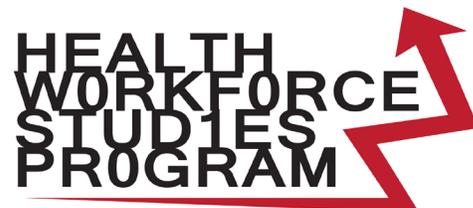


# Policy Report

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## Indiana's Physician Workforce

### Physician Workforce: What's the Issue?

Health reform has been the center of global policy discussions for decades. Discussions in the United States intensified after the World Health Organization (WHO) released the World Health Report in 2000, which ranked the U.S. Healthcare System 37th in the world [1]. Unfortunately, U.S. policymakers have and continue to struggle with reforming this complex system and balancing the "The Iron Triangle" of cost, quality, and access in healthcare [2].

Demand for health care services has and will continue to rise in the future. In recent years, increases in demand are largely associated with implementation of the Patient Protection and Affordable Care Act (ACA). Provisions in the ACA are expanding health insurance to millions of Americans who were previously uninsured or underinsured. Because health care utilization rates are higher among insured population, increased utilization is expected as insurance is expanded across the population.

Expansion of health coverage is not the only factor increasing the demand for health care services. Population factors also play a significant role in utilization of health care services. Among the U.S. population, high and rising chronic disease rates act to increase demand for health care services. Patients with chronic diseases require ongoing health services to maintain their health. In addition to chronic diseases, increasing life expectancy across the population also influences demand for health services. Aging populations tend to experience declines in health status. This may include cognitive decline, increased rate of chronic diseases, and higher rates of avoidable acute care episodes. All of these lead to higher health services utilization.

### RELEVANT TO INDIANA

Nationally and locally, the expansion of health insurance and population characteristics are increasing demand for health care

services within a system that is already overwhelmed. In Indiana, new health policies focused on expansion of health insurance to low-income patients are likely to increase the demand of health services in the next few years. Specifically, the implementation of health insurance exchanges and an expansion of the Healthy Indiana Plan (HIP 2.0) are expected to increase demand for services by increasing the number of Hoosiers with health coverage. These policy initiatives are dependent upon Indiana's health system and its capacity to deliver health care services to the newly insured. In order to ensure capacity, an adequate supply of highly skilled health professionals is needed.

### THE HEALTHCARE WORKFORCE

The healthcare workforce represents the intersection of medical science, health care delivery, and patient health. Therefore ensuring an adequate supply of this workforce is critical to ensuring access to health care services across the population. Unfortunately, across the United States, including Indiana, an inequitable distribution of the health workforce threatens access and health. In order to secure the health and well-being of Hoosiers, health policy discussions focused on health care must consider the health workforce as part of the agenda.

The physician workforce may be regarded as the "backbone" of the healthcare system. Based on their extensive training, physicians are positioned as leaders within the health system. Therefore, information on the supply and distribution of Indiana's physician workforce is critical to informing any health workforce policy or planning efforts. This policy report provides a 'snapshot' from the most recent data on Indiana's physician workforce, and presents information pertinent to workforce planning and policy in Indiana. Comprehensive data are available in the Data Report: 2013 Indiana Physician Workforce.

## Indiana's Physician Workforce

Physicians represent one of the oldest professions. They have been joined over the millennia by many other professions focused on human health. Historically, physicians and other health professions operated within silos, focusing on the provision of specified health care services. In recent years, there has been an increasing emphasis on integrated team-based collaborative care models for efficient health services delivery. Physicians are leaders in these new and emerging health care team models. Understanding the composition and distribution of the physician workforce is critical to determining health system capacity in the dynamic health system environment.

### ROBUST SUPPLY INFORMATION

Indiana is fortunate to have a mechanism to collect robust data on physician workforce supply. Currently, data are collected through surveys administered by the Indiana Professional Licensing Agency (PLA) in conjunction with biennial license renewals. Data collected through licensure surveys provide valuable insight into the status of Indiana's physician workforce.

### OVERALL WORKFORCE SUPPLY

In 2013, there were 25,800 physicians who renewed their license to practice medicine in the State of Indiana; however only 9,460 physicians reported providing direct patient care.

### OVERALL WORKFORCE DEMOGRAPHICS

In 2013, the majority of physicians were White (77.6%), males (70.8%), and not of Hispanic origin (97.5%). Of those physicians that are 65 years of age and over, the majority of them were males (89.4%). Gender distribution in the physician workforce is changing. In 2013, women accounted for approximately 48% of physicians under the age of 35; whereas, women account for only approximately 11% of physicians over the age of 65 during the same period. How changes in gender distribution will impact future physician workforce capacity is not known; future research is needed in this area to adequately project workforce capacity.

### THE AGING PHYSICIAN: AN IMPORTANT TREND

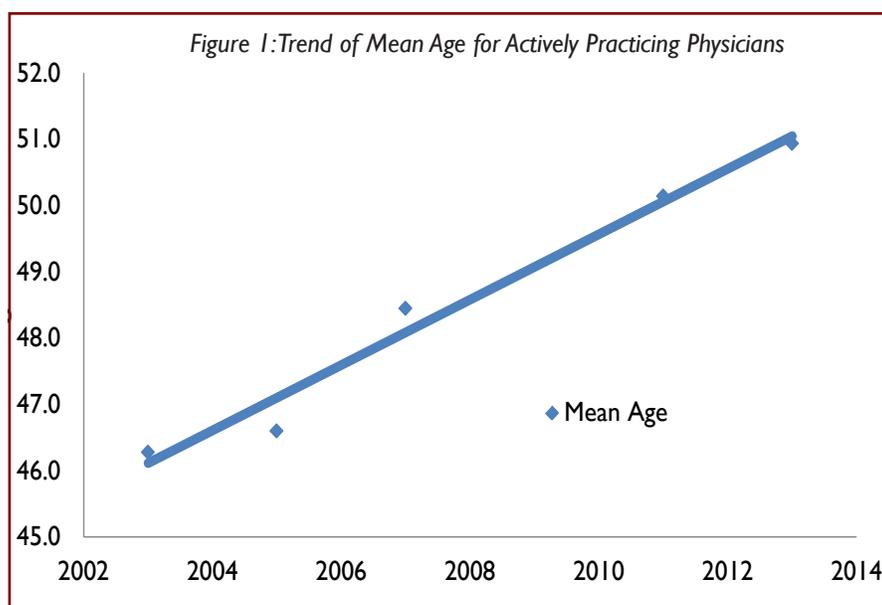
As described in the introduction, aging is and will be an important issue for the health system. The baby boomers are entering their senior years with some 10,000 turning 65 every day according to the Pew Research Center [3]. In addition to increasing demand for health care services, aging is impacting physician workforce supply [4]. In Indiana, the mean age of active physicians was 49 years in 2013. This has increased consistently over the last several years,

with an increase of 4.6 years since 2003. Trends in the mean age of Indiana physicians are depicted in Figure 1. The number of physicians aging into retirement over the next few decades will have a significant impact on workforce supply. As more physicians look toward retirement, ensuring a strong pipeline, and supporting policies, that have the ability to meet health service demands within the population will be critical.

### COMPOSITION OF PHYSICIAN WORKFORCE

The physician workforce is comprised of a cadre of medical specialties and subspecialties. Many physician specialties have emerged to focus on specific and complex organ systems. Specialists and researchers in medical specialties are credited with revolutionary advancements in health care, which have led to saving and extending lives. While specialists focus their practice on specific areas, physicians in primary care specialties are more broadly focused on overall health. Figure 2 depicts the composition of Indiana's physician workforce. Primary care physicians account for approximately one third (31%) of the physician workforce, whereas physicians in non-primary care specialties account for approximately two thirds (69%) of the workforce.

The primary care physicians serve as the primary point of entry into the healthcare system. Because of their "frontline" position, physicians in primary care specialties are the focus of many health reform initiatives to increase access, improve quality, and reduce health care costs. For this reason, the remainder of this report will be focused on Indiana's primary care physician workforce. Additional data on non-primary care physician specialties are available and may be found in the 2013 Indiana Physician Data Report.



**Primary Care Physician Workforce**

Today, primary care physicians, and other providers such as nurse practitioners and physician assistants, are at the frontline of the healthcare system. Primary care providers focus on disease prevention and chronic disease management [5]. According to the Institute of Medicine, “Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community”[6]. The links between access to primary care, health outcomes, and health care costs are well documented. Individuals accessing primary care services generally have better health outcomes and lower associated costs [7]. Ensuring a strong primary healthcare system across the State of Indiana is crucial to securing the health of Hoosiers and improving the efficiency of Indiana’s health system [5].

The primary care physician workforce includes a number of primary care specialties. Those specialties included in the definition of primary care vary among different groups. For the purpose of this report, primary care specialties are defined using criteria established by Health Resources Services Administration (HRSA), at the Department of Health and Human Services. This definition was purposefully selected to support analyses of Primary Care Health Professions Shortage Areas (HPSA) in Indiana, which are described later in the report.

**PRIMARY CARE SPECIALTIES**

Based on HRSA’s criteria, 6 physician specialties are considered to be a part of the primary care workforce. These include family medicine, general practice, general internal medicine, general

pediatrics, and obstetrics & gynecology [8]. Of the, 9,460 practicing physicians less than 1/3 (31%) or 2,939 reported primary care as their principle specialty. The distribution of primary care specialties is depicted in figure 3. The largest specialty group is family practice/medicine.

As of 2013, there were 1,460 active family practice/medicine physicians which accounted for approximately half (50%) of all primary care physicians in Indiana. General internal medicine was the second largest group, with 622 physicians accounting for approximately 21% of active primary care physicians. The remaining workforce is comprised of general pediatric (15%), obstetrics & gynecology (12%), and general practice (2%).

**DEMOGRAPHICS**

*Gender*

In 2013, the majority (60.5%) of primary care physicians were males; however, an examination of gender distribution by age grouping demonstrates that an increasing proportion of female physicians are entering the workforce. As previously described, women account for an increasing percentage of the overall workforce. This trend is more evident when examining the primary care physician workforce. Whereas women account for 29% of Indiana’s overall physician workforce in 2013, women account for 40% of the primary care physician workforce. Among primary care physicians under 35 years old, women account for 68% of the workforce. This suggests that an increasing number of female physicians are choosing primary care as opposed to their male counterparts. Understanding implications of primary care physician workforce feminization will be critical to assuring future workforce capacity.

Figure 2: Breakdown of Primary Care Physicians Versus Specialists

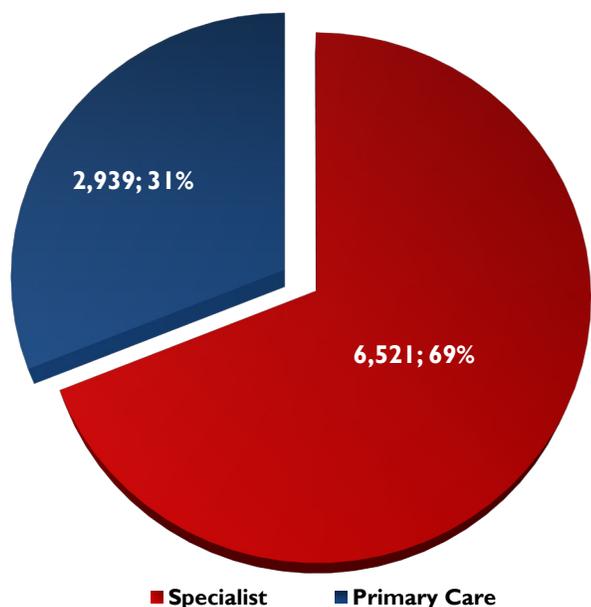
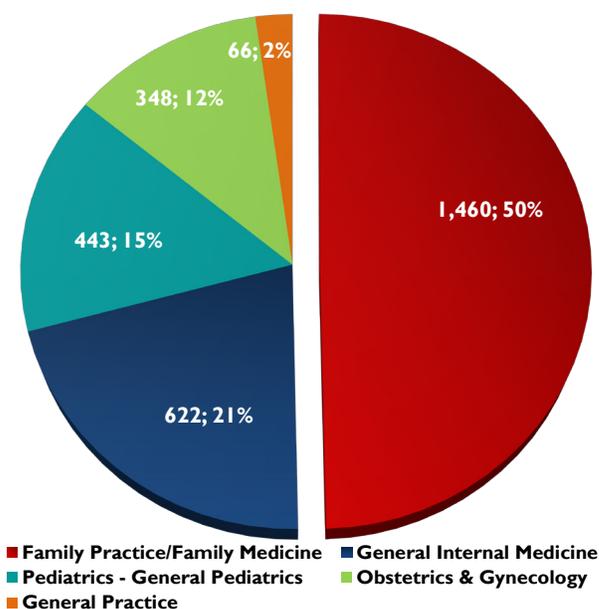


Figure 3: Breakdown of Primary Care Physicians by Specialty



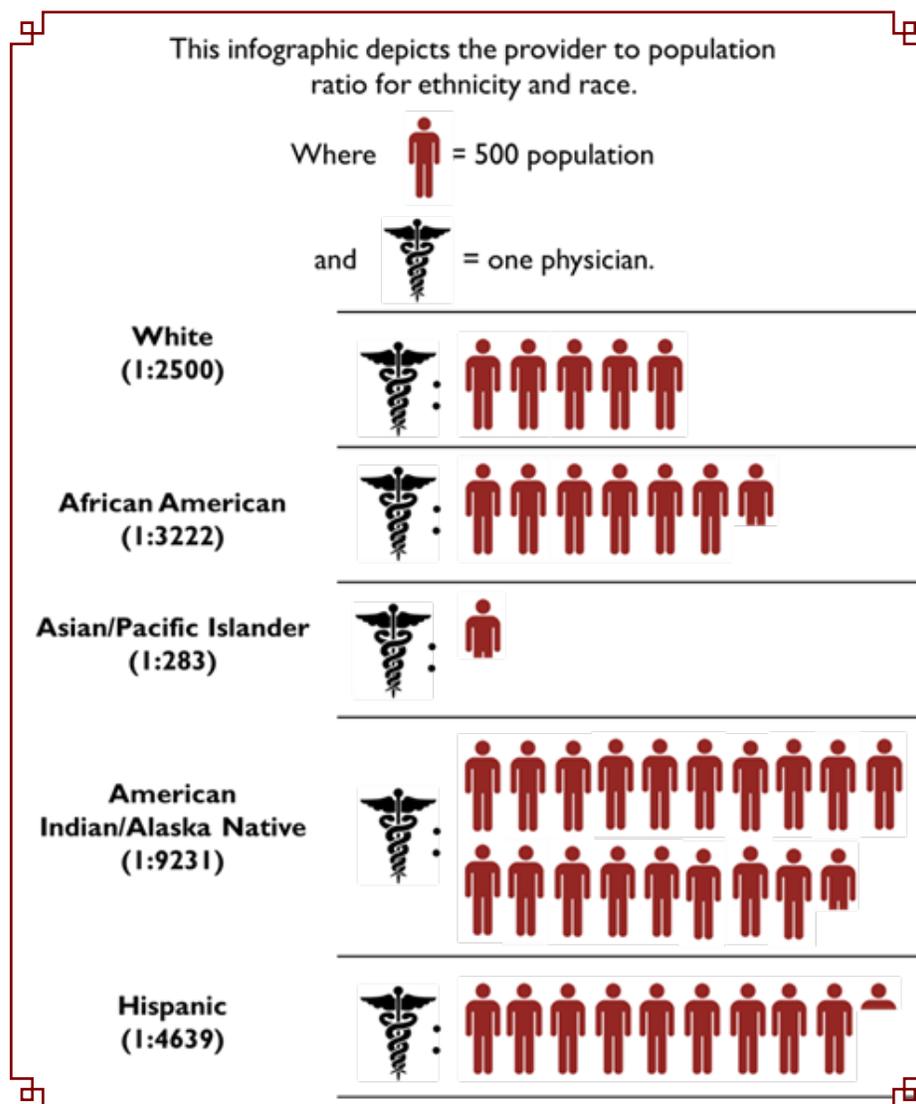
### Race and Ethnicity

Indiana's primary care physician workforce is primarily comprised of non-Hispanic (97%) and White (79%) professionals. Although not essential, it is ideal for the health workforce to reflect the cultural background of the population served. Physicians from selected racial and ethnic minority groups, African American, American Indian/Native Alaskan and Hispanic, have the lowest representation across Indiana's primary care physician workforce. In order to understand how the ethnic and racial backgrounds of these physicians compare to Indiana's population, the infographic above is used to illustrate the ethnic and racial imbalances between the physician workforce and Indiana's population.

In the infographic, the ratio of population per primary care physician is presented for the largest racial and ethnic groups: White, African American, Asian/Pacific Islander and Hispanic. Note that there are approximately 2,500 White Indiana residents for every 1 White provider; whereas there are approximately 3,222 African American residents for every 1 African American provider and approximately 4,639 Hispanic residents for every 1 Hispanic provider. The American Indian/Native Alaskan ratio is the most alarming with 9,231 residents per primary care physician. However, the opposite is true regarding the Asian/Pacific Islander population as there are only 283 Indiana residents per 1 provider. It is not necessary that health care providers and patients be of the same demographic for successful health care delivery; however, greater levels of diversity are linked to advancing cultural competency, increasing access to high-quality health care services, and optimal management of the healthcare system [9]. Strategies for cultivating a more racially and ethnically diverse workforce which reflects the demographics of Indiana's population should be considered alongside any supply initiatives.

### CAPACITY

When examining workforce capacity, it is not sufficient to do a head count of licensed physicians. Physicians often hold a current license, but may not spend 100% of their time in direct patient care. Workforce capacity for patient care is more accurately assessed using physicians reported full-time equivalency (FTE) or the number of hours a physician reports in direct patient care. For example, a simple headcount of primary care physicians in Indiana overestimates primary care capacity. If all 2,818 primary care physicians were assumed to practice 40 hours per week, there would be an estimated 112,720 primary care patient hours



per year in Indiana. In comparison, primary care patient capacity estimates calculated using physicians reported FTE demonstrate that there were only 90,160 patient care hours in 2013. In this scenario a simple headcount of primary care physicians overestimates capacity by 20%. This demonstrates the value of gathering supply information from health professionals on a routine basis through mechanism such as licensure surveys.

### Safety Net Capacity

The United States Census Bureau reported that in 2013 there were approximately 42 million (~13.4%) uninsured Americans [10]. These individuals rely on the healthcare "safety net," a default system of care comprised of a patchwork of health clinics and physicians' offices, to access basic health services [11]. The primary care physician workforce capacity within Indiana's safety net has important implications for policies aimed to improve access for underserved populations, such as those on government sponsored health insurance programs.

Defining characteristics of safety net providers are presented in Figure 4. Safety net providers offer services to patients regardless of their insurance status or ability to pay. Uninsured patients, Medicaid recipients, and other vulnerable populations typically account for a significant proportion of their patients.

Medicaid is the largest source of revenue for safety net providers [11]. Indiana's safety net capacity is influenced by Medicaid reimbursement. In 2013, 1,321 or 48% of Indiana's primary care physicians indicated that they either do not accept patients with Indiana Medicaid or that these patients make up less than 10% of their practice.

Safety net providers adopt a formal sliding fee scales for uninsured patients. In Indiana, 1,242 or less than half (46%) of primary care physicians reported that they offer a sliding fee scale to uninsured patients. In addition, only 160 primary care physicians reported a significant (31% or more) proportion of their patients pay for health care services through a sliding fee scale.

#### Team-Based Care

Emerging workforce models for collaborative and team-based care are and will continue impact primary care capacity. The United States Department of Health and Human Services has emphasized the value and importance of integration of these emerging models to address health care access, quality, and cost. Evidence suggests that team-based delivery models improve quality and effectiveness of care and reduce disparities when efforts are coordinated among a mix of health care professionals and public health agencies [12]. Physician led health care teams enable physicians to expand services to more patients than they could reach in solo practice. Historically, primary care teams have included physicians, advanced practice nurses (APN), and physician assistants (PA), as well as a number of allied health professions.

### Safety Net Providers—Who Are They?

Safety net providers are providers that deliver a significant level of health care to uninsured, Medicaid, and other vulnerable patients. The "Core Safety Net Providers" exhibit two distinguishing characteristics:

1. Either by legal mandate or explicitly adopted mission, they offer care to patients regardless of their ability to pay for those services; and
2. A substantial share of their patient mix are uninsured, Medicaid, and other vulnerable patients.

Core safety net providers typically include public hospitals, community health centers, and local health departments, as well as special service providers such as AIDS and school-based clinics. In some communities, teaching and community hospitals, private physicians, and ambulatory care sites fill the role of core safety net providers.

Figure 4: Safety Net Providers—Who Are They. This image was adopted from the Institute of Medicine's report, "America's Health Care Safety Net: Intact but Endangered" [11]

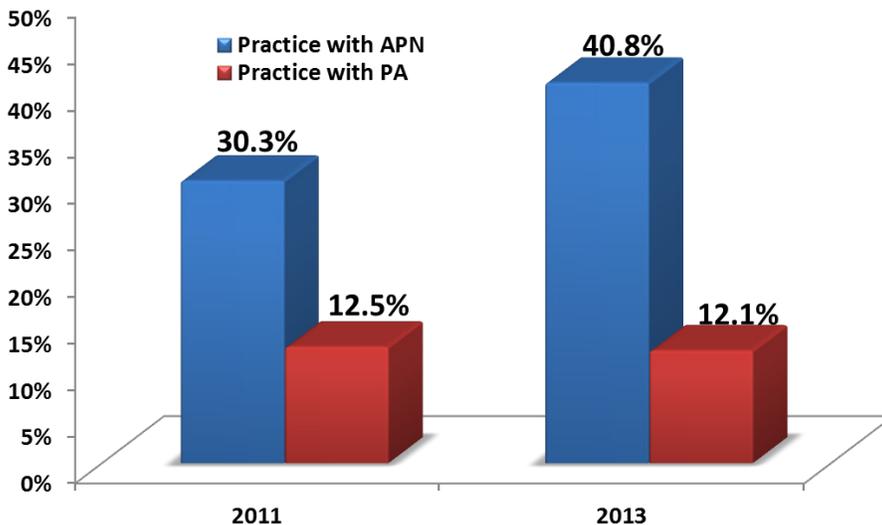
Figure 5 depicts trends in the number of physicians that report practicing with an APN or PA in 2011 and 2013. The number of primary care physicians who reported working with an APN increased by 11% from 2011 to 2013. In 2011, 30% of physicians reported that they practiced with an APN, whereas in 2013, 41% reported practicing with an APN. Only 13% of respondents indicated that they practiced with a PA. The number of physicians who report practicing with PA has remained relatively constant (approximately 12%) during the same two year period.

These data suggest increased collaboration is occurring between physicians and APNs in primary care practices, but this trend is not observed between physicians and PAs. As the health system moves to implement team-based and collaborative practice, further research is needed to examine these trends and the factors influencing them.

### Workforce Distribution

The health workforce in the United States continues to struggle with equitable distribution of the workforce. The geographic distribution of the workforce that delivers primary care services is among the critical factors that play a role in health care access [13]. An inequitable distribution of the health workforce threatens access for many people within the United States [14]. In many circumstances, primary care shortages and needs assessments are primarily defined using physicians as the reference or baseline.

Figure 5: Percent of Primary Care Physicians working with APN or PA



As a result, careful examination of the distribution of the primary care physician workforce is essential to understanding the workforces' capacity to provide these critical health services within various geographic regions of the State of Indiana.

**PRIMARY CARE PHYSICIANS IN RURAL INDIANA**

Rural communities frequently find themselves with insufficient resources to ensure the health, quality of life and economic prosperity for their residents. One important resource that is frequently scarce in rural communities is the health workforce. Approximately 84% of the primary care physician workforce in Indiana reported working in an urban location. Only 16% of primary care physicians reported working in rural Indiana. However, according to the 2010 census, 38% of Hoosiers reside in rural or rural/mixed counties, which mean 62% of Hoosiers live in urban counties [15]. As a result of the inequitable distribution of the primary care physician workforce to population, rural Indiana is left with an inadequate supply of physicians to provide vital health care services that are essential for the well-being of Hoosiers who reside in rural communities.

The increasing demand for health services without a concomitant increase in supply poses an even bigger threat to rural communities in large part due to the challenges of recruitment and retention of primary care physicians (PCPs) to rural communities. Not only has it been historically difficult to recruit primary care providers to rural communities, but the current primary care physician workforce is rapidly aging into retirement. This aging effect is most threatening to rural communities. Since 2003, the mean age of primary care physicians has consistently been 2 years higher in rural communities than in urban communities.

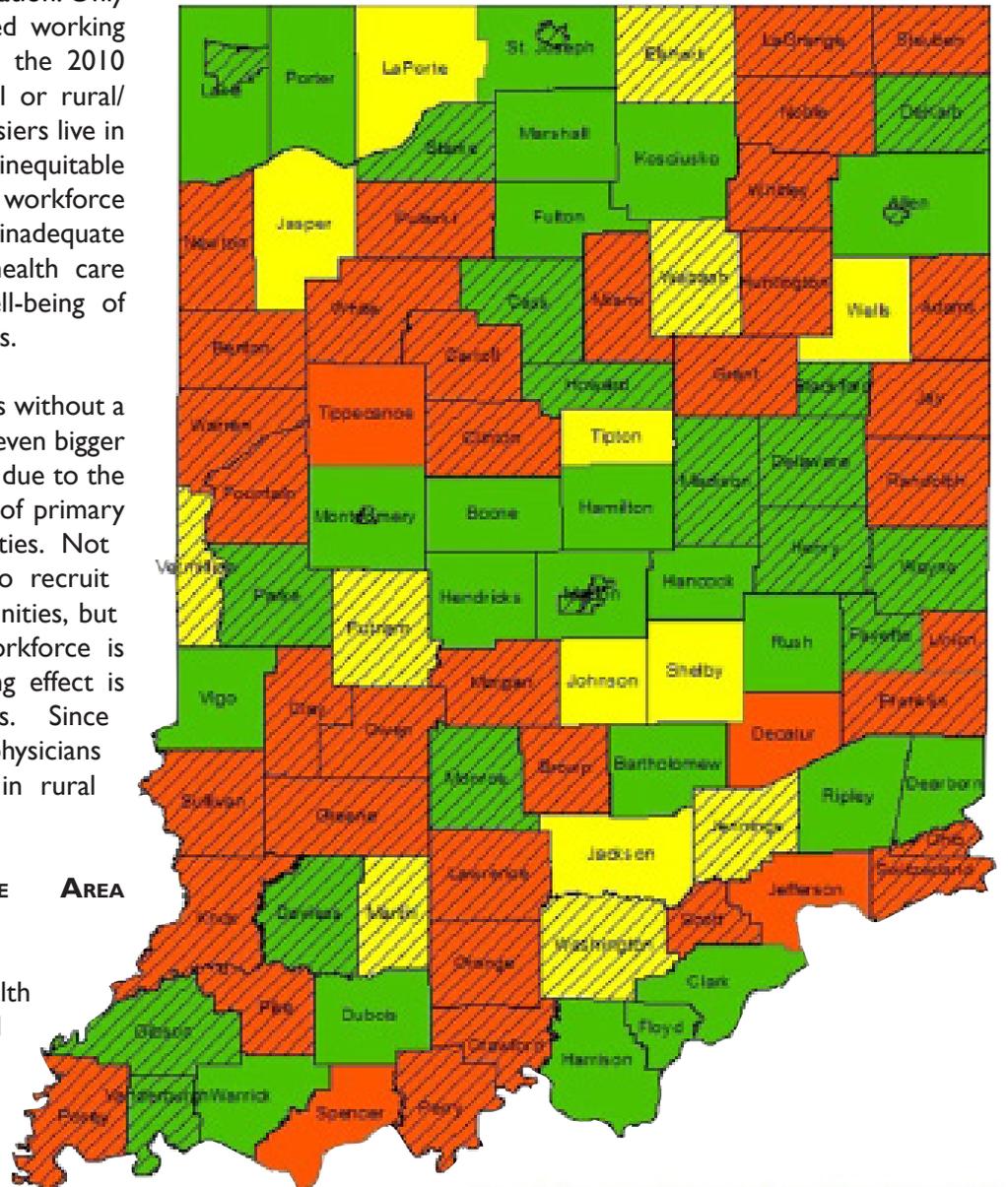
**HEALTH PROFESSIONAL SHORTAGE AREA DESIGNATIONS**

Inequitable distribution of the health workforce is not proprietary to rural Indiana. In fact, the federal government has a process for recognizing all geographic areas and special populations that are experiencing primary care shortages throughout the United States. Primary Care Health Professional Shortage Areas (HPSAs) are geographic areas that have been identified as having a shortage of primary care physicians based on specific criteria.

**PRIMARY CARE HEALTH PROFESSIONAL SHORTAGE AREAS CRITERIA**

A geographic region, often a county, can be designated as a Primary Care HPSA if it meets one of the following criteria:

1. The area is a rational area for the delivery of primary medical care services.
2. One of the following conditions prevails within the area:
  - a. The area has a population to full-time-equivalent primary care physician ratio of at least 3,500:1.
  - b. The area has a population to full-time-equivalent primary care physician ratio of less than 3,500:1 but greater than 3,000:1 and has unusually high needs for primary care services or insufficient capacity of existing primary care providers.
3. Primary medical care professionals in contiguous areas are over utilized, excessively distant, or inaccessible to the population of the are under consideration.



**Population per Primary Care Physician FTE**

- Green: Less than 3,000 per physician FTE
- Yellow: 3,000 - 3,500 per physician FTE
- Orange: Greater than 3,500 per physician FTE
- Hatched: 2014 HPSA Designation

The criteria for HPSA designation are outlined in the image to the right. HPSA designations are important for increasing access to primary care services as these designations increase the availability of resources to these communities and populations that are in the most need and at the highest risk. Areas or facilities that are granted HPSA designations by HRSA as a result of meeting at least one of the outlined criteria are then in priority contention for federal and state level grants or other funds. More specifically, these designations may unlock access to state and federal programs providing physician recruitment assistance and financial incentives as well as provide Medicare bonuses to providers practicing in a HPSA area [16].

### **PRIMARY CARE HPSAs: A MISSED OPPORTUNITY**

The Geographic Information System (GIS) map on the page to the left color codes counties based on their population to primary care physician ratio in order to identify those which potentially qualify for HPSA designation. Green counties on the map contain less than 3,000 residents per 1 physician full time equivalent (FTE) and would not qualify for designation under any of the above geographic criteria. Yellow areas have a population to provider ratio that would grant the county HPSA status if its population has unusually high needs. Lastly, red areas would meet the criteria for HPSA designation based solely on population to provider ratio. Current primary care HPSA designations (those areas already identified by HRSA) are shown with hash-marks on the map. It is important to note that the map only takes into account geographic criterion for HPSA designation as it is the highest level of qualification. However, areas that may not meet the designation requirements for provider to population ratio may qualify based on population characteristics such as a low income population.

While there is some concordance between the potential HPSA designations and actual designations, there are 11 counties in Indiana that meet the criteria for HPSA designation, but are not yet designated as such. Thirty-nine counties met the criteria for primary care HPSA designation outright and an additional 14 counties could be considered primary care HPSAs if their populations meet additional criterion. While 63 counties currently have at least some proportion of their county designated as a primary care HPSA, these data suggest that an additional 11 counties which could be designated as primary care HPSAs.

### **What's Next?**

Assuring that primary health services are available and accessible for all Hoosiers that need them is important to reduce related morbidity and mortality and improve population health. At the community-level, the availability of primary care services is largely based upon the supply and distribution of the workforce that delivers these services.

A number of important issues emerge from recent data on the supply and distribution of this workforce. These issues, described throughout the document and outlined below, have been organized for the purpose of informing the agenda for primary care physician workforce policy in the State of Indiana. These issues emerged in objective consideration of workforce data and do not take into account perspectives of any one profession or stakeholder group.

#### **1. THE AGING PHYSICIAN**

The number of physicians aging into retirement over the coming decades will likely significantly impact workforce supply. The impact of workforce aging will be most profound in rural communities, which currently struggle with the primary care physician capacity. As a large number of physicians age into retirement, a strong pipeline and supporting policies will be needed to meet health service demands of the population. Additional research is needed to determine whether the current pipeline is sufficient to meet these demands.

#### **2. FEMINIZATION OF THE WORKFORCE**

As the distribution of gender in the physician workforce becomes more evenly distributed, understanding whether and to what extent differences in practice characteristics by gender exist will be increasingly important for informing workforce projections.

#### **3. WORKFORCE DIVERSITY**

The demographics of Indiana's primary care physician workforce do not reflect the demographics of Indiana's population. Strategies for cultivating a more racially and ethnically diverse primary care physician workforce should be considered alongside any supply initiatives.

#### **4. TEAM-BASED MODELS OF CARE**

The health system continues to focus on cost effective and efficient care delivery models in order to increase access to quality services across the country. Team-based and collaborative care models are receiving more and more support as evidence continues to grow regarding their ability to improve efficiency and quality. Although the State of Indiana has seen an increase in reported collaboration between APNs, collaboration between PAs and primary care physicians has been stagnant. Research is needed to determine the factors influencing trends in collaborative practice and inform policies which promote team-based care.

#### **5. WORKFORCE DISTRIBUTION**

Indiana's primary care physician workforce is not equitably distributed across the state. Simple analysis presented in this report identified 11 Indiana Counties which may qualify for primary care HPSA designation but are not currently designated. A statewide, comprehensive primary care needs assessment is needed to identify and prioritize HPSA designations.

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