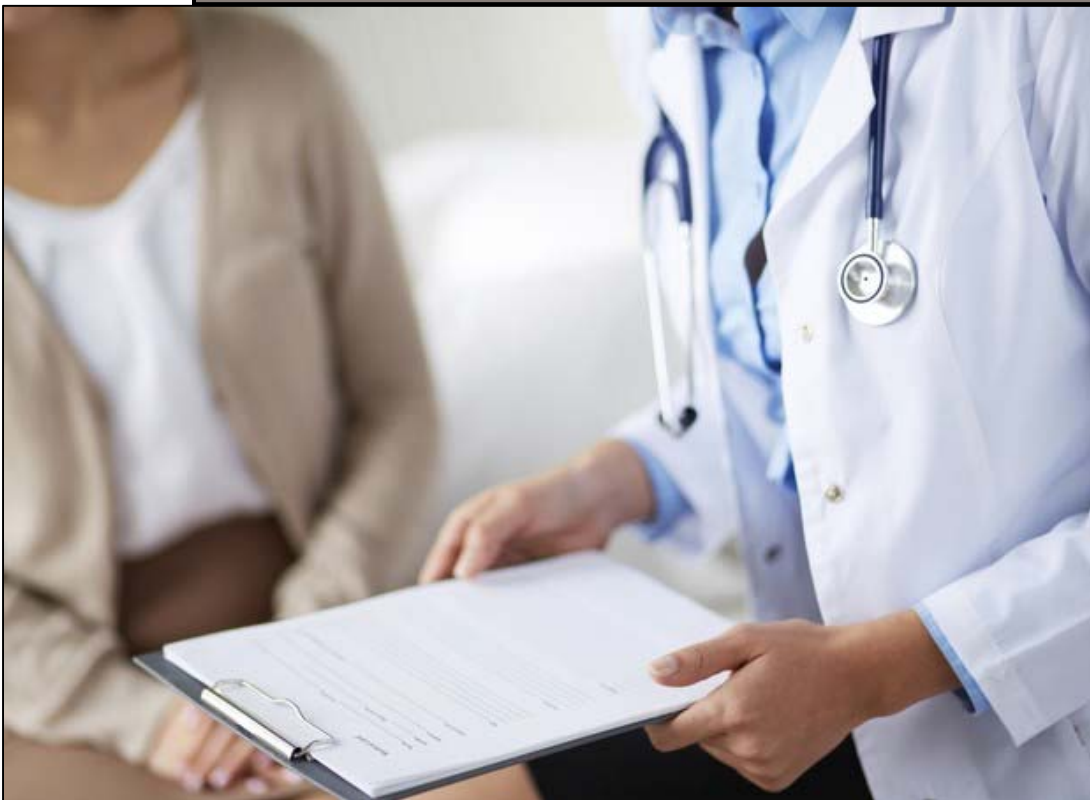


Indiana Primary Care Needs Assessment



2018

INDIANA PRIMARY CARE NEEDS ASSESSMENT REPORT

Prepared for:

Indiana State Department of Health

Prepared by:

Bowen Center for Health Workforce Research and Policy

March 2018

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Funding Disclosure:

This publication (journal article, etc.) was supported by the Cooperative Agreements to States/Territories for the Coordination and Development of Primary Care Offices from Department of Health and Human Services. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Department of Health and Human Services.

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ACKNOWLEDGEMENTS

The Bowen Center for Health Workforce Research and Policy would like to acknowledge the contributions and support provided by the Indiana State Primary Care Office (PCO) on this project. Specifically, Ann Alley, PCO Director, for assistance in obtaining population health data and providing guidance in the development of this report.

EXECUTIVE SUMMARY

The Indiana Primary Care Needs Assessment (PCNA) has been critical in the efforts to identify gaps in access to health care and allocate resources to communities in greatest need. This five-year collaborative project between the Bowen Center for Health Workforce Research and Policy (Bowen Center) and the Indiana State Department of Health Primary Care Office, has encompassed numerous efforts to accomplish these goals. These efforts have included 1) innovation of provider data management, 2) statewide analysis of Health Professional Shortage Areas, and 3) providing resources and assistance to health care administrators and community leaders. The 2018 Primary Care Needs Assessment Report provides a summary of efforts from 2015-2017 and how this project has impacted communities throughout Indiana.

At the inception of the PCNA project, the Health Resources and Services Administration (HRSA) began a modernization project that would streamline the application process for Health Professional Shortage Area (HPSA) designations. In response to this, the Bowen Center has developed provider verification procedures for collecting comprehensive information on providers' clinical practice¹. With this verified data, the Bowen Center has been able to more effectively manage HPSA applications and obtain designations for more communities than ever before. A summary of this effort is provided in Section I.

Another critical component of evaluating HPSAs is ongoing preliminary analysis of workforce capacity. As is summarized in Section II, this analysis has allowed the state to identify counties with little to no provider capacity, monitor the progress of health care access in various communities and determine the amount of providers that are necessary to meet sufficient capacity. Such information enables the state to determine where resources are needed for recruitment and retention efforts.

While accurate and timely information on providers is crucial for a needs assessment, evaluating population data is also necessary for identifying emerging health outcomes. The Indiana PCNA project annually evaluates population health data derived from the U.S. Census and the Robert Wood Johnson Foundation. This ongoing evaluation, summarized in Section III, has shown that while certain health outcomes have remained consistently prevalent (such as diabetes and infant mortality), other serious health concerns have recently emerged (such as substance abuse).

In addition to managing provider and population data, maintaining positive and effective communications with many health care administrators and community leaders throughout the state has been key for this project. For the purpose of this report, key informant interviews were conducted to collect information from health care facilities regarding key health issues, primary needs and ongoing health care services initiatives. All findings have been summarized in Section IV. Information from these stakeholders assists the PCO in identifying barriers to health care access and determining how best to allocate resources.

It is important to note that as community needs change so will the efforts to respond to these issues. This report provides an outline of how previous efforts have improved outcomes, what changes still need to be made and how Indiana can move forward to improve access to care and health outcomes. Such changes have been and only will be possible with comprehensive information and collaborative efforts from researchers, community leaders and health care facilities.

¹ Bowen Center for Health Workforce Research and Policy. Bowen Center for Health Workforce Research and Policy Provider Verification Protocol. 2016.

SECTION I. 2017 HPSA APPLICATIONS AND DESIGNATIONS UPDATE

Shortage Designation Management System and HPSA Applications

National Shortage Designation Update

Between January and October 2017, HRSA administered monthly impact analyses, or preliminary evaluations, of all geographic and population HPSA designations approved prior to August 2016. These analyses were used to determine the possible changes that would occur to designations if re-evaluated by HRSA during the National Shortage Designation Update, which took place between Oct. 28 and Nov. 4, 2017.

In response to results from the impact analyses, the Bowen Center conducted annual primary care needs assessments, developed standard provider verification procedures and prepared new or updated HPSA applications for communities that could potentially lose their designation. In 2017, the State of Indiana was able to obtain 75 new designations and updated designations before the National Update occurred. Over 100 designations were obtained in all for 2017. The following three pages provide a summary of the new designations Indiana has obtained since 2017.

The National Update resulted in 18 designations in Indiana being included in the re-evaluation process. Five HPSA designation scores dropped by 1 to 5 points; two HPSA designations remained unchanged; five HPSA designation scores increased by 3 to 5 points; and six designations were proposed for withdrawal, three of which had been replaced by new designations. See Figure 1 for a summary of the results.

In addition to responding to the National Shortage Designation Update, the Bowen Center has continued to conduct continual primary care needs assessments to identify communities in greatest need. The summary provided on the subsequent pages demonstrates how efforts from the PCNA project have led to more communities receiving much needed designations.

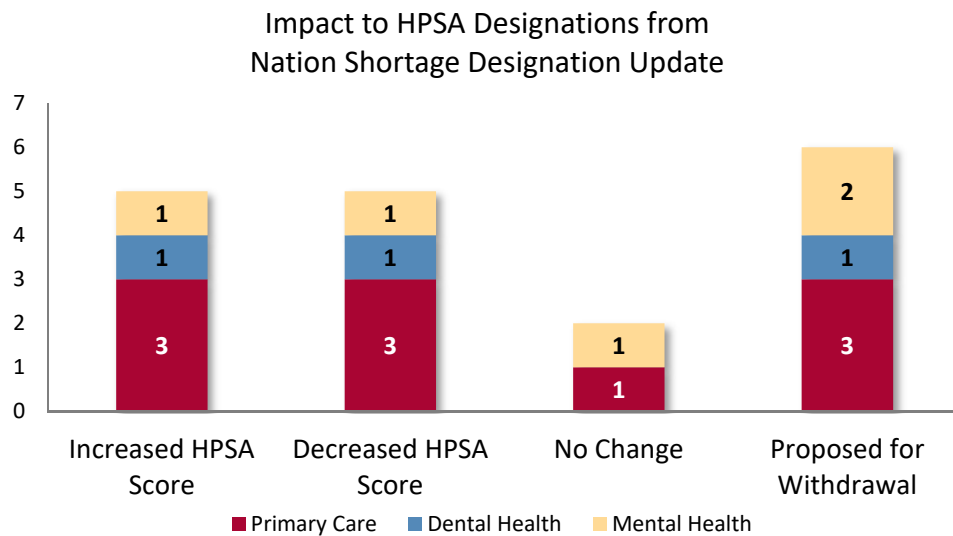
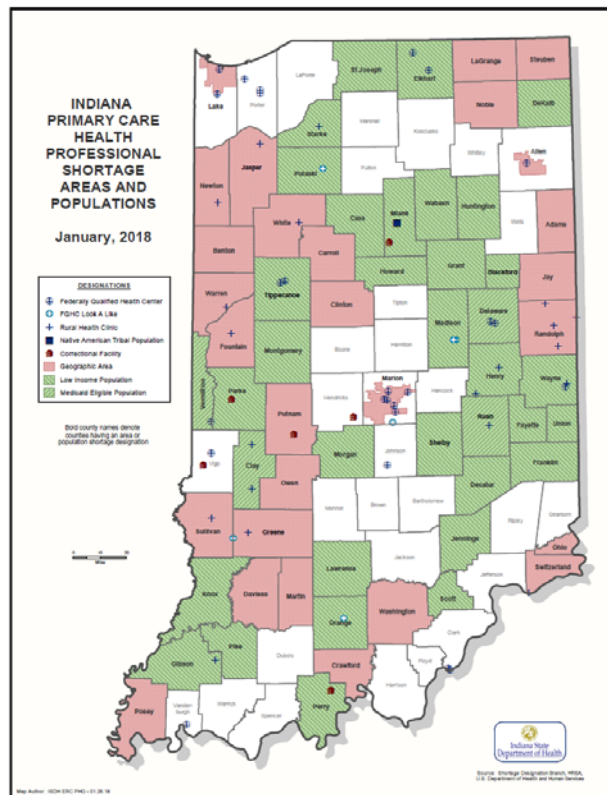
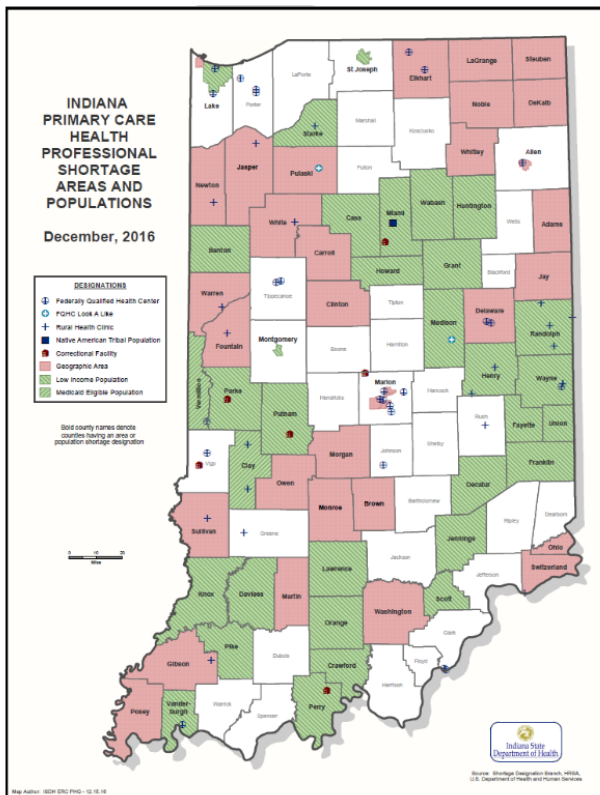
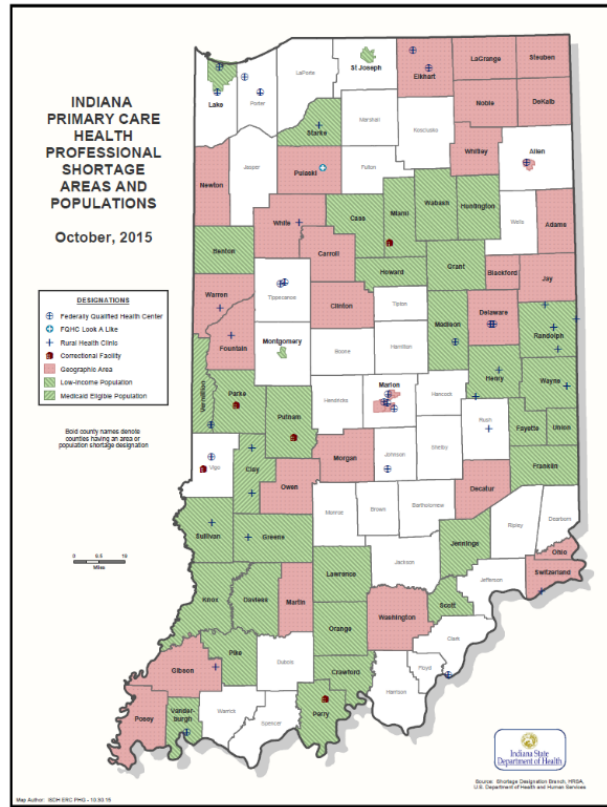


Figure 1. Impact of national shortage designation update on HPSAs for each discipline

Trends in HPSA Designations in Indiana, 2015-2017

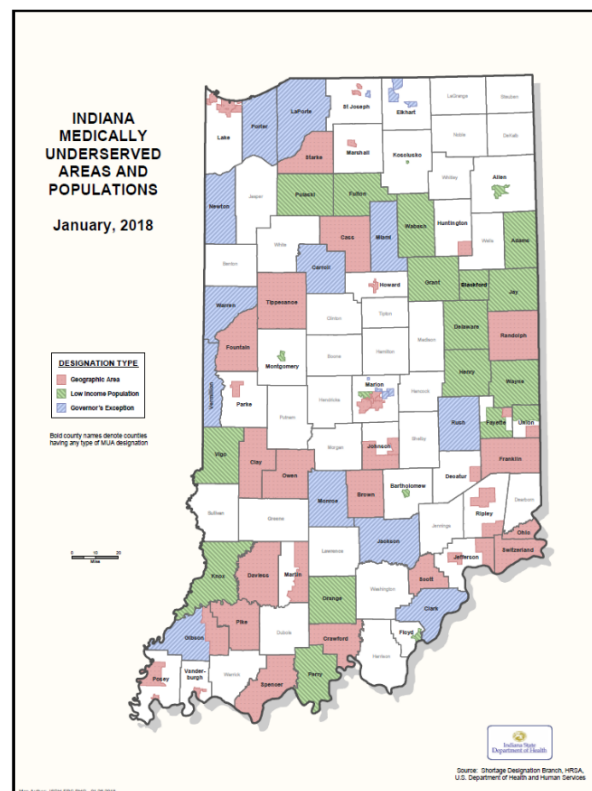
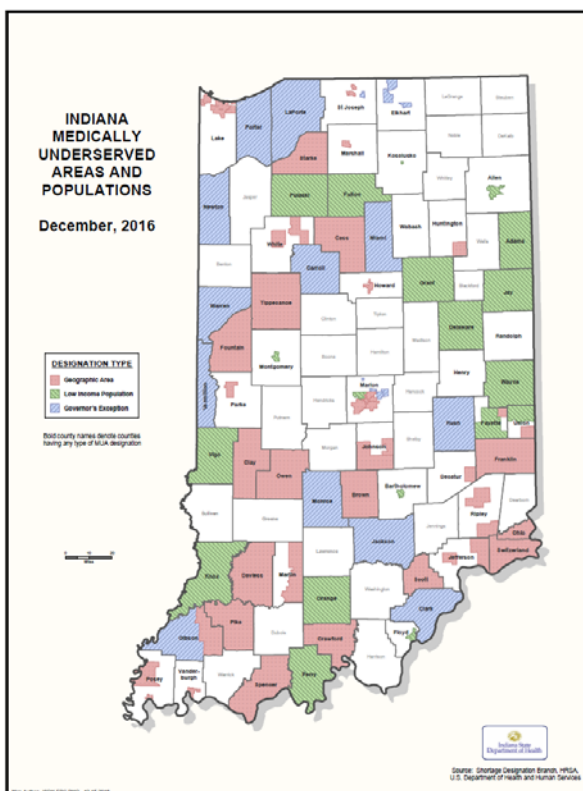
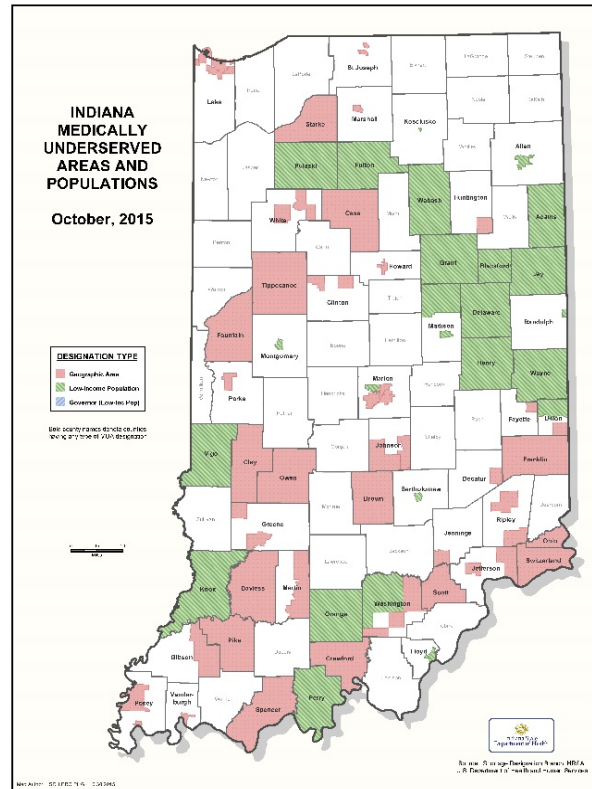
Primary Care: HPSAs

Since 2015, Indiana has had many primary care HPSAs throughout the state. However, limited resources with data management have impact the state's ability to adequately manage HPSA designations. After development of new provider data management procedures, Indiana has been able to obtain new geographic and population HPSA designations and update existing designations with higher scores that can qualify a community for receiving more resources. In 2017, Indiana obtained 12 geographic designations and 22 population designations, resulting in the greatest number of primary care HPSAs that Indiana has ever had.



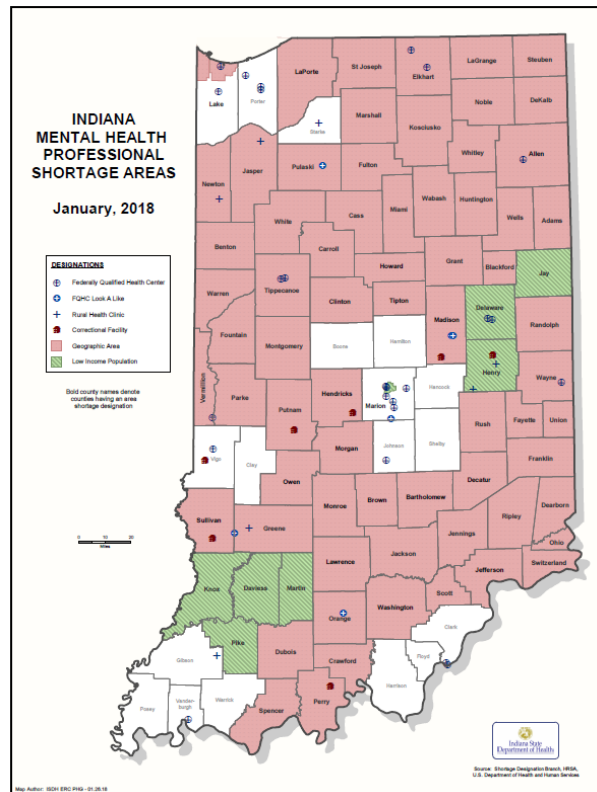
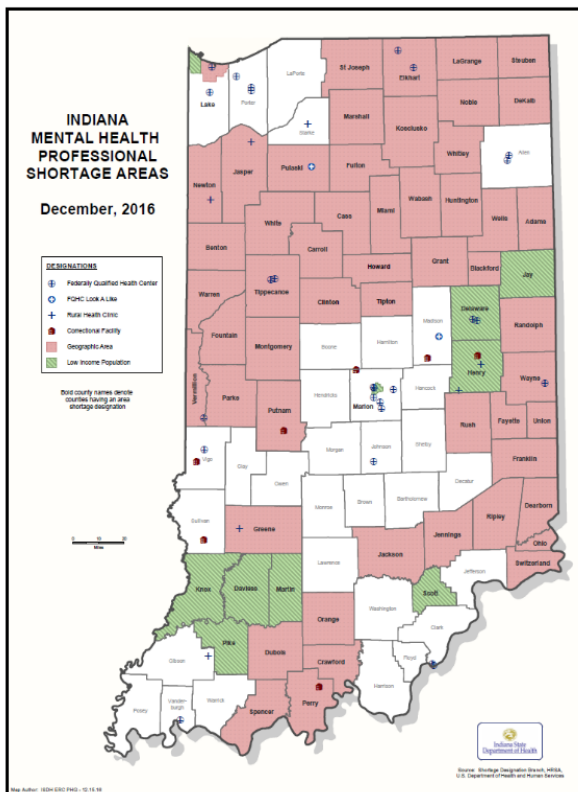
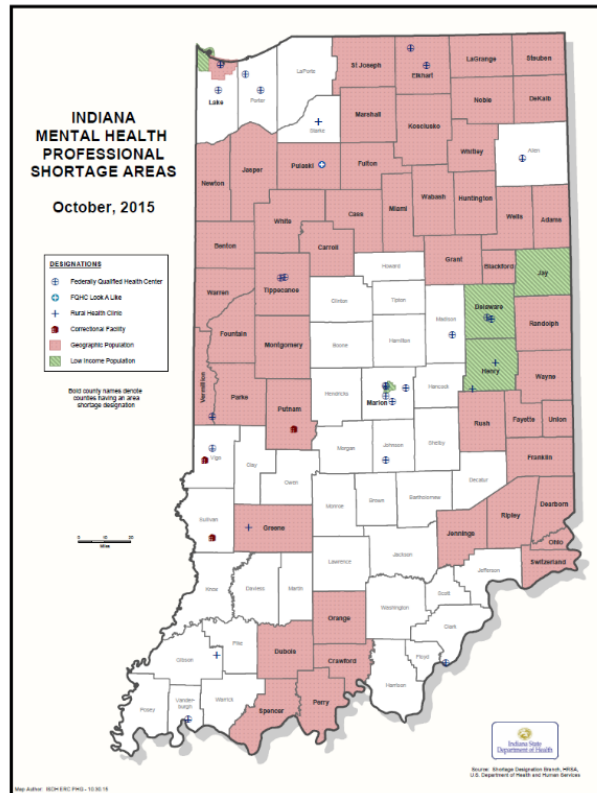
Primary Care: MUA/P

Relatively few counties in Indiana met the minimum requirements for a Medically Underserved Area or Population (MUA/P). A significant number of counties have received this designation as a Governor's Exception as demonstrated in the 2016 map below. Pursuit of Governor's Exception designations has and will continue to direct resources to communities serving unique health care needs. Between 2016 and 2017, the number of Indiana counties that met the minimum requirements for a Medically Underserved Area or Population (MUA/P) grew from 10 to 20 counties. In 2017, Indiana obtained 4 Medically Underserved Area or Population (MUA/P) designations for Blackford, Henry, Randolph and Wabash counties.



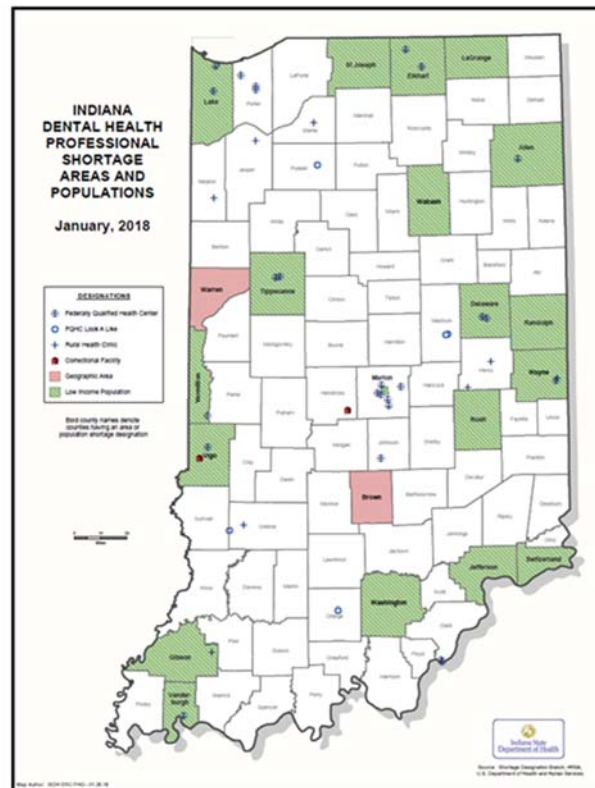
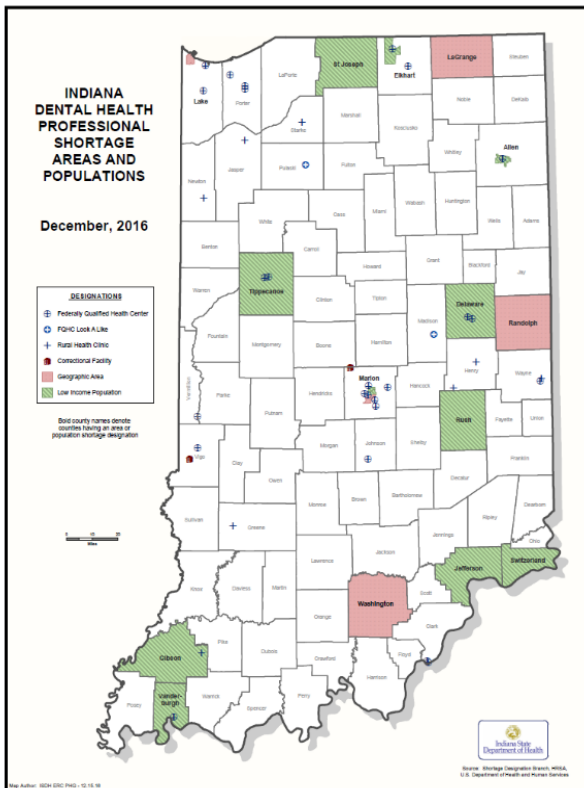
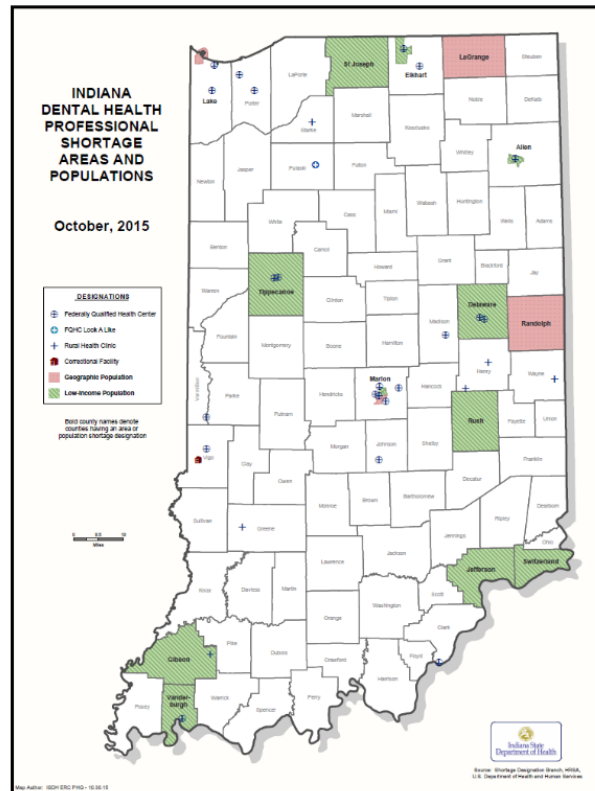
Mental Health

Though there are few total mental HPSA (MHPSA) designations in Indiana, many of these designations are for Mental Health Catchment Areas (MHCAs) that encompass multiple counties. Approximately half of Indiana counties were covered under a MHPSA in 2015. Since then, this number has grown to where over 80% of state was covered under a MHPSA. In 2017, Indiana obtained 11 mental HPSA designations, including designation updates. There has also been an increase in federal designations for correctional facilities. This could aid in enhancing workforce capacity to meet the mental health service needs of internees.



Dental Health

Despite the consistent shortage of dental health professionals in Indiana, there has previously been few to no organized initiatives in place for seeking dental HPSAs. Between 2015 and 2016, little change was seen in the number of geographic, population and facility HPSA designations. However, in response HRSA’s impact analysis in 2017, the Bowen Center has prepared 18 applications that included updates to the 12 existing population dental HPSA applications. As of December 2017, the Bowen Center also anticipates preparing 75 new dental HPSA applications for submission to HRSA in 2018.



SECTION II. TRENDS IN PRIMARY CARE WORKFORCE CAPACITY

Preliminary HPSA Analysis Summary, 2015-2017

Purpose

Preliminary HPSA scoring is useful to primary care offices for determining counties or communities that could have a severe need for HPSA designation. Such information also informs the prioritization of more comprehensive HPSA analysis in the online Shortage Designation Management System. Additionally, ongoing analysis is the most effective approach to monitoring the progress of health care needs throughout the state. The data presented in this section summarizes the changes in preliminary HPSA scores for each county in Indiana by discipline.

Decreasing HPSA Scores

A summary of the overall primary care, mental and dental geographic HPSA scoring can be found in Tables 2.1-2.3. Several counties in Indiana have decreasing HPSA scores from the preliminary PCNA analysis that have resulted in low scores in 2017. Such is the case for Jefferson County, where its Primary Care HPSA score has decreased 13 points since 2015 to a current score of 2. The same is also true for White County’s Mental Health HPSA score, which has decreased 9 points since 2015. Carroll County has also seen a decrease in its Dental Health HPSA score by 10 points since 2015.

Table 2.1 Counties that have had decreasing primary care HPSA scores, 2015-2017

County	Primary Care HPSA Score 2015	Primary Care HPSA Score 2016	Primary Care HPSA Score 2017	Overall Difference
Gibson	2	1	1	-1
Floyd	2	1	1	-1
Hamilton	2	1	1	-1
Dubois	2	1	1	-1
Warrick	2	1	1	-1
Washington	7	8	6	-1
Montgomery	4	3	3	-1
Harrison	2	1	1	-1
Hancock	2	1	1	-1
Dearborn	2	1	1	-1
Clark	2	1	1	-1
Fayette	4	2	3	-1
Hendricks	2	1	1	-1
Kosciusko	3	1	1	-2
DeKalb	3	1	1	-2
Shelby	4	2	2	-2
Parke	3	2	1	-2
Clay	9	6	7	-2
Blackford	3	2	1	-2

Table 2.1 Counties that have had decreasing primary care HPSA scores, 2015-2017

County	Primary Care HPSA Score 2015	Primary Care HPSA Score 2016	Primary Care HPSA Score 2017	Overall Difference
Cass	4	1	2	-2
Madison	4	2	2	-2
Posey	9	5	7	-2
Howard	4	2	2	-2
Starke	4	3	2	-2
Jay	10	9	8	-2
Warren	9	7	7	-2
Carroll	11	9	9	-2
Henry	4	2	2	-2
Fountain	9	7	7	-2
Vanderburgh	5	2	2	-3
St. Joseph	4	1	1	-3
Wayne	6	3	3	-3
Porter	4	1	1	-3
Wabash	4	1	1	-3
Noble	8	5	5	-3
Lake	5	2	2	-3
Tipton	4	1	1	-3
Daviess	4	1	1	-3
Switzerland	15	14	12	-3
Randolph	12	8	8	-4
Pulaski	5	1	1	-4
Delaware	7	3	3	-4
White	9	3	5	-4
Marion	7	3	3	-4
LaGrange	9	5	5	-4
Allen	6	2	2	-4
Vigo	6	3	2	-4
Jackson	6	1	1	-5
Clinton	10	5	5	-5
Owen	14	10	9	-5
Greene	12	8	7	-5
Monroe	8	3	3	-5
Fulton	6	3	1	-5
Whitley	6	1	1	-5
Franklin	6	1	1	-5

Table 2.1 Counties that have had decreasing primary care HPSA scores, 2015-2017

County	Primary Care HPSA Score 2015	Primary Care HPSA Score 2016	Primary Care HPSA Score 2017	Overall Difference
LaPorte	7	2	2	-5
Wells	6	1	1	-5
Sullivan	8	2	2	-6
Elkhart	8	2	2	-6
Orange	10	4	4	-6
Johnson	7	1	1	-6
Steuben	8	1	1	-7
Spencer	8	1	1	-7
Decatur	8	1	1	-7
Knox	8	2	1	-7
Pike	9	1	1	-8
Ohio	11	1	3	-8
Huntington	10	1	1	-9
Scott	11	3	2	-9
Morgan	10	1	1	-9
Miami	10	2	1	-9
Perry	11	1	1	-10
Grant	13	3	2	-11
Tippecanoe	14	2	3	-11
Lawrence	13	1	1	-12
Jefferson	14	2	1	-13

Table 2.2 Counties that have had decreasing mental HPSA scores, 2015-2017

County	Mental HPSA Score 2015	Mental HPSA Score 2016	Mental HPSA Score 2017	Overall Difference
Wayne	9	8	8	-1
Marion	8	6	7	-1
Porter	6	3	5	-1
Kosciusko	10	8	9	-1
Floyd	6	3	5	-1
Franklin	13	10	11	-2
Tipton	13	11	11	-2
Allen	9	5	7	-2
Carroll	13	11	11	-2
Cass	8	4	6	-2
Gibson	13	11	11	-2
Noble	7	7	4	-3

Table 2.2 Counties that have had decreasing mental HPSA scores, 2015-2017

County	Mental HPSA Score 2015	Mental HPSA Score 2016	Mental HPSA Score 2017	Overall Difference
Newton	13	11	10	-3
Monroe	7	5	4	-3
Knox	9	6	6	-3
Delaware	10	6	7	-3
Lake	9	4	6	-3
Hamilton	5	2	2	-3
Montgomery	9	7	5	-4
Martin	13	11	9	-4
Boone	7	3	3	-4
Decatur	15	12	11	-4
Dearborn	9	6	5	-4
DeKalb	7	3	3	-4
Crawford	15	12	11	-4
Owen	15	12	11	-4
Orange	16	13	12	-4
Madison	12	7	7	-5
Warren	13	11	8	-5
Union	13	11	8	-5
Adams	10	11	5	-5
Ohio	13	11	7	-6
Bartholomew	10	4	4	-6
Hendricks	10	3	4	-6
Benton	14	11	8	-6
Washington	11	5	4	-7
Howard	12	6	5	-7
Vigo	13	6	6	-7
Tippecanoe	12	4	5	-7
Hancock	10	3	3	-7
Elkhart	12	4	4	-8
Switzerland	18	11	10	-8
Scott	14	6	6	-8
White	14	6	5	-9

Table 2.3 Counties that have had decreasing dental HPSA scores

County	Dental HPSA Score 2015	Dental HPSA Score 2016	Dental HPSA Score 2017	Overall Difference
Washington	11	6	10	-1
Benton	3	2	2	-1
Jackson	3	2	2	-1
Henry	7	4	6	-1
Owen	13	12	12	-1
Martin	9	10	8	-1
Vigo	5	6	4	-1
Jefferson	3	4	2	-1
Grant	5	6	4	-1
Montgomery	3	2	1	-2
Whitley	5	4	3	-2
Putnam	7	2	5	-2
Parke	9	8	7	-2
Greene	3	2	1	-2
Kosciusko	3	2	1	-2
Noble	5	2	3	-2
Newton	11	12	9	-2
Switzerland	15	14	12	-3
Decatur	5	2	2	-3
Fountain	11	8	7	-4
Wells	7	2	3	-4
Clay	11	8	7	-4
Franklin	7	2	2	-5
Cass	11	8	5	-6
Spencer	7	2	1	-6
Carroll	11	2	1	-10

Increasing HPSA Scores

Tables 2.4-2.6 present counties with increasing HPSA scores for each discipline. Several counties in Indiana have shown increasing HPSA scores and are in need of health care assistance. For example, three counties (Ripley, Putnam and Vermillion) have had their primary care HPSA score increase by 5 points, though Crawford County has had a consistently high primary care HPSA score ranging from 12 to 13. Forty-three (43) counties in Indiana have had increasing mental health HPSA scores between 2015 and 2017. Huntington County saw the highest score increase of 7 points. However, Henry County had the highest mental health HPSA score of 14 in 2017. In regards to dental HPSAs, Shelby and Blackford counties have had the greatest increase in their scores. Despite this, Crawford, Randolph and Brown counties have had consistently high scores between 2015 and 2017.

Table 2.4 Counties that have had increasing primary care HPSA scores, 2015-2017

County	Primary Care HPSA Score 2015	Primary Care HPSA Score 2016	Primary Care HPSA Score 2017	Overall Difference
Ripley	2	5	7	5
Putnam	2	3	7	5
Vermillion	2	9	7	5
Martin	4	7	7	3
Jennings	6	6	8	2
Brown	7	11	9	2
Crawford	12	12	13	1

Table 2.5 Counties that have had increasing mental HPSA scores, 2015-2017

County	Mental HPSA Score 2015	Mental HPSA Score 2016	Mental HPSA Score 2017	Overall Difference
Huntington	6	10	13	7
Shelby	6	13	12	6
Wabash	7	11	13	6
Warrick	7	10	13	6
Vermillion	7	12	13	6
Marshall	6	3	11	5
Henry	9	13	14	5
Harrison	6	10	11	5
Whitley	6	10	11	5
Jefferson	6	5	11	5
Jackson	7	10	12	5
Fayette	9	14	13	4
Perry	7	12	11	4

Table 2.5 Counties that have had increasing mental HPSA scores, 2015-2017

County	Mental HPSA Score 2015	Mental HPSA Score 2016	Mental HPSA Score 2017	Overall Difference
Morgan	6	12	10	4
LaGrange	6	10	10	4
Brown	7	11	11	4
Spencer	7	10	11	4
Rush	8	11	12	4
Jasper	7	10	11	4
Pulaski	7	12	10	3
Pike	7	11	10	3
Dubois	8	4	11	3
Miami	8	12	11	3
Johnson	7	5	10	3
Starke	9	6	12	3
Putnam	6	10	9	3
Ripley	8	11	11	3
Wells	8	11	11	3
Clinton	8	12	11	3
Fountain	8	11	11	3
Clay	9	12	11	2
Parke	9	12	11	2
Lawrence	9	12	11	2
Daviess	8	4	10	2
Greene	9	11	11	2
Jennings	9	12	11	2
Randolph	10	14	12	2
Posey	12	10	13	1
LaPorte	8	5	9	1
Clark	4	3	5	1
Fulton	10	12	11	1
Sullivan	11	6	12	1
Jay	11	13	12	1

Table 2.6 Counties that have had increasing dental HPSA scores, 2015-2017

County	Dental HPSA Score 2015	Dental HPSA Score 2016	Dental HPSA Score 2017	Overall Difference
Shelby	1	8	8	7
Blackford	5	10	12	7

Table 2.6 Counties that have had increasing dental HPSA scores, 2015-2017

County	Dental HPSA Score 2015	Dental HPSA Score 2016	Dental HPSA Score 2017	Overall Difference
Ohio	5	12	11	6
Fayette	5	8	10	5
Pike	7	10	12	5
Vermillion	5	6	10	5
Ripley	3	6	8	5
Harrison	1	4	6	5
St. Joseph	3	6	8	5
Sullivan	3	4	7	4
LaGrange	7	6	11	4
Warren	7	12	11	4
Madison	3	4	6	3
Crawford	13	14	16	3
Lawrence	3	2	6	3
Dearborn	7	10	10	3
DeKalb	1	2	4	3
Perry	5	2	8	3
Wayne	5	6	8	3
Fulton	3	4	5	2
Marshall	1	4	3	2
Jay	7	10	9	2
Rush	3	4	5	2
Union	9	12	11	2
Pulaski	9	12	11	2
Marion	5	6	6	1
Floyd	1	2	2	1
White	3	4	4	1
LaPorte	3	4	4	1
Warrick	1	2	2	1
Wabash	5	4	6	1
Clinton	1	2	2	1
Dubois	1	2	2	1
Knox	3	4	4	1
Vanderburgh	3	4	4	1
Tippecanoe	5	4	6	1
Delaware	5	6	6	1
Jennings	9	10	10	1

Table 2.6 Counties that have had increasing dental HPSA scores, 2015-2017

County	Dental HPSA Score 2015	Dental HPSA Score 2016	Dental HPSA Score 2017	Overall Difference
Clark	1	2	2	1
Scott	3	6	4	1
Huntington	3	6	4	1
Johnson	1	2	2	1
Howard	3	4	4	1
Randolph	13	14	14	1
Hamilton	1	2	2	1
Orange	5	6	6	1
Morgan	1	2	2	1
Lake	3	4	4	1
Allen	3	4	4	1
Bartholomew	1	2	2	1
Brown	11	12	12	1
Daviess	5	6	6	1
Gibson	1	2	2	1
Monroe	5	6	6	1

Consistent HPSA Scores

Table 2.7-2.9 list counties that have nearly no change in their HPSA scores. Overall, counties with unchanging HPSA scores have had low scores overall. However, some counties have had consistently high scores. For instance, Benton, Newton and Union counties have had their primary care HPSA scores remain at 11. St. Joseph has had a mental HPSA score remain at 11 while Blackford County has had its mental HPSA score remain at 13. Starke County has had a consistently high dental HPSA score that has remained at 13.

As has been shown, Crawford County has had consistently high HPSA scores across all three disciplines. Currently, no providers with specialties in primary care, dentistry, or psychiatry are practicing in this county. In 2017, a geographic primary care HPSA designation was awarded to this county. This designation is important for the improvement of health care access for residents of Crawford County.

Table 2.7 Counties with no change in primary care HPSA scores, 2015-2017

County	Primary Care HPSA Score 2015	Primary Care HPSA Score 2016	Primary Care HPSA Score 2017
Marshall	1	1	1
Jasper	3	1	3
Benton	11	11	11
Newton	11	11	11
Union	11	11	11
Adams	10	8	10
Bartholomew	2	1	2
Boone	1	1	1
Rush	2	1	2

Table 2.8 Counties with no change in Mental HPSA Score, 2015-2017

County	Mental HPSA Score 2015	Mental HPSA Score 2016	Mental HPSA Score 2017
St. Joseph	11	11	11
Vanderburgh	6	6	6
Blackford	13	14	13
Grant	9	6	9
Steuben	7	4	7

Table 2.9 Counties with no change in dental HPSA scores, 2015-2017

County	Dental HPSA Score 2015	Dental HPSA Score 2016	Dental HPSA Score 2017
Tipton	1	4	1
Starke	13	14	13
Jasper	1	2	1
Miami	3	4	3
Posey	7	8	7
Hendricks	1	2	1
Steuben	1	2	1
Elkhart	5	4	5
Adams	3	4	3
Boone	1	2	1
Hancock	1	4	1
Porter	1	2	1

Projected Need of Providers in Indiana Counties (Preliminary Analysis), 2015-2017

Purpose

An analysis was conducted for counties identified as having an insufficient capacity of providers to project the amount of full-time equivalent (FTE) needed for a county to obtain sufficient capacity. All counties were assessed by analysis of population to provider ratio criteria based on discipline: 3,500:1 for primary care, 30,000:1 for mental health and 4,000:1 for dental health². The calculated FTE needed to reach sufficient capacity is an indicator of the amount of providers needed to sufficiently care for the population.

Primary Care

Table 2.10 shows the amount of primary care FTE needed to reach sufficient capacity. Though Union, Benton, Crawford and Switzerland Counties are in the greatest need of providers, Adams County has the largest amount of FTE required to meet sufficient capacity 3.5. On the other hand, Washington County had a population to provider ratio that was closest to meeting sufficient capacity in 2017 (3,627.3:1) and had the smallest required FTE for sufficient capacity (0.3).

Table 2.10 Projected need for primary care providers in 2017

County	Population	Total PC FTE	PC Population to Provider ratio	Primary Care Provider FTE for Sufficient capacity	FTE needed to reach sufficient capacity
Adams	34,642	6.4	5,412.8	9.90	3.5
Benton	8,752	0.0	—	2.50	2.5
Brown	15,011	1.6	9,381.9	4.29	2.7
Carroll	20,014	2.3	8,701.7	5.72	3.4
Clay	26,686	6.3	4,235.9	7.62	1.3
Clinton	32,835	8.5	3,862.9	9.38	0.9
Crawford	10,591	0.0	—	3.03	3.0
Greene	32,815	7.2	4,557.6	9.38	2.2
Jay	21,255	5.0	4,251.0	6.07	1.1
Jennings	28,113	6.1	4,608.7	8.03	1.9
LaGrange	38,084	10.0	3,808.4	10.88	0.9
Martin	10,262	2.5	4,104.8	2.93	0.4
Newton	14,057	1.3	10,813.1	4.02	2.7
Noble	47,546	12.6	3,773.5	13.58	1.0
Owen	21,192	3.7	5,727.6	6.05	2.4
Posey	25,567	5.6	4,565.5	7.30	1.7
Putnam	37,650	8.7	4,327.6	10.76	2.1
Randolph	25,596	6.0	4,266.0	7.31	1.3
Ripley	28,612	6.9	4,146.7	8.17	1.3
Switzerland	10,500	0.0	—	3.00	3.0
Union	7,299	0.1	72,990.0	2.09	2.0

² Shortage Designation Management System. Manual of Policies and Procedures. (2017). Health Resources and Services Administration

Table 2.10 Projected need for primary care providers in 2017

County	Population	Total PC FTE	PC Population to Provider ratio	Primary Care Provider FTE for Sufficient capacity	FTE needed to reach sufficient capacity
Vermillion	15,860	3.6	4,405.6	4.53	0.9
Warren	8,367	2.0	4,183.5	2.39	0.4
Washington	27,930	7.7	3,627.3	7.98	0.3
White	24,388	6.3	3,871.1	6.97	0.7

Mental Health

Table 2.11 shows the amount of mental health FTE needed in each county to reach sufficient capacity. Though half of Indiana counties are without any psychiatrist, Johnson County has the highest required FTE (2.6). Bartholomew County had the lowest insufficient capacity (31,795.2:1) and, along with White County, had the lowest required FTE (0.1).

Table 2.11 Projected need for mental health professionals in 2017

County	Population	Total Psych FTE	psych population to provider ratio	Mental Provider FTE for Sufficient capacity	FTE needed for Sufficient Capacity
Adams	34,642	1.0	34,642.0	1.15	0.2
Allen	363,453	10.5	34,552.9	12.12	1.6
Bartholomew	79,488	2.5	31,795.2	2.65	0.1
Benton	8,752	0.0	—	0.29	0.3
Blackford	12,476	0.1	124,760.0	0.42	0.3
Brown	15,011	0.0	—	0.50	0.5
Carroll	20,014	0.0	—	0.67	0.7
Cass	38,476	1.1	34,978.2	1.28	0.2
Clay	26,686	0.0	—	0.89	0.9
Clinton	32,835	0.5	65,670.0	1.09	0.6
Crawford	10,591	0.0	—	0.35	0.4
Daviess	32,411	0.0	—	1.08	1.1
Dearborn	49,679	1.3	38,214.6	1.66	0.4
Decatur	26,240	0.0	—	0.87	0.9
Dubois	42,291	0.0	—	1.41	1.4
Fayette	23,773	0.0	—	0.79	0.8
Fountain	16,888	0.0	—	0.56	0.6
Franklin	22,935	0.0	—	0.76	0.8
Fulton	20,527	0.0	—	0.68	0.7
Gibson	33,668	0.0	—	1.12	1.1
Grant	68,896	1.9	36,261.1	2.30	0.4
Greene	32,815	0.0	—	1.09	1.1

Table 2.11 Projected need for mental health professionals in 2017

County	Population	Total Psych FTE	psych population to provider ratio	Mental Provider FTE for Sufficient capacity	FTE needed for Sufficient Capacity
Harrison	39,230	0.0	—	1.31	1.3
Hendricks	153,435	4.4	34,871.6	5.11	0.7
Henry	49,146	0.0	—	1.64	1.6
Huntington	36,863	0.0	—	1.23	1.2
Jackson	43,471	0.7	62,101.4	1.45	0.7
Jasper	33,448	0.0	—	1.11	1.1
Jay	21,255	0.0	—	0.71	0.7
Jefferson	32,453	0.0	—	1.08	1.1
Jennings	28,113	0.0	—	0.94	0.9
Johnson	145,645	2.3	63,323.9	4.85	2.6
Kosciusko	77,983	1.7	45,872.4	2.60	0.9
LaGrange	38,084	0.5	76,168.0	1.27	0.8
LaPorte	111,280	2.9	38,372.4	3.71	0.8
Lawrence	45,814	0.4	114,535.0	1.53	1.1
Marshall	46,962	0.0	—	1.57	1.6
Martin	10,262	0.0	—	0.34	0.3
Miami	36,211	0.0	—	1.21	1.2
Montgomery	38,172	1.2	31,810.0	1.27	0.1
Morgan	69,403	0.0	—	2.31	2.3
Newton	14,057	0.0	—	0.47	0.5
Noble	47,546	1.4	33,961.4	1.58	0.2
Ohio	6,033	0.0	—	0.20	0.2
Orange	19,725	0.0	—	0.66	0.7
Owen	21,192	0.1	211,920.0	0.71	0.6
Parke	17,107	0.0	—	0.57	0.6
Perry	19,414	0.0	—	0.65	0.6
Pike	12,687	0.0	—	0.42	0.4
Posey	25,567	0.1	255,670.0	0.85	0.8
Pulaski	13,047	0.0	—	0.43	0.4
Putnam	37,650	0.4	94,125.0	1.26	0.9
Randolph	25,596	0.0	—	0.85	0.9
Ripley	28,612	0.3	95,373.3	0.95	0.7
Rush	16,991	0.0	—	0.57	0.6
Scott	23,783	0.0	—	0.79	0.8
Shelby	44,441	0.4	111,102.5	1.48	1.1

Table 2.11 Projected need for mental health professionals in 2017

County	Population	Total Psych FTE	psych population to provider ratio	Mental Provider FTE for Sufficient capacity	FTE needed for Sufficient Capacity
Spencer	20,856	0.0	—	0.70	0.7
Starke	23,117	0.0	—	0.77	0.8
Steuben	34,267	0.8	42,833.8	1.14	0.3
Sullivan	21,111	0.0	—	0.70	0.7
Switzerland	10,500	0.0	—	0.35	0.4
Tipton	15,573	0.0	—	0.52	0.5
Union	7,299	0.0	—	0.24	0.2
Vermillion	15,860	0.0	—	0.53	0.5
Wabash	32,358	0.0	—	1.08	1.1
Warren	8,367	0.0	—	0.28	0.3
Warrick	60,995	0.7	87,135.7	2.03	1.3
Wayne	67,866	1.9	35,718.9	2.26	0.4
Wells	27,796	0.0	—	0.93	0.9
White	24,388	0.7	34,840.0	0.81	0.1
Whitley	33,330	0.0	—	1.11	1.1

Dental Health

Table 2.12 shows the amount of dental FTE needed in each county to reach sufficient capacity. Crawford, Ohio, Pike, Pulaski and Union counties are in the greatest need of dentists, as they currently have no dental providers. At the same time, Blackford County had the largest population to provider ratio in 2017 (25,991.7:1) while Dearborn County had the greatest required FTE to reach sufficient capacity (7.4). Wayne County had the smallest insufficient capacity based on population to provider ratio (4,065.3:1) and Rush County had the lowest required FTE (0.1).

Table 2.12 Projected need for dentists in 2017

County	Population	Total Dentist FTE	Dental Population to Provider ratio	Dental Provider FTE for Sufficient capacity	FTE needed for Sufficient Capacity
Blackford	12,476	0.5	25,991.7	3.12	2.6
Brown	15,011	1.0	15,636.5	3.75	2.8
Cass	38,476	7.7	4,994.3	9.62	1.9
Clay	26,686	4.0	6,618.6	6.67	2.6
Crawford	10,591	0.0	—	2.65	2.6
Daviess	32,411	5.7	5,736.5	8.10	2.5
Dearborn	49,679	5.0	9,986.6	12.42	7.4
DeKalb	42,449	9.7	4,398.5	10.61	1.0
Elkhart	200,685	49.1	4,087.1	50.17	1.1
Fayette	23,773	4.0	5,896.1	5.94	1.9

Table 2.12 Projected need for dentists in 2017

County	Population	Total Dentist FTE	Dental Population to Provider ratio	Dental Provider FTE for Sufficient capacity	FTE needed for Sufficient Capacity
Fountain	16,888	2.4	7,036.7	4.22	1.8
Fulton	20,527	4.0	5,084.5	5.13	1.1
Harrison	39,230	6.6	5,963.8	9.81	3.2
Henry	49,146	11.4	4,294.3	12.29	0.8
Huntington	36,863	8.6	4,298.9	9.22	0.6
Jay	21,255	3.0	7,028.8	5.31	2.3
Jennings	28,113	4.2	6,721.0	7.03	2.8
Knox	38,062	9.2	4,137.2	9.52	0.3
LaGrange	38,084	3.8	10,098.0	9.52	5.7
Lawrence	45,814	8.7	5,275.6	11.45	2.8
Madison	130,280	31.1	4,195.5	32.57	1.5
Marshall	46,962	10.3	4,558.5	11.74	1.4
Martin	10,262	1.4	7,126.4	2.57	1.1
Miami	36,211	7.4	4,878.0	9.05	1.6
Newton	14,057	1.7	8,367.3	3.51	1.8
Noble	47,546	11.8	4,020.8	11.89	0.1
Ohio	6,033	0.0	—	1.51	1.5
Orange	19,725	4.5	4,380.6	4.93	0.4
Owen	21,192	1.5	13,942.1	5.30	3.8
Parke	17,107	2.8	6,198.2	4.28	1.5
Perry	19,414	3.2	6,105.0	4.85	1.7
Pike	12,687	0.0	—	3.17	3.2
Posey	25,567	3.9	6,555.6	6.39	2.5
Pulaski	13,047	0.0	—	3.26	3.3
Putnam	37,650	7.1	5,331.7	9.41	2.4
Randolph	25,596	1.8	14,220.0	6.40	4.6
Ripley	28,612	4.7	6,113.7	7.15	2.5
Rush	16,991	4.2	4,086.3	4.25	0.1
Scott	23,783	4.1	5,814.9	5.95	1.9
Spencer	20,856	3.4	6,207.1	5.21	1.9
Starke	23,117	1.5	15,411.3	5.78	4.3
Sullivan	21,111	3.8	5,550.7	5.28	1.5
Switzerland	10,500	1.3	8,203.1	2.63	1.3
Union	7,299	0.0	—	1.82	1.8
Vermillion	15,860	2.0	8,010.1	3.97	2.0

Table 2.12 Projected need for dentists in 2017

County	Population	Total Dentist FTE	Dental Population to Provider ratio	Dental Provider FTE for Sufficient capacity	FTE needed for Sufficient Capacity
Wabash	32,358	5.5	5,926.4	8.09	2.6
Warren	8,367	0.7	11,620.8	2.09	1.4
Washington	27,930	4.5	6,206.7	6.98	2.5
Wayne	67,866	16.7	4,065.3	16.97	0.3
Wells	27,796	6.5	4,289.5	6.95	0.5
White	24,388	5.0	4,877.6	6.10	1.1
Whitley	33,330	8.0	4,145.5	8.33	0.3

Travel Radius and Nearest Source of Care

Travel time is another component considered in the analysis of health workforce capacity and access to health care. Though patients may reside within a 30-40 minute travel radius of a provider, they may still experience the burden of the time and resources needed to reach health care services. Furthermore, an expanded travel radius for available providers does not guarantee increased workforce capacity. An example of this is Brown County, where its 60-minute travel radius is large but only one psychiatrist falls within the radius as a nearest source of care.

To indicate the limitations of available providers in contiguous areas, tables 2.13-2.15 outline accessible providers within the travel radius of counties that have insufficient provider capacity. A complete list of counties and the overutilization status for their contiguous areas can be found in the technical appendix (Appendices A – C). As is depicted below, the providers in many contiguous counties are overutilized. For example, four of the five counties that are contiguous to Crawford County – which currently has no practicing providers – have overutilized primary care, dental and mental health providers. This is also true for Brown and Johnson counties in regards to mental health providers.

These results indicate that not only do residents in these counties have limited access to care where they live, there is also limited capacity in surrounding areas. These compounded barriers to health care services impact residents’ decision to seek primary care services and may also lead to overutilization of other forms of health care, such as an emergency room or urgent care clinic. Barriers of transportation and overutilization can become common reasons among patients for being late to appointments or missing appointments altogether.

To tackle this issue, many local communities are implementing initiatives in which health care is delivered at home. Such is the case in Boone County, where a community paramedicine program has been implemented³. Under this program, paramedics deliver primary care to patients who have existing conditions and are enrolled in the program by their physician. This helps patients with chronic conditions, limited income or with a need for post-discharge follow-up care get the services they need. This program is a way to help alleviate high provider demand and decrease overall health care costs. This program could be beneficial in other communities that have insufficient provider capacity.

Table 2.13 Nearest Source of Primary Care Overutilization Status for Counties with Insufficient Capacity in Primary Care

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Adams	Allen	291	239.6	354,586	1,479.90	No
	Jay	5	4.5	20,908	4,646.20	Yes
	Wells	17	13.6	27,093	1,992.10	No
Brown	Bartholomew	68	50.4	77,393	1,535.60	No
	Jackson	33	25.7	42,099	1,638.10	No
	Johnson	131	89.2	141,024	1,581.00	No
	Monroe	93	77.6	126,552	1,630.80	No
	Morgan	33	29.7	68,360	2,301.70	Yes

³ Witham Health Services. Paramedicine: Community Paramedicine Program. (2018). <http://www.witham.org/paramedicine>

Table 2.13 Nearest Source of Primary Care Overutilization Status for Counties with Insufficient Capacity in Primary Care

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Crawford	Dubois	29	26.3	41,308	1,570.60	No
	Harrison	19	15.6	38,746	2,483.70	Yes
	Orange	7	6.2	19,284	3,110.30	Yes
	Perry	8	7.3	17,646	2,417.30	Yes
	Washington	7	6.8	27,534	4,049.10	Yes

Table 2.14 Nearest Source of Care Overutilization Status for Counties with Insufficient Capacity in Mental Health

County	Contiguous County	Head Count	FTE	Population	Population to Provider Ratio	Over Utilized
Brown	Morgan	n/a	n/a	n/a	n/a	Yes
	Bartholomew	3	2.3	77,393	33,649.10	Yes
	Jackson	1	0.7	42,099	60,141.40	Yes
	Johnson	5	4.3	141,024	32,796.30	Yes
	Monroe	15	11.8	126,552	10,724.70	No
Crawford	Dubois	2	1.8	41,308	22,948.90	Yes
	Harrison	n/a	n/a	n/a	n/a	Yes
	Orange	1	1	19,284	19,284.00	No
	Perry	n/a	n/a	n/a	n/a	Yes
	Washington	1	1	27,534	27,534.00	Yes
Johnson	Bartholomew	3	2.3	77,393	33,649.10	Yes
	Brown	n/a	n/a	n/a	n/a	Yes
	Marion	115	83.7	900,000	10,752.70	No
	Morgan	n/a	n/a	n/a	n/a	Yes
	Shelby	n/a	n/a	n/a	n/a	Yes

Table 2.15 Nearest Source of Care Overutilization Status for Counties with Insufficient Capacity in Dental Health

County	Contiguous County	Head Count	FTE	Population	Population to Provider Ratio	Over Utilized
Brown	Morgan	23	18.3	68,360	3,735.50	Yes
	Johnson	62	47.3	141,024	2,981.50	No
	Bartholomew	31	26.1	77,393	2,965.20	No
	Jackson	11	8.9	42,099	4,730.20	Yes
	Monroe	41	32.3	126,552	3,918.00	Yes
Crawford	Orange	5	3.7	19,284	5,211.90	Yes
	Washington	4	3.4	27,534	8,098.20	Yes
	Harrison	8	5.9	38,746	6,567.10	Yes
	Dubois	18	13.9	41,308	2,971.80	No
	Perry	6	4.9	17,646	3,601.20	Yes
Dearborn	Franklin	8	6.2	22,885	3,691.10	Yes
	Ripley	6	4.7	28,097	5,978.10	Yes
	Ohio	n/a	n/a	5,934	n/a	Yes

SECTION III. TRENDS IN POPULATION HEALTH, 2015-2017

Health Rankings in Indiana, 2015-2017

Purpose and Methods

As with changes in workforce capacity, health rankings also change to show a community's progress in tackling key health issues. To draw comparisons between the past three years of health rankings, this report focuses on common themes that were identified as health priorities in Indiana between 2015 and 2017. In reading the summary below, it is important to note that the most recent population statistics are available for two years prior to the year of reporting. All tables that provide the county health rankings and data sources can be found in the technical appendix (Appendices D – F).

Health Rankings Analysis

To conduct a more objective and standardized analysis of counties, the health rankings used in this report are based on a formula developed by the Robert Wood Johnson Foundation. This formula involves calculating the state average for each health indicator, then calculating the standard deviation (STDEV) from the average for each county. Below is the formula for the equation.

$$Z\text{-Score} = \frac{(\text{Measured value} - \text{Average of state counties})}{(\text{Standard Deviation})}$$

Counties with negative STDEVs are considered as having indicator prevalence that fall below the state average rank high within the state. On the other hand, counties with positive STDEVs are considered to have health indicators that are above the state average and ranked lower. Four components are considered when ranking population health indicators: socio-economic factors, access to care, risk factors and health outcomes. In order to demonstrate the changes in population health indicators, geographic maps for years 2015-2017 been produced for major indicators in each component.

Rurality

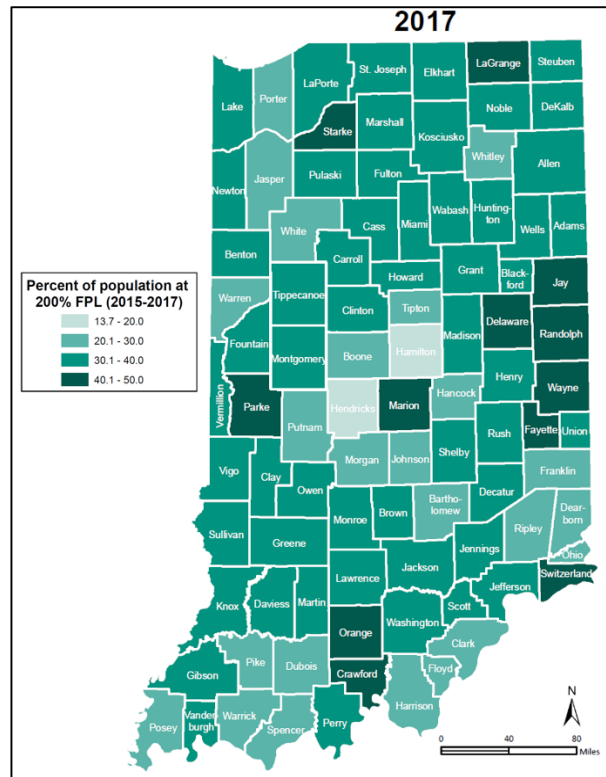
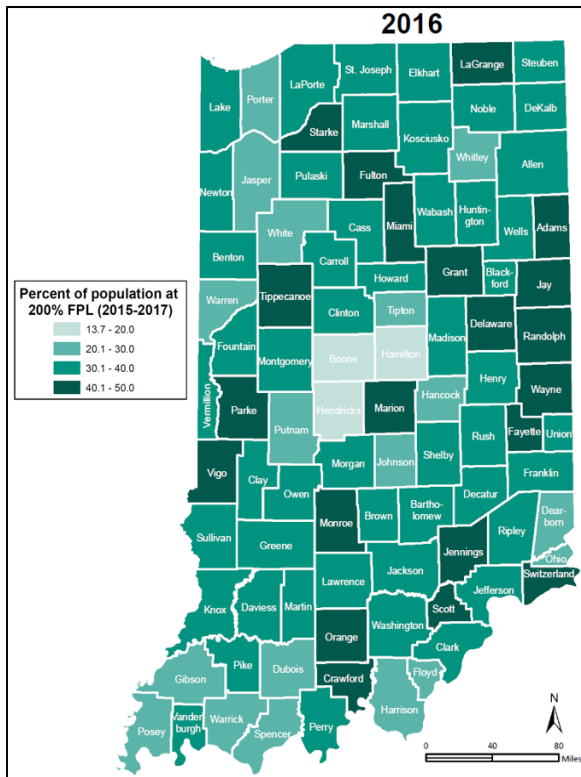
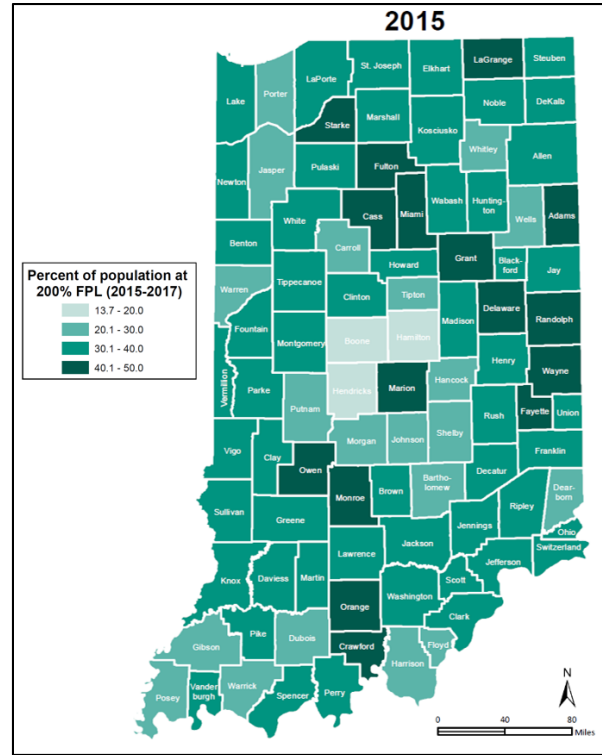
The county rurality classification used for this report is based on the 2015 Office of Management and Budget (OMB) metro and non-metro delineation⁴. It is important to note that this classification is not solely based on population size and density but also encompasses whether counties are a part of larger metropolitan statistical area (MSA). Counties that are considered to be a part of a MSA are considered metro (or urban) while counties that are not considered to be a part of a MSA are considered non-metro (or rural). Though there is an ongoing process to discontinue use of the terms 'urban' and 'rural', these terms were used for the sake of consistency in this report. Future reports will begin using the more accurate metro and non-metro to classify counties in Indiana.

⁴ Delineation Files. United States Census Bureau. <https://www.census.gov/geographies/reference-files/time-series/demo/metro-micro/delineation-files.html>

Socio-economic Indicators

The prevalence of poverty is known to be associated with poor health, limited access to insurance and limited access health care⁵. It may also impact a community’s ability to utilize existing resources that support better health outcomes. Therefore, population demographics may serve as an indicator of health care needs and assist with prioritization.

Hamilton County has consistently ranked highest in socio-economic factors, with around 14% below 200% federal poverty line (FPL) between 2015 and 2017. Counties that have ranked the lowest have changed over time, with Fayette County having the lowest ranking in 2015 (46.3%), LaGrange County in 2016 (46.3%) and Orange County in 2017 (44.7%)⁶. Overall, there has been a growing number of counties in which the percent of the population whose income falls below 200% FPL has decreased since 2015, particularly in rural counties.



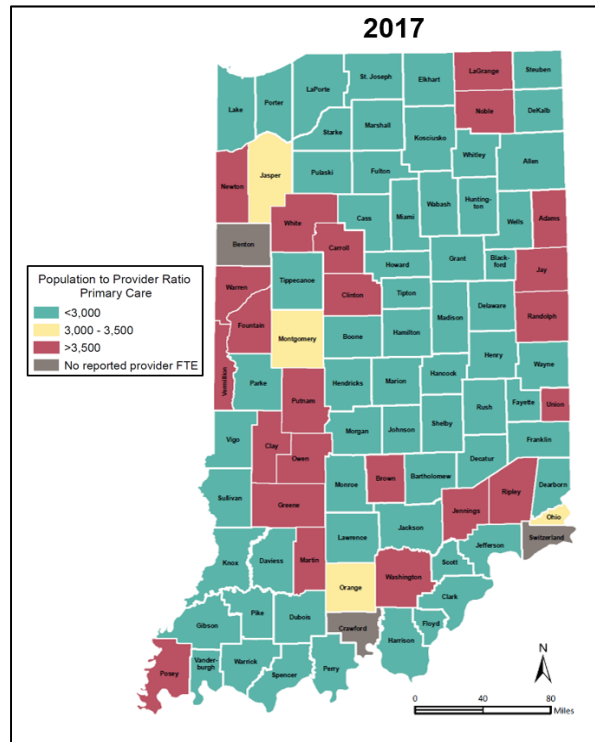
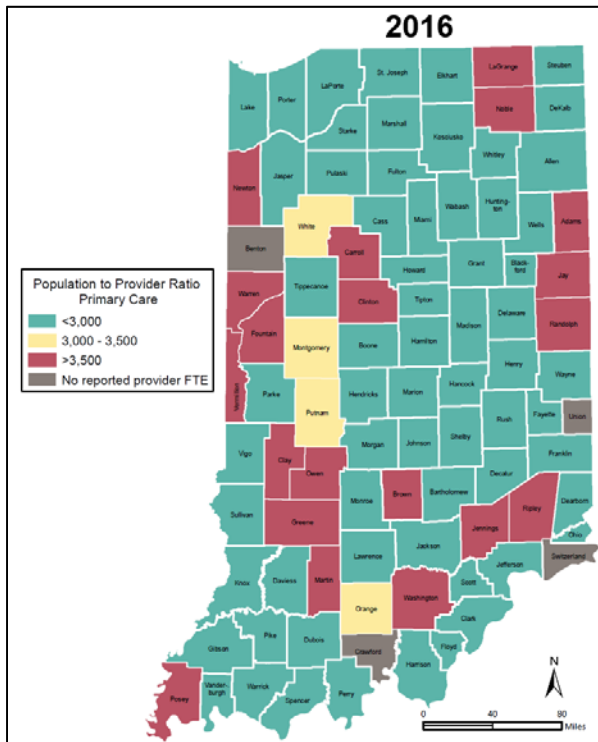
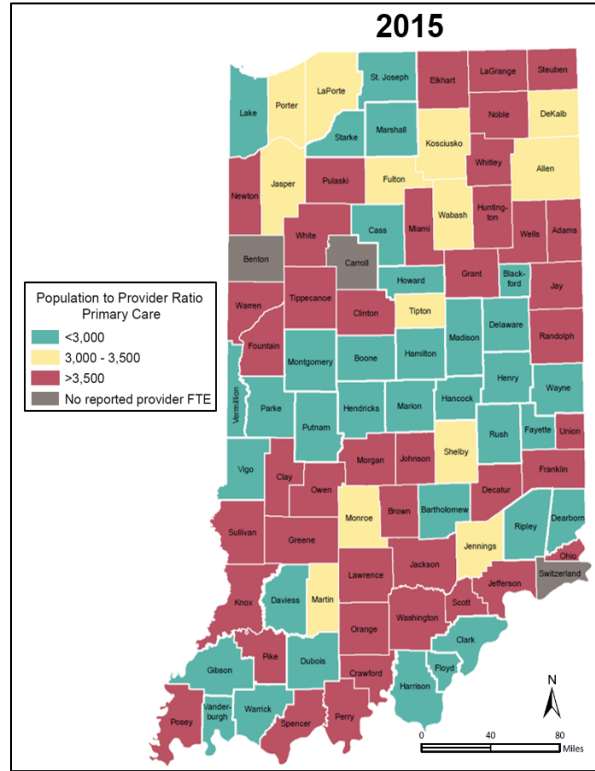
⁵ Hoffman C, Paradise J. Health insurance and access to health care in the United States. *Ann N Y Acad Sci.* 2008;1136:149-160

⁶ Data Source: American Community Survey, U.S. Census, 2013-2015

Primary Care

Trends in access to primary care providers shows some improvement in workforce capacity. Overall, a decreasing number of counties met the criteria for insufficient capacity (3,500:1) between 2015 and 2017, indicating greater access to primary care services. However, as is shown the associated maps, there are several counties in which there has been little change in provider capacity.

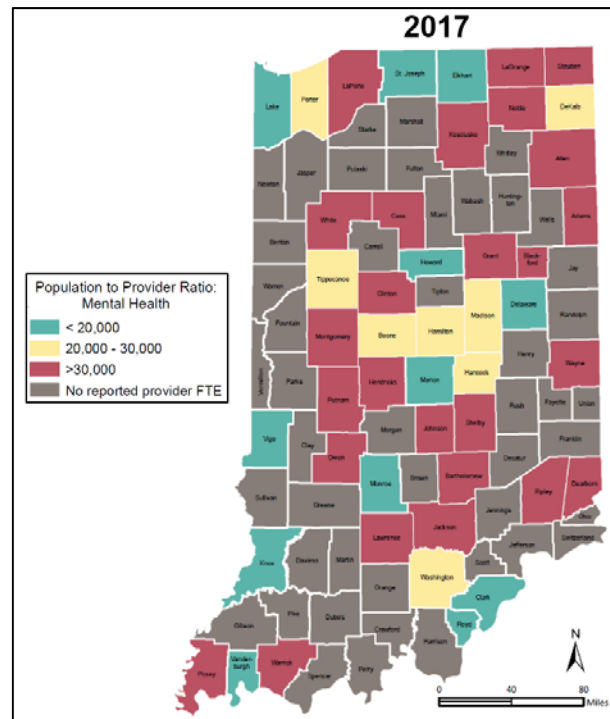
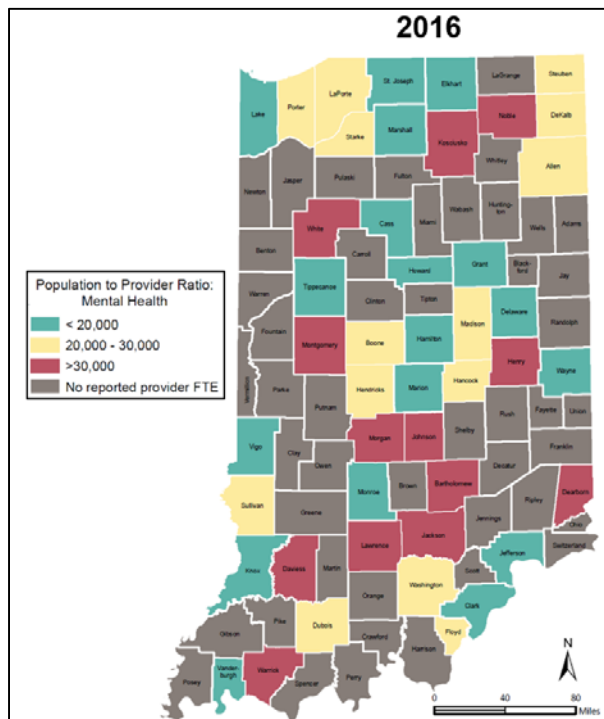
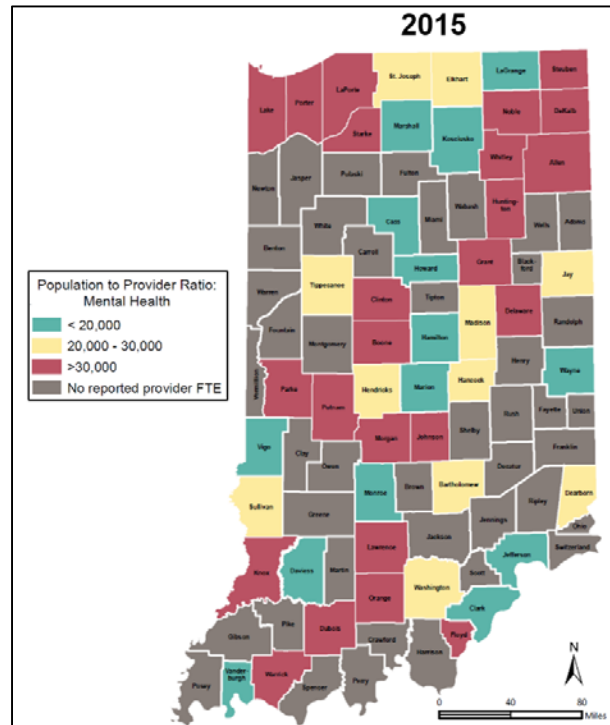
In 2015, Blackford County ranked highest in access to primary care with a population to provider ratio (PPR) of 1,470.8:1. However, Warrick County ranked highest in both 2016 and 2017 with PPRs of 785.5:1 and 811.1:1. By contrast, Benton and Switzerland counties have consistently ranked lowest with no reported primary care provider FTE in all three years. Crawford has also ranked low with no reported provider FTE in 2016 and 2017. Similarly, Union County had no reported provider FTE in 2016 but had a very high PPR in 2017 (72,990.0:1).



Mental Health

Limited access to mental health care has been a consistent issue between 2015 and 2017. The number of counties with no psychiatrist FTE has slightly increased from 43 in 2015 to 46 in 2017. The same is also true for the number of counties that have met the criteria for insufficient capacity (30,000:1).

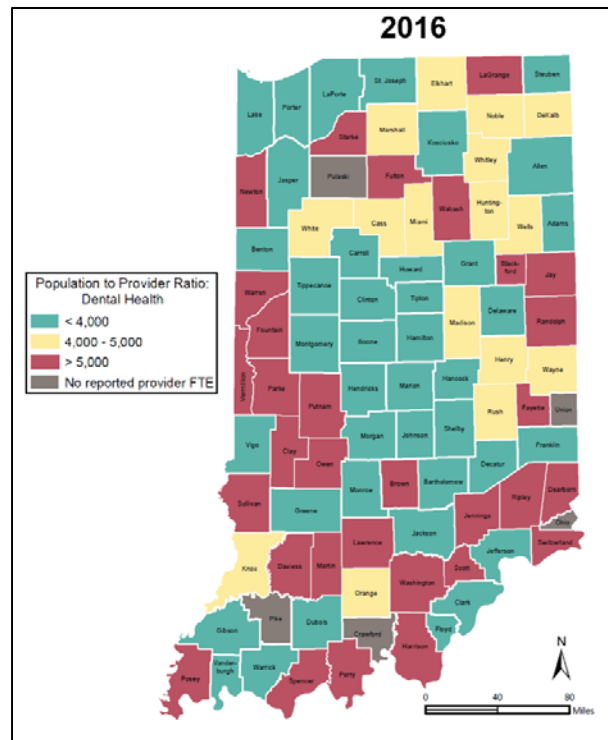
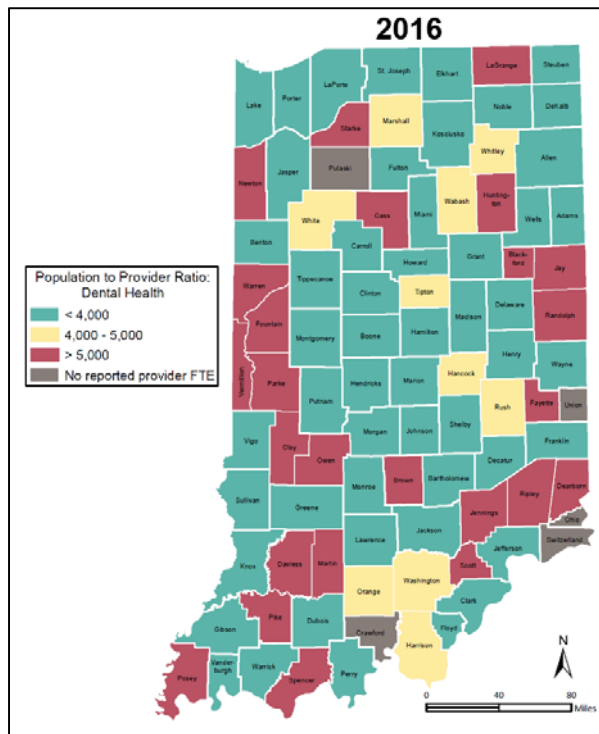
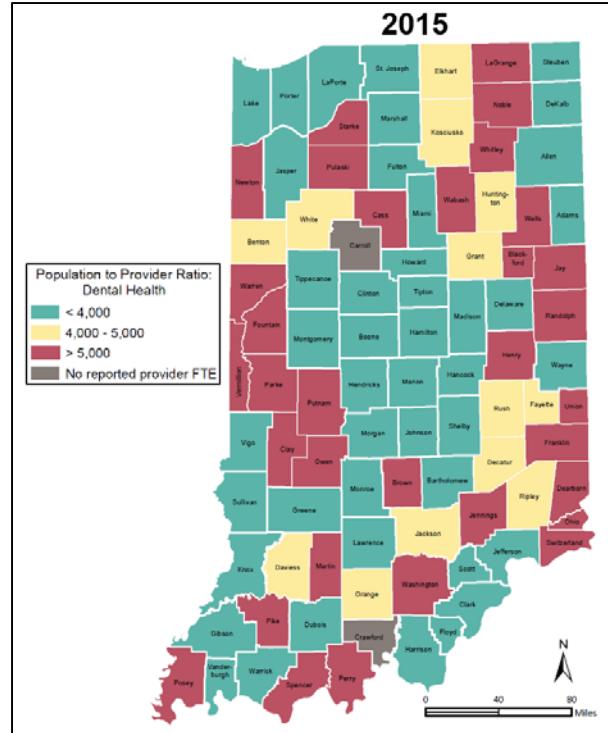
LaGrange County ranked highest in 2015 with a PPR of 1,660.2:1. However, Knox County ranked highest in 2016 and 2017, with PPRs of 7,449.9:1 and 10,572.8:1. For counties with low workforce capacity, LaPorte County had the highest PPR in 2015 (278,115.0:1) while Henry and Posey counties had the highest in 2016 and 2017, respectively (Henry: 229,805.0:1; Posey: 255,670.0:1).



Dental Health

As with primary care and mental health, very little change has been observed in the number of counties that meet the criteria for insufficient dental workforce capacity (4,000:1). The number of counties that have had no reported dentist FTE has increased from 2 in 2015 to 5 in 2016 and 2017. Note that the majority of counties with insufficient dental workforce capacity (highlighted in red) are rural. This points to significant and persistent dental workforce shortages among Indiana’s rural communities.

Floyd County ranked highest in access to dental care in both 2015 and 2016 (PPR: 1,454.0:1 in 2015 and 1,560.3:1 in 2016). However, Hamilton County ranked highest in 2017 with a PPR of 1,627.0:1. Regarding low provider capacity, Starke County had the highest PPR in 2015 (19,344.2:1) and 2016 (18,041.4:1), while Blackford County had the highest PPR in 2017 (25,991.7:1).



Risk Factors

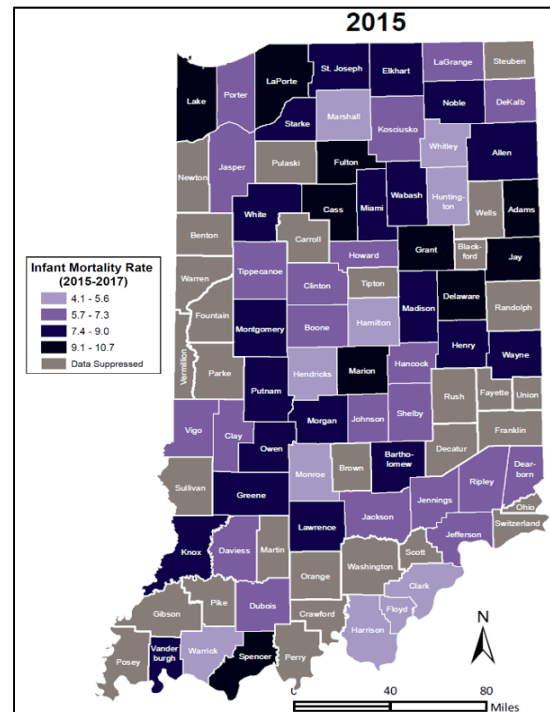
Two common risk factors that have been a priority for Indiana since 2015 are obesity and smoking. Hamilton County consistently ranked highest due to its low prevalence of obesity (around 23%). On the other hand, the number of counties with greater than 30% of their population being obese has grown from 65 in 2015 to 71 in 2017. In regards to smoking, Hamilton County has again ranked high with a steady low prevalence of 12.4%. However, the number of counties that have had a smoking prevalence between 20% and 30% has remained at 66. Only eight counties have had a smoking prevalence that is greater than 30%.

Beginning in 2016, Indiana has identified alcohol and substance abuse rates as factors of interest for the primary care needs assessment. In regards to substance abuse rates, Dubois County ranked highest in 2016 with the lowest rate of 10.62 per 10,000 ED visits while Wayne County ranked highest in 2017 with a low rate of 6.11 per 10,000 ED visits. On the other hand, Scott County, which has had a well-known battle with the opioid epidemic and an outbreak of HIV, had the lowest ranking for both years due to its high prevalence of substance abuse (184.8 per 10,000 ED visits in 2016 and 190.8 per 10,000 ED visits in 2017).

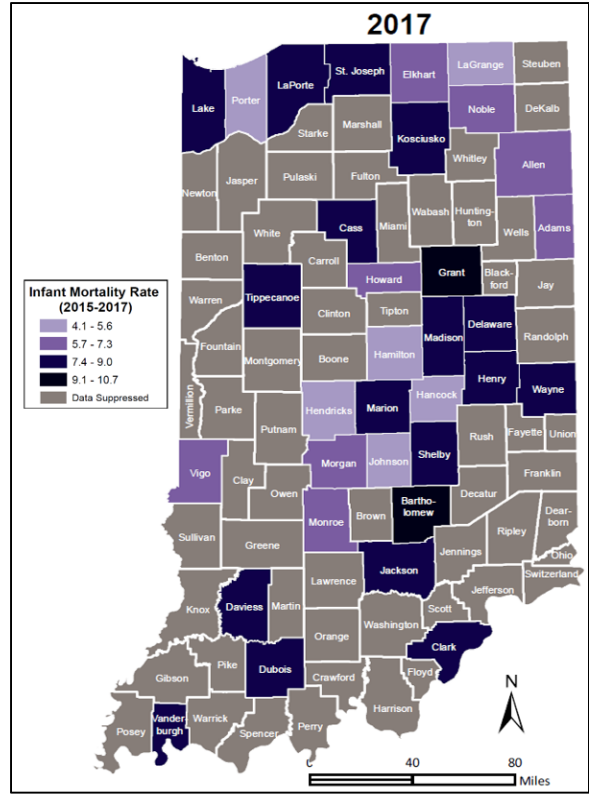
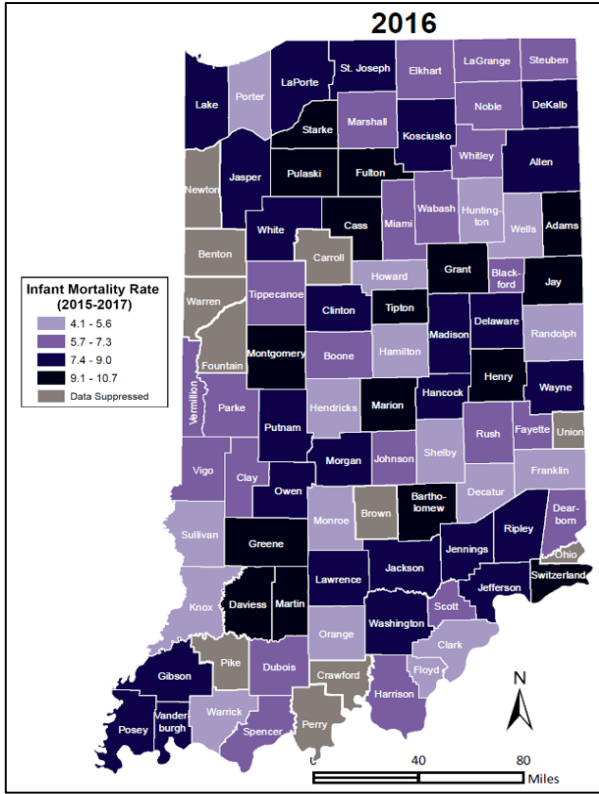
Regarding alcohol abuse, Dubois County ranked high in 2016 with the low alcohol rate of 9.21 per 10,000 ED visits. However, this changed in 2017 with Union and Brown counties (ranked second and third in 2016, respectively) having no reported alcohol abuse incidents in 2017. Vanderburgh County, on the other hand, had the highest alcohol abuse rate of for both 2016 and 2017 and thus ranked lowest in the state. Maps have not been produced for these factors due to changes in data sources and prevalence calculations between 2015 and 2017. For a display of substance abuse prevalence in 2017, please refer to the Qualitative Analysis section.

Health Outcomes

Infant mortality rate (IMR) has been a major priority for the state of Indiana for the last three years. Huntington County ranked highest in 2015 having the lowest IMR (4.4 infant deaths per 1,000 births) while Adams County ranked lowest with a high IMR that was over twice that of Huntington (10.2 infant deaths per 1,000 births). Hamilton County ranked highest in 2016 and 2017 with the lowest IMRs of 3.97 and 4.1, respectively. On the other hand, Switzerland County ranked lowest in 2016 having the highest IMR of 12.4 and Bartholomew County ranked lowest in 2017 with a high IMR of 10.7⁷. It is not possible to determine if the trends in infant mortality have improved due to the limited availability of IMR data and the variation in rates over time. However, this health outcome will continue to be monitored as Indiana implements initiatives to tackle this issue.



⁷ Data Source: Robert Wood Johnson Foundation, 2014; Indiana State Department of Health, Maternal and Child Health Epidemiology Division (2015). Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team, 2009-2013 and 2011-2015.



SECTION IV. COMMUNITY HEALTH NEEDS ASSESSMENT

Qualitative analysis: Key Informant Interviews

Purpose and Methods

Key informant interviews were conducted to contact administrators from community health centers that were interviewed in 2015 to identify changes in community health needs since the initial interview. Similar to the 2015 methods, responses were categorized into seven major areas. The protocol used for conducting the key informant interviews can be found in the technical appendix (Appendix G).

Six interviews were conducted with administrators at health clinics and community health centers around Indiana. These clinics and health centers were located in the following cities (number indicates the Indiana Public Health Preparedness Districts): Valparaiso (1), Fort Wayne (3), Lafayette (4), Muncie (6), Cayuga (7), and Evansville (10).

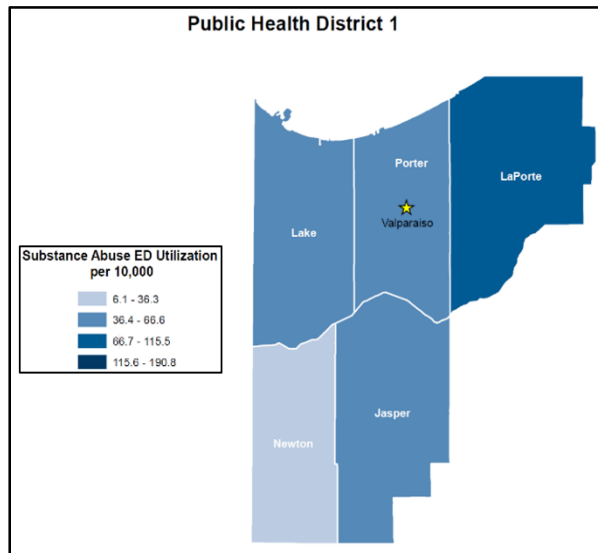
INDIANA PUBLIC HEALTH PREPAREDNESS DISTRICTS



Summary of Qualitative Analysis

After a review of key informant interviews, several themes stood out among health needs and significant health issues. Based on the information gathered, a list of preliminary health needs and health issues were identified by district. Maps of each district were created to depict the most common major health issue brought up by key informants: substance abuse⁸. District 3 and 4 did not mention substance abuse directly as a health issue but mentioned the need for mental health providers and mental illness as a significant health issue.

Major Health Issues by District

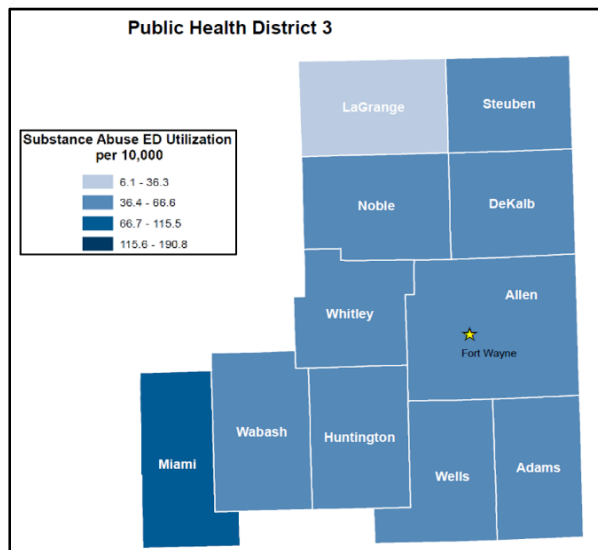


District 1: Valparaiso

- Access to transportation
- Behavioral health providers
- Family medicine
- Child psychologists
- Addiction specialists
- Bilingual providers
- Coordination among community partners

Significant Health Issues:

- Substance abuse



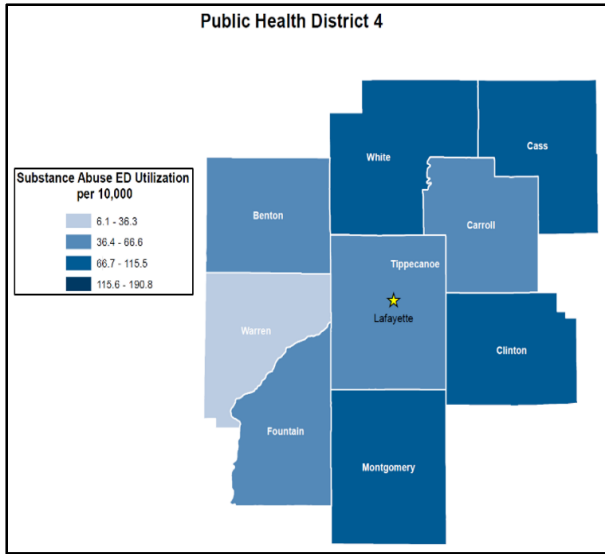
District 3: Fort Wayne

- Access to transportation
- Behavioral health providers
- Dentists
- Prenatal care
- Coordination among community partners

Significant Health Issues:

- Infant mortality
- Substance abuse
- Sexually transmitted diseases
- Substance abuse

⁸ Data Source: Indiana State Department of Health, Epidemiology Resource Center, 2015

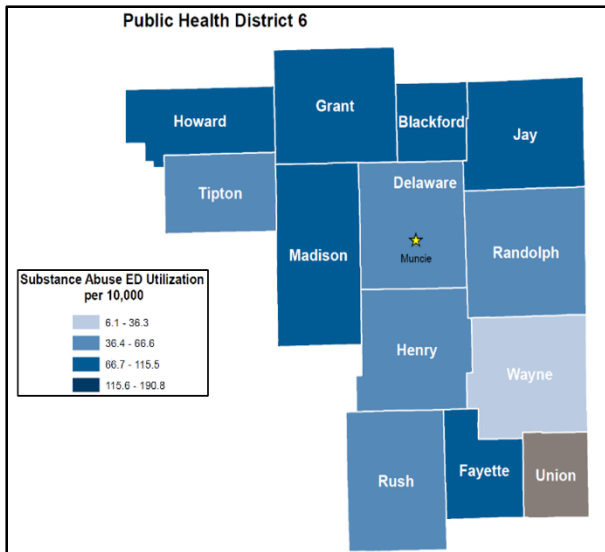


District 4: Lafayette

- Access to transportation
- Dentists
- Optometrist
- Behavioral health providers
- Coordination among community partners

Significant Health Issues:

- Diabetes
- Heart disease
- Obesity
- Mental illness

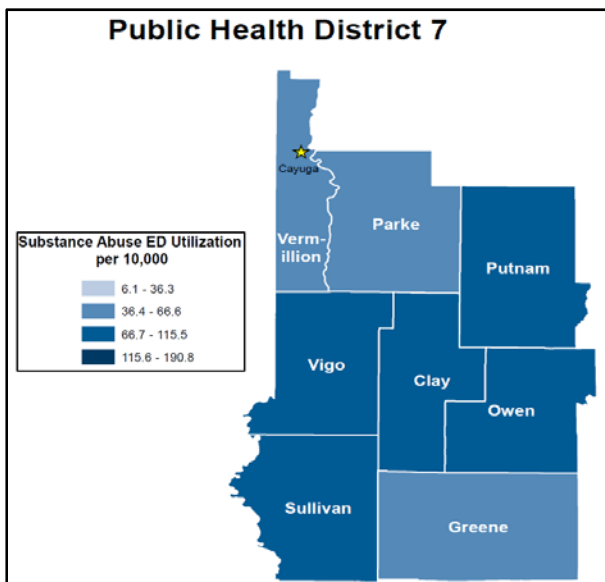


District 6: Muncie

- Access to transportation
- Behavioral health providers
- Bilingual Providers
- Dentists
- Coordination among community partners

Significant Health Issues:

- Heart disease
- Mental illness

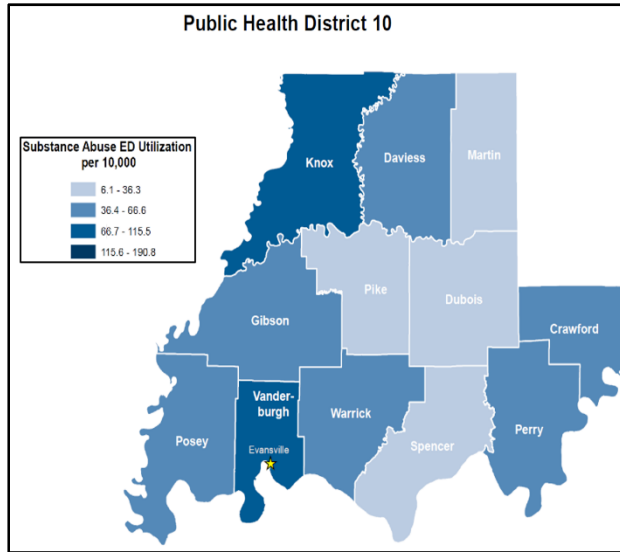


District 7: Cayuga

- Access to transportation
- Optometrist
- Behavioral health providers
- Coordination among community partners

Significant Health Issues:

- Diabetes
- Heart disease
- Substance abuse
- Mental illness



District 10: Evansville

- Expansion of health education and awareness
- Optometrist
- Pediatricians
- Specialists for uninsured-underinsured

Significant Health Issues:

- Diabetes
- Cancer
- Substance abuse
- Mental illness

Emerging Themes

- **Access to Care (Workforce Capacity)**

Overall, primary care providers are readily available to most residents. On the other hand, there are longer wait times and greater scarcity for mental and behavioral health providers. More resources are also needed for growing populations in need of substance abuse treatment. Dentists are also scarce, particularly among the Medicaid-covered population.

- **Insurance Status**

The uninsured and underinsured are more likely to not have a regular source of health care and seek primary care services at emergency rooms, local health clinics, FQHC's, urgent care, open door health services, and ambient care.

Medicaid recipients have especially limited access to dental services. It is unclear whether this is due to lack of incentives for dentists to provide Medicaid services or the administrative burden of dentists to participate in Medicaid programs.

- **Barriers to health care**

A major barrier that affects access to care is limited transportation options. It was noted by the majority of health care facilities that patients struggle getting to and from appointments because of poor access to transportation, including lack of private or public transportation and lack of knowledge regarding transportation alternatives.

Language barriers are another major issue. There is a need for more bilingual providers in specific areas of the state, with a primary need for Spanish speaking providers. Some clinics are able to use a translation line or have mentioned the future use of google translate glasses for provider use.

Another important barrier is patients' perception of health care. Lack of knowledge and awareness of resources preclude patients from receiving the best possible care within their service area. Patients' poor perception of health care delivered at FQHCs, compared to emergency rooms, impacts patients' willingness to utilize available services

- **Unmet needs**

Having to refer patients outside of the hospital network and community can become burdensome for doctors and patients. Overall, an increase in specialists are needed for the uninsured and underinsured populations. Several specialties that are lacking include optometrists, behavioral health providers, ultra sound techs, podiatrists, child psychologists, addiction specialists and dermatologists. Such specialists are needed to prevent patients from being referred outside of network. Furthermore, an increase in dentists and family medicine physicians is needed to increase capacity in primary care services.

- **Major health issues**

The top three major population health outcomes prevalent in service areas 2017 are substance abuse, mental illness, and diabetes. Other health issues of concern are heart disease, obesity, and cancer. Trends in the prevalence of these topics are covered in the quantitative analysis.

- **Successful Initiatives**

Programs in place that have improved access and quality of care are mobile units that offer wellness visits at various locations including retail store and schools, and ambulatory services that serve as a walk-in clinic.

Several grant funded projects are in the works around the state and are perceived to have a great impact on the counties service areas. For instance, the Safety PIN – Protecting Indiana’s Newborns grant awarded to Public Health Preparedness District #3 is Indiana’s newest infant mortality reduction initiative. This grant intends to improve access to care and quality of prenatal visits.

Another successful initiative found among providers are community health needs assessments, which help providers recognize where services are lacking in the community.

- **Areas in need of growth or improvement**

For patients:

- Expansion of public transportation and other means of transportation.
- Improvement in patient education, awareness of available resources, the importance of preventive care, and encouraging healthier lifestyle choices.
- Spread awareness of adverse health outcomes to instill a better understanding on the importance of health care services.

For practitioners and health administrators:

- There is an expressed need for a leader among health care workers who will step forward and create awareness of various health concerns.
- More focus on infant mortality, maternal and child health and expansion of CHIP.
- More coordination among community partners

Additional suggestions:

- There is a need for a strong political champion for underserved areas in the state.
- Increasing capital funding toward public health, and further direction from government, was also noted as needed change.

Changes in Community Health Needs: 2015 vs. 2017

Though health care needs are constantly changing, feedback from the 2017 key informant interviews was found to be very similar to what was analyzed in 2015. Limited access to health care was commonly identified as a continuing issue in many communities. Various types of providers needed in 2015 were still in demand, including behavioral health providers, dentists, optometrists, pediatricians, and allied health professionals. Additionally, it was indicated in 2017 interviews that transportation and language barriers were specific factors impacting access to care.

Regarding population health, many key issues have remained a top priority in the state. Chronic diseases such as diabetes, heart disease and obesity were major health concerns in 2015 and are still prevalent in 2017. Moreover, mental illness, substance abuse and infant mortality was a rising concern in 2015 and is now one of the top major concerns of 2017. On the other hand, sexually transmitted diseases were major health concerns for four districts in 2015, but only one district (PHPD #3) had reported this as a concern in 2017.

As for successful outcomes, key informants in 2015 identified successful initiatives that have addressed infant mortality and provided healthy food choices to school children. Such initiatives have continued in 2017, though key informants considered expansion of CHIP and focus on infant mortality areas in need of improvement. This will be crucial in the state's effort to improve outcomes in maternal and child health.

Finally, there is an ever growing need for a strong political champion in underserved areas of the state to step up and take on a leadership position and more coordination among community partners. Additionally, a need to expand health education and awareness of health care services and programs are essential to addressing many of the health issues identified in this needs assessment.

CLOSING SUMMARY

This report has summarized many of the efforts conducted under the Indiana Primary Care Needs Assessment project. With an ever changing climate in health care services and needs, it is important to accurately monitor these changes and utilize resources that will allow for a more proactive response to health care outcomes. Such efforts described in this report demonstrate the State of Indiana's mission to accomplish this goal.

The 2017 National Shortage Designation Update required Indiana to update or apply for many new HPSA designations. As a result of the Bowen Center's comprehensive provider verification and management protocol, Indiana has acquired more HPSA designations than ever before. Many of the designations approved in 2017 were for primary care and mental health disciplines, and very few designations had been impacted by this scheduled update. In this coming year, the Bowen center anticipates pursuing new dental HPSA designations, which are in great need around the state.

Results from our preliminary analysis of Indiana's workforce capacity between 2015 and 2017 indicate a growing need in expansion of the health care workforce. It was found that many counties in the state lack a psychiatrist as a source of mental health care, more so than dental and primary care providers. One particularly important finding from the HPSA analysis is Crawford County having consistently high HPSA scores across all disciplines and consistently lacking health care providers between 2015 and 2017. A geographic primary care HPSA designation was awarded to the county in 2017 with hopes of improving health care access in the community.

When projecting the amount of providers needed to meet sufficient capacity, the overall greatest need was for dentists, though majority of counties in Indiana have insufficient capacity of mental health providers. Expansion of mobile care clinics, residency programs, HPSA designation and other means of care may be the key to reaching sufficient capacity. Future implementation of health care initiatives across the state may also help with mental health care shortages.

Indiana's priorities in population health have changed in recent years. However, one of the consistent health concerns in Indiana is maternal health and infant mortality. In the past few years, many local and state-sponsored programs have been implemented to tackle this issue, however, progress has been incremental may take many years to show improvement⁹. Substance abuse, a health concern that has emerged in recent years, is another major priority for Indiana that has inspired program expansion for mental health services. For both health concerns, many social indicators may play a role in the prevalence of the health issue and should be taken into consideration when implementing new program initiatives.

In a follow-up to the 2015 qualitative analysis of six key informant interviews, community health needs were identified and further examined to help assess health care as a whole. Several themes and significant health issues stood out among each district. A primary theme was limited access to health care, which included lack of transportation and language barriers. Common significant health issues were substance abuse, mental illness, and heart disease. A popular suggestion brought up by key informants is the need for

⁹ Adams JM. Breastfeeding and Infant Mortality in Indiana: Changing the Culture and Saving Lives: A Model for Other States. *Breastfeed Med.* 2017;12 (8):456-8.

a strong health policy leader to take on an active role in the community. A leader is especially needed to address the ongoing opioid epidemic, maternal and child health and expansion of dental care throughout Indiana.

The Indiana Primary Care Needs Assessment project has shown to be effective in producing accurate and timely provider data, increasing approval of HPSA Designation applications, effective stakeholder engagement and more accurate identification of prevalent health indicators. At the same time, this ongoing evaluation has shown areas in which the Indiana must continue to improve to increase access to quality health care. It is the hope of the Indiana State Department of Health that communities are empowered to obtain the best resources and contribute to the mission to improve health outcomes among Hoosier residents.

SECTION V. TECHNICAL APPENDIX

APPENDIX A. Overutilization Status of Nearest Source of Primary Care

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Adams	Allen	291	239.6	354,586	1,479.9	No
	Jay	5	4.5	20,908	4,646.2	Yes
	Wells	17	13.6	27,093	1,992.1	No
Brown	Bartholomew	68	50.4	77,393	1,535.6	No
	Jackson	33	25.7	42,099	1,638.1	No
	Johnson	131	89.2	141,024	1,581.0	No
	Monroe	93	77.6	126,552	1,630.8	No
	Morgan	33	29.7	68,360	2,301.7	Yes
Carroll	Cass	21	19.5	37,781	1,937.5	No
	Clinton	11	8.5	32,185	3,786.5	Yes
	Howard	67	57.6	81,599	1,416.6	No
	Tippecanoe	132	89.3	164,040	1,837.0	No
	White	10	6.1	24,096	3,950.2	Yes
Clinton	Boone	60	37.2	58,616	1,575.7	No
	Carroll	2	2.0	19,833	9,916.5	Yes
	Hamilton	260	196.3	287,847	1,466.4	No
	Howard	67	57.6	81,599	1,416.6	No
	Montgomery	15	11.0	36,481	3,316.5	Yes
	Tippecanoe	132	89.3	164,040	1,837.0	No
Crawford	Tipton	6	6.0	15,484	2,580.7	Yes
	Dubois	29	26.3	41,308	1,570.6	No
	Harrison	19	15.6	38,746	2,483.7	Yes
	Orange	7	6.2	19,284	3,110.3	Yes
	Perry	8	7.3	17,646	2,417.3	Yes
Fountain	Washington	7	6.8	27,534	4,049.1	Yes
	Montgomery	15	11.0	36,481	3,316.5	Yes
	Parke	11	9.1	15,638	1,718.5	No
	Tippecanoe	132	89.3	164,040	1,837.0	No
	Vermillion	2	1.6	15,594	9,746.3	Yes
Greene	Warren	2	2.0	8,262	4,131.0	Yes
	Clay	8	6.3	26,338	4,180.6	Yes
	Daviess	15	12.7	31,553	2,484.5	Yes
	Knox	31	28.3	35,364	1,249.6	No
	Lawrence	23	18.3	45,006	2,459.3	Yes
	Martin	3	2.5	10,188	4,075.2	Yes
	Monroe	93	77.6	126,552	1,630.8	No
	Owen	5	3.7	20,978	5,669.7	Yes
Jay	Sullivan	10	8.2	19,012	2,318.5	Yes
	Adams	8	6.4	33,924	5,300.6	Yes
	Blackford	9	5.8	12,264	2,114.5	Yes
	Delaware	128	93.2	109,589	1,175.8	No
	Randolph	7	5.4	25,339	4,692.4	Yes
LaGrange	Wells	17	13.6	27,093	1,992.1	No
	DeKalb	21	17.1	41,783	2,443.5	Yes
	Elkhart	122	80.5	195,727	2,431.4	Yes
	Noble	14	12.0	46,446	3,870.5	Yes
Newton	Steuben	14	12.3	32,736	2,661.5	Yes
	Benton	2	0.0	8,659	n/a	Yes
	Jasper	15	10.1	32,438	3,211.7	Yes
Lake	Lake	382	272.0	487,336	1,791.7	No

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Noble	Allen	291	239.6	354,586	1,479.9	No
	DeKalb	21	17.1	41,783	2,443.5	Yes
	Elkhart	122	80.5	195,727	2,431.4	Yes
	Kosciusko	42	36.2	76,080	2,101.7	Yes
	Lagrange	11	9.1	37,317	4,100.8	Yes
	Steuben	14	12.3	32,736	2,661.5	Yes
	Whitley	18	12.9	32,762	2,539.7	Yes
Posey	Gibson	19	13.5	32,711	2,423.0	Yes
	Vanderburgh	184	153.1	173,822	1,135.3	No
Randolph	Delaware	128	93.2	109,589	1,175.8	No
	Henry	26	18.5	45,832	2,477.4	Yes
	Jay	5	4.5	20,908	4,646.2	Yes
	Wayne	52	45.6	65,750	1,441.9	No
Switzerland	Jefferson	24	24.0	30,183	1,257.6	No
	Ohio	2	2.0	5,934	2,967.0	Yes
	Ripley	12	6.9	28,097	4,072.0	Yes
Union	Fayette	15	15.0	23,473	1,564.9	No
	Franklin	19	16.9	22,885	1,354.1	No
	Wayne	52	45.6	65,750	1,441.9	No
Vermillion	Fountain	4	3.9	16,686	4,278.5	Yes
	Parke	11	9.1	15,638	1,718.5	No
	Vigo	108	77.4	98,788	1,276.3	No
	Warren	2	2.0	8,262	4,131.0	Yes
Warren	Benton	2	0.0	8,659	n/a	Yes
	Fountain	4	3.9	16,686	4,278.5	Yes
	Tippecanoe	132	89.3	164,040	1,837.0	No
	Vermillion	2	1.6	15,594	9,746.3	Yes
	Clark	64	50.4	110,632	2,195.1	Yes
	Crawford	1	0.0	10,527	n/a	No
	Floyd	51	40.0	74,228	1,855.7	No
	Harrison	19	15.6	38,746	2,483.7	Yes
	Jackson	33	25.7	42,099	1,638.1	No
	Lawrence	23	18.3	45,006	2,459.3	Yes
	Orange	7	6.2	19,284	3,110.3	Yes
Scott	10	8.5	23,425	2,755.9	Yes	

APPENDIX B. Overutilization Status of Nearest Source of Mental Health Care

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Allen	Adams	1	1.0	33,924	33,924.0	Yes
	DeKalb	2	2.0	41,783	20,891.5	Yes
	Huntington	n/a	n/a	n/a	n/a	Yes
	Noble	1	1.0	46,446	46,446.0	Yes
	Wells	n/a	n/a	n/a	n/a	Yes
	Whitley	n/a	n/a	n/a	n/a	Yes
Benton	Jasper	n/a	n/a	n/a	n/a	Yes
	Newton	n/a	n/a	n/a	n/a	Yes
	Tippecanoe	10	8.4	164,040	19,528.6	No
	Warren	n/a	n/a	n/a	n/a	Yes
	White	1	0.7	24,096	34,422.9	Yes
Blackford	Delaware	9	7.8	109,589	14,049.9	No
	Grant	5	4.7	63,935	13,603.2	No
	Jay	n/a	n/a	n/a	n/a	Yes
	Wells	n/a	n/a	n/a	n/a	Yes
Brown	Morgan	n/a	n/a	n/a	n/a	Yes
	Bartholomew	3	2.3	77,393	33,649.1	Yes
	Jackson	1	0.7	42,099	60,141.4	Yes
	Johnson	5	4.3	141,024	32,796.3	Yes
	Monroe	15	11.8	126,552	10,724.7	No
Carroll	Cass	4	1.8	37,781	20,989.4	Yes
	Clinton	n/a	n/a	n/a	n/a	Yes
	Howard	7	5.9	81,599	13,830.3	No
	Tippecanoe	10	8.4	164,040	19,528.6	No
	White	1	0.7	24,096	34,422.9	Yes
Clay	Greene	n/a	n/a	n/a	n/a	Yes
	Owen	n/a	n/a	n/a	n/a	Yes
	Parke	n/a	n/a	n/a	n/a	Yes
	Putnam	n/a	n/a	n/a	n/a	Yes
	Sullivan	1	0.9	19,012	21,124.4	Yes
	Vigo	11	10.0	98,788	9,878.8	No
Clinton	Carroll	n/a	n/a	n/a	n/a	Yes
	Boone	4	3.4	58,616	17,240.0	No
	Hamilton	19	13.0	287,847	22,142.1	Yes
	Howard	7	5.9	81,599	13,830.3	No
	Montgomery	1	1.0	36,481	36,481.0	Yes
	Tippecanoe	10	8.4	164,040	19,528.6	No
	Tipton	n/a	n/a	n/a	n/a	Yes
Crawford	Dubois	2	1.8	41,308	22,948.9	Yes
	Harrison	n/a	n/a	n/a	n/a	Yes
	Orange	1	1.0	19,284	19,284.0	No
	Perry	n/a	n/a	n/a	n/a	Yes
	Washington	1	1.0	27,534	27,534.0	Yes
Decatur	Bartholomew	3	2.3	77,393	33,649.1	Yes
	Franklin	n/a	n/a	n/a	n/a	Yes
	Jennings	n/a	n/a	n/a	n/a	Yes
	Ripley	n/a	n/a	n/a	n/a	Yes
	Rush	n/a	n/a	n/a	n/a	Yes
	Shelby	n/a	n/a	n/a	n/a	Yes

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Dubois	Daviess	1	1.0	31,553	31,553.0	Yes
	Crawford	n/a	n/a	n/a	n/a	Yes
	Martin	n/a	n/a	n/a	n/a	Yes
	Orange	1	1.0	19,284	19,284.0	No
	Perry	n/a	n/a	n/a	n/a	Yes
	Pike	n/a	n/a	n/a	n/a	Yes
	Spencer	n/a	n/a	n/a	n/a	Yes
	Warrick	1	0.7	59,254	84,648.6	Yes
Fayette	Henry	n/a	n/a	n/a	n/a	Yes
	Franklin	n/a	n/a	n/a	n/a	Yes
	Rush	n/a	n/a	n/a	n/a	Yes
	Union	n/a	n/a	n/a	n/a	Yes
	Wayne	10	7.1	65,750	9,260.6	No
Fountain	Montgomery	1	1.0	36,481	36,481.0	Yes
	Parke	n/a	n/a	n/a	n/a	Yes
	Tippecanoe	10	8.4	164,040	19,528.6	No
	Vermillion	n/a	n/a	n/a	n/a	Yes
	Warren	n/a	n/a	n/a	n/a	Yes
Franklin	Dearborn	2	1.2	49,033	40,860.8	Yes
	Decatur	n/a	n/a	n/a	n/a	Yes
	Fayette	n/a	n/a	n/a	n/a	Yes
	Ripley	n/a	n/a	n/a	n/a	Yes
	Rush	n/a	n/a	n/a	n/a	Yes
	Union	n/a	n/a	n/a	n/a	Yes
Fulton	Cass	4	1.8	37,781	20,989.4	Yes
	Kosciusko	3	1.7	76,080	44,752.9	Yes
	Marshall	1	1.0	46,261	46,261.0	Yes
	Miami	n/a	n/a	n/a	n/a	Yes
	Pulaski	n/a	n/a	n/a	n/a	Yes
	Starke	n/a	n/a	n/a	n/a	Yes
Gibson	Knox	4	3.6	35,364	9,823.3	No
	Pike	n/a	n/a	n/a	n/a	Yes
	Posey	n/a	n/a	n/a	n/a	Yes
	Vanderburgh	22	18.1	173,822	9,603.4	No
	Warrick	1	0.7	59,254	84,648.6	Yes
Greene	Clay	n/a	n/a	n/a	n/a	Yes
	Daviess	1	1.0	31,553	31,553.0	Yes
	Knox	4	3.6	35,364	9,823.3	No
	Lawrence	1	0.4	45,006	112,515.0	Yes
	Martin	n/a	n/a	n/a	n/a	Yes
	Monroe	15	11.8	126,552	10,724.7	No
	Owen	n/a	n/a	n/a	n/a	Yes
	Sullivan	1	0.9	19,012	21,124.4	Yes
Harrison	Crawford	n/a	n/a	n/a	n/a	Yes
	Floyd	3	2.9	74,228	25,595.9	Yes
	Washington	1	1.0	27,534	27,534.0	Yes
Henry	Delaware	9	7.8	109,589	14,049.9	No
	Fayette	n/a	n/a	n/a	n/a	Yes
	Hancock	4	2.9	70,005	24,139.7	Yes
	Madison	8	6.5	123,627	19,019.5	No
	Randolph	n/a	n/a	n/a	n/a	Yes
	Rush	n/a	n/a	n/a	n/a	Yes
	Wayne	10	7.1	65,750	9,260.6	No

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Huntington	Allen	21	14.6	354,586	24,286.7	Yes
	Grant	5	4.7	63,935	13,603.2	Yes
	Wabash	n/a	n/a	n/a	n/a	Yes
	Wells	n/a	n/a	n/a	n/a	Yes
	Whitley	n/a	n/a	n/a	n/a	Yes
Jackson	Bartholomew	3	2.3	77,393	33,649.1	Yes
	Brown	n/a	n/a	n/a	n/a	Yes
	Jennings	n/a	n/a	n/a	n/a	Yes
	Lawrence	1	0.4	45,006	112,515.0	Yes
	Monroe	15	11.8	126,552	10,724.7	No
	Scott	n/a	n/a	n/a	n/a	Yes
	Washington	1	1.0	27,534	27,534.0	Yes
Jasper	Benton	n/a	n/a	n/a	n/a	Yes
	Lake	34	30.0	487,336	16,244.5	No
	LaPorte	4	3.5	102,234	29,209.7	Yes
	Newton	n/a	n/a	n/a	n/a	Yes
	Porter	8	6.6	162,110	24,562.1	Yes
	Pulaski	n/a	n/a	n/a	n/a	Yes
	Starke	n/a	n/a	n/a	n/a	Yes
	White	1	0.7	24,096	34,422.9	Yes
Jay	Adams	1	1.0	33,924	33,924.0	Yes
	Blackford	n/a	n/a	n/a	n/a	Yes
	Delaware	9	7.8	109,589	14,049.9	No
	Randolph	n/a	n/a	n/a	n/a	Yes
	Wells	n/a	n/a	n/a	n/a	Yes
Jennings	Bartholomew	3	2.3	77,393	33,649.1	Yes
	Decatur	n/a	n/a	n/a	n/a	Yes
	Jackson	1	0.7	42,099	60,141.4	Yes
	Jefferson	2	1.6	30,183	18,864.4	No
	Ripley	n/a	n/a	n/a	n/a	Yes
	Scott	n/a	n/a	n/a	n/a	Yes
Johnson	Bartholomew	3	2.3	77,393	33,649.1	Yes
	Brown	n/a	n/a	n/a	n/a	Yes
	Marion	115	83.7	900,000	10,752.7	No
	Morgan	n/a	n/a	n/a	n/a	Yes
	Shelby	n/a	n/a	n/a	n/a	Yes
LaPorte	Jasper	n/a	n/a	n/a	n/a	Yes
	Porter	8	6.6	162,110	24,562.1	Yes
	St. Joseph	22	19.6	254,923	13,006.3	No
	Starke	n/a	n/a	n/a	n/a	Yes
Lawrence	Greene	n/a	n/a	n/a	n/a	Yes
	Jackson	1	0.7	42,099	60,141.4	Yes
	Martin	n/a	n/a	n/a	n/a	Yes
	Monroe	15	11.8	126,552	10,724.7	No
	Orange	1	1.0	19,284	19,284.0	No
	Washington	1	1.0	27,534	27,534.0	Yes
Martin	Daviess	n/a	n/a	n/a	n/a	Yes
	Dubois	2	1.8	41,308	22,948.9	Yes
	Greene	n/a	n/a	n/a	n/a	Yes
	Lawrence	1	0.4	45,006	112,515.0	Yes
	Orange	1	1.0	19,284	19,284.0	No
Miami	Cass	4	1.8	37,781	20,989.4	Yes
	Fulton	n/a	n/a	n/a	n/a	Yes
	Grant	5	4.7	63,935	13,603.2	No
	Howard	7	5.9	81,599	13,830.3	No
	Wabash	n/a	n/a	n/a	n/a	Yes

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Montgomery	Boone	4	3.4	58,616	17,240.0	No
	Clinton	n/a	n/a	n/a	n/a	Yes
	Fountain	n/a	n/a	n/a	n/a	Yes
	Hendricks	8	5.3	147,705	27,868.9	Yes
	Parke	n/a	n/a	n/a	n/a	Yes
	Putnam	n/a	n/a	n/a	n/a	Yes
	Tippecanoe	10	8.4	164,040	19,528.6	No
Morgan	Brown	n/a	n/a	n/a	n/a	Yes
	Hendricks	8	5.3	147,705	27,868.9	Yes
	Johnson	5	4.3	141,024	32,796.3	Yes
	Marion	115	83.7	900,000	10,752.7	No
	Monroe	15	11.8	126,552	10,724.7	No
	Owen	n/a	n/a	n/a	n/a	Yes
	Putnam	n/a	n/a	n/a	n/a	Yes
Newton	Benton	n/a	n/a	n/a	n/a	Yes
	Jasper	n/a	n/a	n/a	n/a	Yes
	Lake	34	30.0	487,336	16,244.5	No
Noble	Allen	21	14.6	354,586	24,286.7	Yes
	DeKalb	2	2.0	41,783	20,891.5	Yes
	Elkhart	12	11.0	195,727	17,793.4	No
	Kosciusko	3	1.7	76,080	44,752.9	Yes
	LaPorte	4	3.5	102,234	29,209.7	Yes
	Steuben	1	0.8	32,736	40,920.0	Yes
	Whitley	n/a	n/a	n/a	n/a	Yes
Ohio	Dearborn	2	1.2	49,033	40,860.8	Yes
	Switzerland	n/a	n/a	n/a	n/a	Yes
Orange	Crawford	n/a	n/a	n/a	n/a	Yes
	Dubois	2	1.8	41,308	22,948.9	Yes
	Lawrence	1	0.4	45,006	112,515.0	Yes
	Martin	n/a	n/a	n/a	n/a	Yes
	Washington	1	1.0	27,534	27,534.0	Yes
Owen	Clay	n/a	n/a	n/a	n/a	Yes
	Greene	n/a	n/a	n/a	n/a	Yes
	Monroe	15	11.8	126,552	10,724.7	No
	Morgan	n/a	n/a	n/a	n/a	Yes
	Putnam	n/a	n/a	n/a	n/a	Yes
Parke	Clay	n/a	n/a	n/a	n/a	Yes
	Fountain	n/a	n/a	n/a	n/a	Yes
	Montgomery	1	1.0	36,481	36,481.0	Yes
	Putnam	n/a	n/a	n/a	n/a	Yes
	Vermillion	n/a	n/a	n/a	n/a	Yes
	Vigo	11	10.0	98,788	9,878.8	No
Perry	Crawford	n/a	n/a	n/a	n/a	Yes
	Dubois	2	1.8	41,308	22,948.9	Yes
	Spencer	n/a	n/a	n/a	n/a	Yes
Pike	Daviess	1	1.0	31,553	31,553.0	Yes
	Dubois	2	1.8	41,308	22,948.9	Yes
	Gibson	n/a	n/a	n/a	n/a	Yes
	Knox	4	3.6	35,364	9,823.3	No
	Warrick	1	0.7	59,254	84,648.6	Yes
Posey	Gibson	n/a	n/a	n/a	n/a	Yes
	Vanderburgh	22	18.1	173,822	9,603.4	No

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Pulaski	Cass	4	1.8	37,781	20,989.4	Yes
	Fulton	n/a	n/a	n/a	n/a	Yes
	Jasper	n/a	n/a	n/a	n/a	Yes
	Marshall	1	1.0	46,261	46,261.0	Yes
	Starke	n/a	n/a	n/a	n/a	Yes
	White	1	0.7	24,096	34,422.9	Yes
Putnam	Clay	n/a	n/a	n/a	n/a	Yes
	Hendricks	8	5.3	147,705	27,868.9	Yes
	Montgomery	1	1.0	36,481	36,481.0	Yes
	Morgan	n/a	n/a	n/a	n/a	Yes
	Owen	n/a	n/a	n/a	n/a	Yes
	Parke	n/a	n/a	n/a	n/a	Yes
Randolph	Delaware	9	7.8	109,589	14,049.9	No
	Henry	n/a	n/a	n/a	n/a	Yes
	Jay	n/a	n/a	n/a	n/a	Yes
	Wayne	10	7.1	65,750	9,260.6	No
Ripley	Dearborn	2	1.2	49,033	40,860.8	Yes
	Decatur	n/a	n/a	n/a	n/a	Yes
	Franklin	n/a	n/a	n/a	n/a	Yes
	Jefferson	2	1.6	30,183	18,864.4	No
	Jennings	n/a	n/a	n/a	n/a	Yes
	Ohio	n/a	n/a	n/a	n/a	Yes
	Switzerland	n/a	n/a	n/a	n/a	Yes
Rush	Decatur	n/a	n/a	n/a	n/a	Yes
	Fayette	n/a	n/a	n/a	n/a	Yes
	Franklin	n/a	n/a	n/a	n/a	Yes
	Hancock	4	2.9	70,005	24,139.7	Yes
	Henry	n/a	n/a	n/a	n/a	Yes
	Shelby	n/a	n/a	n/a	n/a	Yes
Scott	Clark	14	10.3	110,632	10,741.0	No
	Jackson	1	0.7	42,099	60,141.4	Yes
	Jefferson	2	1.6	30,183	18,864.4	Yes
	Jennings	n/a	n/a	n/a	n/a	Yes
	Washington	1	1.0	27,534	27,534.0	Yes
Shelby	Bartholomew	3	2.3	77,393	33,649.1	Yes
	Decatur	n/a	n/a	n/a	n/a	Yes
	Hancock	4	2.9	70,005	24,139.7	Yes
	Johnson	5	4.3	141,024	32,796.3	Yes
	Marion	115	83.7	900,000	10,752.7	No
	Rush	n/a	n/a	n/a	n/a	Yes
Starke	Fulton	n/a	n/a	n/a	n/a	Yes
	Jasper	n/a	n/a	n/a	n/a	Yes
	LaPorte	4	3.5	102,234	29,209.7	Yes
	Marshall	1	1.0	46,261	46,261.0	Yes
	Porter	8	6.6	162,110	24,562.1	Yes
	Pulaski	n/a	n/a	n/a	n/a	Yes
	St. Joseph	22	19.6	254,923	13,006.3	No
Steuben	DeKalb	2	2.0	41,783	20,891.5	Yes
	Lagrange	n/a	n/a	n/a	n/a	Yes
	Noble	1	1.0	46,446	46,446.0	Yes
Switzerland	Jefferson	2	1.6	30,183	18,864.4	No
	Ohio	n/a	n/a	n/a	n/a	Yes
	Ripley	n/a	n/a	n/a	n/a	Yes

County	Contiguous County	Provider Count	FTE	Population	Population to Provider Ratio	Over Utilized
Tipton	Clinton	n/a	n/a	n/a	n/a	Yes
	Grant	5	4.7	63,935	13,603.2	No
	Hamilton	19	13.0	287,847	22,142.1	Yes
	Howard	7	5.9	81,599	13,830.3	No
	Madison	8	6.5	123,627	19,019.5	No
Union	Fayette	n/a	n/a	n/a	n/a	Yes
	Franklin	n/a	n/a	n/a	n/a	Yes
	Wayne	10	7.1	65,750	9,260.6	No
Vermillion	Fountain	n/a	n/a	n/a	n/a	Yes
	Parke	n/a	n/a	n/a	n/a	Yes
	Vigo	11	10.0	98,788	9,878.8	No
	Warren	n/a	n/a	n/a	n/a	Yes
Wabash	Fulton	n/a	n/a	n/a	n/a	Yes
	Grant	5	4.7	63,935	13,603.2	No
	Huntington	n/a	n/a	n/a	n/a	Yes
	Kosciusko	3	1.7	76,080	44,752.9	Yes
	Miami	n/a	n/a	n/a	n/a	Yes
	Whitley	n/a	n/a	n/a	n/a	Yes
Warren	Benton	n/a	n/a	n/a	n/a	Yes
	Fountain	n/a	n/a	n/a	n/a	Yes
	Tippecanoe	10	8.4	164,040	19,528.6	No
	Vermillion	n/a	n/a	n/a	n/a	Yes
Warrick	Dubois	2	1.8	41,308	22,948.9	Yes
	Gibson	n/a	n/a	n/a	n/a	Yes
	Pike	n/a	n/a	n/a	n/a	Yes
	Spencer	n/a	n/a	n/a	n/a	Yes
	Vanderburgh	22	18.1	173,822	9,603.4	No
Wells	Adams	1	1.0	33,924	33,924.0	Yes
	Allen	21	14.6	354,586	24,286.7	Yes
	Blackford	n/a	n/a	n/a	n/a	Yes
	Grant	5	4.7	63,935	13,603.2	No
	Huntington	n/a	n/a	n/a	n/a	Yes
	Jay	n/a	n/a	n/a	n/a	Yes
White	Benton	n/a	n/a	n/a	n/a	Yes
	Carroll	n/a	n/a	n/a	n/a	Yes
	Cass	4	1.8	37,781	20,989.4	Yes
	Jasper	n/a	n/a	n/a	n/a	Yes
	Pulaski	n/a	n/a	n/a	n/a	Yes
	Tippecanoe	10	8.4	164,040	19,528.6	No
Whitley	Allen	21	14.6	354,586	24,286.7	Yes
	Huntington	n/a	n/a	n/a	n/a	Yes
	Kosciusko	3	1.7	76,080	44,752.9	Yes
	Noble	1	1.0	46,446	46,446.0	Yes
	Wabash	n/a	n/a	n/a	n/a	Yes

APPENDIX C. Overutilization Rate for Nearest Source of Dental Care

County	Contiguous County	Head Count	FTE	Population	Population to Provider Ratio	Over Utilized
Blackford	Wells	6	5.2	27,093	5,210.2	Yes
	Jay	4	3.3	20,908	6,335.8	Yes
	Delaware	46	37.1	109,589	2,953.9	Yes
	Grant	18	14.2	63,935	4,502.5	Yes
Brown	Morgan	23	18.3	68,360	3,735.5	Yes
	Johnson	62	47.3	141,024	2,981.5	No
	Bartholomew	31	26.1	77,393	2,965.2	No
	Jackson	11	8.9	42,099	4,730.2	Yes
	Monroe	41	32.3	126,552	3,918.0	Yes
Cass	Pulaski	n/a	n/a	n/a	n/a	Yes
	Fulton	6	4.2	20,409	4,859.3	Yes
	Miami	10	8.2	34,227	4,174.0	Yes
	Howard	38	27.7	81,599	2,945.8	No
	Carroll	3	2.6	19,833	7,628.1	Yes
	White	7	5.6	24,096	4,302.9	Yes
Clay	Parke	3	2.2	15,638	7,108.2	Yes
	Putnam	11	8.5	32,059	3,771.6	Yes
	Owen	2	1.6	20,978	13,111.3	Yes
	Greene	10	8.2	32,565	3,971.3	Yes
	Sullivan	6	5.5	19,012	3,456.7	Yes
	Vigo	36	29.1	98,788	3,394.8	Yes
Crawford	Orange	5	3.7	19,284	5,211.9	Yes
	Washington	4	3.4	27,534	8,098.2	Yes
	Harrison	8	5.9	38,746	6,567.1	Yes
	Dubois	18	13.9	41,308	2,971.8	No
	Perry	6	4.9	17,646	3,601.2	Yes
Dearborn	Franklin	8	6.2	22,885	3,691.1	Yes
	Ripley	6	4.7	28,097	5,978.1	Yes
	Ohio	n/a	n/a	5,934	n/a	Yes
Fountain	Warren	1	0.8	8,262	10,327.5	Yes
	Tippecanoe	60	46.8	164,040	3,505.1	Yes
	Montgomery	12	9.8	36,481	3,722.6	Yes
	Parke	3	2.2	15,638	7,108.2	Yes
	Vermillion	2	1.8	15,594	8,663.3	Yes
Jay	Adams	11	7.2	33,924	4,711.7	Yes
	Wells	6	5.2	27,093	5,210.2	Yes
	Blackford	2	1.8	12,264	6,813.3	Yes
	Delaware	46	37.1	109,589	2,953.9	No
	Randolph	1	1.0	25,339	25,339.0	Yes
Jennings	Bartholomew	31	26.1	77,393	2,965.2	Yes
	Decatur	9	7.4	25,704	3,473.5	Yes
	Ripley	6	4.7	28,097	5,978.1	Yes
	Jefferson	13	10.7	30,183	2,820.8	Yes
	Scott	6	4.8	23,425	4,880.2	Yes
LaGrange	Jackson	11	8.9	42,099	4,730.2	Yes
	Elkhart	45	35.5	195,727	5,513.4	Yes
	Noble	10	8.4	46,446	5,529.3	Yes
	DeKalb	10	7.7	41,783	5,426.4	Yes
Newton	Steuben	12	8.6	32,736	3,806.5	Yes
	Lake	174	129.4	487,336	3,766.1	Yes
	Jasper	8	7.1	32,438	4,568.7	Yes
	Benton	3	2.3	8,659	3,764.8	Yes

County	Contiguous County	Head Count	FTE	Population	Population to Provider Ratio	Over Utilized
Ohio	Dearborn	5	3.5	49,033	14,009.4	Yes
	Ripley	6	4.7	28,097	5,978.1	Yes
	Switzerland	1	1.0	10,366	10,366.0	Yes
Owen	Putnam	11	8.5	32,059	3,771.6	Yes
	Morgan	23	18.3	68,360	3,735.5	Yes
	Monroe	41	32.3	126,552	3,918.0	Yes
	Greene	10	8.2	32,565	3,971.3	Yes
	Clay	3	2.4	26,338	10,974.2	Yes
Parke	Fountain	3	2.8	16,686	5,959.3	Yes
	Montgomery	12	9.8	36,481	3,722.6	Yes
	Putnam	11	8.5	32,059	3,771.6	Yes
	Clay	3	2.4	26,338	10,974.2	Yes
	Vigo	36	29.1	98,788	3,394.8	Yes
	Vermillion	2	1.8	15,594	8,663.3	Yes
Pike	Knox	14	10.0	35,364	3,536.4	Yes
	Daviess	7	5.3	31,553	5,953.4	Yes
	Dubois	18	13.9	41,308	2,971.8	No
	Warrick	17	13.4	59,254	4,421.9	Yes
	Gibson	15	10.9	32,711	3,001.0	Yes
Posey	Gibson	15	10.9	32,711	3,001.0	Yes
	Vanderburgh	73	58.0	173,822	2,996.9	No
Pulaski	Starke	1	0.8	23,096	28,870.0	Yes
	Marshall	12	8.4	46,261	5,507.3	Yes
	Fulton	6	4.2	20,409	4,859.3	Yes
	Cass	6	5.1	37,781	7,408.0	Yes
	White	7	5.6	24,096	4,302.9	Yes
	Jasper	8	7.1	32,438	4,568.7	Yes
Randolph	Jay	4	3.3	20,908	6,335.8	Yes
	Delaware	46	37.1	109,589	2,953.9	No
	Henry	14	9.3	45,832	4,928.2	Yes
	Wayne	21	16.7	65,750	3,937.1	Yes
Switzerland	Jefferson	13	10.7	30,183	2,820.8	No
	Ripley	6	4.7	28,097	5,978.1	Yes
	Ohio	n/a	n/a	5,934	n/a	Yes
Union	Wayne	21	16.7	65,750	3,937.1	Yes
	Fayette	4	2.9	23,473	8,094.1	Yes
	Franklin	8	6.2	22,885	3,691.1	Yes
Vermillion	Warren	1	0.8	8,262	10,327.5	Yes
	Fountain	3	2.8	16,686	5,959.3	Yes
	Parke	3	2.2	15,638	7,108.2	Yes
	Vigo	36	29.1	98,788	3,394.8	Yes
Warren	Benton	3	2.3	8,659	3,764.8	Yes
	Tippecanoe	60	46.8	164,040	3,505.1	Yes
	Fountain	3	2.8	16,686	5,959.3	Yes
	Vermillion	2	1.8	15,594	8,663.3	Yes

APPENDIX D. 2015 Health Rankings Summary

County	FIPS	Rurality	Population	SOCIO-ECONOMIC									ACCESS TO CARE								
				% Below 100% FPL			% Below 200% FPL			Primary Care			Mental Health			Dental Health					
				%	Z-Score	Rank	%	Z-Score	Rank	Pop to PC FTE	Z-Score	Rank	Pop to MH FTE	Z-Score	Rank	Pop to DH FTE	Z-Score	Rank			
Adams	1	Rural	34,365	18.1	1.053	55	40.01	0.905	77	4,190.9	-0.191	62	—	—	50	3,369.1	-0.538	31			
Allen	3	Urban	360,412	15.8	0.441	45	33.36	-0.108	39	3,413.0	-0.196	47	30,543.4	-0.348	27	2,632.2	-0.751	10			
Bartholomew	5	Urban	79,129	11.8	-0.623	20	28.71	-0.815	19	2,381.0	-0.201	15	23,273.2	-0.463	21	2,673.3	-0.739	13			
Benton	7	Urban	8,804	11.3	-0.756	17	32.49	-0.240	34	—	—	90	—	—	50	4,402.0	-0.239	50			
Blackford	9	Rural	12,502	14.9	0.202	38	37.64	0.544	65	1,470.8	-0.206	1	—	—	50	5,209.2	-0.005	59			
Boone	11	Urban	58,944	6.6	-2.007	3	19.23	-2.258	3	2,562.8	-0.200	24	147,360.0	1.515	44	2,413.3	-0.814	6			
Brown	13	Urban	15,083	13.7	-0.118	32	31.97	-0.320	31	4,713.4	-0.188	67	—	—	50	18,853.8	3.944	89			
Carroll	15	Urban	20,095	10.7	-0.916	13	29.96	-0.625	23	—	—	90	—	—	50	—	—	91			
Cass	17	Rural	38,581	15.6	0.388	43	40.01	0.905	78	2,679.2	-0.200	28	7,144.6	-0.721	3	9,186.0	1.146	82			
Clark	19	Urban	111,951	12.8	-0.357	26	30.56	-0.533	24	2,476.8	-0.201	19	8,220.3	-0.678	5	2,923.0	-0.667	21			
Clay	21	Urban	75,837	15.6	0.388	43	34.10	0.005	42	4,328.5	-0.190	64	—	—	50	8,945.7	1.076	81			
Clinton	23	Rural	33,022	13.8	-0.091	33	35.92	0.282	52	5,159.7	-0.186	71	41,277.5	-0.176	34	3,839.8	-0.402	42			
Crawford	25	Rural	10,665	18.9	1.266	59	41.79	1.175	84	5,332.5	-0.185	76	—	—	50	—	—	91			
Davess	27	Rural	32,064	15.5	0.361	42	37.40	0.507	64	2,290.3	-0.202	12	14,574.5	-0.602	10	4,275.2	-0.276	47			
Dearborn	29	Urban	49,831	9.5	-1.235	7	25.72	-1.270	13	2,442.7	-0.201	16	22,650.5	-0.473	19	7,437.5	0.640	75			
Decatur	31	Rural	26,042	15.0	0.228	39	37.02	0.449	61	3,945.8	-0.193	55	—	—	50	4,006.5	-0.353	45			
DeKalb	33	Rural	42,321	12.8	-0.357	26	35.53	0.223	48	3,066.0	-0.197	37	211,605.0	2.539	47	3,955.2	-0.368	43			
Delaware	35	Urban	117,364	22.4	2.197	66	42.93	1.349	87	2,230.0	-0.202	8	34,518.8	-0.284	29	2,503.8	-0.788	8			
Dubois	37	Rural	42,071	8.5	-1.501	5	22.98	-1.688	4	2,804.7	-0.199	32	35,059.2	-0.276	31	2,679.7	-0.737	14			
Elkhart	39	Urban	199,619	15.2	0.281	40	38.52	0.677	67	3,647.2	-0.194	51	20,793.6	-0.503	16	4,418.8	-0.234	51			
Fayette	41	Rural	24,029	17.2	0.814	53	46.34	1.868	92	2,556.3	-0.200	22	—	—	50	4,021.6	-0.349	46			
Floyd	43	Urban	75,283	13.4	-0.198	30	27.22	-1.042	16	2,560.6	-0.200	23	37,641.5	-0.234	32	1,454.0	-1.092	1			
Fountain	45	Rural	17,119	12.3	-0.490	22	33.16	-0.139	38	5,706.3	-0.183	80	—	—	50	10,070.0	1.402	84			
Franklin	47	Rural	22,969	12.5	-0.437	23	33.14	-0.141	37	3,960.2	-0.192	57	—	—	50	6,207.8	0.284	66			
Fulton	49	Rural	20,737	15.5	0.361	42	40.37	0.959	80	3,049.6	-0.198	36	—	—	50	3,456.2	-0.513	34			
Gibson	51	Rural	33,458	11.6	-0.676	19	29.33	-0.721	20	2,323.5	-0.202	13	—	—	50	3,112.4	-0.612	26			
Grant	53	Rural	69,330	18.7	1.213	58	40.08	0.915	79	5,682.8	-0.183	79	34,665.0	-0.282	30	4,306.2	-0.267	48			
Greene	55	Rural	32,940	15.9	0.468	46	35.67	0.244	50	6,100.0	-0.180	82	—	—	50	3,431.3	-0.520	33			
Hamilton	57	Urban	289,495	4.7	-2.512	1	13.66	-3.106	1	2,079.7	-0.203	6	13,809.5	-0.630	7	1,996.9	-0.935	4			
Hancock	59	Urban	70,933	7.3	-1.821	4	23.24	-1.648	6	1,992.5	-0.203	5	23,644.3	-0.458	22	3,793.2	-0.415	39			
Harrison	61	Urban	39,134	11.4	-0.730	18	27.27	-1.035	17	2,626.4	-0.200	25	—	—	50	2,987.3	-0.648	23			
Hendricks	63	Urban	150,434	5.7	-2.246	2	17.83	-2.472	2	2,657.8	-0.200	26	26,863.2	-0.406	24	2,634.6	-0.750	11			
Henry	65	Rural	49,345	15.6	0.388	43	37.07	0.457	62	2,517.6	-0.201	20	—	—	50	5,513.4	0.083	64			
Howard	67	Urban	82,849	17.2	0.814	53	36.29	0.338	56	2,081.6	-0.203	7	19,726.0	-0.520	14	1,955.1	-0.947	2			
Huntington	69	Rural	36,987	11.6	-0.676	19	33.58	-0.074	40	5,779.2	-0.182	81	61,645.0	0.148	38	4,483.3	-0.215	53			
Jackson	71	Rural	43,083	12.7	-0.384	25	34.94	0.133	44	3,531.4	-0.195	49	—	—	50	4,708.5	-0.150	56			
Jasper	73	Urban	33,456	10.2	-1.049	11	25.03	-1.375	11	3,280.0	-0.196	42	—	—	50	3,485.0	-0.504	35			
Jay	75	Rural	21,366	14.2	0.015	36	39.91	0.889	74	5,341.5	-0.185	77	26,707.5	-0.409	23	7,630.7	0.696	76			
Jefferson	77	Rural	32,554	15.7	0.414	44	37.31	0.493	63	2,713.3	-0.202	86	—	—	50	2,288.5	-0.851	5			
Jennings	79	Rural	28,161	15.7	0.414	44	39.84	0.878	73	3,352.5	-0.196	44	—	—	50	7,084.5	0.538	72			
Johnson	81	Urban	143,191	9.6	-1.209	8	23.48	-1.610	7	4,044.9	-0.192	59	65,086.8	0.203	40	4,249.0	-0.810	7			
Knox	83	Rural	38,122	15.9	0.468	46	38.21	0.631	66	3,596.4	-0.194	50	63,536.7	0.178	39	3,163.7	-0.597	27			
Kosciusko	85	Rural	77,609	11.4	-0.730	18	32.91	-0.176	36	3,207.0	-0.197	40	19,403.3	-0.525	13	4,538.5	-0.199	55			
LaGrange	87	Rural	37,521	12.9	-0.331	27	45.39	1.723	89	5,211.3	-0.185	73	1,660.2	-0.808	1	7,696.6	0.715	77			
Lake	89	Urban	493,618	19.6	1.452	60	36.18	0.322	55	2,763.8	-0.199	31	107,308.3	0.876	43	2,760.7	-0.714	17			
LaPorte	91	Urban	111,246	17.1	0.787	52	35.07	0.152	46	3,330.7	-0.196	43	278,115.0	3.600	49	3,035.4	-0.634	24			
Lawrence	93	Rural	46,078	17.0	0.760	51	38.98	0.748	70	5,619.3	-0.183	78	76,796.7	0.390	41	3,517.4	-0.495	37			
Madison	95	Urban	130,348	15.9	0.468	46	34.91	0.328	43	2,232.0	-0.202	9	20,366.9	-0.210	15	2,871.1	-0.682	18			
Marion	97	Urban	918,977	21.6	1.984	64	41.12	1.073	92	2,893.5	-0.204	4	13,053.7	-0.626	8	1,972.5	-0.942	3			
Marshall	99	Rural	47,024	12.6	-0.410	24	35.97	0.289	53	2,671.8	-0.200	27	13,062.2	-0.626	9	3,731.9	-0.578	28			
Martin	101	Rural	10,260	12.8	-0.357	26	31.18	-0.440	26	2,206.3	-0.197	39	—	—	50	8,500.0	0.962	80			
Miami	103	Rural	36,486	17.2	0.814	53	42.83	1.334	86	4,449.5	-0.190	65	—	—	50	3,685.5	-0.446	38			
Monroe	105	Urban	141,019	24.3	2.703	67	43.71	1.467	88	3,157.1	-0.197	38	10,523.8	-0.667	6	2,693.8	-0.733	15			
Montgomery	107	Rural	38,254	16.5	0.627	48	36.48	0.367	58	2,452.2	-0.201	17	—	—	50	3,091.2	-0.618	25			
Morgan	109	Urban	69,356	12.6	-0.410	24	29.54	-0.689	22	6,305.1	-0.179	83	173,390.0	1.930	46	2,895.9	-0.675	19			
Newton	111	Urban	14,044	11.8	-0.623	20	32.79	-0.194	35	14,044.0	-0.136	85	—	—	50	17,555.0	3.568	88			
Noble	113	Rural	47,582	14.0	-0.038	35	36.17	0.319	54	4,173.9	-0.191	61	237,910.0	2.959	48	5,532.8	0.088	65			
Ohio	115	Urban	6,079	11.1	-0.810	15	31.30	-0.421	27	30,395.0	-0.044	87	—	—	50	5,065.8	-0.047	58			
Orange	117	Rural	19,690	17.4	0.867	54	45.80	1.785	90	4,683.1	-0.188	66	98,450.0	0.735	42	4,526.4	-0.203	54			
Owen	119	Urban	21,380	16.3	0.574	47	41.81	1.179	85	106,900.0	0.386	89	—	—	50	12,576.5	2.127	87			
Parke	121	Rural	17,069	18.2	1.080	56	35.57	0.229	49	2,245.9	-0.202	10	42,672.5	-0.154	36	7,112.1	0.546	74			
Perry	123	Rural	19,462	14.6	0.122	37	31.11	-0.449	25	5,121.6	-0.186	70	—	—	50	5,406.1	0.052	63			
Pike	125	Rural	12,766	10.8	-0.889	14	33.97	-0.015	41	4,253.3	-0.191	63	—	—	50	7,092.2	0.540	73			
Porter	127	Urban	165,682	10.5	-0.969	12	24.47	-1.461	9	3,034.5	-0.198	35	33,136.4	-0.306	28	2,751.1	-0.717	16			
Posey	129	Urban	25,599	9.5	-1.235	7	24.56	-1.447	10	5,119.8	-0.186	69	—	—	50	6,563.8	0.387	68			
Pulaski	131	Rural	13,124	13.9	-0.064	34	36.37	0.350	57	3,860.0	-0.193	54	—	—	50	8,332.7	0.899	79			
Putnam	133	Urban	37,750	13.1	-0.277	28	26.98	-1.079	15	2,996.0	-0.198	34	47,187.5	-0.082	37	6,622.8	0.464	69			
Randolph	135	Rural	25,815	16.6	0.654	49	41.36	1.111	83	5,163.0	-0.186	72	—	—	50	12,292.9	2.045	86			
Ripley	137	Rural	28,583	11.4	-0.730	18	31.31	-0.420	28	1,764.4	-0.205	2	—	—	50	4,928.1	-0.087	57			
Rush	139	Rural	17,095	14.2	0.015	36	36.64	0.391	59	2,757.3	-0.199	30	—	—	50	4,469.3	-0.219	52			
St. Joseph	141	Urban	266,344	16.6																	

County	FIPS	Rurality	Population	RISK FACTORS								HEALTH OUTCOMES							
				Obesity			Smoking			Diabetes		Hypertension		Infant Mortality Rate					
				%	Z-Score	Rank	%	Z-Score	Rank	%	Z-Score	Rank	%	Z-Score	Rank	Rate/1,000 births	Z-Score	Rank	
Adams	1	Rural	34,365	30.4	-0.464	20	20.8	-0.652	20	9.9	0.486	33	25.2	-0.810	17	10.2	2.042	34	
Allen	3	Urban	360,412	32.2	0.179	34	21.0	-0.612	21	8.9	0.025	26	28.7	-0.059	35	8.0	0.458	23	
Bartholomew	5	Urban	79,129	32.0	0.108	32	19.4	-0.936	14	8.1	-0.344	18	26.8	-0.466	27	7.9	0.386	22	
Benton	7	Urban	8,804	32.8	0.394	38	28.2	0.848	61	10.6	0.809	36	—	—	—	—	—	—	
Blackford	9	Rural	12,502	33.5	0.644	42	29.4	1.091	67	11.2	1.086	39	37.0	-1.721	71	—	—	—	
Boone	11	Urban	59,944	27.8	-1.393	4	17.1	-1.402	5	7.8	-0.482	16	25.0	-0.852	16	7.0	-0.262	15	
Brown	13	Urban	15,083	29.4	-0.821	17	20.2	-0.774	17	—	—	—	19.0	-2.139	2	—	—	—	
Carroll	15	Urban	20,095	33.6	0.680	43	25.8	0.361	51	9.2	0.163	28	33.4	0.949	64	—	—	—	
Cass	17	Rural	38,581	34.5	1.001	49	23.0	-0.206	30	7.6	-0.575	15	29.0	0.006	37	9.4	1.466	30	
Clark	19	Urban	111,951	31.8	0.037	30	25.8	0.361	51	9.5	0.302	30	30.1	0.241	43	5.1	-1.630	4	
Clay	21	Urban	26,837	37.8	2.180	56	22.9	-0.227	29	6.4	-1.128	6	31.4	0.520	52	6.3	-0.766	11	
Clinton	23	Rural	33,022	29.4	-0.821	17	18.9	-1.038	12	11.6	1.270	40	22.6	-1.367	8	6.7	-0.478	12	
Crawford	25	Rural	10,665	38.4	2.394	57	25.3	0.260	47	12.5	1.685	46	29.9	0.199	42	—	—	—	
Davess	27	Rural	32,064	31.4	-0.106	26	23.6	-0.085	34	8.4	-0.206	21	20.5	-1.818	4	7.2	-0.118	17	
Dearborn	29	Urban	49,831	33.0	0.787	46	24.9	0.179	43	6.3	-1.174	5	30.3	0.284	44	6.3	-0.766	11	
Decatur	31	Rural	26,042	28.6	-1.107	10	21.2	-0.571	22	12.3	1.593	44	36.4	1.593	69	—	—	—	
DeKalb	33	Rural	42,321	29.0	-0.964	13	22.3	-0.348	27	6.9	-0.897	10	28.8	-0.037	36	6.7	-0.478	12	
Delaware	35	Urban	117,364	33.2	0.537	41	25.2	0.240	46	9.9	0.486	33	35.3	1.357	66	9.1	1.250	29	
Dubois	37	Rural	42,071	34.1	0.858	47	18.3	-1.159	10	4.9	-1.820	3	21.9	-1.517	6	7.0	-0.262	15	
Elkhart	39	Urban	199,619	29.5	-0.785	18	20.1	-0.794	16	8.1	-0.344	18	27.5	-0.316	31	7.4	0.026	18	
Fayette	41	Rural	24,029	34.4	0.965	48	24.8	0.158	42	14.0	2.377	47	44.4	3.309	74	—	—	—	
Floyd	43	Urban	75,283	29.5	-0.785	18	28.1	0.827	60	8.9	0.025	26	30.8	0.392	48	4.9	-1.774	2	
Fountain	45	Rural	17,119	30.6	-0.392	22	27.3	0.665	58	9.1	0.117	27	27.8	-0.252	32	—	—	—	
Franklin	47	Rural	22,969	28.6	-1.107	10	31.7	1.557	72	8.8	-0.021	25	22.0	-1.496	7	—	—	—	
Fulton	49	Rural	20,737	31.6	-0.035	28	17.6	-1.301	7	9.8	0.021	25	30.1	0.241	43	9.7	1.682	32	
Gibson	51	Rural	33,458	29.2	-0.892	15	25.7	0.341	50	7.1	-0.805	12	32.4	0.735	58	—	—	—	
Grant	53	Rural	69,330	31.7	0.001	29	28.7	0.949	64	9.8	0.440	32	25.4	-0.767	19	9.7	1.682	32	
Greene	55	Rural	32,940	33.1	0.501	40	24.2	0.037	37	12.5	1.685	46	26.9	-0.445	28	8.5	0.818	27	
Hamilton	57	Urban	289,495	22.0	-3.465	1	12.4	-2.355	1	7.0	-0.851	11	21.6	-1.582	5	5.1	-1.630	4	
Hancock	59	Urban	70,933	28.8	-1.035	12	20.0	-0.734	18	8.8	-0.021	25	27.8	-0.252	32	6.9	-0.334	14	
Harrison	61	Urban	39,134	31.0	-0.249	24	13.4	-2.153	2	10.5	0.763	35	35.4	1.378	67	5.0	-1.702	3	
Hendricks	63	Urban	150,434	31.8	0.037	30	18.1	-1.200	9	6.7	-0.990	9	27.1	-0.402	29	5.7	-1.198	6	
Henry	65	Urban	49,345	29.7	-0.714	19	28.0	0.868	62	6.5	-1.082	7	33.1	0.885	61	8.0	0.458	23	
Howard	67	Rural	82,849	37.8	2.180	56	24.3	-0.004	35	9.9	0.486	33	37.7	1.872	73	6.2	-0.838	10	
Huntington	69	Rural	36,887	34.6	1.104	51	25.7	0.341	50	11.1	1.039	38	28.7	-0.059	35	4.4	-2.134	1	
Jackson	71	Rural	43,083	31.6	-0.035	28	23.2	-0.166	31	8.3	-0.252	20	24.6	-0.938	14	6.7	-0.478	12	
Jasper	73	Urban	33,456	33.5	0.644	42	27.1	0.625	57	4.6	-1.958	2	31.3	0.499	51	7.2	-0.118	17	
Jay	75	Rural	21,366	34.6	1.037	50	25.6	0.321	49	11.7	1.316	41	30.7	0.370	47	9.9	1.826	33	
Jefferson	77	Rural	32,554	31.8	0.037	30	29.1	1.030	65	7.0	-0.851	11	36.7	1.657	70	7.1	-0.190	16	
Jennings	79	Rural	28,161	28.4	-1.178	8	33.1	1.841	75	—	—	—	—	—	—	6.7	-0.478	12	
Johnson	81	Urban	143,191	29.1	-0.928	14	24.1	0.017	36	8.9	0.025	26	31.2	0.477	50	6.3	-0.766	11	
Knox	83	Rural	38,122	33.1	0.501	40	30.3	1.273	70	5.5	-1.543	4	25.7	-0.702	21	7.6	0.170	20	
Kosciusko	85	Rural	77,609	30.8	-0.321	23	21.9	-0.429	26	7.3	-0.713	13	29.3	0.070	40	6.9	-0.334	14	
LaGrange	87	Rural	37,521	32.7	0.358	37	19.3	0.556	13	8.8	-0.021	25	26.3	-0.574	24	7.2	-0.118	17	
Lake	89	Urban	493,618	35.9	1.501	53	24.0	-0.004	35	10.2	0.624	34	28.5	-0.102	34	9.1	1.250	29	
LaPorte	91	Urban	111,246	31.8	0.037	30	26.6	0.523	54	10.8	0.901	37	33.2	0.906	62	9.7	1.682	32	
Lawrence	93	Rural	46,078	29.3	-0.857	16	20.1	-0.794	16	14.3	2.515	48	27.2	-0.381	30	8.6	0.890	28	
Madison	95	Urban	130,348	37.3	2.001	55	27.9	0.787	59	8.5	-0.160	22	30.6	0.349	46	7.6	0.170	20	
Marion	97	Urban	918,977	31.9	0.072	31	24.2	0.037	37	9.3	0.209	29	32.2	0.692	56	9.5	1.538	31	
Marshall	99	Rural	47,024	31.4	-0.106	26	21.0	-0.612	21	6.6	-1.036	8	23.9	-1.088	12	5.8	-1.126	7	
Martin	101	Rural	10,260	29.1	-0.928	14	17.5	-1.321	6	8.0	-0.390	17	31.5	0.542	53	—	—	—	
Miami	103	Rural	36,486	33.0	0.465	39	31.1	1.436	71	8.7	-0.067	24	30.3	0.284	44	7.5	0.098	19	
Monroe	105	Urban	141,019	25.3	-2.286	2	17.8	-1.261	8	7.6	-0.575	15	29.2	0.048	39	5.9	-1.054	8	
Morgantown	107	Rural	38,254	31.2	-0.178	25	23.2	-0.166	31	10.5	0.763	35	23.3	-1.217	10	7.9	0.386	22	
Morgan	109	Urban	69,356	32.2	0.537	41	24.2	0.037	37	8.6	-0.113	23	28.7	-0.059	35	7.8	0.314	21	
Newton	111	Urban	14,004	34.1	0.858	47	41.7	3.584	77	11.9	1.408	43	—	—	—	—	—	—	
Noble	113	Rural	47,582	33.9	0.787	46	26.7	0.544	55	7.0	-0.851	11	26.9	-0.445	28	8.1	0.530	24	
Ohio	115	Urban	6,079	30.8	-0.321	23	28.4	0.888	63	—	—	—	—	—	—	—	—	—	
Orange	117	Rural	19,690	31.2	-0.178	25	28.2	0.848	61	9.9	0.486	33	31.3	0.499	51	—	—	—	
Owen	119	Urban	21,380	36.8	1.823	54	32.0	1.618	73	8.1	-0.344	18	33.0	0.863	60	8.2	0.602	25	
Parke	121	Rural	17,069	29.3	-0.857	16	30.0	1.213	69	9.2	0.163	28	31.7	0.585	54	—	—	—	
Perry	123	Rural	19,462	32.1	0.144	33	24.5	0.098	39	8.1	-0.344	18	26.1	-0.616	23	—	—	—	
Pike	125	Rural	12,766	31.5	-0.071	27	18.4	-1.139	11	12.3	1.593	44	36.7	1.657	70	—	—	—	
Porter	127	Urban	165,682	29.3	-0.857	16	21.4	-0.531	23	7.4	-0.667	14	24.9	-0.374	15	6.1	-0.910	9	
Posey	129	Urban	25,599	31.6	-0.035	28	21.5	-0.511	24	10.8	0.901	37	30.5	0.327	45	—	—	—	
Putaski	131	Rural	13,124	34.5	1.001	49	22.4	-0.328	28	11.7	1.316	41	19.4	-2.054	3	—	—	—	
Putnam	133	Urban	37,750	32.3	0.215	35	24.4	0.077	38	7.4	-0.667	14	27.9	-0.230	33	7.4	0.026	18	
Randolph	135	Rural	25,815	34.8	1.108	51	23.5	-0.105	33	—	—	—	25.5	-0.745	20	—	—	—	
Ripley	137	Rural	28,583	31.8	0.037	30	26.5	0.503	53	6.9	-0.897	10	27.2	-0.381	30	6.1	-0.910	9	
Rush	139	Rural	17,095	32.4	0.251	36	21.9	-0.429	26	8.0	-0.390	17	31.5	0.542	53	—	—	—	
St. Joseph	141	Urban	266,344	28.5	-1.142	9	24.6	0.118	40	9.7	0.394	31	37.4	1.807	72	8.4	0.746	26	
Scott	143	Urban	23,791	33.8	0.751	45	27.0	0.604	56	8.4	-0.206	21	35.5	1.400	68	—	—	—	
Shelby	145	Urban	44,471	30.4	-0.464	20	20.0	-0.815	15	8.3	0.252	20	27.2	-0.381	30	7.2	-0.118	17	
Spencer	147	Rural	20,837	28.7	-1.071	11	20.8	-0.652	20	8.8	-0.021	25	29.1	0.027	38	9.9	1.826	33	
Starke	149	Rural	23,213	35.0	1.180	52	32.6	1.740	74	9.7	0.394	31	31.8	0.606	55	8.0			

APPENDIX E. 2016 Health Rankings Summary

County	FIPS	Rurality	Population	SOCIO-ECONOMIC						ACCESS TO CARE											
				% Below 100% FPL			% Below 200% FPL			Primary Care				Mental Health				Dental Health			
				Z-Score	Rank	Rank	Z-Score	Rank	Rank	Pop to PC FTE	Z-Score	Rank	Rank	Pop to MH FTE	Z-Score	Rank	Rank	Pop to DH FTE	Z-Score	Rank	
Adams	1	Rural	33,877	15.5	0.312	43	40.44	0.860	73	4,705.1	0.991	83	—	—	46	3,556.5	-0.345	39			
Allen	3	Urban	351,858	17.0	0.699	50	34.58	-0.025	40	1,450.1	-0.633	18	21,324.7	-0.295	22	2,536.8	-0.702	17			
Bartholomew	5	Urban	76,484	11.6	-0.696	16	30.13	-0.697	27	1,452.2	-0.632	19	31,868.3	-0.015	34	1,767.6	-0.971	4			
Benton	7	Urban	8,671	11.9	-0.618	19	34.04	-0.106	37	—	—	89	—	—	46	3,705.6	-0.292	45			
Blackford	9	Rural	12,324	15.4	0.286	42	38.10	0.507	65	1,910.7	-0.404	34	—	—	46	7,335.7	0.979	78			
Boone	11	Urban	57,377	7.3	-1.807	4	19.43	-2.311	3	1,304.0	-0.706	11	22,950.8	-0.252	26	2,095.2	-0.856	7			
Brown	13	Urban	14,957	13.4	-0.231	31	33.63	-0.168	34	10,683.6	3.975	87	—	—	46	15,580.2	3.866	86			
Carroll	15	Urban	19,825	10.9	-0.877	14	30.22	-0.683	23	9,912.5	3.590	86	—	—	46	3,177.1	-0.477	29			
Cass	17	Rural	37,824	13.8	-0.127	34	39.47	0.714	70	1,870.0	-0.424	32	16,210.3	-0.431	16	6,432.7	0.663	74			
Clark	19	Urban	109,554	11.7	-0.670	17	31.12	-0.547	25	1,976.9	-0.370	37	9,695.0	-0.604	4	3,144.4	-0.489	27			
Clay	21	Urban	26,347	15.0	0.183	40	35.38	0.096	43	3,763.9	0.521	73	—	—	46	5,489.0	0.332	66			
Clinton	23	Rural	32,267	14.4	0.028	38	35.72	0.148	45	3,602.4	0.441	72	—	—	46	3,259.3	-0.449	32			
Crawford	25	Rural	10,518	19.3	1.294	58	41.23	0.980	79	—	—	89	—	—	46	5,536.3	0.349	67			
Davess	27	Urban	33,280	13.9	-0.102	35	36.04	0.195	49	2,263.7	-0.227	49	31,280.0	-0.030	33	5,536.3	0.349	67			
Dearborn	29	Urban	49,175	10.8	-0.903	13	26.89	-1.186	14	1,545.9	-0.686	22	40,979.2	0.227	38	6,061.5	1.233	79			
Decatur	31	Rural	25,523	12.9	-0.360	27	38.32	0.540	68	1,919.0	-0.399	35	—	—	46	3,172.8	-0.495	26			
Delaware	33	Rural	41,786	12.9	-0.360	27	33.40	-0.203	31	2,240.2	-0.239	48	21,992.6	-0.277	23	3,768.6	-0.270	49			
Delaware	35	Urban	109,269	23.0	2.249	65	44.42	1.460	87	990.9	-0.863	2	15,836.1	-0.441	14	2,375.7	-0.758	12			
Dubois	37	Rural	41,189	8.9	-1.393	6	24.15	-1.599	7	1,507.3	-0.605	20	22,882.8	-0.253	25	1,638.5	-1.016	2			
Elkhart	39	Urban	194,894	15.5	0.312	43	39.77	0.759	71	1,907.4	-0.405	33	15,873.7	-0.440	15	3,889.9	-0.228	52			
Fayette	41	Rural	23,592	17.3	0.777	52	45.94	1.690	90	1,572.8	-0.572	24	—	—	46	5,617.1	0.377	69			
Floyd	43	Urban	73,947	13.1	-0.308	29	28.27	-0.977	18	1,606.5	-0.555	26	25,499.0	-0.184	28	1,560.3	-1.044	1			
Fountain	45	Rural	16,782	13.8	-0.127	34	34.23	-0.077	38	4,303.1	0.791	80	—	—	46	6,992.5	0.859	76			
Franklin	47	Rural	22,910	11.4	-0.748	15	32.65	-0.315	28	1,357.5	-0.680	13	—	—	46	3,025.9	-0.530	24			
Fulton	49	Rural	20,469	16.3	0.518	47	42.81	1.218	84	2,724.9	-0.247	45	—	—	46	3,857.2	-0.239	51			
Gibson	51	Rural	32,607	12.0	-0.593	20	29.86	-0.737	21	2,092.9	-0.313	41	—	—	46	2,871.1	-0.585	23			
Grant	53	Rural	64,182	21.7	1.914	64	40.14	0.814	72	2,319.1	-0.200	52	13,952.6	-0.491	10	2,823.3	-0.601	22			
Greene	55	Rural	32,606	13.7	-0.153	33	36.83	0.315	53	4,610.9	0.944	81	—	—	46	3,152.2	-0.486	28			
Hamilton	57	Urban	280,874	5.5	-2.272	1	14.55	-3.048	1	1,321.1	-0.698	12	17,607.0	-0.394	18	1,661.3	-1.008	3			
Hancock	59	Urban	69,510	6.5	-2.014	3	22.82	-1.800	5	1,531.9	-0.593	21	23,969.0	-0.225	27	4,094.8	-0.156	53			
Harrison	61	Urban	38,589	13.0	-0.334	28	29.21	-0.836	19	2,240.1	-0.239	47	—	—	46	4,497.6	-0.015	59			
Hendricks	63	Urban	146,169	6.4	-2.039	2	18.66	-2.427	2	1,370.9	-0.673	15	21,995.3	-0.277	24	2,459.7	-0.729	14			
Henry	65	Rural	45,961	17.2	0.751	51	37.30	0.385	57	2,190.1	-0.264	44	229,805.0	5.242	45	5,513.8	-0.359	37			
Howard	67	Urban	81,267	15.8	0.389	44	37.04	0.347	56	1,279.5	-0.719	10	11,110.7	-0.566	8	2,311.6	-0.780	10			
Huntington	69	Rural	35,629	13.0	-0.334	28	33.06	-0.254	29	1,929.0	-0.394	36	—	—	46	5,193.7	0.229	65			
Jackson	71	Rural	41,667	12.9	-0.360	27	35.97	0.185	48	1,386.7	-0.665	16	59,524.3	0.720	41	2,805.2	-0.608	21			
Jasper	73	Urban	32,334	10.7	-0.928	12	26.27	-1.279	13	2,811.7	0.046	62	—	—	46	3,737.5	-0.281	48			
Jay	75	Rural	20,944	16.0	0.441	46	40.50	0.869	74	4,654.2	0.966	82	—	—	46	7,123.8	0.905	77			
Jefferson	77	Rural	30,247	15.3	0.260	41	37.99	0.490	63	1,260.3	-0.728	9	11,861.6	-0.546	9	2,182.1	-0.826	8			
Jennings	79	Rural	27,866	16.9	0.673	49	40.74	0.905	77	3,980.9	0.630	75	—	—	46	6,526.0	0.695	75			
Johnson	81	Urban	138,325	11.8	-0.644	18	26.00	-1.319	11	1,245.8	-0.735	8	36,084.8	0.097	36	2,313.0	-0.780	9			
Knox	83	Rural	35,387	15.9	0.415	45	37.01	0.341	55	1,191.5	-0.763	7	7,449.9	-0.663	1	3,217.0	-0.463	30			
Kosciusko	85	Rural	76,026	12.7	-0.412	25	33.26	-0.223	30	1,987.4	-0.365	39	54,304.3	0.581	40	3,998.9	-0.330	42			
LaGrange	87	Rural	37,027	12.7	-0.412	25	46.27	1.739	92	2,516.8	0.398	69	—	—	46	5,848.1	0.458	72			
Lake	89	Urban	488,274	17.8	0.906	54	36.93	0.331	54	1,573.9	-0.572	25	15,003.5	-0.463	13	2,463.6	-0.727	15			
LaPorte	91	Urban	102,734	17.0	0.699	50	35.84	0.165	46	1,684.7	-0.516	29	29,352.6	-0.082	32	3,376.5	-0.408	35			
Lawrence	93	Rural	45,269	12.9	-0.360	27	37.34	0.391	58	2,294.2	-0.212	50	113,172.5	2.145	44	3,577.3	-0.337	40			
Madison	95	Urban	124,001	19.6	1.371	60	38.13	0.512	66	1,664.9	-0.526	28	21,274.7	-0.296	21	3,524.1	-0.356	38			
Marion	97	Urban	89,154	21.3	1.810	63	42.25	1.133	82	1,069.3	-0.823	3	9,839.3	-0.600	6	1,877.5	-0.932	5			
Marshall	99	Rural	46,293	13.8	-0.127	34	36.57	0.276	51	1,794.3	-0.462	31	14,028.2	-0.489	12	4,128.7	-0.144	54			
Martin	101	Rural	10,151	14.9	0.157	39	34.26	-0.073	39	4,060.4	0.669	76	—	—	46	8,459.2	1.372	81			
Miami	103	Rural	34,532	17.7	0.880	53	40.70	0.900	76	1,980.3	-0.369	38	—	—	46	3,727.5	-0.285	47			
Monroe	105	Urban	125,069	24.0	2.508	67	43.43	1.312	86	1,553.3	-0.582	23	9,695.3	-0.604	5	2,463.7	-0.717	16			
Montgomery	107	Rural	36,753	12.5	-0.463	23	37.69	0.444	61	3,023.9	0.157	65	36,753.0	0.115	37	3,347.6	-0.628	11			
Morgan	109	Urban	68,406	12.7	-0.412	25	30.62	-0.623	24	2,303.2	-0.208	51	97,722.9	1.734	43	3,711.1	-0.290	46			
Newton	111	Urban	13,958	11.4	-0.748	15	34.70	-0.007	41	11,631.7	4.448	88	—	—	46	11,631.7	4.283	85			
Noble	113	Rural	46,458	13.6	-0.179	32	38.03	0.496	64	3,578.7	0.429	71	46,458.0	0.373	39	3,630.7	-0.319	43			
Ohio	115	Urban	5,946	10.5	-0.980	11	28.27	-0.977	17	2,973.0	0.127	64	—	—	46	—	—	88			
Orange	117	Rural	19,370	16.8	0.648	48	45.98	1.696	91	3,192.9	0.236	67	—	—	46	4,270.3	-0.095	55			
Owen	119	Urban	21,004	15.0	0.183	40	38.18	0.519	67	5,676.8	1.476	84	—	—	46	9,335.1	1.679	82			
Parke	121	Rural	15,266	17.2	0.751	51	40.59	0.883	75	1,717.1	-0.500	30	—	—	46	5,661.6	0.393	70			
Perry	123	Rural	17,689	14.2	-0.024	36	33.66	-0.163	35	2,412.1	-0.153	55	—	—	46	3,312.5	-0.430	33			
Pike	125	Rural	12,536	12.3	-0.515	21	33.82	-0.139	36	2,507.2	-0.106	57	—	—	46	8,357.3	1.337	80			
Porter	127	Urban	161,251	11.7	-0.670	17	24.72	-1.513	8	1,636.5	-0.540	27	27,423.6	-0.133	29	2,557.5	-0.694	18			
Posey	129	Urban	25,426	9.6	-1.213	7	23.66	-1.673	6	3,972.8	0.626	74	—	—	46	6,112.0	0.550	73			
Pulaski	131	Rural	12,936	14.3	0.002	37	35.20	0.069	42	2,156.0	-0.281	42	—	—	46	—	—	88			
Putnam	133	Urban	32,146	13.2	-0.283	30	26.97	-1.173	15	3,037.9	0.159	66	—	—	46	3,050.4	-0.522	25			
Randolph	135	Rural	25,531	18.1	0.983	55	44.77	1.513	88	4,144.6	0.711	78	—	—	46	10,637.9	2.135	83			
Ripley	137	Rural	28,148	10.2	-1.058	9	32.30	-0.369	27	3,540.6	0.410	70	—	—	46	5,584.9	0.366	68			
Rush	139	Rural	16,981	12.8	-0.386	26	37.64	0.437	60	2,234.3	-0.242	46	—	—	46	4,454.0	-0.030	58			
St. Joseph	141	Urban	254,374	20.1	1.500	62	37														

				RISK FACTORS													
				Alcohol Abuse			Substance Abuse				Obesity				Smoking		
County	FIPS	Rurality	Population	Rate/10,000	Z-Score	Rank	Rate/10,000	Z-Score	Rank	%	Z-Score	Rank	%	Z-Score	Rank		
Adams	1	Rural	34,365	32.36	-0.830	22	38.42	-0.991	9	28.7	-1.129	9	20.8	-0.652	20		
Allen	3	Urban	360,412	65.95	0.982	76	51.38	-0.480	34	32.6	0.281	35	21.0	-0.612	21		
Bartholomew	5	Urban	79,129	56.79	0.488	69	68.86	0.209	59	33.9	0.752	45	19.4	-0.936	14		
Benton	7	Urban	8,804	54.75	0.378	68	68.44	0.192	58	33.6	0.643	42	28.2	0.848	61		
Blackford	9	Rural	12,502	72.91	-1.358	82	89.74	-1.032	80	36.5	1.692	58	29.4	1.091	67		
Boone	11	Urban	58,944	34.89	-0.694	26	47.62	-0.628	29	27.2	-1.671	5	17.1	-1.402	5		
Brown	13	Urban	15,083	21.30	-1.427	3	39.27	-0.957	10	31.9	0.028	30	20.2	-0.774	17		
Carroll	15	Urban	20,095	31.86	-0.857	20	53.27	-0.405	39	30.6	-0.442	20	25.8	0.361	51		
Cass	17	Rural	38,581	42.12	-0.304	37	43.68	-0.784	18	34.7	1.041	52	23.0	-0.206	30		
Clark	19	Urban	113,951	49.05	0.071	55	72.69	0.360	63	29.7	-0.767	16	25.8	0.361	51		
Clay	21	Urban	26,837	46.64	-0.060	51	62.31	-0.049	51	36.3	1.619	57	22.9	-0.227	29		
Clinton	23	Rural	33,022	68.66	1.128	79	96.31	1.291	85	29.4	-0.876	13	18.9	-1.038	12		
Crawford	25	Rural	10,665	32.01	-0.849	21	44.25	-0.761	21	37.4	2.017	59	25.3	0.260	47		
Davies	27	Rural	32,064	25.30	-1.211	9	41.04	-0.888	14	32.1	1.011	32	23.6	-0.085	34		
Dearborn	29	Urban	49,831	25.05	-1.225	8	33.88	-0.775	20	33.7	-0.044	29	24.9	0.179	43		
Decatur	31	Rural	26,042	84.48	1.982	88	90.19	1.050	82	29.6	-0.803	15	21.2	-0.571	22		
DeKalb	33	Rural	42,321	43.02	-0.255	39	48.22	-0.605	30	27.0	-1.744	4	22.3	-0.348	27		
Delaware	35	Urban	117,364	67.67	1.075	77	66.39	0.112	55	33.4	0.571	41	25.2	0.240	46		
Dubois	37	Rural	42,071	9.21	-2.079	1	10.62	-2.086	1	29.9	-0.695	17	18.3	-1.159	10		
Elkhart	39	Urban	199,619	53.90	0.332	66	58.04	-0.218	47	29.9	-0.695	17	20.1	-0.794	16		
Fayette	41	Rural	24,029	77.95	1.630	85	96.81	1.311	86	31.0	-0.297	24	24.8	0.158	42		
Floyd	43	Urban	75,283	45.64	-0.113	48	60.99	-0.101	49	30.7	-0.406	21	28.1	0.827	60		
Fountain	45	Rural	17,119	47.99	0.013	52	71.09	0.297	61	30.6	-0.442	20	27.3	0.665	58		
Franklin	47	Rural	22,969	22.22	-1.377	4	30.94	-1.286	6	27.5	-1.563	6	31.7	1.557	72		
Fulton	49	Rural	20,737	40.10	-0.413	31	57.70	-0.231	46	35.4	1.294	54	17.6	-1.301	7		
Gibson	51	Rural	33,458	42.54	-0.281	38	47.30	-0.641	28	31.0	-0.297	24	25.7	0.341	50		
Grant	53	Rural	69,330	51.93	0.226	65	65.53	0.078	54	33.1	0.462	39	28.7	0.949	64		
Greene	55	Rural	32,940	29.59	-0.980	16	57.66	-0.233	45	34.1	0.824	47	24.2	0.037	37		
Hamilton	57	Urban	289,495	33.74	-0.756	24	37.38	-1.032	7	22.9	-3.226	2	12.4	-2.355	1		
Hancock	59	Urban	70,933	44.29	-0.186	42	73.21	0.380	64	29.6	-0.803	15	20.4	-0.734	18		
Harrison	61	Urban	39,134	28.85	-1.019	14	48.52	-0.593	31	34.0	0.788	46	13.4	-2.153	2		
Hendricks	63	Urban	150,434	29.18	-1.002	15	41.01	-0.889	13	32.1	0.101	32	18.1	-1.200	9		
Henry	65	Rural	49,345	49.96	0.119	58	86.45	0.902	78	30.5	-0.478	19	28.3	0.868	62		
Howard	67	Urban	82,849	70.57	1.221	80	79.02	0.610	69	35.5	1.330	55	24.0	-0.004	35		
Huntington	69	Urban	36,987	39.41	-0.450	29	57.08	-0.255	44	32.7	0.318	36	25.7	0.341	50		
Jackson	71	Rural	43,083	45.09	-0.143	45	90.19	1.049	81	37.7	1.126	60	23.2	-0.166	31		
Jasper	73	Urban	33,456	35.34	-0.669	27	46.72	-0.664	24	32.5	0.245	34	27.1	0.625	57		
Jay	75	Rural	21,966	40.32	-0.401	32	80.17	0.655	72	34.7	1.041	52	25.6	0.321	49		
Jefferson	77	Rural	32,554	45.60	-0.116	47	92.74	1.150	83	33.7	0.679	43	29.1	1.030	65		
Jennings	79	Rural	28,161	41.43	-0.341	34	125.70	2.449	91	31.9	0.028	30	33.1	1.841	75		
Johnson	81	Urban	143,191	46.59	-0.063	50	61.15	-0.095	50	30.7	-0.406	21	24.1	0.017	36		
Knox	83	Rural	38,122	51.64	0.210	63	83.00	0.766	74	34.3	0.896	48	30.3	1.273	70		
Kosciusko	85	Rural	77,609	39.63	-0.438	30	51.95	-0.458	35	31.3	-0.189	27	21.9	-0.429	26		
LaGrange	87	Rural	37,521	25.53	-1.199	10	30.53	-1.302	4	33.8	0.715	44	19.3	-0.556	13		
Lake	89	Urban	493,618	50.06	0.115	60	42.67	-0.833	16	25.4	1.294	54	24.0	-0.004	35		
LaPorte	91	Urban	111,246	62.81	0.813	74	65.06	0.059	52	33.9	0.752	45	26.6	0.523	54		
Lawrence	93	Rural	46,078	51.92	0.225	64	97.94	1.355	87	34.4	0.932	49	20.1	-0.794	16		
Madison	95	Urban	130,348	61.69	0.753	73	89.13	1.008	79	35.2	1.222	53	27.9	0.787	59		
Marion	97	Urban	918,977	82.64	1.882	87	74.93	0.448	66	31.3	-0.189	27	24.2	0.037	37		
Marshall	99	Rural	47,024	35.87	-0.604	28	53.49	-0.397	41	32.2	0.137	33	21.0	-0.612	21		
Martin	101	Rural	10,260	24.61	-1.248	7	55.12	-0.333	42	30.6	-0.442	20	17.5	-1.321	6		
Miami	103	Rural	36,486	65.30	0.947	75	65.30	0.069	53	33.4	0.571	41	31.1	1.436	71		
Monroe	105	Urban	141,019	93.17	2.451	91	49.05	-0.572	32	22.8	-3.262	1	17.8	-1.261	8		
Morgan	107	Rural	40,386	40.86	-0.371	33	94.56	1.222	84	34.6	1.005	51	23.2	-0.166	31		
Morgan	109	Urban	69,356	60.90	0.710	72	109.34	1.804	89	33.6	0.643	42	24.2	0.037	37		
Newton	111	Urban	14,044	29.81	-0.967	17	27.69	-1.414	3	35.7	1.402	56	41.7	3.584	77		
Noble	113	Rural	47,582	41.62	-0.330	36	46.25	-0.682	23	34.6	1.005	51	26.7	0.544	55		
Ohio	115	Urban	6,079	48.38	0.034	54	43.38	-0.795	17	30.9	-0.333	23	28.4	0.888	63		
Orange	117	Rural	19,690	59.17	0.616	71	75.36	0.465	67	31.7	-0.044	29	28.2	0.848	61		
Owen	119	Urban	21,380	50.47	0.147	61	68.39	0.191	57	34.5	0.969	50	32.0	1.618	73		
Parke	121	Rural	17,069	34.30	-0.726	25	47.09	-0.649	26	28.6	-1.165	8	30.0	1.213	69		
Perry	123	Rural	19,462	44.48	-0.176	43	84.88	0.840	75	30.8	-0.369	22	24.5	0.098	39		
Pike	125	Rural	12,766	24.44	-1.257	6	23.65	-1.573	2	34.4	0.932	49	18.4	-1.139	11		
Porter	127	Urban	165,602	43.35	-0.237	41	49.41	-0.558	33	30.8	-0.369	22	21.4	-0.531	23		
Posey	129	Urban	25,599	41.59	-0.332	35	41.98	-0.850	15	31.3	-0.189	27	21.5	-0.511	24		
Putaski	131	Rural	13,124	49.97	0.120	59	85.34	0.858	76	34.7	1.041	52	22.4	-0.328	28		
Putnam	133	Urban	37,750	45.33	-0.130	46	52.53	-0.435	37	30.6	-0.442	20	24.4	0.077	38		
Randolph	135	Rural	25,815	58.92	0.603	70	79.60	0.632	71	32.8	0.354	37	23.5	-0.105	33		
Ripley	137	Rural	28,583	25.69	-1.190	12	39.76	-0.938	12	31.1	-0.261	25	26.5	0.503	53		
Rush	139	Rural	17,095	48.22	0.026	53	58.81	-0.187	48	30.9	-0.333	23	21.9	-0.429	26		
St. Joseph	141	Urban	266,344	72.59	1.340	81	74.01	0.412	65	28.6	-1.165	8	20.8	-0.652	20		
Scott	143	Urban	23,791	78.84	1.678	86	184.80	4.778	92	29.5	-0.840	14	24.6	0.118	40		
Shelby	145	Urban	44,471	54.33	0.355	67	70.87	0.288	60	30.8	-0.369	22	27.0	0.604	56		
Spencer	147	Rural	20,837	25.78	-1.185	13	30.56	-1.301	5	30.3	-0.550	18	20.0	-0.815	15		
Stark	149	Rural	23,213	43.11	-0.250	40	82.77	0.757	73	34.7	1.041	52	32.6	1.740	74		
Stauben	151	Rural	34,124	49.77	0.109	57	39.29	-0.956	11	33.2	0.498	40	21.7	-0.470	25		
Sullivan	153	Urban	21,188	49.47	0.093	56	100.29	1.469	88	30.8	-0.369	22	25.0	0.199	44		
Switzerland	155	Rural	10,424	25.65	-1.192	11	43.70	-0.783	19	31.5	-0.116	28	29.2	1.050	66		
Tippecanoe	157	Urban	177,513	74.98	1.470	84	52.89	-0.420	38	25.5	-2.286	3	14.7	-1.889	4		
Tipton	159	Rural	15,695	46.01	-0.094	49	52.40	-0.440	36	33.2	0.498	40	25.4	0.280	48		
Union	161	Urban	7,362	20.61	-1.464	2	46.72	-0.664	25	33.4	0.571	41	29.8	1.172	68		
Vanderburgh	163	Urban	180,858	98.18	2.721	92	79.49	0.628	70	33.2	0.498	40	25.1	0.219	45		
Vermillion	165	Urban	16,040	68.02	1.084	78	78.73	0.598	68	31.2	-0.222	26	24.7	0.138	41		
Vigo	167	Urban	108,428	88.10	2.177	89	71.94	0.230	62	31.5	-0.116	28	23.4	-0.125	32		
Wabash	169	Rural	32,363	32.76	-0.809	23	55.63	-0.313	43	33.0	0.426	38	19.3	-0.556	13		
Warren	171	Rural	8,342	30.90	-0.909</												

County	FIPS	Rurality	Population	HEALTH OUTCOMES								
				Diabetes			Hypertension			Infant Mortality		
				%	Z-Score	Rank	%	Z-Score	Rank	Rate/1,000 births	Z-Score	Rank
Adams	1	Rural	34,365	10.0	-0.956	12	25.2	-0.810	17	9.90	1.374	71
Allen	3	Urban	360,412	10.3	-0.743	15	28.7	-0.059	35	7.21	-0.010	39
Bartholomew	5	Urban	79,129	10.6	-0.530	18	26.8	-0.466	27	9.05	0.937	62
Benton	7	Urban	8,804	12.6	0.888	36	—	—	—	—	—	—
Blackford	9	Rural	12,502	12.4	0.746	34	37.0	-1.721	71	6.91	-0.164	35
Boone	11	Urban	58,944	9.2	-1.523	5	25.0	-0.852	16	5.96	-0.653	20
Brown	13	Urban	15,083	11.9	0.392	30	19.0	-2.139	2	—	—	—
Carroll	15	Urban	20,095	10.9	-0.318	21	33.4	0.949	64	—	—	—
Cass	17	Rural	38,581	9.5	-1.311	7	29.0	0.006	37	9.18	1.004	63
Clark	19	Urban	111,951	12.8	1.030	38	30.1	0.241	43	4.22	-1.549	2
Clay	21	Urban	26,837	11.3	-0.034	24	31.4	0.520	52	6.41	-0.422	30
Clinton	23	Rural	33,022	12.9	1.101	39	22.6	-1.367	8	8.47	0.638	56
Crawford	25	Rural	10,665	13.5	1.526	44	29.9	0.199	42	—	—	—
Daviess	27	Rural	32,064	11.9	0.392	30	20.5	-1.818	4	9.49	1.163	65
Dearborn	29	Urban	49,831	11.2	-0.105	23	30.3	0.284	44	6.49	-0.381	32
Decatur	31	Rural	25,042	12.3	0.675	33	36.4	1.593	69	4.32	-1.497	4
DeKalb	33	Rural	42,321	10.1	-0.885	13	28.8	-0.037	36	7.23	0.000	41
Delaware	35	Urban	117,364	11.8	0.321	29	35.3	-1.357	66	8.51	0.659	57
Dubois	37	Rural	42,071	10.1	-0.885	13	21.9	-1.517	6	6.91	-0.164	35
Elkhart	39	Urban	199,619	9.3	-1.452	6	27.5	-0.316	31	6.99	-0.123	36
Fayette	41	Rural	24,029	13.1	1.243	41	44.4	3.309	74	6.33	-0.463	28
Floyd	43	Urban	75,283	9.8	-1.098	10	30.8	0.392	48	4.31	-1.502	3
Fountain	45	Rural	17,119	13.1	1.243	41	27.8	-0.252	32	—	—	—
Franklin	47	Rural	22,969	12.4	0.746	34	22.0	-1.496	7	4.43	-1.441	5
Fulton	49	Rural	20,737	11.5	0.108	26	30.1	0.241	43	11.02	1.951	73
Gibson	51	Rural	23,458	11.4	0.037	25	32.4	0.735	58	8.73	0.772	59
Grant	53	Rural	69,330	13.8	1.739	46	25.4	-0.767	19	9.53	1.184	66
Greene	55	Rural	32,940	14.5	2.236	47	26.9	-0.445	28	10.70	1.786	72
Hamilton	57	Urban	289,495	7.8	-2.516	1	21.6	-1.582	5	3.97	-1.677	1
Hancock	59	Urban	70,933	10.3	-0.743	15	27.8	-0.252	32	7.50	0.139	45
Harrison	61	Urban	39,134	10.5	-0.601	17	35.4	1.378	67	6.28	-0.489	26
Hendricks	63	Urban	150,434	9.2	-1.523	5	27.1	-0.402	29	5.29	-0.998	16
Henry	65	Rural	49,345	10.6	-0.530	18	33.1	0.885	61	9.83	1.338	69
Howard	67	Urban	82,849	12.5	0.817	35	37.7	1.872	73	5.02	-1.137	11
Huntington	69	Rural	36,987	13.2	1.314	42	28.7	-0.059	35	4.74	-1.381	9
Jackson	71	Rural	43,083	11.8	0.321	29	24.6	-0.938	14	7.44	0.108	43
Jasper	73	Urban	33,456	11.5	0.108	26	31.3	0.499	51	7.17	-0.031	38
Jay	75	Rural	21,366	12.7	0.959	37	30.7	0.370	47	11.95	2.429	75
Jefferson	77	Rural	32,554	11.0	-0.247	22	36.7	1.657	70	7.22	-0.005	40
Jennings	79	Rural	28,161	11.2	-0.105	23	31.3	0.499	51	7.45	0.113	44
Johnson	81	Urban	143,191	10.4	-0.672	16	31.2	0.477	50	6.53	-0.360	33
Knox	83	Rural	38,122	10.0	-0.956	12	25.7	-0.702	21	5.21	-1.039	15
Kosciusko	85	Rural	77,609	9.7	-1.169	9	29.3	0.070	40	7.91	0.350	51
LaGrange	87	Rural	37,521	10.5	-0.601	17	26.3	-0.574	24	6.91	-0.164	35
Lake	89	Urban	493,618	12.9	1.101	39	38.5	-0.102	34	8.25	0.525	55
LaPorte	91	Urban	111,246	9.9	-1.027	11	33.2	0.906	62	8.59	0.700	58
Lawrence	93	Rural	46,078	15.6	3.016	48	27.2	-0.381	30	7.81	0.299	48
Madison	95	Urban	130,348	12.4	0.746	34	30.6	0.349	46	7.82	0.304	49
Marion	97	Urban	918,977	10.9	-0.318	21	32.2	0.692	56	9.53	1.184	66
Marshall	99	Rural	47,024	10.9	-0.318	21	23.9	-1.088	12	6.44	-0.406	31
Martin	101	Rural	10,260	11.2	-0.105	23	31.5	0.542	53	9.27	1.050	64
Miami	103	Rural	36,486	10.9	-0.318	21	30.3	0.284	44	6.34	-0.458	29
Monroe	105	Urban	141,019	8.5	-2.020	2	29.2	0.048	39	5.12	-1.086	13
Montgomery	107	Rural	38,254	11.7	0.250	28	23.3	-1.217	10	9.73	1.287	67
Morgan	109	Urban	69,256	10.8	-0.389	20	28.7	-0.059	35	8.02	0.407	53
Newton	111	Urban	14,044	11.8	0.321	29	—	—	—	—	—	—
Noble	113	Rural	47,582	10.8	-0.389	20	26.9	-0.445	28	6.71	-0.267	34
Ohio	115	Urban	6,079	11.9	0.392	30	—	—	—	—	—	—
Orange	117	Rural	19,690	11.7	0.250	28	31.3	0.499	51	4.31	-1.502	3
Owen	119	Urban	21,380	12.2	0.604	32	33.0	0.863	60	7.73	0.258	47
Parke	121	Rural	17,069	11.7	0.250	28	31.7	0.585	54	6.20	-0.530	23
Perry	123	Rural	19,462	10.7	-0.459	19	26.1	-0.616	23	—	—	—
Pike	125	Rural	12,766	12.9	1.101	39	36.7	1.657	70	—	—	—
Porter	127	Urban	165,682	8.9	-1.736	4	24.9	-0.874	15	4.54	-1.384	6
Posey	129	Urban	25,599	11.0	-0.247	22	30.5	0.327	45	7.15	-0.041	37
Pulaski	131	Rural	13,124	13.6	1.597	45	19.4	-2.054	3	9.80	1.323	68
Putnam	133	Urban	37,750	11.8	0.321	29	27.9	-0.230	33	8.89	0.855	60
Randolph	135	Rural	25,815	13.6	1.597	45	25.5	-0.745	20	4.61	-1.348	7
Ripley	137	Rural	28,583	10.0	-0.956	12	27.2	-0.381	30	7.66	0.222	46
Rush	139	Rural	17,095	11.9	0.392	30	31.5	0.542	53	6.91	-0.164	35
St. Joseph	141	Urban	266,344	9.5	-1.311	7	29.1	0.027	38	8.21	0.505	54
Scott	143	Urban	23,791	11.9	0.392	30	37.4	1.807	72	6.29	-0.484	27
Shelby	145	Urban	44,471	11.2	-0.105	23	35.5	1.400	68	5.08	-1.106	12
Spencer	147	Rural	20,837	10.6	-0.530	18	27.2	-0.381	30	6.26	-0.499	25
Starke	149	Rural	23,213	10.5	-0.601	17	31.8	0.606	55	11.12	2.002	74
Steuben	151	Rural	34,124	11.8	0.321	29	33.3	0.928	63	5.97	-0.648	21
Sullivan	153	Urban	21,188	12.0	0.463	31	31.0	0.435	49	5.16	-1.065	14
Switzerland	155	Rural	10,424	13.2	1.314	42	31.3	0.499	51	12.40	2.661	76
Tiptecanoe	157	Urban	177,513	8.6	-1.949	3	32.8	0.821	59	5.57	-0.854	17
Tipton	159	Rural	15,695	12.2	0.604	32	23.8	-1.110	11	9.85	1.349	70
Union	161	Urban	7,362	11.4	0.037	25	25.3	-0.788	18	—	—	—
Vanderburgh	163	Urban	180,858	12.7	0.959	37	32.3	0.713	57	7.86	0.324	50
Vermillion	165	Urban	16,040	13.0	1.172	40	26.7	-0.488	26	5.85	-0.710	19
Vigo	167	Rural	108,428	9.6	-1.240	8	27.5	-0.216	31	6.06	-0.602	22
Wabash	169	Urban	32,361	13.4	1.455	43	23.9	-1.088	12	5.68	-0.797	18
Warren	171	Rural	8,342	11.6	0.179	27	22.9	-1.303	9	—	—	—
Warrick	173	Urban	60,463	10.8	-0.389	20	26.5	-0.531	25	4.89	-1.204	10
Washington	175	Urban	27,921	10.5	-0.601	17	24.5	-0.960	13	8.96	0.891	61
Wayne	177	Rural	68,346	10.2	-0.814	14	18.4	-2.268	1	8.00	0.397	52
Wells	179	Urban	27,652	10.8	-0.389	20	25.9	-0.659	22	4.68	-1.312	8
White	181	Rural	24,426	11.3	-0.034	24	29.6	0.134	41	7.33	0.052	42
Whitley	183	Urban	33,342	9.9	-1.027	11	33.7	1.014	65	6.22	-0.520	24

APPENDIX F. 2017 Health Rankings Summary

County	FIPS	Rurality	Population	SOCIO-ECONOMIC						ACCESS TO CARE											
				% Below 100% FPL			% Below 200% FPL			Primary Care				Mental Health				Dental Health			
				%	Z-Score	Rank	%	Z-Score	Rank	POP PC FTE	Z-Score	Rank	POP MH FTE	Z-Score	Rank	POP DH FTE	Z-Score	Rank			
Adams	1	Rural	34,642	15.96	0.680	71	38.07	0.717	71	5,412.8	0.241	84	34,642.0	-0.279	25	3,752.9	-0.405	34			
Allen	3	Urban	363,453	15.56	0.571	66	34.46	0.150	44	1,471.2	-0.276	12	34,552.9	-0.281	24	2,727.9	-0.685	16			
Bartholomew	5	Urban	79,488	12.61	-0.218	39	28.85	-0.732	21	1,546.5	-0.266	15	31,795.2	-0.336	21	2,083.4	-0.861	3			
Benton	7	Urban	8,752	13.49	0.018	47	36.94	0.540	65	—	—	90	—	—	47	3,392.2	-0.504	23			
Blackford	9	Rural	12,476	13.63	0.053	50	38.46	0.779	75	2,277.9	-0.177	43	124,760.0	1.526	44	25,991.7	5.659	87			
Bone	11	Urban	60,511	5.78	-2.053	3	20.25	-2.085	4	1,579.9	-0.762	17	25,212.9	-0.468	17	2,711.6	-0.689	15			
Brown	13	Urban	15,011	12.42	-0.270	36	30.86	-0.417	29	9,381.9	-0.262	87	—	—	47	15,636.5	2.836	86			
Carroll	15	Urban	20,014	10.74	-0.722	23	31.99	-0.929	33	8,701.7	0.672	86	—	—	47	3,891.6	-0.367	38			
Cass	17	Rural	38,476	15.29	0.501	65	39.40	0.237	78	1,953.1	-0.213	35	34,978.2	-0.272	28	4,994.3	-0.067	56			
Clark	19	Urban	113,181	10.61	-0.756	21	29.49	-0.632	25	2,185.0	-0.182	42	14,510.4	-0.682	7	3,726.0	-0.413	32			
Clay	21	Urban	26,686	14.27	0.225	55	36.82	0.521	63	4,235.9	0.086	75	—	—	47	6,618.6	-0.376	72			
Clinton	23	Rural	32,835	13.72	0.078	51	36.00	0.393	54	3,862.9	0.038	70	65,670.0	0.342	37	3,607.6	-0.445	30			
Crawford	25	Rural	10,591	20.45	1.885	89	44.56	1.738	91	—	—	90	—	—	47	—	—	88			
Davess	27	Rural	32,451	12.93	-0.133	43	36.89	0.532	64	2,493.2	-0.142	51	—	—	47	5,736.5	0.136	61			
Dearborn	29	Urban	40,679	9.16	-1.145	11	23.66	-1.548	8	1,678.3	-0.249	20	38,214.6	-0.208	31	9,986.6	1.195	80			
Decatur	31	Rural	26,240	13.90	0.126	54	33.86	0.056	39	1,785.0	-0.235	25	—	—	47	2,138.0	-0.846	4			
DeKalb	33	Rural	42,449	14.39	0.257	57	34.64	0.178	45	2,482.4	-0.143	50	21,224.5	-0.548	13	4,398.5	-0.229	52			
Delaware	35	Urban	117,335	20.63	1.934	90	40.73	1.135	82	1,393.5	-0.286	10	11,666.8	-0.739	3	2,574.1	-0.727	12			
Dubois	37	Rural	42,291	9.63	-1.021	13	26.71	-1.069	17	1,510.2	-0.271	14	—	—	47	2,293.4	-0.803	6			
Elkhart	39	Urban	200,685	15.75	0.622	68	37.82	0.678	68	2,480.7	-0.144	49	15,792.4	-0.657	9	4,087.1	-0.314	44			
Fayette	41	Urban	23,773	20.22	1.822	86	43.66	1.597	89	1,674.2	-0.249	19	—	—	47	5,896.1	0.179	63			
Floyd	43	Rural	79,900	12.56	-0.234	37	26.50	-1.102	16	1,846.7	-0.227	28	19,461.5	-0.583	12	1,784.5	-0.942	2			
Fountain	45	Rural	16,888	11.80	-0.438	30	34.13	0.098	40	4,330.3	0.099	79	—	—	47	7,036.7	0.490	75			
Franklin	47	Rural	22,935	10.52	-0.780	20	29.34	-0.655	23	1,357.4	-0.291	7	—	—	47	3,732.6	-0.411	33			
Fulton	49	Rural	20,527	14.67	0.333	60	35.13	0.255	50	1,936.5	-0.215	34	—	—	47	5,084.5	-0.042	57			
Gibson	51	Rural	33,668	10.92	-0.675	24	30.93	-0.405	30	2,321.9	-0.164	46	—	—	47	3,010.4	-0.608	19			
Grant	53	Rural	68,896	17.17	1.004	77	37.84	0.681	69	2,660.1	-0.120	56	36,261.1	-0.247	30	3,530.0	-0.466	27			
Greene	55	Rural	32,815	13.40	-0.007	45	35.10	0.250	48	4,557.6	0.129	81	—	—	47	3,681.6	-0.425	31			
Hamilton	57	Urban	296,635	4.68	-2.348	1	13.98	-3.070	1	1,421.3	-0.282	11	22,136.9	-0.530	15	1,627.0	-0.985	1			
Hancock	59	Urban	71,328	6.43	-1.880	4	20.07	-2.112	3	1,682.3	-0.248	21	23,009.0	-0.512	16	3,872.1	-0.373	36			
Harrison	61	Urban	39,230	13.74	0.085	52	29.47	-0.634	24	2,421.6	-0.151	47	—	—	47	5,963.8	0.198	65			
Hendricks	63	Urban	153,435	4.90	-2.290	2	18.03	-2.474	2	1,389.8	-0.287	9	34,871.6	-0.275	27	2,833.5	-0.656	17			
Henry	65	Rural	49,146	15.19	0.473	64	35.23	0.232	51	2,808.3	-0.101	59	—	—	47	4,294.3	-0.258	49			
Howard	67	Urban	82,755	17.45	1.081	84	36.15	0.416	57	1,477.9	-0.275	13	16,228.4	-0.648	10	2,347.7	-0.788	8			
Huntington	69	Rural	36,863	11.50	-0.516	28	33.00	-0.080	37	1,930.0	-0.216	33	—	—	47	4,298.9	-0.256	50			
Jackson	71	Rural	43,471	14.49	0.284	58	35.52	0.316	52	1,725.0	-0.243	23	62,101.4	0.271	35	3,428.7	-0.494	25			
Jasper	73	Urban	33,448	8.10	-1.430	7	26.05	-1.173	15	1,355.5	-0.055	65	—	—	47	3,548.2	-0.461	28			
Jay	75	Rural	21,255	16.00	0.689	73	41.37	1.236	84	4,251.0	0.088	76	—	—	47	7,028.8	0.488	74			
Jefferson	77	Rural	32,453	13.38	-0.012	44	37.08	0.561	66	1,352.2	-0.291	6	—	—	47	2,307.2	-0.799	7			
Jennings	79	Rural	28,113	15.62	0.587	67	38.35	0.761	73	4,608.7	0.135	83	—	—	47	6,721.0	0.404	73			
Johnson	81	Urban	145,645	9.75	-0.987	15	25.81	-1.210	14	1,614.7	-0.257	18	63,323.9	0.295	36	2,515.6	-0.743	10			
Knox	83	Rural	38,062	14.79	0.366	61	32.79	-0.113	36	1,340.2	-0.293	5	—	—	47	4,137.2	-0.300	45			
Kosciusko	85	Rural	77,983	11.09	-0.629	26	30.53	-0.469	28	2,142.4	-0.188	40	45,872.4	-0.064	34	3,788.4	-0.396	35			
LaGrange	87	Rural	38,084	12.89	-0.144	42	41.72	1.292	86	3,808.4	0.030	69	76,168.0	0.553	38	10,098.0	1.135	81			
Lake	89	Urban	491,596	17.74	1.157	83	36.12	0.411	56	1,699.8	-0.246	22	16,835.5	-0.636	11	2,697.5	-0.693	14			
LaPorte	91	Urban	111,280	15.99	0.687	72	33.35	-0.024	38	1,895.7	-0.220	31	38,372.4	-0.204	32	3,925.4	-0.358	40			
Lawrence	93	Rural	45,814	12.77	-0.177	40	34.66	0.181	46	2,318.5	-0.165	44	114,535.0	1.321	43	5,275.6	0.010	58			
Madison	95	Urban	130,280	16.39	0.741	74	36.80	0.518	61	1,727.9	-0.242	24	21,713.3	-0.538	14	4,195.5	-0.285	47			
Marion	97	Urban	926,335	20.65	1.939	91	42.02	1.338	87	1,154.5	-0.317	2	15,083.4	-0.671	8	2,139.4	-0.845	5			
Marshall	99	Rural	46,962	11.91	-0.407	33	35.11	0.252	49	1,871.0	-0.223	29	—	—	47	4,558.5	-0.186	53			
Martin	101	Rural	10,262	12.86	-0.152	41	32.41	-0.172	34	4,104.8	0.069	72	—	—	47	7,126.4	0.515	76			
Miami	103	Rural	36,211	14.29	0.231	56	37.98	0.703	70	2,105.3	-0.193	38	—	—	47	4,878.0	-0.098	55			
Morone	105	Urban	142,404	23.27	2.373	92	38.45	0.778	74	1,816.6	-0.331	27	12,945.8	-0.714	5	3,413.1	-0.488	24			
Montgomery	107	Rural	38,172	13.50	0.019	48	34.22	0.112	42	2,234.9	-0.045	66	31,810.0	-0.336	22	2,571.0	-0.728	11			
Morgan	109	Urban	69,403	11.87	-0.419	31	28.23	-0.830	19	2,321.2	-0.164	45	—	—	47	3,873.3	-0.372	37			
Newton	111	Urban	14,057	13.46	0.008	46	36.69	0.500	60	10,813.1	0.948	88	—	—	47	8,367.3	0.853	79			
Noble	113	Rural	47,546	11.91	-0.406	34	34.20	0.108	41	3,773.5	0.026	68	33,961.4	-0.293	23	4,020.8	-0.332	41			
Ohio	115	Urban	6,033	7.79	-1.513	5	25.44	-1.268	13	3,016.5	-0.073	63	—	—	47	—	—	88			
Orange	117	Rural	19,725	17.25	1.027	78	44.67	1.756	92	3,131.0	-0.058	64	—	—	47	4,380.6	-0.234	51			
Owen	119	Urban	21,192	14.97	0.413	62	38.17	0.733	72	5,277.6	0.282	85	211,920.0	3.272	45	13,942.1	2.373	83			
Parke	121	Rural	17,107	14.53	0.296	59	40.64	1.121	81	1,879.9	-0.222	30	—	—	47	6,198.2	0.262	68			
Perry	123	Rural	19,414	11.72	-0.458	29	31.26	-0.354	31	2,136.3	-0.189	39	—	—	47	6,105.0	0.236	66			
Pike	125	Rural	12,687	9.80	-0.975	16	29.96	-0.558	26	2,537.4	-0.136	52	—	—	47	—	—	88			
Porter	127	Urban	166,570	11.32	-0.567	27	23.62	-1.555	7	1,860.7	-0.232	26	25,237.9	-0.468	18	2,696.7	-0.693	13			
Posey	129	Urban	25,567	10.96	-0.664	25	23.46	-1.580	6	4,565.5	0.130	82	255,670.0	4.148	46	6,555.6	0.359	71			
Pulaski	131	Rural	13,047	13.86	0.115	53	36.81	0.519	62	2,071.0	-0.197	37	—	—	47	—	—	88			
Putnam	133	Urban	37,650	8.62	-1.291	9	24.26	-1.454	9	4,327.6	0.098	78	94,125.0	0.912	40	5,331.7	0.025	59			
Randolph	135	Urban	25,596	17.67	1.138	82	42.59	1.428	88	4,266.0	0.090	77	—	—	47	14,220.0	2.449	84			
Ripley	137	Rural	28,612	8.40	-1.350	8	29.23	-0.673	22	4,146.7	0.075	73	95,373.3	0.937	41	6,113.7	0.239	67			
Rush	139	Urban	16,991	17.34	1.050	79	38.55	0.793	76	2,178.3	-0.183	41	—	—	47	4,086.3	-0.314	43			
St. Joseph	141	Urban																			

County	FIPS	Rurality	Population	RISK FACTORS															
				Alcohol Abuse			Substance Abuse			Obesity			Smoking						
				Rate/10,000 ED Visits	Z-Score	Rank	Rate/10,000 ED Visits	Z-Score	Rank	%	Z-Score	Rank	%	Z-Score	Rank				
Adams	1	Rural	34,365	0.858	-1.129	10	41,738	-0.714	18	28.7	-0.652	20	20.8	-1.129	9				
Allen	3	Urban	360,412	5.482	2.158	90	56,479	-0.175	41	32.6	-0.612	21	21.0	0.281	35				
Bartholomew	5	Urban	79,129	2.587	0.100	54	78,238	0.622	74	33.9	-0.936	14	19.4	0.752	45				
Benton	7	Urban	8,804	1.152	-0.920	15	50,685	-0.387	33	33.6	0.848	61	28.2	0.643	42				
Blackford	9	Rural	12,502	4.879	1.729	86	76,435	0.556	72	36.5	1.051	67	29.4	1.692	58				
Boone	11	Urban	58,944	1.421	-0.728	24	50,202	-0.404	30	27.2	-1.402	5	17.1	-1.671	5				
Brown	13	Urban	15,083	0.000	-1.739	1	20,030	-1.509	4	31.9	-0.774	17	20.2	0.028	30				
Carroll	15	Urban	20,095	2.518	0.051	52	38,779	-0.822	13	30.6	0.361	51	25.8	-0.442	20				
Cass	17	Rural	38,581	2.106	-0.242	40	72,408	0.408	66	34.7	-0.206	30	23.0	1.041	52				
Clark	19	Urban	111,951	3.727	0.910	74	62,320	0.039	53	29.7	0.361	51	25.8	-0.767	16				
Clay	21	Urban	26,837	2.641	0.138	56	96,970	1.307	85	36.3	-0.227	29	22.9	1.619	57				
Clinton	23	Rural	33,022	1.840	-0.431	35	86,785	0.935	80	29.4	-1.038	12	18.9	-0.876	13				
Crawford	25	Rural	10,665	1.908	-0.383	37	52,465	-0.321	36	37.4	0.260	47	25.3	2.017	59				
Daviess	27	Rural	6,608	0.608	-1.307	6	40,418	-0.762	16	32.1	-0.085	34	23.6	0.101	32				
Dearborn	29	Urban	98,831	2.426	-0.014	49	46,911	0.525	25	31.7	-0.179	43	24.9	-0.044	29				
Decatur	31	Rural	26,042	1.885	-0.399	36	63,723	0.091	56	29.6	-0.571	22	21.2	-0.803	15				
DeKalb	33	Urban	42,321	1.644	-0.571	32	54,708	-0.239	40	27.0	-0.348	27	22.3	-1.744	4				
Delaware	35	Urban	117,364	3.937	1.059	78	64,782	0.129	58	33.4	0.240	46	25.2	0.571	41				
Dubois	37	Rural	42,071	1.413	-0.735	23	6,123	-2.018	2	29.9	-1.159	10	18.3	-0.695	17				
Elkhart	39	Urban	199,619	2.801	0.252	58	58,877	-0.087	44	29.9	-0.794	16	20.1	-0.695	17				
Fayette	41	Rural	24,029	3.414	0.687	67	69,130	0.288	60	31.0	0.158	42	24.8	-0.297	24				
Floyd	43	Urban	75,283	5.080	1.871	88	62,517	0.046	54	30.7	0.827	60	28.1	-0.406	21				
Fountain	45	Rural	17,119	3.014	0.403	63	60,876	-0.014	49	30.6	0.665	58	27.3	-0.442	20				
Franklin	47	Rural	22,969	0.437	-1.428	3	19,237	-1.538	3	27.5	1.557	72	31.7	-1.563	6				
Fulton	49	Rural	20,737	1.969	-0.340	38	60,054	-0.044	47	35.4	-1.301	7	17.6	1.394	54				
Gibson	51	Rural	33,458	1.480	-0.687	29	59,807	-0.053	46	31.0	0.341	50	25.7	-0.297	24				
Grant	53	Rural	69,330	3.825	0.979	77	70,462	0.337	61	33.1	0.949	64	28.7	0.462	39				
Greene	55	Rural	32,940	2.158	-0.205	43	50,553	-0.391	32	34.1	0.037	37	24.2	0.824	47				
Hamilton	57	Urban	289,495	1.453	-0.706	27	39,993	-0.800	14	22.9	-2.355	1	12.4	-3.226	2				
Hancock	59	Urban	70,933	2.344	-0.073	44	51,571	-0.354	35	29.6	-0.734	18	20.4	-0.803	15				
Harrison	61	Urban	39,134	1.263	-0.841	19	56,849	-0.161	42	34.0	-2.153	2	13.4	0.788	46				
Hendricks	63	Urban	150,434	1.517	-0.661	30	31,543	-1.087	11	32.1	-1.200	9	18.4	0.101	32				
Henry	65	Rural	49,345	3.470	0.728	69	54,302	-0.254	39	30.5	0.868	62	28.3	-0.478	19				
Howard	67	Urban	82,849	1.454	-0.706	28	73,646	0.454	70	35.5	-0.004	35	24.0	1.330	55				
Howe	69	Rural	36,789	3.549	0.784	71	66,512	0.196	69	32.4	0.341	50	25.7	0.318	36				
Jackson	71	Rural	43,083	3.631	0.842	72	109,370	1.761	88	37.7	-0.166	31	23.2	2.126	60				
Jasper	73	Urban	33,456	2.390	-0.040	47	53,480	-0.284	37	32.5	0.625	57	27.1	0.245	34				
Jay	75	Rural	21,366	2.367	-0.056	46	115,520	1.986	89	34.7	0.321	49	25.6	1.041	52				
Jefferson	77	Rural	32,554	2.776	0.234	57	82,058	0.762	78	33.7	1.030	65	29.1	0.679	43				
Jennings	79	Rural	28,161	0.717	-1.229	7	101,800	1.484	87	31.9	1.841	75	33.1	0.028	30				
Johnson	81	Urban	143,191	1.738	-0.504	33	60,481	-0.028	48	30.7	0.017	36	24.1	-0.406	21				
Knox	83	Rural	38,122	3.691	0.885	73	72,507	0.412	67	34.3	1.273	70	30.3	0.896	48				
Kosciusko	85	Rural	77,609	3.816	0.973	76	54,184	-0.259	38	31.3	-0.429	26	21.9	-0.189	27				
LaGrange	87	Rural	37,521	0.773	-1.190	8	30,147	-1.138	5	33.8	-0.956	13	19.3	0.715	44				
Lake	89	Urban	493,618	5.473	2.151	89	48,927	-0.451	36	25.4	-0.004	35	24.0	1.394	54				
LaPorte	91	Urban	111,246	4.870	1.722	85	71,155	0.363	63	33.9	0.523	54	26.6	0.752	45				
Lawrence	93	Rural	46,078	2.418	-0.020	48	72,535	0.413	68	34.4	-0.794	16	20.1	0.932	49				
Madison	95	Urban	130,348	4.009	1.110	79	73,464	0.447	69	35.2	0.787	59	27.9	1.222	53				
Marion	97	Urban	918,977	4.175	1.228	82	73,853	0.461	71	31.3	0.037	37	24.2	-0.189	27				
Marshall	99	Rural	47,024	3.201	0.536	65	59,756	-0.055	45	32.2	-0.612	21	21.0	0.137	33				
Martin	101	Rural	10,260	0.978	-1.044	12	31,292	-1.096	10	30.6	-1.321	6	17.5	-0.442	20				
Miami	103	Rural	36,486	1.115	-0.946	14	72,221	0.402	65	33.4	1.436	71	31.1	0.571	41				
Monroe	105	Urban	141,019	0.898	-1.100	11	42,362	-0.691	19	22.8	-1.261	8	17.8	-3.262	1				
Montgomery	107	Rural	38,254	1.368	-0.809	22	79,263	0.659	75	34.6	-0.466	31	23.2	1.005	51				
Morgan	109	Urban	69,356	3.446	0.710	68	82,701	0.785	79	33.6	0.037	37	24.2	0.643	42				
Newton	111	Urban	14,044	2.142	-0.217	41	28,555	-1.197	8	35.7	3.584	77	41.7	1.402	56				
Noble	113	Rural	47,582	2.514	0.048	51	50,489	-0.394	31	34.6	0.544	55	26.7	1.005	51				
Ohio	115	Urban	6,079	3.368	0.655	66	21,892	-1.440	6	30.9	0.888	63	28.4	-0.333	23				
Orange	117	Rural	19,690	1.530	-0.651	31	61,718	0.017	50	31.7	0.848	61	28.2	-0.044	29				
Owen	119	Urban	21,380	2.875	0.304	60	81,448	0.739	77	34.5	1.618	73	32.0	0.969	50				
Parke	121	Rural	17,069	2.367	-0.057	45	49,701	-0.423	29	28.6	1.213	69	30.0	-1.165	8				
Perry	123	Rural	19,462	0.517	-1.372	5	42,900	-0.672	21	30.8	0.098	39	24.5	-0.369	22				
Pike	125	Rural	12,766	3.176	0.518	64	21,438	-1.457	5	34.4	-1.139	11	18.4	0.932	49				
Porter	127	Urban	165,682	4.473	1.440	84	40,849	-0.747	17	30.8	-0.531	23	21.4	-0.369	22				
Posey	129	Urban	25,599	3.528	0.768	70	39,589	-0.793	15	31.3	-0.511	24	21.5	-0.189	27				
Pulaski	131	Rural	13,124	0.776	-1.188	9	70,602	0.342	62	34.7	-0.328	28	22.4	1.041	52				
Putnam	133	Urban	37,750	1.064	-0.983	13	87,268	0.952	81	30.6	0.077	38	24.4	-0.442	20				
Randolph	135	Rural	25,815	1.192	-0.892	16	58,398	-0.104	43	32.8	-0.105	33	23.5	0.354	37				
Ripley	137	Rural	28,583	1.742	-0.501	34	50,869	-0.380	34	31.1	0.503	53	26.5	-0.261	25				
Rush	139	Rural	17,095	1.200	-0.886	17	61,780	0.019	51	30.9	-0.429	26	21.9	-0.333	23				
St. Joseph	141	Urban	266,344	4.135	1.200	81	78,117	0.617	73	28.6	-0.652	20	20.8	-1.165	8				
Scott	143	Urban	23,791	2.527	0.057	53	190,780	4.741	91	29.5	0.118	40	24.6	-0.840	14				
Shelby	145	Urban	44,471	2.473	0.019	50	90,156	1.058	84	30.8	0.604	56	27.0	-0.369	22				
Spencer	147	Rural	20,837	2.896	0.320	61	25,585	-1.305	7	30.3	-0.815	15	20.0	-0.550	18				
Starke	149	Rural	23,213	1.307	-0.810	21	88,422	0.995	82	34.7	1.740	74	32.6	1.041	52				
Steuben	151	Rural	34,124	2.909	0.329	62	43,640	-0.644	22	33.2	-0.470	25	21.7	0.498	40				
Sullivan	153	Urban	21,188	1.433	-0.720	26	100,340	1.431	86	30.8	0.199	44	25.0	-0.369	22				
Switzerland	155	Rural	10,424	2.851	0.287	59	42,759	-0.677	20	31.5	1.050	66	29.2	-0.116	28				
Tippecanoe	157	Urban	177,513	1.292	-0.821	20	61,993	0.027	52	25.5	-1.889	4	14.7	-2.286	3				
Tipton	159	Rural	15,695	2.620	0.123	55	49,125	-0.444	28	33.2	0.280	48	25.4	0.498	40				
Union	161	Urban	7,362	0.000	-1.739	1	—	—	—	33.4	1.172	68	29.8	0.571	41				
Vanderburgh	163	Urban	180,858	7.148	3.341	91	89,016	1.016	83	33.2	0.219	45	25.1	0.498	40				
Vermillion	165	Urban	18,040	4.461	1.432	83	63,089	0.087	55	31.2	0.138	41	24.7	-0.225	26				
Vigo	167	Urban	109,438	5.005	1.818	87	71,457	0.074	64	31.5	-0.125	32	23.4	-0.116	28				
Wabash	169	Rural	32,361	3.734	0.915	75	63,787	0.093	57	33.0	-0.956	13							

County	FIPS	Rurality	Population	HEALTH OUTCOMES											
				Diabetes			Hypertension			Infant Mortality					
				%	Z-Score	Rank	%	Z-Score	Rank	IMR	Z-Score	Rank			
Adams	1	Rural	34,365	10.0	-0.956	12	25.2	-0.810	17	6.2	-0.763	7			
Allen	3	Urban	360,412	10.3	-0.743	15	28.7	-0.059	35	7.3	-0.022	11			
Bartholomew	5	Urban	79,129	10.6	-0.530	18	26.8	-0.466	27	10.7	2.265	23			
Benton	7	Urban	8,804	12.6	0.888	36	—	—	—	—	—	—			
Blackford	9	Rural	12,502	12.4	0.746	34	37.0	1.721	71	—	—	—			
Boone	11	Urban	58,944	9.2	-1.523	5	25.0	-0.652	16	—	—	—			
Brown	13	Urban	15,083	11.9	0.392	20	19.0	-2.139	2	—	—	—			
Carroll	15	Urban	20,095	10.9	-0.318	21	33.4	0.949	64	—	—	—			
Cass	17	Rural	38,581	9.5	-1.311	7	29.0	0.006	37	8.4	0.718	18			
Clark	19	Urban	111,951	12.8	1.030	38	30.1	0.241	43	7.5	0.112	12			
Clay	21	Urban	26,837	11.3	-0.034	24	31.4	0.520	52	—	—	—			
Clinton	23	Rural	33,022	12.9	1.101	39	22.6	-1.367	8	—	—	—			
Crawford	25	Rural	10,665	13.5	1.526	44	29.9	0.199	42	—	—	—			
Davess	27	Rural	32,064	11.9	0.392	30	20.5	-1.818	4	8.6	0.852	20			
Dearborn	29	Urban	49,831	11.2	-0.105	23	30.3	0.284	44	—	—	—			
Decatur	31	Rural	26,042	12.3	0.675	33	36.4	1.593	69	—	—	—			
Dekalb	33	Rural	42,321	10.1	-0.585	13	28.8	-0.037	36	—	—	—			
Delaware	35	Urban	117,364	11.8	0.321	29	35.3	1.357	66	8.4	0.718	18			
Dubois	37	Rural	42,071	10.1	-0.885	13	21.9	-1.517	6	7.8	0.314	14			
Elkhart	39	Urban	199,619	9.3	-1.452	6	27.5	-0.316	31	7.1	-0.157	10			
Fayette	41	Rural	24,029	13.1	1.243	41	44.4	3.309	74	—	—	—			
Floyd	43	Urban	75,283	9.8	-1.098	10	30.8	0.392	48	—	—	—			
Fountain	45	Rural	17,119	13.1	1.243	41	27.8	-0.252	32	—	—	—			
Franklin	47	Rural	22,969	12.4	0.746	34	22.0	-1.496	7	—	—	—			
Fulton	49	Rural	20,737	11.5	0.108	26	30.1	0.241	43	—	—	—			
Gibson	51	Rural	33,458	11.4	0.037	25	32.4	0.735	58	—	—	—			
Grant	53	Rural	69,330	13.8	1.739	46	25.4	-0.767	19	9.5	1.458	22			
Greene	55	Rural	32,940	14.5	2.236	47	26.9	-0.445	28	—	—	—			
Hamilton	57	Urban	289,495	7.8	-2.516	1	21.6	-1.582	5	4.1	-2.176	1			
Hancock	59	Urban	70,933	10.3	-0.743	15	27.8	-0.252	32	5.2	-1.436	3			
Harrison	61	Urban	39,134	10.5	-0.601	17	35.4	1.378	67	—	—	—			
Hendricks	63	Urban	150,434	9.2	-1.523	5	27.1	-0.402	29	5.6	-1.166	5			
Henry	65	Rural	49,345	10.6	-0.530	18	33.1	0.885	61	8.4	0.718	18			
Howard	67	Urban	82,849	12.5	0.817	35	37.7	1.872	73	6	-0.897	6			
Huntington	69	Urban	36,987	13.2	1.314	42	38.7	0.959	70	—	—	—			
Jackson	71	Rural	43,083	11.8	0.321	29	24.6	-0.938	14	7.9	0.381	15			
Jasper	73	Urban	33,456	11.5	0.108	26	31.3	0.499	51	—	—	—			
Jay	75	Rural	21,366	12.7	0.959	37	30.7	0.370	47	—	—	—			
Jefferson	77	Rural	32,554	11.0	-0.247	22	36.7	1.657	70	—	—	—			
Jennings	79	Rural	28,161	11.2	-0.105	23	31.3	0.499	51	—	—	—			
Johnson	81	Urban	143,191	10.4	-0.672	16	31.2	0.477	50	5.6	-1.166	5			
Knox	83	Rural	38,122	10.0	-0.956	12	25.7	-0.702	21	—	—	—			
Kosciusko	85	Rural	77,609	9.7	-1.169	9	29.3	0.070	40	8.1	0.516	16			
LaGrange	87	Rural	37,521	10.5	-0.601	17	26.3	-0.574	24	5.4	-1.201	4			
Lake	89	Urban	493,618	12.9	1.101	39	38.5	0.102	34	8.3	0.650	17			
LaPorte	91	Urban	111,245	9.9	-1.027	11	33.2	0.906	62	8.5	0.785	19			
Lawrence	93	Rural	46,078	15.6	3.016	48	27.2	-0.381	30	—	—	—			
Madison	95	Urban	130,348	12.4	0.746	34	30.6	0.349	46	7.5	0.112	12			
Marion	97	Urban	918,977	10.9	-0.318	21	32.2	0.692	56	8.6	0.852	20			
Marshall	99	Rural	47,024	10.9	-0.318	21	23.9	-1.088	12	—	—	—			
Martin	101	Rural	10,260	11.2	-0.105	23	31.5	0.542	53	—	—	—			
Miami	103	Rural	36,486	10.9	-0.318	21	30.3	0.284	44	—	—	—			
Monroe	105	Urban	141,019	8.5	-2.020	2	29.2	0.048	39	6	-0.897	6			
Morgan	107	Rural	38,354	11.7	0.250	28	23.3	-1.217	10	—	—	—			
Morgan	109	Urban	69,356	10.8	-0.389	20	28.7	-0.059	35	6.3	-0.695	8			
Newton	111	Urban	14,044	11.8	0.321	29	—	—	—	—	—	—			
Noble	113	Rural	47,582	10.8	-0.389	20	26.9	-0.445	28	6.9	-0.292	9			
Ohio	115	Urban	6,079	11.9	0.392	30	—	—	—	—	—	—			
Orange	117	Rural	19,690	11.7	0.250	28	31.3	0.499	51	—	—	—			
Owen	119	Urban	21,380	12.2	0.604	32	33.0	0.863	60	—	—	—			
Parke	121	Rural	17,069	11.7	0.250	28	31.7	0.585	54	—	—	—			
Perry	123	Rural	19,462	10.7	-0.459	19	26.1	-0.616	23	—	—	—			
Pike	125	Rural	12,766	12.9	1.101	39	36.7	1.657	70	—	—	—			
Porter	127	Urban	166,682	8.9	-1.736	4	24.9	-0.874	15	4.3	-2.041	2			
Posey	129	Urban	25,599	11.0	-0.247	22	30.5	0.327	45	—	—	—			
Putaski	131	Rural	13,124	13.6	1.597	45	19.4	-2.054	3	—	—	—			
Putnam	133	Urban	37,750	11.8	0.321	29	27.9	-0.230	33	—	—	—			
Randolph	135	Rural	25,815	13.6	1.597	45	25.5	-0.745	20	—	—	—			
Ripley	137	Rural	28,583	10.0	-0.956	12	27.2	-0.381	30	—	—	—			
Rush	139	Rural	17,095	11.9	0.392	30	31.5	0.542	53	—	—	—			
St. Joseph	141	Urban	266,344	9.5	-1.311	7	29.1	0.027	38	7.9	0.381	15			
Scott	143	Urban	23,791	11.9	0.392	30	37.4	1.807	72	—	—	—			
Shelby	145	Urban	44,471	11.2	-0.105	23	35.5	1.400	68	8.3	0.650	17			
Spencer	147	Rural	20,837	10.6	-0.530	18	27.2	0.381	30	—	—	—			
Stark	149	Rural	23,213	10.5	-0.601	17	31.8	0.606	55	—	—	—			
Steuben	151	Rural	34,124	11.8	0.321	29	33.3	0.928	63	—	—	—			
Sullivan	153	Urban	21,188	12.0	0.463	31	31.0	0.435	49	—	—	—			
Switzerland	155	Rural	10,424	13.2	1.314	42	31.3	0.499	51	—	—	—			
Tippecanoe	157	Urban	177,513	8.6	-1.949	3	32.8	0.821	59	7.7	0.247	13			
Tipton	159	Rural	15,695	12.2	0.604	32	23.8	-1.110	11	—	—	—			
Union	161	Urban	7,362	11.4	0.037	25	25.3	-0.788	18	—	—	—			
Vanderburgh	163	Urban	180,858	12.7	0.959	37	32.3	0.713	57	7.8	0.314	14			
Vermillion	165	Urban	16,940	13.0	1.172	40	26.7	-0.488	26	—	—	—			
Vigo	167	Urban	108,428	9.6	-1.240	8	27.5	-0.216	31	7.1	-0.157	10			
Wabash	169	Rural	32,361	13.4	1.455	43	23.9	-1.088	12	—	—	—			
Warren	171	Rural	8,342	11.6	0.179	27	22.9	-1.303	9	—	—	—			
Warrick	173	Urban	60,463	10.8	-0.389	20	26.5	-0.531	25	—	—	—			
Washington	175	Urban	27,921	10.5	-0.601	17	24.5	-0.960	13	—	—	—			
Wayne	177	Rural	68,346	10.2	-0.814	14	18.4	-2.268	1	9	1.121	21			
Wells	179	Urban	27,652	10.8	-0.389	20	25.9	-0.659	22	—	—	—			
White	181	Rural	24,426	11.3	-0.034	24	29.6	0.134	41	—	—	—			
Whitley	183	Urban	33,342	9.9	-1.027	11	33.7	1.014	65	—	—	—			

APPENDIX G. 2018 PCNA Qualitative Key Informant Interview Protocol

Purpose

The purpose of these interviews is to contact administrators from community health centers that were interviewed in 2015 to identify changes in community health needs since the initial interview. Similar to the 2015 methods, responses will be categorized into seven major areas.

Response Categories:

- **Access to Care (Workforce Capacity)**

Identifying the number of available providers and number of hour spent in direct patient care

- **Insurance Status**

Identifying the proportion of the population that are privately insured, publically insured and uninsured

- **Barriers to health care**

What major barriers affect access to care (insurance status, transportation, employment, knowledge of available resources, language barriers, wait times, perception of quality of care)?

- **Unmet needs**

What is lacking in service area?

- **Major health issues**

What major population health outcomes are prevalent in service area?

- **Areas in need of growth or improvement**

How can health care facilities grow to improve access to care (outreach, mobile clinics, care coordination, referral networks)?

- **Successful Initiatives**

What programs are currently in place that have improved access to and quality of care?

Telephone Interview Procedures

Step 1: Dial the number obtained through contact information search.

Step 2: Identify yourself and your reason for calling.

1. “Hi, my name is _____. I am a research assistant for the Bowen Center for Health Workforce Research and Policy (previously called Health Workforce Studies) located at the Indiana University School of Medicine, Department of Family Medicine. The Bowen Center works on behalf of the Indiana State Department of Health to conduct annual primary care needs assessments.
2. In 2015, our team contacted an administrator at your health care center for a key informant interview regarding this needs assessment. We would like to conduct a follow-up interview, asking similar questions to determine if the needs at your health care center have changed.
3. This interview is expected to take about 10 to 15 minutes. Would you or an administrator be willing to answer our questions?”

No: “Okay. Thank you for your time and have a good day.”

Yes: “Great! Thank you for being willing to answer our questions. As I mentioned before this should only take about 10 to 15 minutes.”

Step 3: Begin structured Interview

1. Are the majority of residents in the area able to access a:

- a. Primary care provider
- b. Mental or behavioral health provider
- c. Dentist

[Follow-up – Are there any specific populations that do not have access to care?]

2. In general, where do uninsured and under-insured individuals go when they are in need of primary care services? Why?

a. Are there a sufficient number of providers accepting Medicaid or other forms of medical assistance?

3. Are there a sufficient number of bilingual providers in the community?

a. What languages do you think are most needed?

4. What would you say are the most significant barriers that keep people in the community from accessing health care when they need it?

[Follow up – Is transportation a barrier? What issues do you see related to transportation?]

5. What health care services not currently provided in the area do you think need to be made available?

[Follow up – Are there services that are missing? Are there enough providers? Are there waiting lines for services?]

6. Please rank the three most significant health issues you perceive in the community:

- a. Diabetes
- b. Cancer
- c. Heart disease
- d. Stroke
- e. Obesity
- f. Substance abuse
- g. Mental illness
- h. Domestic/family violence/abuse of children
- i. Sexually transmitted diseases

7. What do you feel should be done to improve the health of the community? (Or, what could be done to better address unmet needs?)

8. What efforts or initiatives have been successful in helping meet local health care needs? Have specific organizations played a lead role in the efforts?

9. What do you think could encourage more community involvement, advocacy, and partnership around health issues?

10. Is there anything else you would like to add?

Step 4: After completing interview thank the respondent for their time.

“Thank you again for taking the time to answer our questions. Have a great day!”