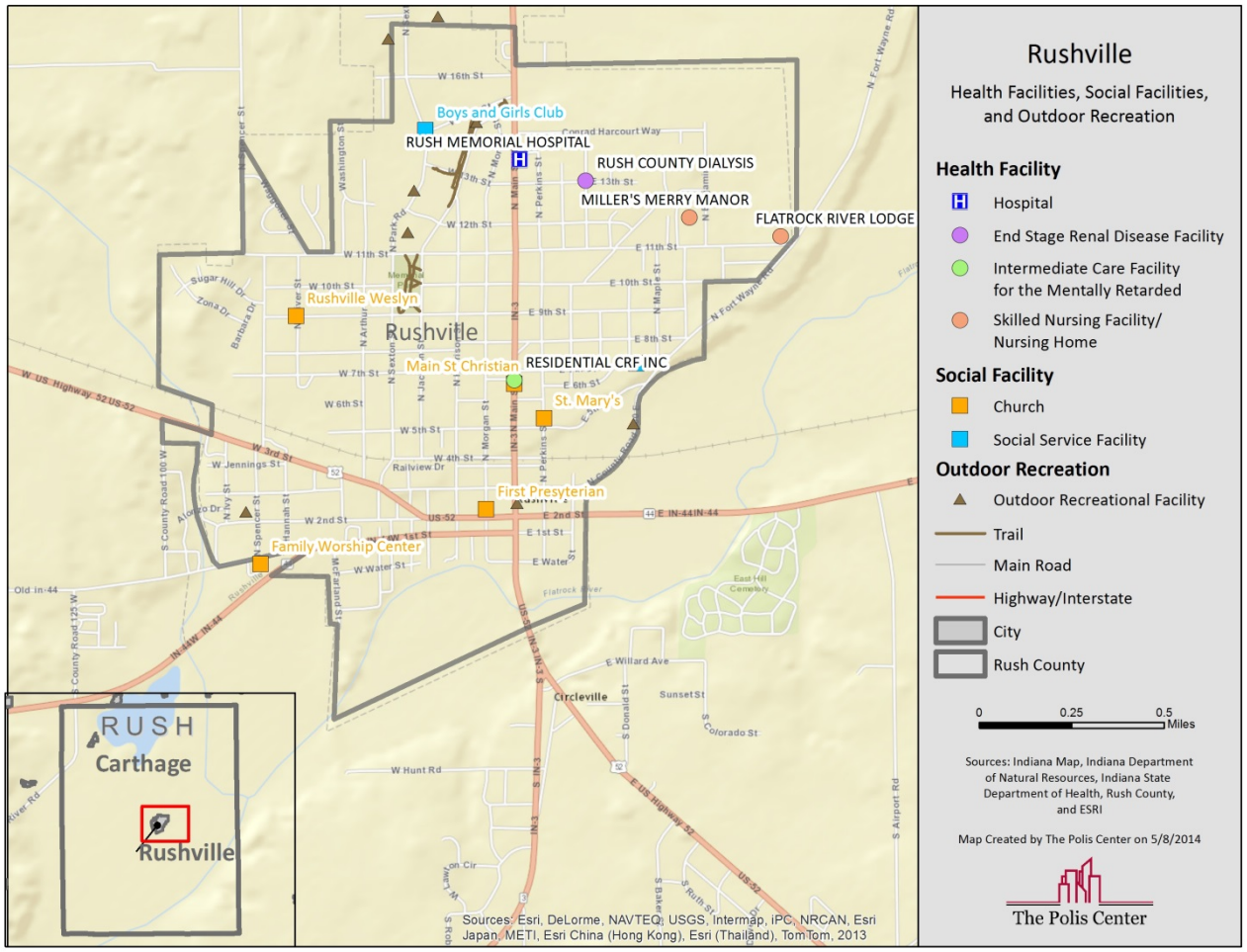

Figure 39: Rushville facilities

DISCUSSION

This CHA compiles health data for Rush County from community-input and key community measures. Community-input data was collected from key informant interviews, utilization of the CDC's CHANGE Tool, and a community survey. Community-input data was corroborated with secondary data from key community measures found through multiple sources, as well as analyses compiled by the Polis Center.

An overview of the population demographics show that Rush County when compared to Indiana:

- Has seen a decline in population (-2.2%) since 2010
- Has a higher median age of population
- Has a lower poverty and unemployment rate
- Has slightly more residents with education beyond high school
- Is less racially/ethnically diverse, with 97.8% of population
- Has more residents employed in farming and government
- More people commute out of Rush County for work (31.6%) than commute into it for work (12.6%)

Also, the following characteristics of the Rush County community regarding the youth stand out:

- Higher percentage of students eligible for reduced price lunches than the state, beginning in 2011.
- Since 2009, the percentage of low birth weight babies has been lower than the state's, an improvement made since the 2009 Community Health Assessment.
- Consistently and substantially higher percentages of smoking during pregnancy continue to be a challenge in Rush County.
- Despite the public health threat of smoking during pregnancy, Rush County still has a higher percentage of women receiving prenatal care during the first trimester than the state.
- Rush County's teen birthrate (age 15-19) is significantly higher than the Indiana rate. This could be a new public health issue that the county will need to address moving into the future.
- Child abuse and neglect still remain a challenge in Rush County, as the county rate continues to be above the state rate.
- Steady increase in the percentage of high school graduates in Rush County, consistently higher than the state percentage.
- Childcare is still a limited resource in Rush County. In 2012, the number of child care slots per 100 children, ages 0-4, was 12.7, while for the state it was almost double, at 23.4.

PROMINENT THEMES

LEVEL OF TOBACCO USE

- A total of 22% of adults report smoking
- Reported smoking in households of school aged children continues to be high (approximately 50% of fifth graders report living with a smoker)
- Among pregnant women 28.8% report smoking before delivery
- Key Informant interviews identified tobacco use as their primary concern

LEVEL OF OBESITY

- A total of 32% of adults are reported as being obese and this trend is getting worse in Rush County
- Physical inactivity is reported at 34% which is remaining the same from previous years
- Only 40% of adults report access to exercise opportunities compared to 64% for Indiana
- Community survey results indicated that obesity was a major health concern

CHRONIC DISEASE

- Lung Cancer incidence is 81.1 per 100,000 which is higher than the state rate
- Lung cancer mortality is 74.3 per 100,000 which is higher than the state rate
- Diabetes prevalence rate is 11.6 per 100,00 which is higher than the state rate
- Emergency room visits for asthma is 61.9 per 100,00 which is higher than the state rate
- Community survey results indicated cancer was a major health concern

TEENAGE PREGNANCY

- Rush County has 46 teenage births per 1000 live births compared to the state rate of 37.5
- Teenage pregnancy rates have been consistently higher than the state rate since 2004 (with the exception of 2009)
- Prenatal care is not starting during the first trimester

RECOMMENDATIONS

METHODOLOGY

The Public Health Accreditation Board requires CHAs to be updated every five years, however it is highly recommended to assess community health on a more frequent basis. For that reason, the authors of this CHA put forth the following recommendations for future assessments performed by the Rush County Health Department:

- **Community Input**—Community input plays an integral role in assessing community health and many other public health initiatives. This CHA utilized key informant interviews and a community survey as a means of collecting community input, and it is recommended that a similar method be used in the future.
- **CHANGE Tool**—The CDC's CHANGE Tool is a useful tool for communities to use to assess health-related trends. As this was the first time the CHANGE Tool was used for the Rush County CHA, future use is recommended with suggested alterations. It is recommended that the CHANGE Tool be used on a regular basis (annually) to track initiatives set forth by the health department. The CHANGE Tool can be altered to focus on those key strategic initiatives—not all modules of the CHANGE Tool need to be used, and questions can be altered or added as needed.
- **Partnerships**—Rush County Health Department has a history of successfully partnering with other organizations to complete the CHA. It is recommended that the health department continue to foster these partnerships and build upon them for future projects.

BEST PRACTICES

In order to assist the Rush County Health Department with future initiatives, the following best practices and resources are provided for the prominent themes found by the CHA.

TOBACCO USE

- The CDC publishes a report on an annual basis to help communities limit tobacco use. The Best Practices for Comprehensive Tobacco Control Programs—2014 is available at: http://www.cdc.gov/tobacco/stateandcommunity/best_practices/
- The CDC also provides resources through their Tobacco Control Programs website, which contains information and resources about the National Tobacco Control Program, Program Development and Resources, Surveillance and Education, and Campaigns and Events: http://www.cdc.gov/tobacco/tobacco_control_programs/index.htm

OBESITY

- The CDC provides several resources on the website to help communities prevent childhood and adult obesity. Some of these resources are broken down by areas within the community (hospitals, schools, and neighborhoods) on their Strategies and Solutions for My Community webpage: http://www.cdc.gov/obesity/strategies/communitystrategies.html as well as their State and Community Programs webpage: http://www.cdc.gov/obesity/stateprograms/index.html
- The Community Guide is a collection of evidence-based practices proven to work for communities in the areas of disease prevention and health promotion. Obesity Prevention and Control methods are provided on this website: http://www.thecommunityguide.org/obesity/index.html

CHRONIC DISEASE

- The CDC has a webpage devoted to Diabetes Public Health Resources, which provides data, education resources, lists of programs, and publications: http://www.cdc.gov/diabetes/
- The Community Guide also provides resources and evidence-based practices for Diabetes Prevention and Control: http://www.thecommunityguide.org/diabetes/index.html
- According to the CDC, lung cancer is the leading cause of cancer deaths, and cancer is the second leading cause of death overall in the United States. Smoking is the most critical risk factor for lung cancer, so any tobacco prevention and control measures should help decrease lung cancer rates. However, there are still some practices that can be put in place, and these are provided from the Community Guide: http://www.thecommunityguide.org/cancer/index.html

TEENAGE PREGNANCY

- The CDC's Teen Pregnancy website provides information about teenage pregnancy, including Parent and Guardian Resources, materials for Providers and Teens, and the Teen Pregnancy Prevention 2010-2015 Initiative: http://www.cdc.gov/teenpregnancy/
- The Community Guide also provides programs and evidence-based practices that focus on Adolescent Health, including sexual behaviors and other risk factors that could lead to teenage pregnancy: http://www.thecommunityguide.org/adolescenthealth/index.html

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APPENDIX A: COMMUNITY SURVEY

2014 Rush County Community Health Assessment

Do you live in Rush County? Yes/ No Age _____ Gender Male/Female

Question		
Is Rush County a safe place to live?	Yes	No
Are you satisfied with your quality of life in Rush County?	Yes	No
Is Rush County a good place to raise children	Yes	No
Is Rush County a good place to grow old?	Yes	No
Are there networks of support for individuals and families in Rush County during times of stress and need?	Yes	No
Are you satisfied with the health care system in Rush County?	Yes	No
Is there economic opportunity in Rush County?	Yes	No

What do you think are the top two health issues in Rush County?

1. _____ 2. _____

What are two things that could be done to address these issues?

1. _____ 2. _____

APPENDIX B: DATA SOURCES

Robert Wood Johnson Foundation's County Health Rankings & Roadmaps

The Robert Wood Johnson Foundation (RWJF) with the University of Wisconsin Population Health Institute created the County Health Rankings and Roadmaps with other national data sources. Data is available for each state at the county level.

http://www.countyhealthrankings.org/

Indiana Indicators

Indiana Indicators is a free data resource that can be used to supplement community health needs assessments, assist with community improvement planning and more. It was developed through a CDC Cooperative Agreement through a partnership with the Indiana State Department of Health, Indiana Hospital Association, Indiana University Public Policy Institute and the Indiana Business Research Center at Indiana University Kelly School of Business.[3]

http://indianaindicators.org/

Annie E. Casey Foundation's Kids Count Data Center

According to the website: "A project of the Annie E. Casey Foundation, Kids Count is the premier source for data on child and family well-being in the United States, allowing researchers to access hundreds of indicators, download data and create reports and graphics on the Kids Count Data Center."[8]

http://datacenter.kidscount.org/

Rush County Schools Annual Health Services Report

Each year, the Health Services Coordinator completes a report of health services provided in the Rush County School District. This report includes basic measurements of students, such as Body Mass Index, and well as findings from health programs, such as the smoking education program, "Tar Wars."

Indiana State Department of Health

Reports were provided from the Indiana State Department of Health, including mortality reports and hospital service reports. This data is collected by the department of health on a regular basis and is available on the ISDH website or can be provided to local health departments and other agencies under special request.

http://www.state.in.us/isdh/

National Cancer Institute's State Cancer Profiles

According to the website: "The State Cancer Profiles Website is a comprehensive system of interactive maps and graphs enabling the investigation of cancer trends at the national, state, and county level. The goal of the site is to provide statistics to help guide and prioritize cancer control activities at the state and local levels. It is a collaboration between the NCI and the Centers for Disease Control and Prevention."[26]

http://statecancerprofiles.cancer.gov/

STATS Indiana

STATS Indiana is the official digital data center for Indiana, developed and maintained by the Indiana Business Research Center. It provides easy access to statistics for states, counties, cities, townships, regions, and census tracts. Its goal is to improve availability and access to data by working with state agencies to bring more reliable data to Hoosiers.

http://www.stats.indiana.edu/index.asp

American Community Survey

The American Community Survey is an ongoing survey that gives communities the information they need to plan investments and services. A range of topics are asked about, including: age, sex race, family and relationships, income and benefits, health insurance, education, veteran status, disabilities, work and transportation, and cost of living. All of this information is combined into statistics that are used to help develop community improvement projects.

http://www.census.gov/acs/www/

APPENDIX C: DOMAINS AND INDICATORS

DOMAIN	INDICATOR GROUP	INDICATOR	MEASURE(S)	TABLES/FIGURES	SOURCE	YEAR
SOCIOECONOMIC AND	Socioeconomic Factors	Economy	Per Capita and Median Incomes; Poverty Rate	Table 1e	STATS Indiana, US Census Bureau	2012
			Employment and Earnings by Industry (Earnings, Percent Distribution)	Table 7	STATS Indiana, US Bureau of Economic Analysis	2012
			Economic Wellbeing (Counts, Percent)	Table 2e	Kids Count	2009- 2013
			Percent Population Unemployed	Figure 7	Polis Center, ACS*	2007- 2011
			Percent Population with No Vehicles	Figure 1e	Polis Center, ACS*	2007- 2011
			Percent of Children <18 years in Poverty	Figure 2e, Figure 3e	Kids Count	2012
			Percent Families Living in Poverty	Figure 8	Polis Center, ACS*	2007- 2011
			Labor Force (Counts and Percent)	Table 8	STATS Indiana	2012
			Commuting Patterns (Percent In/Out of Rush and the surrounding counties)	Table 3e	STATS Indiana, Indiana Department of Revenue	2012
			Percent of Renter Occupied Houses	Figure 4e	Polis Center, ACS*	2007- 2011

ENVIRONMENTAL FACTORS			Percent of Vacant Housing	Figure 9	Polis Center, ACS*	2007- 2011
			Marriage Statistics (Counts)	Table 4e	STATS Indiana	2004
		Education	Education Grades (Counts)	Table 5e	Kids Count	2009- 2013
			Educational Attainment (Percent)	Table 9, Figure 10	STATS Indiana, US Census Bureau	2000
			Percent of Population with No High School Diploma	Figure 11	Polis Center, ACS*	2007- 2011
	Environmental Factors	Physical Environment	Drinking Water Safety (Percent of Population Exposed to the Water Exceeding Violation Limit in the Past Year)	Figure 12, Figure 13	Polis Center, CHR**	2012
		Public Safety	Child Protection (Child Abuse and Neglect Rate/ 1000 Children <18 Years)	Table 6e	STATS Indiana	2008- 2012
			Child Abuse and Neglect (Rate/ 1000 Children <18 Years)	Figure 5e, Figure 6e	STATS Indiana, IYI***	2012
		Built Environment	Licensed Child Care Slots/ 100 Children	Table 10, Figure 14	STATS Indiana, IYI***	2008- 2012
			Percent of Vacant Housing	Figure 9	Polis Center, ACS*	2007- 2011
			Limited Access to Healthy Foods (Percent of the Population who Lives in Poverty and >1 or 10 miles from a Grocery Store)	Figure 7e, Figure 8e	Polis Center, CHR**	2012

BEHAVIOR, STRESS AND PHYSICAL CONDITIONS	Health Behaviors and Physical Conditions	Wellbeing	Percent of Adults Reporting Fair/Poor Health	Figure 9e, Figure 10e	Polis Center, CHR**	2005- 2011
		Exercise, Nutrition, and Weight	Student Health Factors (BMI of Elementary and Middle School Students)	Table 11, Table 12	Rush County Schools Health Services Report	2012-2013
			Adult: Percent of Adults with BMI >/= 30 kg/m^2	Figure 15, Figure 16	Polis Center, CHR**	2009
		Substance Use and Abuse	Percent Mothers who Reported Smoking During Pregnancy	Figure 17, Figure 18	Kids Count	2007- 2011
			Percent of Adults who Report Heavy or Binge Drinking	Figure 11e, Figure 12e	Polis Center, CHR**	2005- 2011
			Percent of Adults who Smoke	Figure 19, Figure 20	Polis Center, CHR**	2005- 2011
			Percent of Students Living with Smoker	Table 13	Rush County Schools Health Services Report	2012-2013
	Access to Care		Ratio of Population to Primary Care Physicians	Figure 21, Figure 22	Polis Center, ACS*	2007- 2011
			Health Care Sector (Hospital Services, ED Visits, Hospital Services by Diagnostic Group, Accounts Receivable, Workforce Measures)	Table 14, Table 15, Table 16, Figure 23, Table 17, Table 18	STATS Indiana, ISDH****	2010- 2012
			Preventable Hospital Stays/1000 Medicare Enrollees	Figure 24, Figure 25	Polis Center, CHR**	2010

		Access to Health Care Services and Public Health Capacity	Percent Mothers who Received First Trimester Pre- natal Care	Figure 26	Kids Count, IYI***	2007- 2011
		Health Insurance	Uninsured	Table 19, Figure 27	U.S. Census Bureau, Small Area Health Insurance Estimates Program	2012
	Stress	Mental Health	Average Number of Poor Mental Health Days in the Past 30 Days	Figure 28, Figure 29	Polis Center, CHR**	2005- 2011
HEALTH OUTCOMES	Maternal, Fetal and Infant Health	Birth Statistics	Live Births/1000 Females (Age- Specific)	Table 20, Table 21, Figure 30	STATS Indiana, ISDH****	2011- 2012
		Teen Births	Teen Birth Rate/1000 Females. (Age-Specific) and (15-19 years old)	Figure 31	Kids Count, IYI***	2002-2011.
		Low Birth Weight Babies	Percent Low Birth Weight Babies	Figure 13e	Kids Count, IYI***	2002- 2011
		Infant Mortality	Number of Infants Born Alive but Dies Before 1 Year/1,000 Live Births	Table 7e	Indiana State Department of Health	2011
	Illness (Morbidity) and Injury	Infectious Diseases	Incidence and Prevalence)/100,000 Population	Table 22, Table 23	STATS Indiana, ISDH****)	2008, 2011
			Chlamydia Rate/100,000 Population	Figure 32, Figure 33	Polis Center, CHR**	2010
			Prevalence /100,000 Population; Hospitalization and Diagnosis/10,000 Population	Table 24	Indiana Indicators	2011-2012

		Chronic Diseases	ED Visits for Asthma (Children and Adults); Chronic Lower Respiratory Disease Mortality	Table 25	Indiana Indicators	2011-2012
			Cancer Incidence/100,000 (Age-adjusted) and Average Annual Number of Cases	Table 26, Table 27, Figure 34, Figure 35	Indiana Indicators	2014
		Injury	Injury ED visits and Injury Hospitalizations per 10,000; Trauma Time to Hospital	Table 28	Indiana Indicators	2011
	Death (Mortality)	Mortality Statistics	Mortality/100,000 for Major Causes	Table 29	ISDH, Indiana Mortality Report	2011

*American Community Survey

** County Health Rankings

***Indiana Youth Institute

****Indiana State Department of Health

APPENDIX D: CHANGE TOOL & INDICATORS

Relationship of Selected Health Measures to CHANGE Tool Sectors

Table 1d: Division of Health Indicators under CHANGE Tool Sectors

COMMUNITY-AT-LARGE SECTOR	***COMMUNITY INSTITUTIONS AND ORGANIZATIONS SECTOR***	***HOSPITAL SECTOR***	***WORK SECTOR***	***SCHOOL SECTOR***
Environment and Public Safety	Substance Use and Abuse	Access to Health Care Services and Public Health Capacity	Economy	Education
Education	Maternal, Fetal and Infant Health	Maternal, fetal and Infant Health	Exercise, Nutrition and Weight	Exercise, Nutrition and Weight
Economy	Mental Health and Mental Health Disorders	Substance Use and Abuse	Maternal, Fetal and Infant Health	Maternal, Fetal and Infant Health
Exercise, Nutrition and Weight		Mental Health and Mental Health Disorders	Substance Use and Abuse	Substance Use and Abuse
Maternal, Fetal and Infant Health		Oral Health Care	Mental Health and Mental Health Disorders	Mental Health and Mental Health Disorders
Substance use and Abuse		Infectious Diseases	Oral Health Care	Oral Health Care
Mental Health and Mental Health Disorders		Chronic Diseases	Infectious Diseases	Infectious Diseases
Oral Healthcare		Cancer Incidence and Mortality	Chronic Diseases	Injury Prevention and Safety
Infectious Diseases		Injury Prevention and Safety	Cancer Incidence and Mortality	
Chronic Diseases			Injury Prevention and Safety	
Cancer Incidence and Mortality			Environment and Public Health Safety	
Injury Prevention and Safety				

In the Table 1d above, it can be seen that many indicators are common in several sectors. This is so because no sector is exclusive from each other in a given community and what affects one sector in a community will directly or indirectly affect the other sectors too, as the people in each sector comes from the same community (of which these sectors are the part of). The people crossing over to the different sectors thus bring along with them the problems they faced in the community in either the same way or in a more specific way to that particular sector.

Injury Prevention and Safety: When we talk about injury prevention and safety, the first thing that comes to one's mind is generally motor vehicle accidents. However, injury prevention and safety is not just about preventing motor vehicle accidents, but also promoting road safety. It is important to promote safety within each strata of the community or within these five sectors of the community described above. Injury prevention and safety in context with the community- at-

large sector can range from the motor vehicle accidents to avoiding fractures due to falling, drowning in community ponds or lakes and promoting safety in various spots like public parks, shopping malls, sidewalks, homes etc. The same concept of injury prevention and safety in context with the hospital sector is to avoid injury by preventing older patients and visitors from falling from beds, stairwells or in bathrooms. Injury prevention and safety in the work sector is to avoid accidents and injuries due to improper use of heavy machineries, exposure to toxic chemicals, or cleaning activities. At school the goal is to avoid accidents and injuries due to falling in halls due to running, diving in shallow swimming pools, and playground injuries etc.

1) ***Substance Use and Abuse***: The problem of substance use and abuse is not just limited to the use of alcohol or drugs but also the problem of smoking. The problem of substance use and abuse is not just the problem of the community-at- large but also expands in the other sectors of the community like community institutions/ organizations, hospital sector, work sector and school sector. What happens in the community will also reflect itself in one or the other sectors of the community. For example, if a community reports a high problem of drug abuse, we would expect to see education and prevention efforts. We would likely find hospitals and rehabilitation centers involved as they will be treating the patients with the drug abuse problem. In fact the problem of substance abuse might be present in one of the healthcare professionals or the employees of a healthcare facility. The work and school sector will be involved in the problem as there is a possibility that the drug problem is present or even rampant in these two sectors too, as the people from the same community where the drug problem exists, go to areas in the community which are included under the work or school sector either as the employer, employee or a student.

Exercise, Nutrition and Weight: The exercise, nutrition and weight are not only correlated but also interrelated to each other. One always influences the other. The community represents and encompasses all variations and strata of demographics, which are further extended into the other sectors of the community. A community might be facing a problem of low exercise in its various sectors due to many factors like lack of parks for children, lack of sidewalks, to few public parks, lack of motivation perception of safety in the neighborhood etc. The problem of the nutrition may again arise due to the factors like distance from the grocery center, lack of inexpensive and sufficient public transportation to reach these grocery centers, lack of availability of healthy foods at reasonable price or even in the vending machines at the school and/or at the work place, presence of large number of fast food restaurants near work locations. With fewer healthy food stores etc. All these problems lead to the lack of physical activity and lack of healthy nutrition which contribute to weight problems and chronic disease.

APPENDIX E: ADDITIONAL SECONDARY DATA

ECONOMY

INCOME AND POVERTY

Measure: Per capita and median incomes; poverty rate

Data Source(s): STATS Indiana, US Census Bureau[6]

Year: 2012

Table 1e: Incomes and Poverty rates for Indiana and Rush County

Income and Poverty	Indiana	Rush County	Rank in State
Per Capita Personal Income (annual) in 2012	$38,119	$39,909	15
Median Household Income in 2012	$46,954	$44,979	50
Poverty Rate in 2012	15.5%	14.2%	44
Poverty Rate among children under 18 in 2012	22.1%	20.6%	48

YOUTH AND ECONOMIC WELLBEING

Measure: Counts and Percent of: Children living in poverty, students eligible for free and reduced lunches, number of WIC participants

Data Source(s): Kids Count Data Center [8]

Year: 2009-2013

Table 2e: Youth and Economic Wellbeing in Rush County and Indiana

Economic Wellbeing (Most recent 5 years are shown)						
		Trend Data				
		2009	2010	2011	2012	2013
% of Children in Poverty, Age 0-17	Rush	18.50%	20.50%	20.50%	20.50%	----
	IN	19.90%	21.60%	22.60%	22.10%	----
% of Students Eligible for Free Lunches/ Textbooks	Rush	32.30%	37.20%	37.60%	37.20%	39.20%
	IN	33.10%	36.60%	39.00%	40.00%	41.00%
# of WIC Participants	Rush	691	647	632	554	----
	IN	287,133	291,126	283,474	277,568	----
% of Students Eligible for Reduced Priced Lunches	Rush	8.40%	8.50%	8.50%	8.70%	8.60%
	IN	8.60%	8.70%	7.70%	8.20%	8.10%

PERCENT OF POPULATION WITH NO VEHICLES

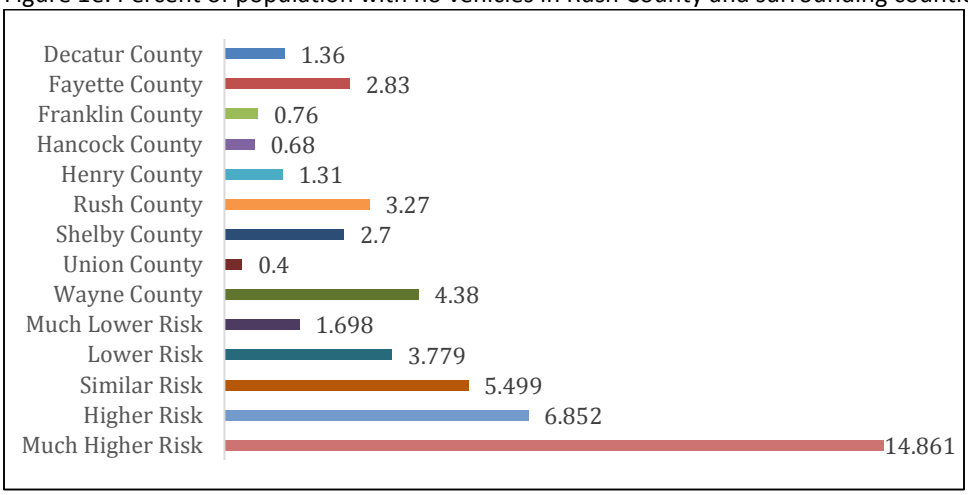
Measure: Percent of population in Rush County and surrounding counties with no vehicles

Data Source(s): Polis Center[7]

Year: 2007-2011

This indicator is measured as the percentage of population with no vehicles (ACS, 2007-2011).

Figure 1e: Percent of population with no vehicles in Rush County and surrounding counties



In this comparison Figure 1e of the percent of population with no vehicles, the percent for the Rush County and its surrounding counties lie between the range of 0.4- 4.38%. The Union County fares best with 0.4% of population with no vehicles and Wayne County fares worst with 4.38% of the population with no vehicles. Rush County comes at the second worst, with 3.27% of the population with no vehicles.

CHILDREN IN POVERTY

Measure: Percent of children <18 years in poverty

Data Source(s): Kids Count Data Center[8]

Year: 2012

The map below (Figure 2e) depicts the percent of children under the age of 18 in poverty for the year 2012. For Indiana, this percent is 22.1% but the Rush County has this percent ranging between 20.0%- 25.0%, suggesting that it too does not fare very well when it comes to the this section of the communities when compared to Indiana.

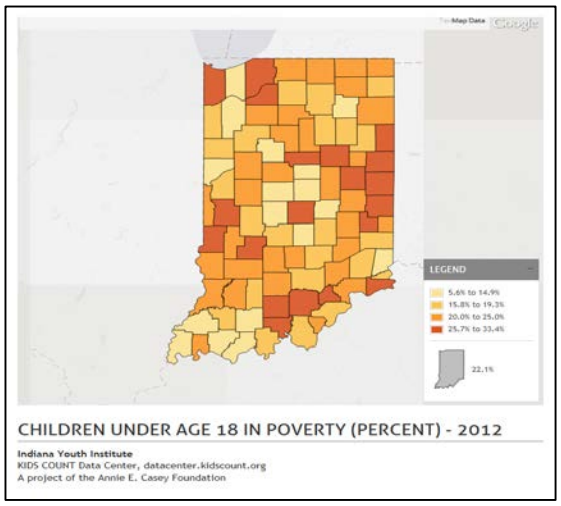


Figure 2e: Map of Children Under Age 18 in Poverty in Indiana

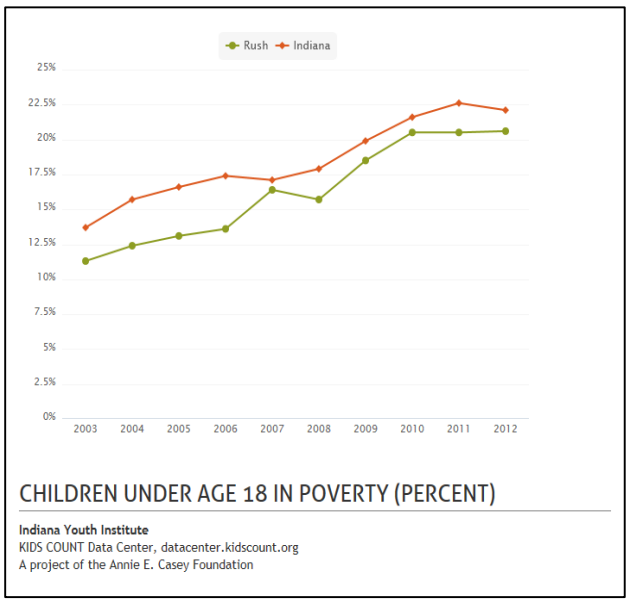


Figure 3e: Children Under Age 18 in Poverty- Rush County and Indiana

Though the map and graph (Figures 2e and 3e) suggested that the percentage of children under the age of 18 years living in poverty lies between 20.0% and 25.0%, the graph suggests that over the years Rush County has fared well in this area when compared to Indiana. But it can also be seen, that the percent of children (<18 years) living in the poverty has only increased in the Rush County from the years 2003- 2012.

COMMUNITING PATTERNS

Measure: Percent of population commuting to and from Rush County from surrounding counties

Data Source(s): STATS Indiana, Indiana Department of Revenue[6]

Year: 2012

Table 3e: Commuting Patterns in Rush County
More Rush County residents commute to work outside of the County then outsiders commute into the county.

Commuting Patterns- Top 5 in 2012	
INTO Rush County FROM…	
All Areas	12.6%
Fayette County	36.6%
Henry County	24.8%
Shelby County	15.8%
Franklin County	11.7%
Decatur County	11.1%
OUT of Rush County TO…	
All Areas	31.6%
Shelby County	34.6%
Marion County	24.7%
Decatur County	18.5%
Hancock County	14.6%
Henry County	7.5%

RENTER OCCUPIED HOUSING

Measure: Percent of renter occupied housing

Data Source(s): Polis Center

Year: 2007-2011

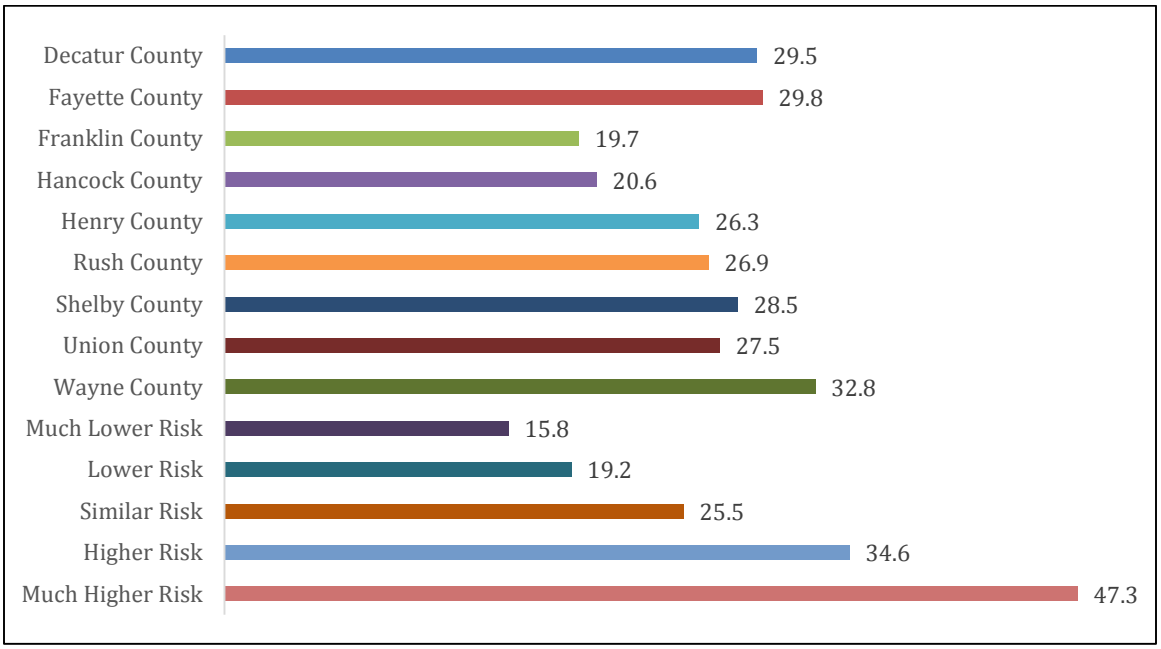


Figure 4e: Renter occupied housing in Rush County and surrounding counties

As suggested by the graph above Figure 4e, 26.9% of the houses of the Rush County are renter occupied. These statistics are very much similar to its other surrounding counties like Decatur, Fayette, Henry, Shelby and Union. Though, a major difference is seen in the statistics of Rush compared to that of Franklin and Hancock counties. Both, Franklin and Hancock counties have lower percent of renter occupied housing (19.7% and 20.6% respectively) than the Rush County. Also, the percent of the renter occupied housing in the Wayne County is significantly higher (32.8%), when compared to the Rush County.

MARRIAGE STATISTICS

Measure: Number of brides and grooms from first marriages and all marriages in Rush County and Indiana

Data Source(s): STATS Indiana[6]

Year: 2004

Table 4e provides data on the characteristics of marriages of Rush County residents in comparison to the state of Indiana. To this date, the most recent report is the 2004. From the report we can infer that Rush County residents get married at a younger age when compared to Indiana at large. Both in Rush County and Indiana, females marry at a younger age than males.

Table 4e: Number of marriages in Rush County and Indiana

	First Marriages				All Marriages			
	Indiana		Rush County		Indiana		Rush County	
2004	Number	Median Age	Number	Median Age	Number	Median Age	Number	Median Age
Resident Brides	24,814	24.0	92	23.0	40,888	27.0	143	25.0
Resident Grooms	24,156	25.0	76	24.0	39,944	29.0	133	27.0

EDUCATION STATISTICS

Measure: Public school enrollment; total multi-race enrollment; total white enrollment; number of public school dropouts; percent of high school dropouts; percent of graduates intending 4-year college; number of public high school graduates; number of home school children; alternative education enrollment; and number of pupils with limited English proficiency

Data Source(s): Kids Count Data Center[8]

Year: 2009-2013

Table 5e: Education statistics, grades K-12 (Most recent 5 years shown)- Rush County and Indiana

Education, Grades K-12 (Most recent 5 years are shown)						
		Trend Data				
		2009	**2010**	**2011**	**2012**	**2013**
Public School Enrollment	**Rush**	2,696	2,713	2,593	2,542	2,490
	IN	1,042,481	1,043,416	1,046,260	1,036,692	1,030,965
Total Multi-Race Enrollment	**Rush**	55	68	64	69	65
	IN	45,605	46,243	46,636	44,838	44,982
Total White Enrollment	**Rush**	2,581	2,583	2,421	2,375	2,326
	IN	846,542	774,836	764,636	751,517	738,832
# of Public School Student Dropouts	**Rush**	73.10%	72.10%	73.20%	76.70%	78.20%
	IN	67.50%	66.60%	66.10%	68.50%	68.10%
% of High School Graduates**	**Rush**	89.40%	92.80%	95.90%	96.80%	
	IN	82.70%	85.40%	86.80%	88.40%	
% of Grads Intending 4-year College	**Rush**	39.00%	43.10%	37.80%	37.50%	51.20%
	IN	42.40%	43.30%	43.90%	43.00%	42.70%
# of Public High School Graduates	**Rush**	159	143	181	165	183
	IN	60,412	61,864	62,478	64,244	63,866
# of Home School Children	**Rush**	0	1	2	0	1
	IN	257	269	257	212	233
# of Alternative Education Enrollment	**Rush**	1	1	0	0	2
	IN	218	219	168	192	192
# Pupils with Limited English Proficiency	**Rush**	25	15	11	13	18
	IN	45,477	49,050	48,300	50,939	51,648

**Footnote: Data before 2006 is available upon request but not comparable as the graduation formula changed in 2006. Calculation of Indiana's graduation rate has varied over the years. As per legislative intent, the 2006-07 graduation rate (Class of 2007) that will be published in the 2007 Annual Performance Report will be the percentage of students who entered Grade 9 in fall 2003 and graduated in four years or less. This is the first publication of this method for calculating graduation rates. For more information, visit www.doe.state.in.us/htmls/gradrate.html#1.

CHILD PROTECTION

Measure: Child abuse and neglect rate per 1,000 children under age 18; number of child abuse and neglect deaths; number of juvenile delinquency case filings; number of juveniles committed to the Department of Correction

Data Source(s): Kids Count Data Center[8]

Year: 2008-2012

Table 6e: Child Protection Statistics

Child Protection (Most recent 5 years are shown)						
		Trend Data				
		2008	2009	2010	2011	2012
Child Abuse and Neglect Rate per 1,000 Children Under Age 18	Rush	26.8	38.3	15.5	10.0	14.3
	IN	12.6	15.6	14.5	12.2	12.5
# of Child Abuse and Neglect Deaths	Rush	0	0	1	0	0
	IN	36	46	38	25	40
# of Juvenile Delinquency Case Filings	Rush	38	42	43	47	44
	IN	23,939	21,914	20,585	19,553	18,480
# of Juveniles Committed to the Department of Correction	Rush	4	4	5	2	2
	IN	1,063	1,084	1,008	994	932

CHILD ABUSE AND NEGLECT

Measure: Child abuse and neglect rate per 1,000 children under age 18

Data Source(s): Kids Count Data Center[8]

Year: 2003-2012

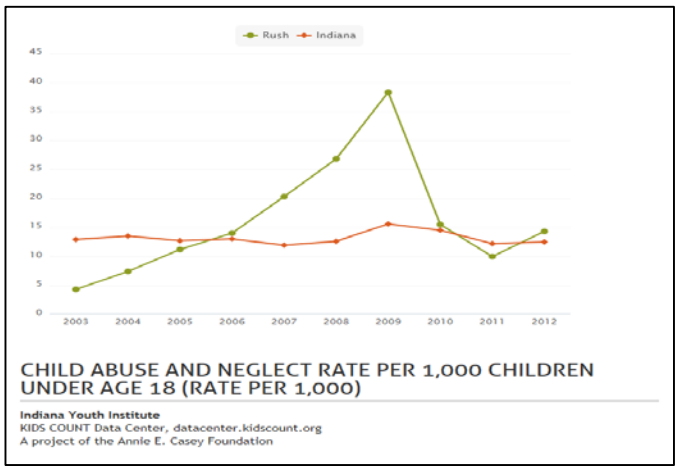


Figure 5e: Child abuse and neglect rate per 1,000 children under age 18

As the graph (Figure 5e) depicts, the rate of child abuse and neglect has increased considerably in the Rush County, since the year 2006- 2010, when compared to Indiana. Earlier in the year 2003- 2005 and the period between 2010- 2011, this rate was low as compared to Indiana. Also, the graph shows an increasing trend in the child abuse and neglect rate since the year 2011.

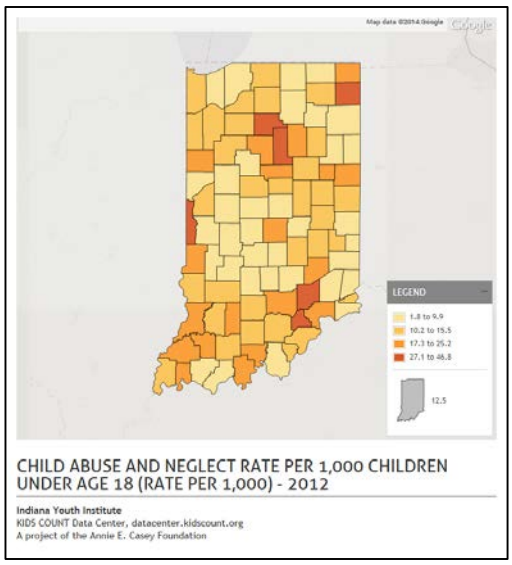


Figure 6e: Chile abuse and neglect rate per 1,000 children under age 18 in Indiana

The map of Indiana (Figure 6e) showcasing the color-coded areas according to the rate of the child abuse and neglect per 1000 children under the age of 18 for the year 2012. This rate for Indiana is 12.5. The Rush County fares moderately well with its rate being between 10.2- 15.5, when compared to the other counties in Indiana.

BUILT ENVIRONMENT

LIMITED ACCESS TO HEALTHY FOODS

Measure: The percent of the population in Rush County and surrounding counties who live in poverty and more than 1 or 10 miles from a grocery store.

Data Source(s): Polis Center, County Health Rankings, [7,2]

Year: 2012

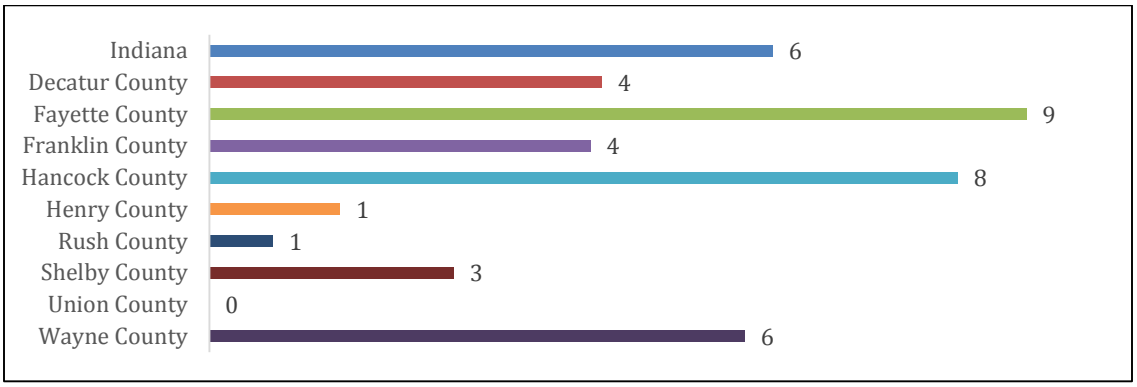


Figure 7e: Percent of population who lives in poverty and more than 1 or 10 miles from a grocery store

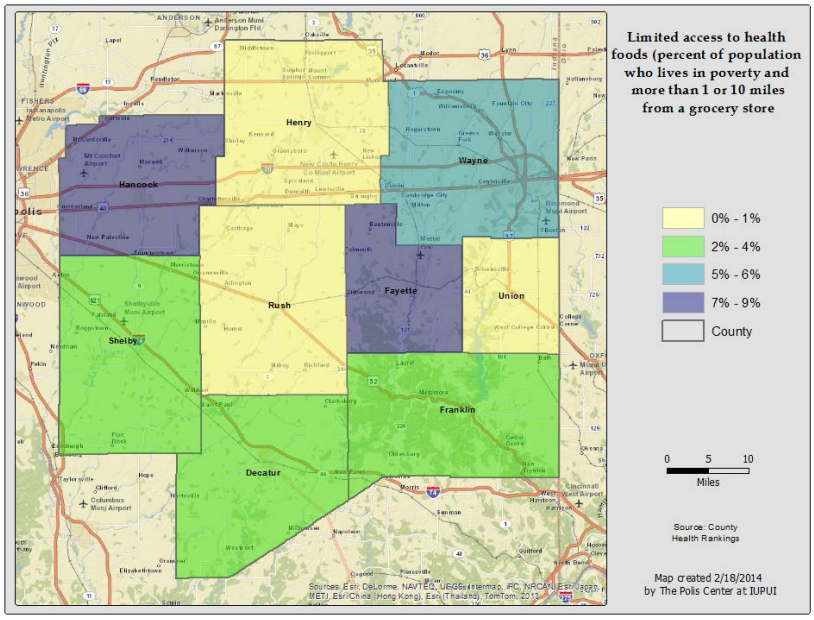


Figure 8e: Percent of population living in poverty and is more than 1 or 10 miles from a grocery store.

The graph and the map (Figures 7e and 8e) depict the percent of population who lives in poverty and more than 1 or 10 miles from a grocery store as the measurement for the limited access to healthy food. The percent of the indicator measured here lies between 1- 9 with the Rush County faring very well with only 1% of the population having the limited access to the healthy food due to poverty and living more than 1 or 10 miles from a grocery store. The Rush County also fares well when compared to Indiana, which stands at 6% of its population with the limited access to healthy food due to poverty and distance from the grocery store.

WELLBEING

FAIR/ POOR HEALTH

Measure: The percent of adults reporting fair/ poor health from the years 2005-2011

Data Source(s): Polis Center, County Health Rankings, [7,2]

Year: 2005-2011

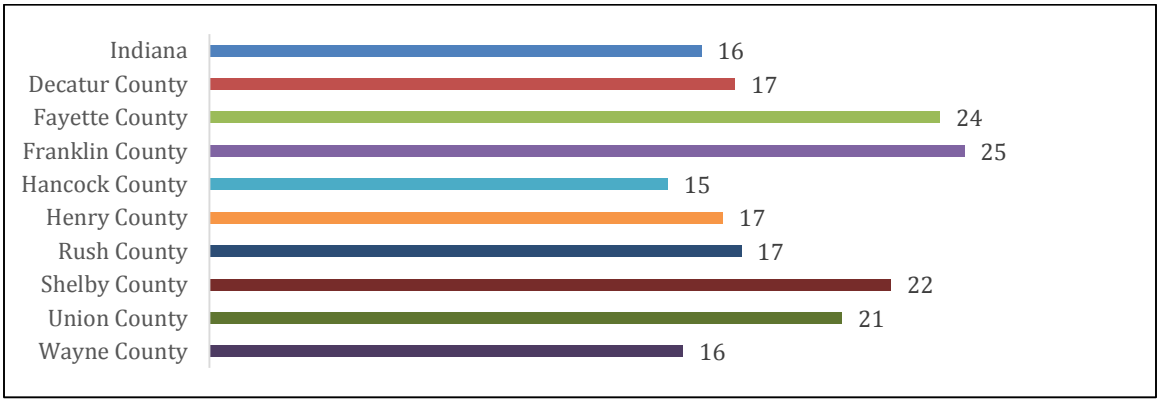


Figure 9e: Percent of adults reporting fair/ poor health, 2005-2011

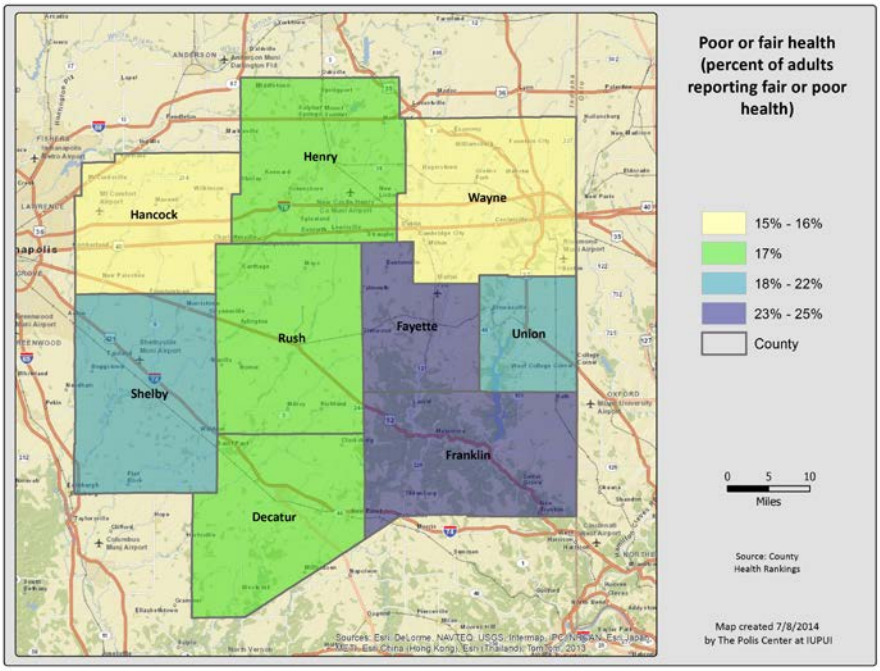


Figure 10e: Percent of adults reporting fair/ poor health, 2005-2011

As suggested by the graph and the map (Figures 9e and 10e) when it comes to the percent of adults reporting of poor or fair health, there is not much of a difference between the Rush County and Indiana (17% and 16% respectively). Though, the Rush County fare better than its surrounding counties like Fayette, Franklin, Shelby and Union Counties, where the percent of population reporting the poor health is much higher than the Rush County.

SUBSTANCE USE AND ABUSE

HEAVY OR BINGE DRINKING

Measure: The percent of adults reporting heavy or binge drinking from the years 2005-2011

Data Source(s): Polis Center, County Health Rankings, [7,2]

Year: 2005-2011

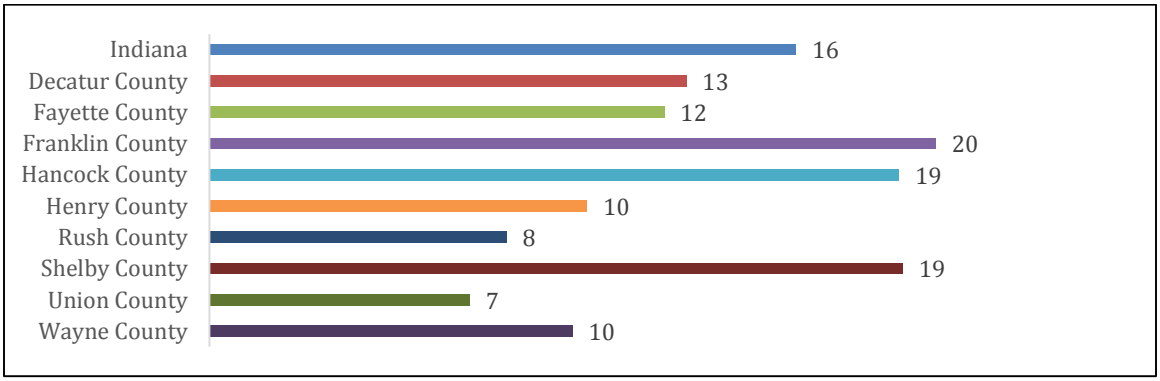


Figure 11e: Percent of adults reporting heavy or binge drinking, 2005-2011

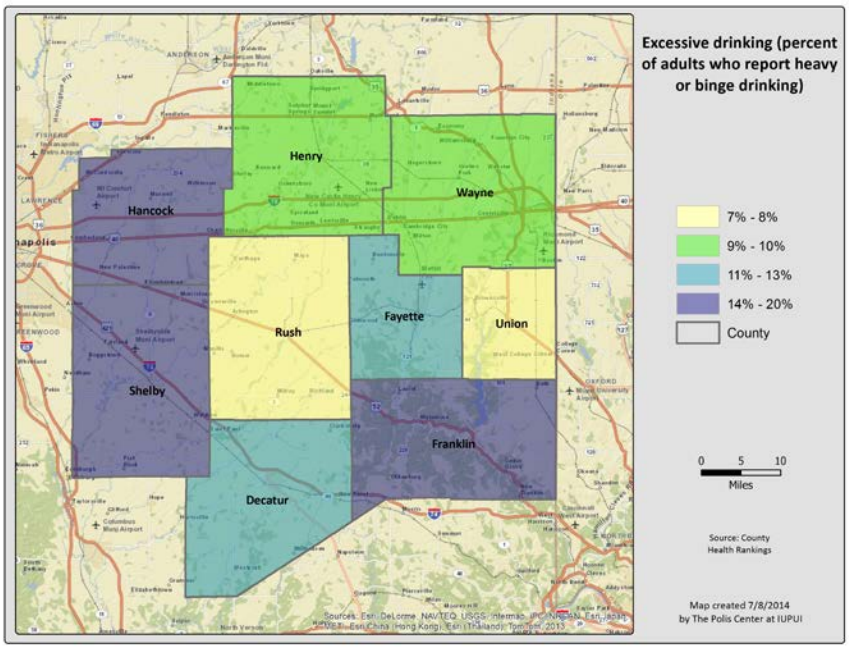


Figure 12e: Percent of adults reporting heavy or binge drinking, 2005-2011

The graph and the map (Figures 11e and 12e) depict the comparison of percent of adults who reported heavy or binge drinking between the Rush County and the surrounding counties. The highest and the lowest percent of adults who reported heavy or binge drinking for these counties are 20% (Franklin County) and 7% (Union County) respectively. The Rush County fares well among these counties with 8% of its adults reporting heavy or binge drinking. The Rush County fares favorably when compared to Indiana as the latter have 16% of the adults reporting heavy or binge drinking.

LOW BIRTH WEIGHT BABIES

PERCENT LOW BIRTH WEIGHT BABIES

Measure: Percent of low birth weight babies, 2002-2011

Data Source(s): Kids Count[9]

Year: 2002-2011

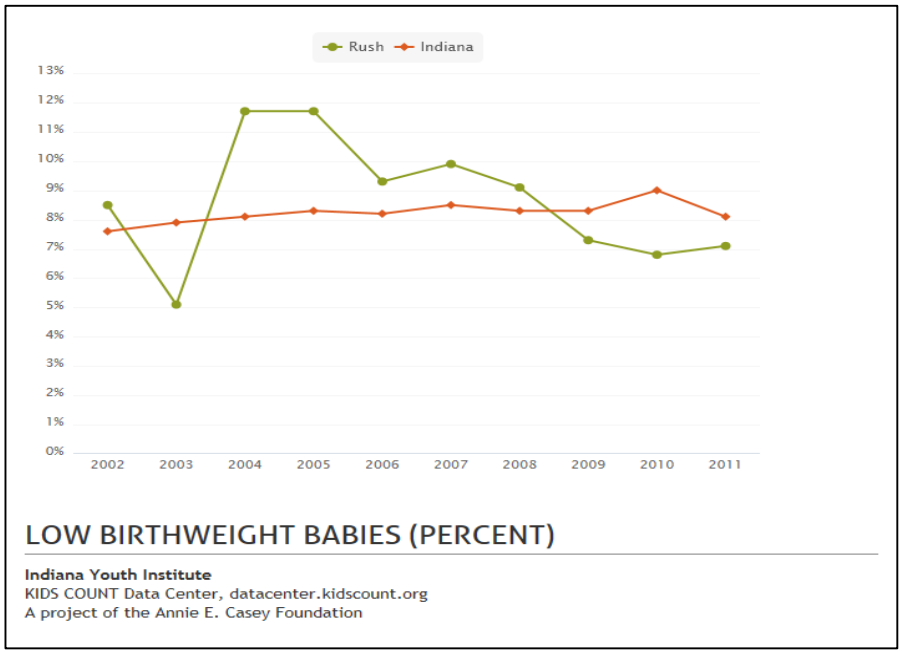


Figure 13e: Percent of low birth weight babies, Rush County and Indiana, 2002-2011

The graph (Figure 13e) depicts a comparison between the percent of low birth weight babies for the Rush County and Indiana. Though the Rush County did not fare well for this indicator (with substantially higher percent of low birth weight babies) in the year 2004- 2005, the percent of Rush County has consistently dropped since the year 2007 until 2011.It can be seen that the Rush County has fared favorably in comparison to Indiana from the years 2009- 2011, as the percent of low birth weight babies for the Rush County for the year 2011 is around 7.5%, while that of Indiana is around 8.5%.

INFANT MORTALITY

PERCENT LOW BIRTH WEIGHT BABIES

Measure: Number of Infants Born Alive but Dies Before 1 Year/1,000 Live Births

Data Source(s): Indiana State Department of Health, Natality Report[18]

Year: 2011

Table 7e: Infant Mortality in Rush County and Indiana, 2011

	Indiana	Rush County
Live Births	83,750	170
Infant deaths (< 1 year)	643	0
Neonatal Deaths (<28 days)	435	0
Post-Neonatal Deaths (28-364 days)	208	0
Source: Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team.		
** Numbers less than 5, including 0, for at least one race grouping, are suppressed to protect confidentiality.		

APPENDIX F: INDIANA INDICATORS DATA[3]

TABLE 1F: GENERAL HEALTH INDICATORS

Overall health indicator	Rush County	Indiana	Scale/range among counties
Overall death rate (per 100,000)	958.6	824.3	1097 to 623
Premature death rate (per 100,000)	9.158	7.520	11.706 to 4. 070
Fair or Poor health status (%)	17.0	16.0	28 to 8
Physically unhealthy days in the past 30 days	3.1	3.6	6 to 2
Mentally unhealthy days in the past 30 days	3.0	3.6	7 to 2
Preventable Hospitalizations (per 10,000 population)	229.2	229.0	341 to 73

As indicated in Table 1f, from the overall health rankings Rush County is ranked 74th of 92 counties for health outcomes which measures how long people live and morbidity levels, or how healthy they feel. Rush County is also ranked 33rd out of 92 counties on health behaviors, which includes clinical care, social and economic and physical environment factors.

Rush County has more overall death per 100,000 population and more premature deaths than the rate for Indiana. More people report their overall health as fair or poor then compared to the state rate overall. Rush County has fewer physically and mentally unhealthy days over the previous 30 days then reported for the state and about the same rate of preventable hospitalizations from ambulatory care-sensitive conditions. Rates are reported per population as noted and are age-adjusted.

TABLE 2F: ACCESS TO HEALTH CARE

Health indicator	Rush County	Indiana	Range within counties
Adults with health insurance (%) 18-64 y.o.	19.6	20.0	39 to 0
Child health insurance	7.7	8.0	31 to 0
Could not see a doctor due to cost	18.0	15.0	26 to 7
Primary Care Physician ratio	1,335	849	14,258 to 336
Health Department capacity staff to population	4,348	3,187	14,409 to 1291

TABLE 3F: EXERCISE, NUTRITION, AND WEIGHT VALUES

Indicator	Rush County	Indiana	State Goal	Range of county rates
Adult obesity (%)	32	31	25	70-22
Recommended fruits and vegetables	19.7	21.9	24	3 to 29
Initiated breast feeding	69.3	72.1	75	52 to 90
Adult physical inactivity	32.0	27.0	No goal	39 to 19

Rush County has more adults that are considered obese, report consuming recommended amounts of fruits and vegetables each day, fewer mothers reporting ever breastfeeding their infants and more adult physical inactivity during leisure time is reported compared to the state rate.

TABLE 4F: MATERNAL, FETAL, AND INFANT HEALTH

Indicator	Rush County	Indiana	Range among counties
Teenage births per 1000	46.0	37.5	90 to 11
Premature births	7.4	10.0	22 to 5
Low Birth Weight (%)	6.8	8.0	15 to 4
Prenatal care (% first trimester)	71.6	70.3	35 to 84
Prenatal smoking (%)	26.1	17.1	42 to 1

Rush County has more births to teenagers (15 to 19 year olds), but fewer premature (born before 37 weeks) or low birth weight infants (under 2,500 grams) compare to the state. More Rush County residents begin prenatal care during the first trimester, but more are also smoking during their pregnancy compared to the state rate.

TABLE 5F: SUBSTANCE USE AND ABUSE

Indicator	Rush County	Indiana	Goal	Range in counties
Adult smoking	21.0	24.0	18	
Adult Excessive drinking	8.0	16.0	8	23 to 8
Controlled Substance prescriptions	2.07	1.70	N/A	3 to 1

Fewer Rush County residents smoke then the Indiana average and fewer report excessive drinking. More residents are entered into INSECT indicating more controlled substance prescriptions being filled.

TABLE 6F: CANCER INCIDENCE AND MORTALITY

Indicator	Rush County	Indiana	Goal for Indiana	Range for counties
Cancer incidence per 100,000	454.4	487.7	N/A	572 to 276
Cancer mortality	208.8	194.1	161	261-150
Lung cancer incidence	81.1	79.7	N/A	107 to 48
Lung cancer mortality	74.3	61.3	46	92 to 38
Colorectal Cancer incidence	46.0	49.9	39	82 to 28
Female Breast cancer incidence	91.1	117.9	41	165 to 41
Prostate cancer incidence	103.1	132.0	N/A	187 to 44

Rush County has lower new invasive cancer cases from all types compared to the state, but higher overall cancer mortality and lung cancer incidence and mortality rates. Rush County has lower incidence for colorectal and female breast and prostate cancer rates compared to the state. Using cases per 100,000 population and age adjusted rates.

TABLE 7F: ENVIRONMENT INDICATORS

Indicator	Rush County	Indiana	Range among counties
Liquor store density (per 100,000)	5.9	11.7	14 to 2
Grocery store density (per 100,000)	*52.9	18.3	5 to 33
Fast Food density (per 10,000)	5.2	6.6	13 to 1

Rush County has fewer liquor stores per 100,000 population and more grocery store density and a lower fast food density then Indiana rates.

TABLE 8F: EDUCATION

Indicator	Rush County	Indiana	Range among counties
ISTEP + Math and English % who passed	80	77.0	65 to 90
High School degree or higher	87.1	87.0	70 to 100

Rush County has higher percentage of students passing the ISTEP+ Math and English tests then the state rate and the same rate of residents with high school degrees or higher.

TABLE 8F: ECONOMY

Indicator	Rush County	Indiana	Range among counties
Unemployment	5.6	6.3	20 to 2
Household Income	$46,125	$48,374	$20,000 to 70,000
People living below poverty line (%)	14.8	14.7	30 to 4
Homeownership (% of occupied units)	72.3	70.6	40 to 90
Per capita income	$39,909	$38,119	$20,000-70,000
Children living below poverty line (%)	17.43	18.5	30 to 5

Rush County has lower unemployment, lower household income and lower percentages of children living below the poverty line compared to the Indiana state rates. Rush County has slightly higher rates of homeownership and per capita income compared to the Indiana state rates.