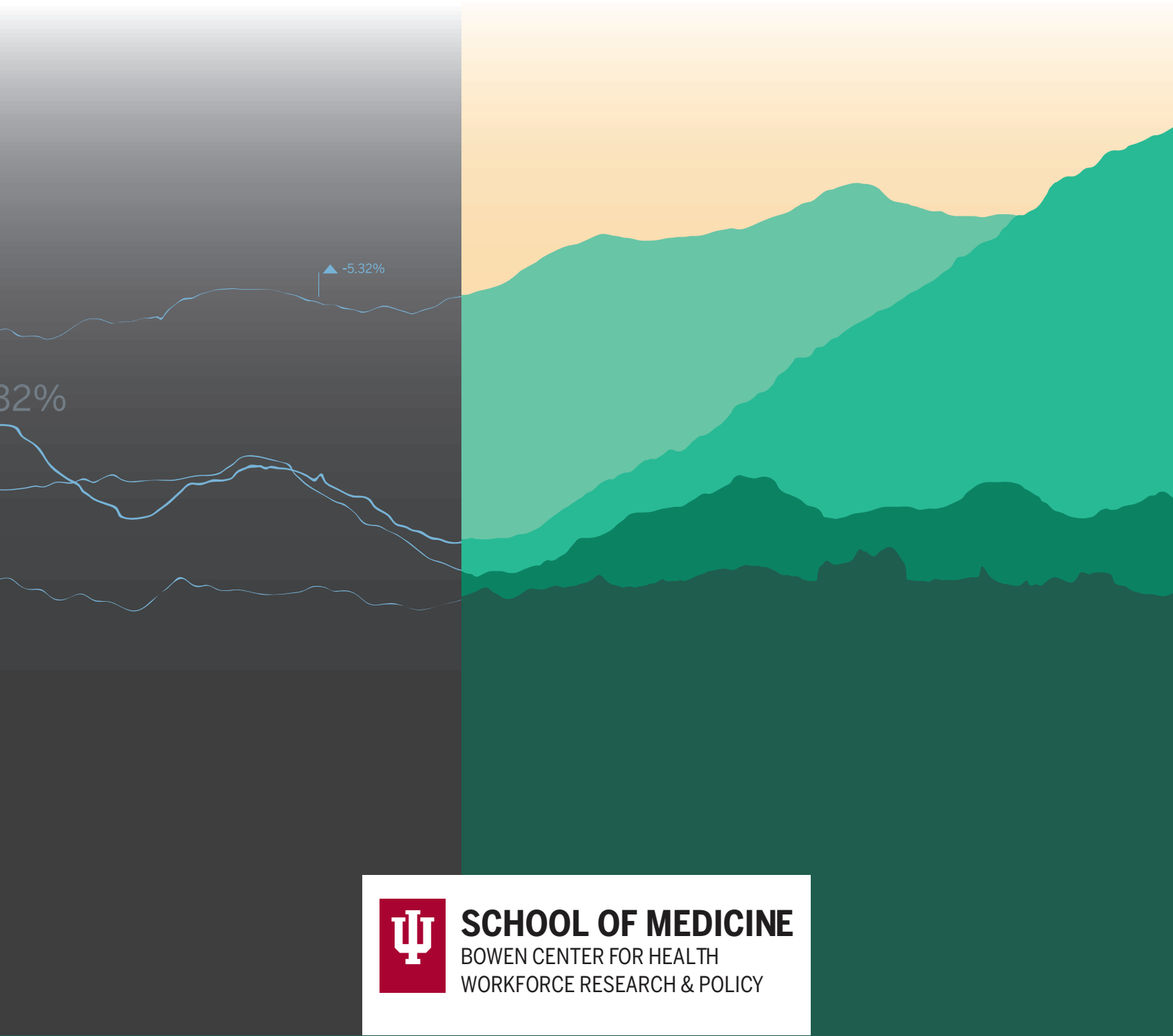
The Landscape of Obstetric Resources and Risks in Indiana

A Framework for Informing Policy



SCHOOL OF MEDICINE
BOWEN CENTER FOR HEALTH
WORKFORCE RESEARCH & POLICY

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December 2019

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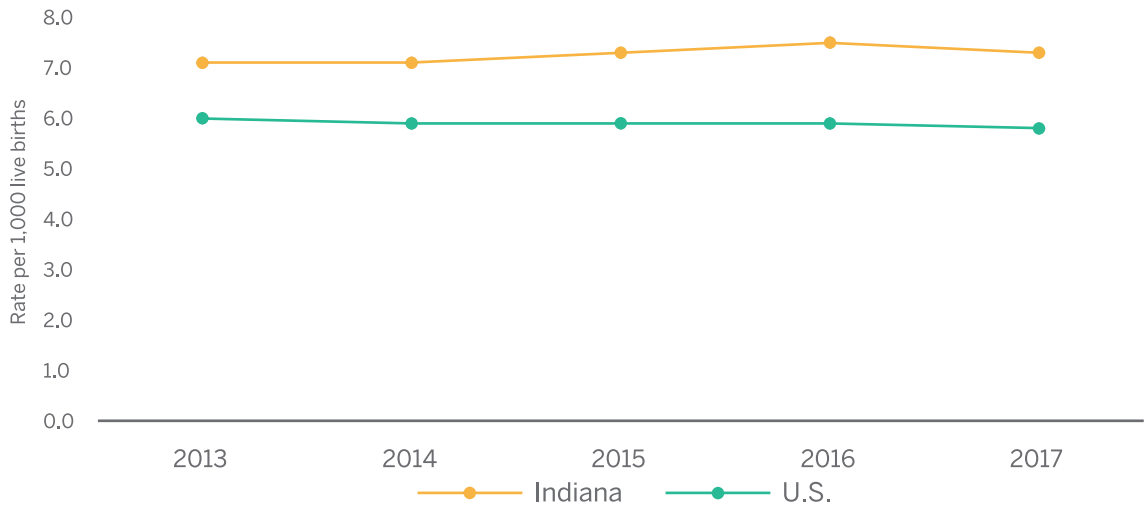
INTRODUCTION

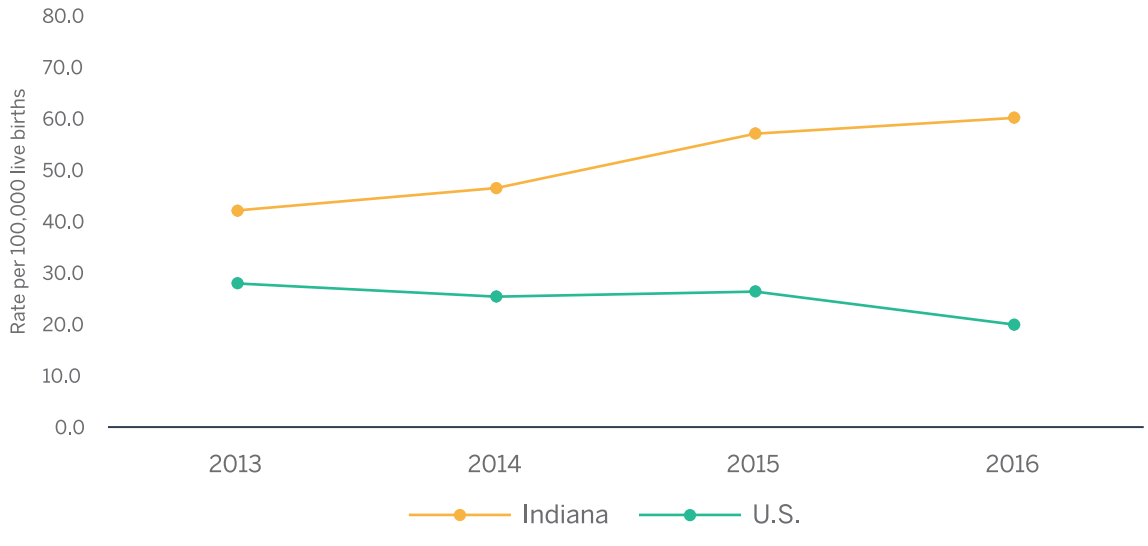
The health of women and children reflects the health of the population. As such, maternal and child health is a top public health priority across the globe. Indiana statistics suggest that work is needed to improve and secure the health of our pregnant women and infants. Infant mortality rates in Indiana were 7.2% in 2017, alarmingly higher than the national average of 5.9%[1] (Figure 1;). Maternal mortality is also a concern, with 60.2 of 10,000 Indiana mothers experiencing a pregnancy-related death (Figure 2).[2]

Figure 1. Infant Mortality Rate for Indiana and the U.S., 2013 - 2017



Source: National Center for Health Statistics, CDC; World Bank

Figure 2. Maternal Mortality Rate for Indiana and the U.S., 2013 - 2016



Source: National Center for Health Statistics, CDC; World Bank

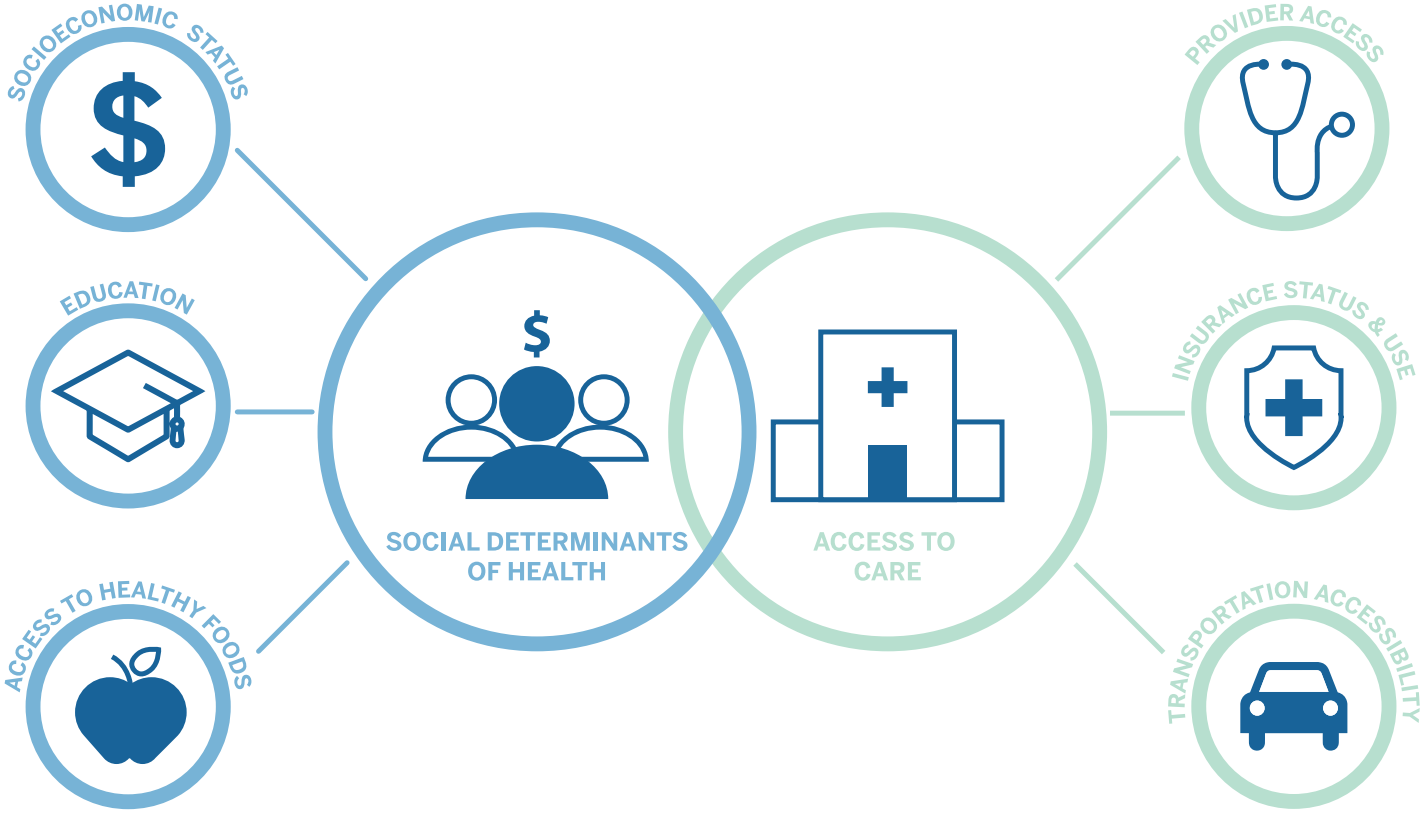
1 https://www.americashealthrankings.org/explore/health-of-women-and-children/measure/overall_mch/state/IN
2 National Center for Health Statistics, CDC; World Bank.

INDICATORS

Indiana's infant and maternal mortality rates are not just numbers that assign risk of death, they are indicators of underlying problems. Multiple known factors contribute to risk for infant and maternal mortality. Although medical issues (such as birth defects or injuries) are the most common causes of death for infants and prenatal women, underlying causes of/or contributors to mortality fall into one of two buckets: 1) social determinants of health and 2) access to health care:

SOCIAL DETERMINANTS OF HEALTH include a vast array of indicators, including factors such as: education, socioeconomic status, and access to healthy foods. These factors are associated with poor birth outcomes. The Indiana State Department of Health and Indiana Family and Social Services Administration monitor many of these variables and administer programs to address disparities.

ACCESS TO HEALTH CARE is also challenging to quantify, as it may be impacted by social determinants of health such as: insurance status, utilization, transportation accessibility, etc. However, the backbone of access to health care is the health workforce. A health workforce must be in place to deliver the services desired or required by patients. Only when a workforce is in place to deliver such services will a patient be able to access those services.



Examples of State Programs to Address
SOCIAL DETERMINANTS OF HEALTH

SAFE SLEEP

SNAP
Supplemental Nutrition Assistance Program

TANF
Temporary Assistance for Needy Families

WIC
Women, Infants, and Children

SAFETY PIN

Examples of State Programs to Address
ACCESS TO CARE

NFP
Nurse-Family Partnership

OB NAVIGATOR

IPQIC
Indiana Perinatal Quality Improvement Collaborative

NEWBORN SCREENING

SLRP
State Loan Repayment Program

RECENT AND CURRENT INITIATIVES

Tackling infant and maternal mortality, and their underlying causes, have been on the agenda of both Indiana's executive and legislative branches. Government entities seek to implement targeted policy solutions to improve Indiana's rates and save the lives of infants and their mothers. A summary of key legislation enacted over the last few years can be found in the infographic.

NEXT STEPS IN TARGETING INITIATIVES

Although these initiatives are broad in scope, few target the workforce that may be providing critical perinatal care to infants and their mothers. A recent national study, "No Where to Go, Access to Maternity Care", sought to describe access to maternal care[3]. This report used national data to define and identify "Maternity Care Deserts." While valuable as a resource for national planning, data sources used in the report lacked the granularity required for robust state and community specific planning.

Our report seeks to provide more granular insight on access to obstetric care resoures and infant/maternal health risk factors within Indiana communities. By simultaneously analyzing resources (obstetric providers and hospitals with obstetric services) and health risks, we present a framework that can be used for targeting state and health system policy and planning.

HEA 1007–2019

Perinatal Care

Created a perinatal navigator program through ISDH that will target communities throughout Indiana with the highest infant mortality rates. Also ensures every pregnant woman will be assessed for substance use disorder.

SEA 278-2019

Local Fetal-infant mortality review teams

Allows for establishment of local fetal-infant mortality review teams (review team) to review fetal deaths and infant deaths to gather information to improve community resources and systems of care.

SEA 41-2019

Newborn screenings for health disorders

Adds certain disease screenings to be performed on newborns.

SEA 416-2019

Medicaid coverage for doula services

Provides that Medicaid pregnancy services may include reimbursement for doula services

SEA 142-2018

Maternal mortality review committee

Establishes a statewide maternal mortality review committee through ISDH.

SEA 360-2018

Perinatal levels of care designation certification

Requires ISDH to establish a program to certify perinatal levels of care designations for licensed hospitals and birthing centers that provide birthing services.

3 A maternity desert is defined as a "county in which access of maternity health care services is limited or absent, either through lack of services or barriers to a women's ability to access that care." (March of Dimes, Nowhere to go: Maternity Care Deserts across the U.S. 2018.) https://www.marchofdimes.org/materials/Nowhere_to_Go_Final.pdf

METHODS: WHAT WE DID

BUILDING UPON THE MARCH OF DIMES REPORT

The March of Dimes report presented a national county-level map of "levels of maternity care." The worst level was identified as a "maternity care desert." This report used the following data points to identify maternity care deserts and counties with limited access to maternity care: 1) hospitals offering obstetric care, 2) count of OB providers per 10,000 births, and 3) proportion of women 18-64 without health insurance. (A full methodology for their strategy can be found in their report). While this report is useful for a "big picture" look at the distribution of access to maternity care, Indiana is able to use state level data sources (which are higher resolution than national ones) to take a closer look at our landscape and better target the response to a community's needs.

DEFINING AND ASSIGNING RESOURCES AND RISKS – OUR STRATEGY

DATA SOURCES

The following county level measures were used to assess key resources and selected risk factors associated with infant and maternal health[4]:

OBSTETRIC CARE RESOURCES

- **Which ones did we use?**
  - Birthing hospitals
  - Obstetric provider full-time equivalent per 100,000 women of childbearing age[5]
- **How did we measure these?**
  - We identified the total number of birthing hospitals in each county based on data from the Indiana State Department of Health
  - We calculated the county level state average of 34 OB provider FTE per 100,000 women of child bearing age. We used the state average as a criterion for assessing workforce capacity.

INFANT/MATERNAL HEALTH RISK FACTORS

- **Which ones did we use?**
  - Infant mortality rate
  - Prevalence of women who smoke during pregnancy
  - Percent of pregnant women who received prenatal care beginning in the first trimester
- **How did we categorize risk at the county level?**
  - First, we calculated the county level state average for each risk factor. (4.9 IMR, 19.4% women who smoke during pregnancy, and 70% women who receive prenatal care in the first trimester)
  - Then, we classified each county as either being better or worse than the state average for each risk factor.
  - Finally, we assigned each county to a risk category based on the number of risk factors that were worse the state average.

4 More information on data variables and their sources can be found in Appendix A.

5 For the purposes of this report, the "obstetric workforce" is the workforce responsible for supporting and delivering infant and maternal health care. This is the workforce that is dedicated to the delivery of obstetric-related services. This workforce includes obstetric physicians and certified nurse midwives. It is important to note that this is not a comprehensive picture of the workforce that may serve in supporting roles, such as family medicine physicians, obstetric registered nurses or doulas. Rather, this report examines the providers or practitioners that may be considered leaders of obstetric care.

COMBINING THE DATA FOR MEANINGFUL ANALYSIS

Each measure is powerful by itself. We have put a couple of the puzzle pieces together to get a better picture of the landscape of resources and risks, both of which are critical to targeting policy and programming solutions. The strategy we developed is available in Table 1 below. Categories were used to assign counties to levels of obstetric care resources and infant/maternal health risk. A full description of the methodology can be found in Appendix A.

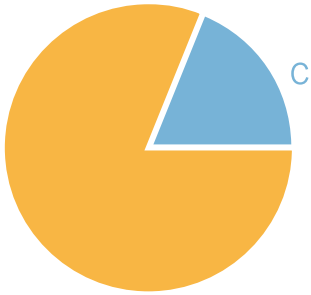
Table 1

Category Assignment	Data Points
Obstetric Care Resources	
No Resources	**0** Birthing Hospitals AND **0** OB providers
Partial Resources	**0** Birthing Hospitals, **<34** OB provider FTE per 100,000
Limited Resources	**1** birthing hospital, **<34** OB provider FTE per 100,000
Ample Resources	**1** birthing hospitals, **>34** OB provider FTE per 100,000 or **2 or more** Birthing Hospitals, **</> 34** OB provider FTE per 100,000
Infant/Maternal Health Risk	
Low Risk	**0-1** Risk factors worse than state average
Moderate Risk	**2** Risk factors worse than state average
High risk	**3** Risk factors worse than state average

RESULTS

OBSTETRIC CARE RESOURCES

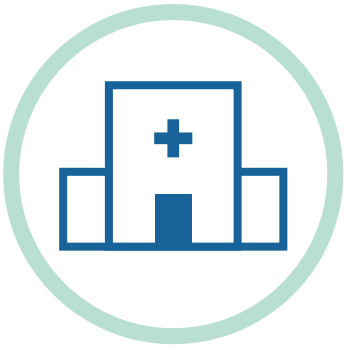
520 Indiana OB providers



98[6] Certified Nurse Midwives

422[6] OB/GYN physicians

Distributed through **56 of 92** Counties



87[7] Birthing Hospitals

Distributed through **62 of 92** Counties

✓ = Resources Available

✗ = Resources Not Available

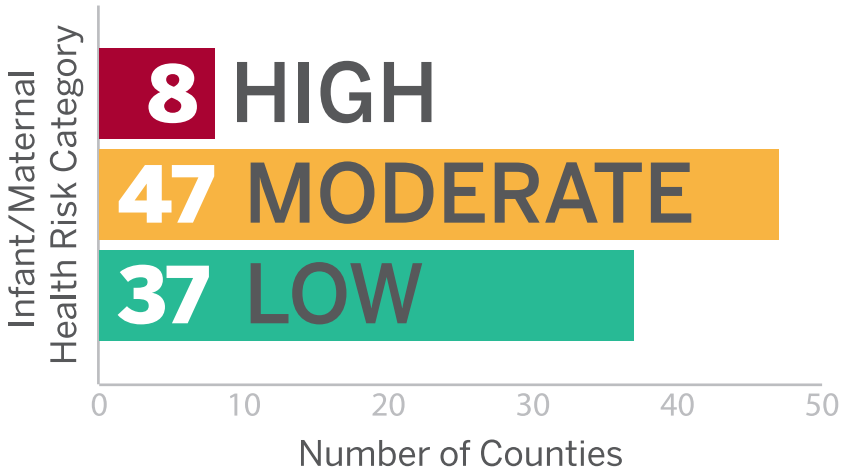
53 COUNTIES
- ☑ Birthing Hospital
- ☑ OB provider

9 COUNTIES
- ☑ Birthing Hospital
- ☒ OB provider

3 COUNTIES
- ☒ Birthing Hospital
- ☑ OB provider

27 COUNTIES
- ☒ Birthing Hospital
- ☒ OB provider

INFANT/MATERNAL HEALTH RISK FACTORS



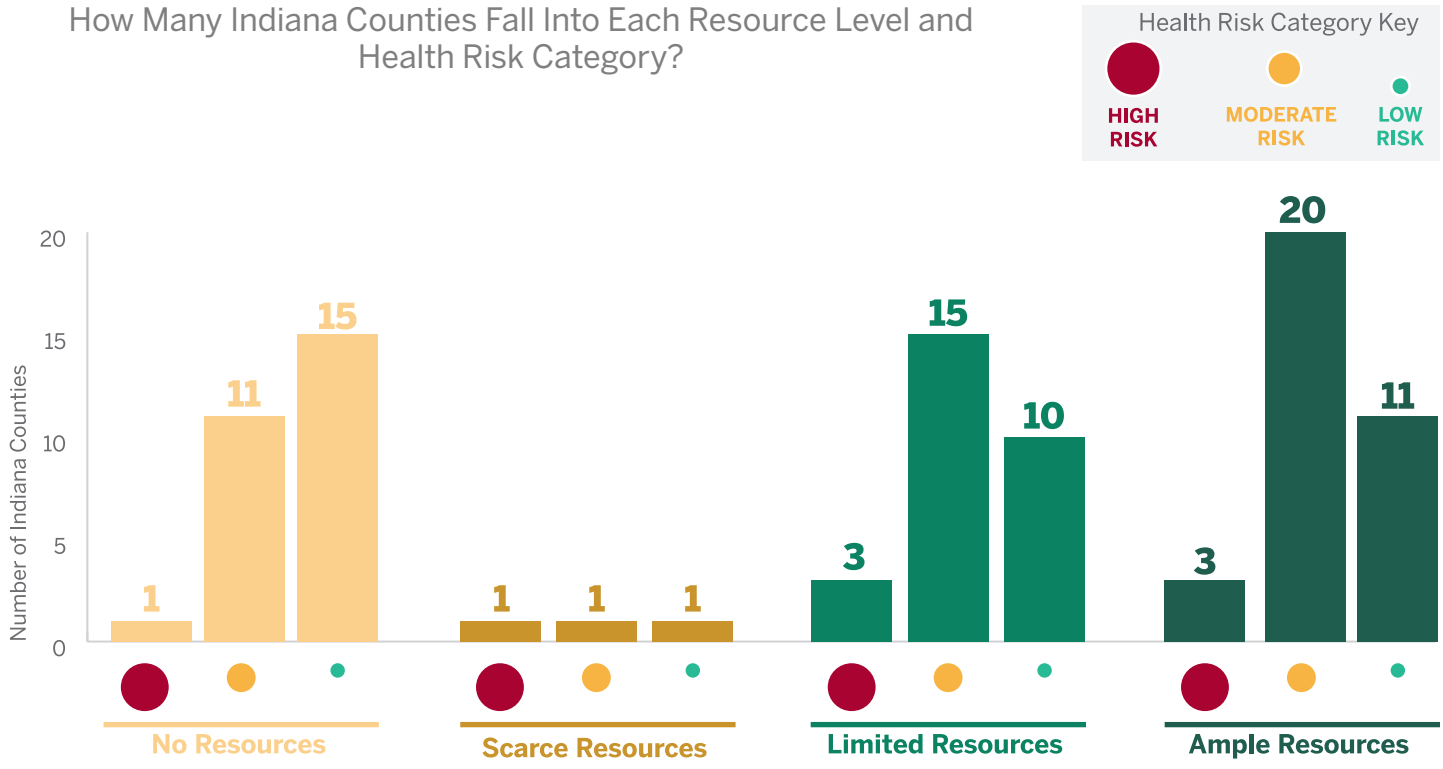
6 2017 Indiana Physician Licensure Survey; available at: https://scholarworks.iupui.edu/bitstream/handle/1805/16654/2017-Physician-Data-Report-Final-RS_Authored%20Version.pdf?sequence=15&isAllowed=y. 2017 Indiana Registered Nurse Licensure Survey; available at: https://scholarworks.iupui.edu/bitstream/handle/1805/17195/2017-Nursing-Data-Report-Final-RS_Authored%20Version.2.28.19.pdf?sequence=10&isAllowed=y.

7 Indiana Birthing Hospitals By MCH Levels of Care. Indiana State Department of Health, Maternal and Child Health Division. Available at: https://gis.in.gov/apps/isdh/meta/AttGrid.htm?url=https://gis.in.gov/arcgis/rest/services/ISDH/PHG_Data/FeatureServer&layer=10&where=ORGID_PHG%3E=0

Combining Obstetric Resources and Health Risk Results

Obstetric Care Resources			Infant/Maternal Health Risk	Total Counties
Obstetric Resource Level	**Birthing Hospitals**	**OB provider FTE per 100K Women of Childbearing Age**	**Category**	
No Resources	0	0	**High Risk**	1
			Moderate Risk	11
			Low Risk	15
Scarce Resources	0	< 34	**High Risk**	1
			Moderate Risk	1
			Low Risk	1
Limited Resources	1	< 34	**High Risk**	3
			Moderate Risk	15
			Low Risk	10
Ample Resources	1 or more or 2 or more	34 or greater or Any	**High Risk**	3
			Moderate Risk	20
			Low Risk	11

How Many Indiana Counties Fall Into Each Resource Level and Health Risk Category?



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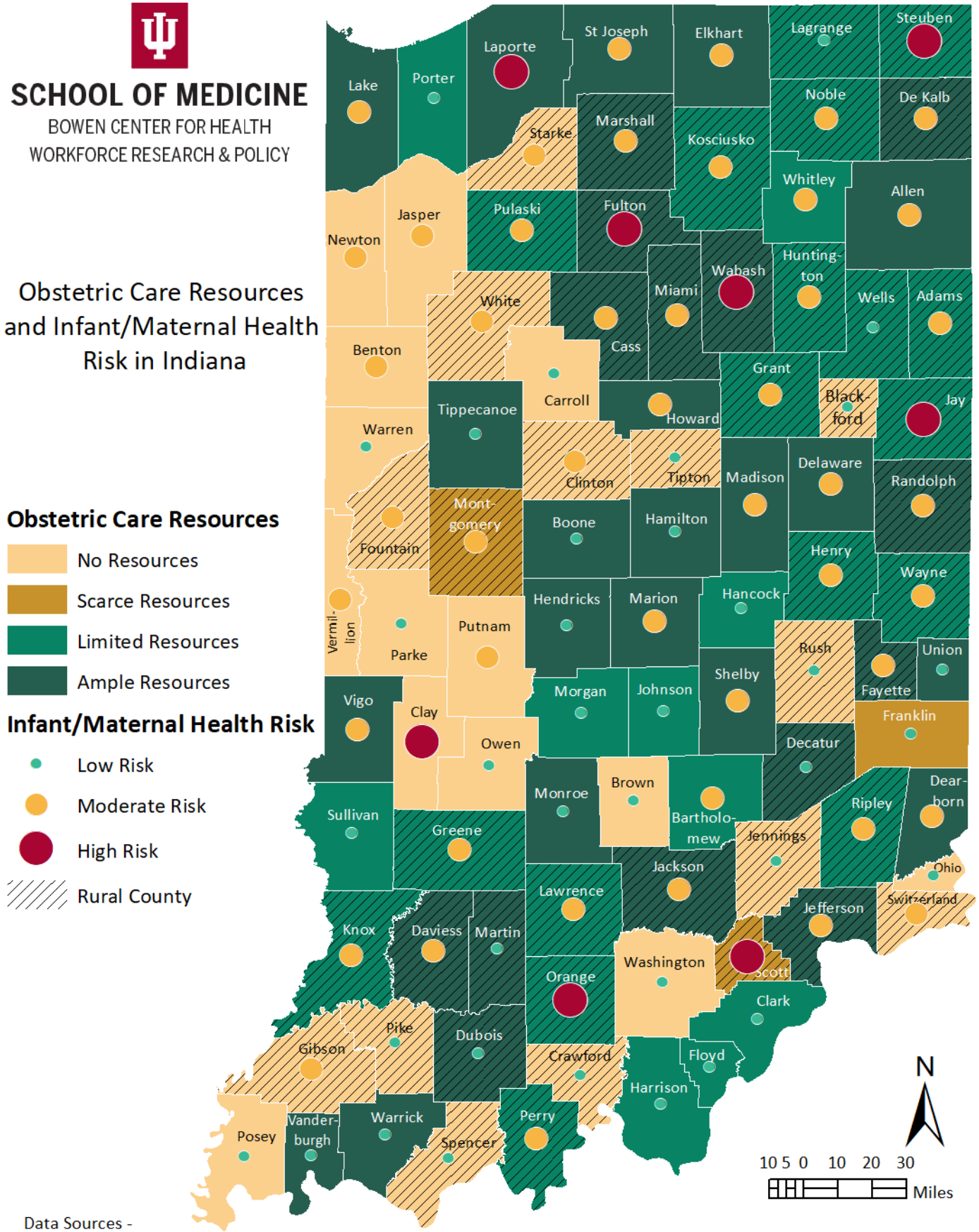
Obstetric Care Resources and Infant/Maternal Health Risk in Indiana

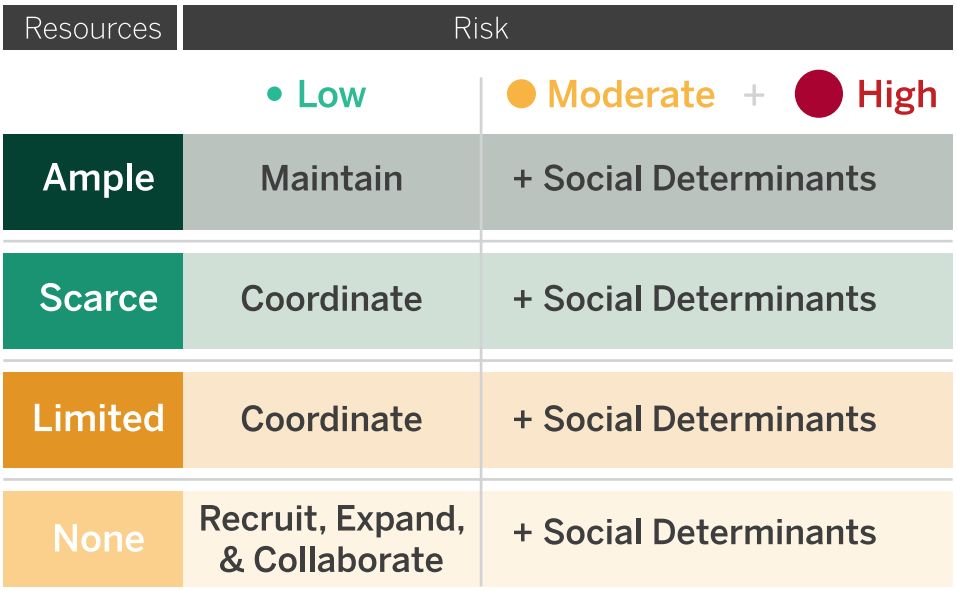


Data Sources -
OB Provider: 2017 Indiana Physician Licensure Survey; 2017 Indiana RN Licensure Survey;
Female Population: American Community Survey, 5-year Population Estimates, 2013 - 2017;
Birthing Hospitals and Infant/Maternal Risk Factors: Indiana Sate Department of Health, Division of Maternal and Child Health

IMPLICATIONS AND OPPORTUNITIES

Indiana has many dedicated stakeholders and important initiatives working to ensure "more babies make it to their first birthday" and fewer mothers die of childbirth and related complications. Targeting specific efforts to the areas of greatest need can be challenging. The methods used for this landscape analysis offer a framework for contextualizing health service/system resources and public health outcomes/measures simultaneously for the purpose of targeting policy and programming. Concurrently examining OB resources and selected risk factors within Indiana counties provides important insight into the types of initiatives and interventions that may help "move the needle in the right direction."

The opportunities matrix below presents potential strategies that might be employed in a county based on its level of resources and risks. Depending on the perspective these strategies might include health systems, public health programs/systems, or a combination of the two.



LOW RISK

+ NO RESOURCES

- Consider recruiting family medicine/general internal medicine providers to offer more robust pre- and postnatal services to women in the community.
- Develop regional model for labor and delivery services to ensure that resources are accessible within a sufficient distance.

+ SCARCE/LIMITED RESOURCES

- Care coordination staff within Primary Care should refer and coordinate OB/GYN Services.
- In the absence of a birthing hospital, connect birthing facility to local care source via tele-health, joint privileges for health care providers, and shared charting.

+ AMPLE RESOURCES

- Health systems should ensure proper provider, support staff, and facilities are maintained.
- Public health and social services organizations should educate patients/community members about the services offered within the local community.

MODERATE + HIGH RISK

+ AMPLE, SCARCE, LIMITED, & NO RESOURCES

- Screen all women from pre-conception to inter-conception for social determinants of health.
- Identify champions among the local health systems/ providers, public health, and social services organizations within the county, or when none are present within contiguous counties with greater resources, and engage in relationship building.
- Consider opportunities to enhance health system and social services capacity through new community-based partnerships (example: school-based health centers and religious organizations).
- Ensure robust health education programs for prenatal women.
- Develop integrated health and social services strategies (example: perinatal navigator).
- Maintain bidirectional communication between health care and social services.
- Generate strategy for ongoing referrals and coordination between health care and social services

LIMITATIONS

There are a number of important limitations that should be considered when reviewing the results of this report. First, we used secondary data from multiple sources. Therefore, we had no control over the collection of the variables or the quality of the data. In order to minimize the impact of issues with secondary data, we used calculated means instead of using actual values for classification and categorization. Second, the risk factors used in this analysis were selected because they are frequently associated with risk for infant and maternal mortality and data were readily available at the county level for Indiana. There are other/additional risk factors that may represent infant and maternal mortality risk. These could be included in future landscape analyses.

CONCLUSION

This report offers a new perspective on the "Landscape" that support infant and maternal health in Indiana. We hope that the framework and findings of this reports will be useful to inform and target policy and programming aimed to improve our infant and maternal health outcomes. Health is personal. Solutions to improve health outcomes should focus on removing barriers and empowering people.

APPENDIX

DATA SOURCES

Table 2

Data Variable	Definition	Source
Birth hospitals	Total number of hospitals in each county that provides obstetric services (including labor and delivery)	Indiana State Department of Health, Maternal and Child Health Division, 2016
Obstetric provider full-time equivalent per 100,000 women of childbearing age	Total number of full-time obstetric providers that are able to provide obstetric services to 100,000 women of between the ages of 15 and 45	Women of Childbearing Age: American Community Survey, 5-year population estimates, 2017
Infant Mortality Rate	Total number of infant deaths per 1,000 births	Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team; Vital Records; 2013 - 2017
Prevalence of women smoking during pregnancy	Percent of pregnant women that reported smoking during pregnancy	Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team; Vital Records; 2013 - 2017
Prevalence of mother receiving prenatal care	Percent of pregnant women who receive prenatal care beginning in the first trimester	Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team; Vital Records; 2013 - 2017

LEVELS OF MATERNAL HEALTH NEED

Based on workforce criteria, a county had the highest need if there were no obstetric resources. This is defined as having no reported obstetric provider FTE and no hospitals providing obstetric services. Counties in the second level of need was considered as having partial obstetric care resources if they had obstetric provider FTE but no hospitals providing obstetric services. Counties in the third level of need were defined as having limited resources if they have at least one hospital providing obstetric services but the obstetric provider capacity is less than the state average. Finally, counties were considered as having ample obstetric resources if they had at least one hospital providing obstetric services and the obstetric provider capacity was greater than the state average or if the county had 2 or more birthing hospitals and any obstetric provider.

Each of these four classes of need were differentiated into separate categories based the maternal health risk. If all maternal health indicators were worse than the state average, a county was classified as having the highest need. Other counties were considered as having moderate risk if two or fewer maternal health indicators were worse than the state average and low risk if 0-1 factor was worse than the state average.

DATA COLLECTION AND ANALYSIS

Health workforce data are collected during biennial license renewals. All licensure surveys are administered through the online license renewal application which is managed by the Indiana Professional Licensing Agency. Data are then processed and stored in the Indiana Health Professions Database, with technical support provided by the Department of Biostatistics at the Indiana University Fairbanks School of Public Health. The most recent physician and nursing license and survey data were collected in the fall of 2017 and used to inform this report.

Population data was derived from the U.S. Census American Community Survey. Data on infant mortality, maternal smoking and prenatal care were sourced from the Epidemiology Resource Center Data Analysis Team at the Indiana State Department of Health (ISDH). Additionally, data on birthing hospitals were sourced from the ISDH Maternal and Child Health division. All statistical analysis was conducted in SAS 9.4 and geospatial analysis was conducted in ArcGIS 10.7.

County	Women of Childbearing age	Percent of Women who are Childbearing Age	% Women Smoking During Pregnancy	% Pregnant Women Receiving Prenatal Care	IMR	CNM FTE	OB/GYN FTE	Total Obstetrics FTE	OB FTE per 100,000 women	Total Hospitals with Obstetric Services	OB Care Resource Landscape	Infant/ Maternal Health Risk Factors
Adams	6,116	24.5	8.3	42.6	8	0.0	0.0	0.0	0.0	1	3	2
Allen	73,601	16.3	9.8	56.1	8.3	6.5	14.8	21.3	28.9	4	4	2
Bartholomew	15,033	14.9	14.7	69.1	8.4	0.0	3.0	3.0	20.0	1	3	2
Benton	1,456	18.3	21.1	67.2	0	0.0	0.0	0.0	0.0	0	1	2
Blackford	1,959	17.4	32.2	73.8	0	0.0	0.0	0.0	0.0	0	1	1
Boone	11,663	8.5	9.5	84.5	3.9	1.0	5.8	6.8	58.3	1	4	0
Brown	2,124	20.8	19.1	67.6	0	0.0	0.0	0.0	0.0	0	1	1
Carroll	3,383	18.3	18.8	72.4	0	0.0	0.0	0.0	0.0	0	1	0
Cass	6,800	23.2	18.5	64.9	9.1	0.0	3.0	3.0	44.1	1	4	2
Clark	22,666	14.7	13.8	70.4	8.5	0.8	1.7	2.5	11.0	1	3	1
Clay	4,819	13.6	20.2	65.9	6.3	0.0	0.0	0.0	0.0	0	1	3
Clinton	5,811	18.9	18.2	68.3	6.7	0.0	0.0	0.0	0.0	0	1	2
Crawford	1,740	14.1	31.7	70.5	0	0.0	0.0	0.0	0.0	0	1	1
Daviess	5,850	31	12.7	62.5	7.9	0.0	2.0	2.0	34.2	1	4	2
Dearborn	8,583	12.2	21.1	76.8	5.6	1.9	2.0	3.9	45.4	1	4	2
Decatur	4,790	15.3	22.4	71.5	0	0.0	1.9	1.9	39.7	1	4	1
DeKalb	7,722	16.5	20.7	64.2	4.5	2.4	2.0	4.4	57.0	1	4	2
Delaware	26,242	14	22.8	76.5	8.5	1.9	7.3	9.2	35.1	1	4	2
Dubois	7,419	13.7	10.8	81.0	8.5	0.0	4.0	4.0	53.9	1	4	1
Elkhart	38,670	24.6	10.7	59.7	7.8	9.5	5.8	15.3	39.6	2	4	2
Fayette	4,023	23.1	25.9	73.0	12	0.0	3.0	3.0	74.6	1	4	2
Floyd	14,692	10.6	13.5	74.2	3.1	1.0	1.0	2.0	13.6	1	3	0
Fountain	2,844	10.3	23.0	68.3	0	0.0	0.0	0.0	0.0	0	1	2
Franklin	3,931	10	17.9	74.5	0	0.0	1.0	1.0	25.4	0	2	0
Fulton	3,382	12.6	23.2	57.3	11.1	0.0	2.0	2.0	59.1	1	4	3
Gibson	5,933	12.7	19.8	81.2	8.3	0.0	0.0	0.0	0.0	0	1	2
Grant	13,368	15.2	30.7	72.7	9.2	0.0	0.8	0.8	6.0	1	3	2
Greene	5,518	13.9	22.6	74.6	6.5	0.0	0.0	0.0	0.0	1	3	2
Hamilton	62,404	8.5	2.5	84.5	4.9	5.7	41.2	46.9	75.2	4	4	0
Hancock	13,572	10.7	9.9	82.2	3.5	0.0	2.9	2.9	21.4	1	3	0
Harrison	6,753	12.5	17.6	77.1	5.9	0.0	2.0	2.0	29.6	1	3	1
Hendricks	30,844	7.8	7.7	78.5	5.8	3.7	15.7	19.4	62.9	2	4	1
Henry	7,873	16.9	23.5	75.8	7.6	0.0	0.0	0.0	0.0	1	3	2
Howard	14,838	15.3	21.9	71.8	7.7	0.0	7.8	7.8	52.6	2	4	2
Huntington	6,804	13.4	20.0	71.7	5.2	0.0	1.9	1.9	27.9	1	3	2
Jackson	8,034	14	20.6	71.4	7	0.0	3.9	3.9	48.5	1	4	2

Jasper	6,059	12.6	20.5	70.0	10	0.0	0.0	0.0	0.0	0	1	2
Jay	3,717	18.4	19.6	62.9	13.2	0.0	0.0	0.0	0.0	1	3	3
Jefferson	6,699	15.3	28.5	78.5	5.9	0.0	3.4	3.4	50.8	1	4	2
Jennings	5,069	18.3	27.0	70.1	0	0.0	0.0	0.0	0.0	0	1	1
Johnson	29,697	11.1	14.2	75.2	5	1.0	7.5	8.5	28.6	1	3	1
Knox	6,768	16.3	25.7	79.4	6.7	0.0	1.7	1.7	25.1	1	3	2
Kosciusko	14,642	18.6	14.8	40.3	7.5	0.8	0.0	0.8	5.5	1	3	2
LaGrange	7,021	46.5	6.6	43.0	4.8	1.0	1.0	2.0	28.5	1	3	1
Lake	94,170	16	9.6	68.7	8.5	3.6	27.8	31.4	33.3	8	4	2
LaPorte	18,650	17.9	23.0	56.2	7	1.0	1.7	2.7	14.5	2	4	3
Lawrence	7,858	15.9	28.9	74.6	5.4	0.0	0.0	0.0	0.0	1	3	2
Madison	23,454	17.1	21.0	76.0	8	3.7	3.0	6.7	28.6	2	4	2
Marion	206,642	17.1	11.3	63.9	8.4	10.5	84.9	95.4	46.2	7	4	2
Marshall	8,262	20.1	17.3	61.0	5.8	1.0	0.9	1.9	23.0	2	4	2
Martin	1,682	11.5	20.8	75.2	0	0.9	0.0	0.9	53.5	1	4	1
Miami	6,119	12.7	23.9	70.8	8.6	0.0	2.7	2.7	44.1	1	4	2
Monroe	38,685	10.7	15.3	79.4	6	3.9	12.8	16.7	43.2	1	4	1
Montgomery	6,455	15.6	21.8	70.9	6.2	0.0	0.8	0.8	12.4	0	2	2
Morgan	12,390	13.6	24.8	72.2	4.7	0.9	0.1	1.0	8.1	1	3	1
Newton	2,415	21.6	24.2	67.0	0	0.0	0.0	0.0	0.0	0	1	2
Noble	8,732	15.4	17.9	62.9	8.1	1.0	0.0	1.0	11.5	1	3	2
Ohio	899	12.5	17.9	80.3	0	0.0	0.0	0.0	0.0	0	1	0
Orange	3,391	14.7	26.7	69.1	9.1	0.9	0.0	0.9	26.5	1	3	3
Owen	3,359	21.2	29.5	73.7	0.0	0.0	0.0	0.0	0.0	0	1	1
Parke	3,321	22.4	15.3	56.4	0.0	0.0	0.0	0.0	0.0	0	1	1
Perry	2,937	14	26.4	69.3	0.0	0.0	0.0	0.0	0.0	1	3	2
Pike	2,021	10	21.0	80.7	0.0	0.0	0.0	0.0	0.0	0	1	1
Porter	32,179	12.3	10.3	73.5	5.3	2.5	8.2	10.7	33.3	1	3	1
Posey	4,465	8.7	17.6	80.0	0.0	0.0	0.0	0.0	0.0	0	1	0
Pulaski	2,122	16.2	25.4	62.1	0.0	0.0	0.0	0.0	0.0	1	3	2
Putnam	6,931	13.5	20.7	78.1	7.0	0.0	0.0	0.0	0.0	0	1	2
Randolph	4,345	19.5	22.5	73.7	8.1	1.0	1.0	2.0	46.0	1	4	2
Ripley	4,980	11.1	22.5	72.7	10.2	0.0	0.0	0.0	0.0	1	3	2
Rush	2,933	20.3	22.0	71.4	0.0	0.0	0.0	0.0	0.0	0	1	1
Scott	54,676	14.4	28.7	65.5	9.9	0.0	1.0	1.0	1.8	0	2	3
Shelby	4,354	17.9	21.7	76.1	9.2	1.0	2.7	3.7	85.0	1	4	2
Spencer	7,791	10.9	16.7	79.3	0.0	0.0	0.0	0.0	0.0	0	1	0
St. Joseph	3,392	15.5	11.9	65.7	8.7	5.8	18.0	23.8	701.7	2	4	2
Starke	4,061	13.1	25.9	62.3	0.0	0.0	0.0	0.0	0.0	0	1	2

County	Women of Childbearing age	Percent of Women who are Childbearing Age	% Women Smoking During Pregnancy	% Pregnant Women Receiving Prenatal Care	IMR	CNM FTE	OB/GYN FTE	Total Obstetrics FTE	OB FTE per 100,000 women	Total Hospitals with Obstetric Services	OB Care Resource Landscape	Infant/ Maternal Health Risk Factors
Steuben	5,809	15.6	24.0	65.0	5.6	0.0	1.7	1.7	29.3	1	3	3
Sullivan	3,389	20.6	18.7	69.6	0.0	0.0	0.0	0.0	0.0	1	3	1
Switzerland	1,770	20.3	27.1	62.6	0.0	0.0	0.0	0.0	0.0	0	1	2
Tippecanoe	45,109	13.9	12.3	73.1	7.3	5.0	16.3	21.3	47.2	2	4	1
Tipton	2,472	18	15.6	75.1	0.0	0.0	0.0	0.0	0.0	0	1	0
Union	1,212	28.3	23.0	70.0	0.0	1.0	0.0	1.0	82.5	1	4	1
Vanderburgh	36,560	13.1	18.2	74.4	7.7	0.8	9.2	10.0	27.4	2	4	1
Vermillion	2,664	13.9	22.3	66.7	0.0	0.0	0.0	0.0	0.0	0	1	2
Vigo	21,588	14.5	18.8	66.0	8.3	0.0	1.8	1.8	8.3	2	4	2
Wabash	5,684	12.6	24.6	64.9	5.9	1.0	1.0	2.0	35.2	1	4	3
Warren	1,330	10.2	19.1	72.2	0.0	0.0	0.0	0.0	0.0	0	1	0
Warrick	10,793	9.6	11.7	81.9	5.8	1.0	10.0	11.0	101.9	1	4	1
Washington	4,823	11.4	19.1	63.2	0.0	0.0	0.0	0.0	0.0	0	1	1
Wayne	11,918	20.9	18.0	61.9	7.8	0.0	1.0	1.0	8.4	1	3	2
Wells	4,747	11.3	17.0	69.6	0.0	1.0	0.5	1.5	31.6	1	3	1
White	3,987	14.8	20.0	68.5	0.0	0.0	0.0	0.0	0.0	0	1	2
Whitley	5,649	10.3	16.9	68.4	8.0	0.0	1.0	1.0	17.7	1	3	2

* Women of childbearing age are considered as those between the ages of 15 and 45.

† Only includes pregnant women who began receiving prenatal care in the first trimester

‡ Infant mortality rate is calculated as the total number of infant deaths (under age 1) per 1,000 live births

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