DENTIST POLICY REPORT

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HEALTH WORKFORCE STUDIES PROGRAM
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Policy Report: 2014 Indiana Dentist Workforce

WHAT'S THE ISSUE?

ORAL HEALTH

Oral health is a critical component of overall health.[1,2] Unfortunately, many Americans suffer from preventable dental conditions, such as dental caries (tooth decay) and periodontal (gum) disease. This burden is disproportionately borne by underserved and vulnerable populations. Nationally, data from the 2011-2012 National Health and Nutrition Examination Survey (NHANES) suggest that approximately 21% of all children between the ages of 6 and 11 years have experienced dental decay. Examination of dental caries rates by racial and ethnic minority groups demonstrate the oral health disparities that exist among American children. Approximately 27% of Hispanic and 23% of non-Hispanic black children have experienced dental decay as compared to 18.5% non-Hispanic white children.[3]

Poor oral health is not only a national issue, but is a state issue as well. Hoosier children are experiencing alarming rates of dental disease. A data brief, *The Oral Health of Indiana's Third Grade Children Compared to the General U.S. Third Grade Population*,[4] published by the Indiana State Health Department in December of 2013 presented findings from an oral health screening program performed in 2013. This document reported that 51% of the third graders screened had a history of dental decay and 17% had untreated dental decay at the time of screening. Although data by demographic (race and ethnicity) and socioeconomic characteristics were not made available in the report, the document suggested that higher rates of decay were found in children residing in communities with lower socioeconomic status.

Children are not the only population affected by dental disease and oral health disparities. Although the oral health needs of Hoosiers adults are not as well documented as children, it is generally accepted that adults from certain vulnerable populations, such as people with intellectual/developmental disabilities and those of lower socioeconomic status, are more likely to struggle with poor oral health.[5-8]

ACCESS TO CARE

A lack of access to preventive oral health care services is one of the primary factors contributing to dental disease and disparities in oral health among vulnerable populations in Indiana and across the United States. These populations disproportionately experience barriers to oral health care access. Cost and availability of oral health care services are the most frequently cited barriers to access. The high cost of oral health care services is reported as a barrier by many, but especially affects those with lower incomes and those that are uninsured or underinsured. In addition to the high cost of care, many people struggle because oral health services are not available to them within their community.

A number of health policies focused on reducing the cost barrier to oral health care access as a strategy to improve oral health and reduce health disparities. State Medicaid programs are one such example. Indiana Medicaid currently provides insurance coverage for preventive dental services to its recipients. However, having insurance coverage does not guarantee access to oral health services. Even insured individuals struggle with access if they reside in communities where oral health services are not available. Geographic shortages of dentists and shortages of dentists that participate in and accept Indiana Medicaid affect Hoosiers across the state.

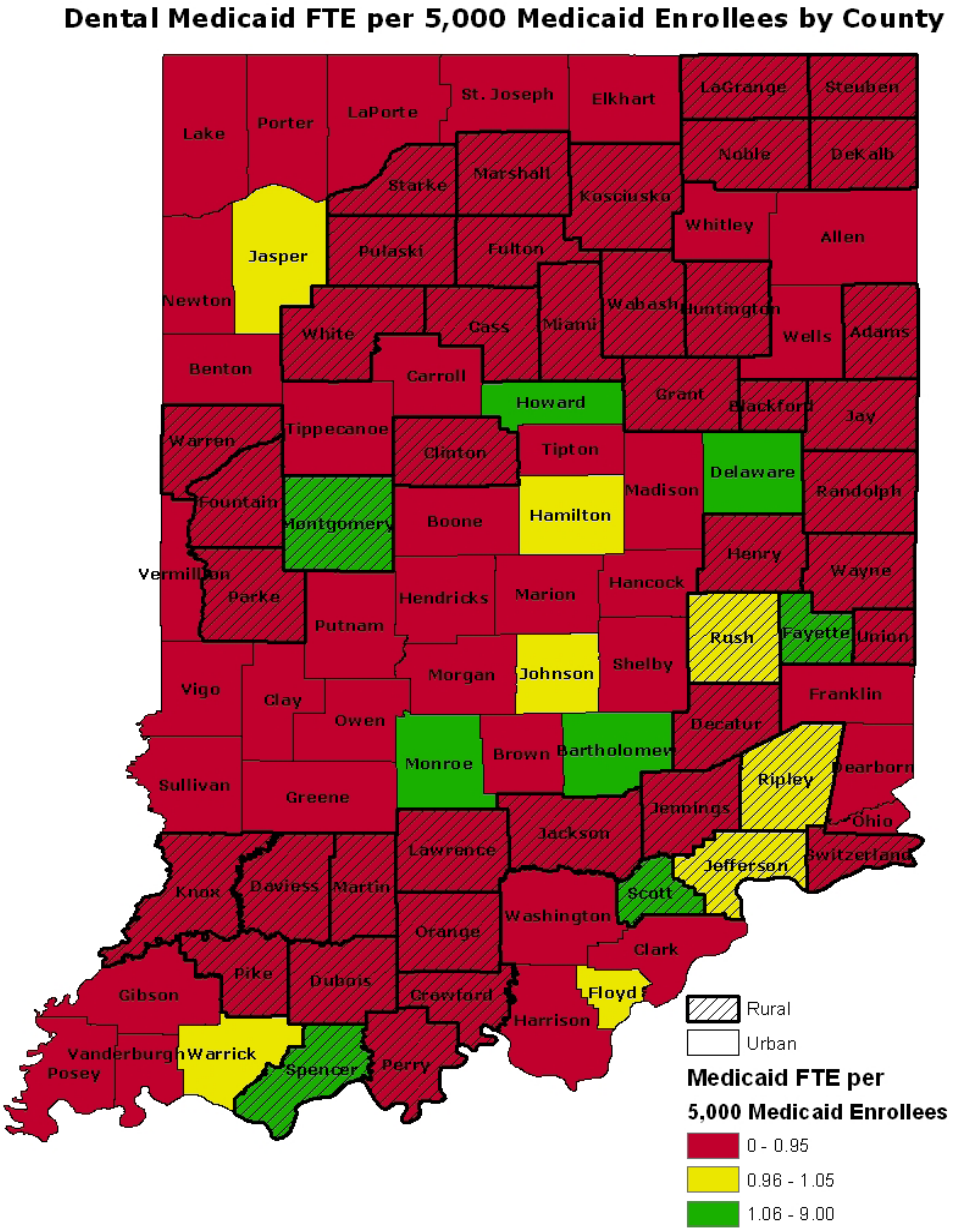
INDIANA ORAL HEALTH CARE SYSTEM

Understanding the structure of Indiana's oral health care delivery system is critical to ensuring availability of oral health services and population oral health. This is especially the case with the oral health care system for underserved populations, commonly known as the oral health safety-net.

Information on the characteristics and distribution of the dental workforce may be used to assess oral health care delivery system capacity at the community level. This type of information is useful for identifying workforce shortages and informing policy and planning activities. In fact, the Department of Health and Human Services (DHHS) has published methods for assessing dental workforce capacity and determining shortages. These methods suggest that a ratio of 5000 population per dentist is the "optimum" dental workforce capacity.[9] Applying this criterion to county level information for Indiana on the number of individuals enrolled in Indiana Medicaid and the number of dentists serving Indiana Medicaid recipients provides a snapshot of the "state of the oral health care safety-net" in Indiana. This suggests that numerous counties are likely experiencing dental workforce shortages.

Figure 1 is a geographic information system (GIS) map which depicts Indiana Medicaid dental workforce capacity (shortage, sufficient capacity, and surplus) at the county level. This map uses simple stop light colors to represent capacity of Medicaid dental providers. Counties colored in green have fewer than 5000 Indiana Medicaid enrollees per one full-time Indiana Medicaid dental provider. Under the federal criteria, green counties theoretically have "surplus" of dentists participating in Indiana Medicaid. Counties colored yellow may be "close" to experiencing a shortage of Indiana Medicaid dentists, based on federal criterion. Red counties have more than 5000 Indiana Medicaid enrollees per Indiana Medicaid participating dentist. These counties are considered to have a "shortage" of providers, based on federal criterion.

*Figure 1: 2012 Indiana Medicaid Dentist Capacity to Indiana Medicaid Enrollee Population**



* This map was generated by summing the Medicaid dental claims for each County and dividing the sum by 5000 (calculation used by HRSA for DHPSA designation to determine Medicaid FTE). The calculated Medicaid FTE for each County was divided by the Medicaid enrollee population per county by the same period to determine whether the criteria (5000 population: 1 Medicaid FTE) were satisfied. Red areas indicate shortage of Medicaid providers, yellow indicates near shortage, green indicates sufficient capacity.

These data suggest that in 2012, only 16 out of Indiana's 92 counties (or 17%) had an adequate supply of dentists to service Indiana Medicaid recipients. This suggests significant gaps may exist in Indiana's oral health care safety-net, for both urban and rural communities.

Information on Indiana's Dentist Workforce

Information on the oral health workforce is critical to understanding oral health system capacity and informing policy. Figure 1 demonstrates the value of such information. Indiana has historically had robust data on the practice characteristics of dentists. These data are generally collected through electronic surveys administered in conjunction with biennial license renewal. Licensure survey gather valuable practice information such as practice address, number of hours spent in direct patient care, and safety-net participation.

Threat to Supply Information

Over the past decade, licensure surveys have provided consistent, high quality information on the dental workforce in Indiana. Data through these surveys are now used to inform state level efforts to address dental workforce shortages. Unfortunately, no survey was administered in conjunction with license renewals in 2014.

Sample Survey Description

In an effort to gather this important information on Indiana's dentist workforce, Health Workforce Studies at Indiana University partnered with the Indiana Professional Licensing Agency (PLA) to administer the survey in the fall of 2014, separate from the license renewal period. The survey contained questions consistent with the preceding renewal cycle, but was administered using a survey research tool available through Indiana University and separate from the system that is generally used by the State of Indiana to gather this information. A message describing the importance of the survey and containing a link to the survey was emailed to all licensed dentists for whom an email contact was available by the PLA. Three follow-up reminders were delivered to all survey recipients. The survey was open for approximately eight weeks.

INDIANA'S DENTIST WORKFORCE

Dentist Supply in Indiana

Unfortunately, the response rate to the emailed version of the survey was extremely low (13.4%) as compared to previous years in which the survey was administered in conjunction with license renewal (response rate was 80.7% in 2012). Of the 3,982 actively licensed dentists in Indiana, only 532 responded to the survey. Of these, only 424 met the inclusion criteria, which include: holding an active or probationary license, practicing at an Indiana address, and actively working. (For further information on inclusion and exclusion criteria for this report, please refer to the *Data Report: 2014 Indiana Dentist Workforce*). It is unclear whether these respondents are representative of Indiana's dentist workforce; however, these data, representing the most current information available on a sample of this workforce, are presented in this report.

Practice Characteristics

Area of Practice

It is important to know where Indiana's dentists practice to understand the supply and capacity of this workforce. The majority of respondents (78.9%) work in a general dental practice. The top three specialties are orthodontics and dentofacial orthopedics (5.8%), pediatric dentistry (4.4%) and oral and/or maxillofacial surgery (3.6%). The majority of respondents who practiced in a specialty were between the ages of 35 and 54. However, this age strata also comprised the largest proportion of respondents (45.5%).

Age of Treated Patients

Survey respondents were asked to select all age groups of patients that were treated in their practice. Over 90 percent of dentists in Indiana provide services to adults and elders (age 65 or older). A large proportion of dentists serve adolescents (94.8%) and children age 2 to 11 (88.7%), but only 22.9% of Indiana dentist respondents treat infants. However, as this data is limited, no definitive conclusions can be made about the true age range of Indiana dentists' patients.

Capacity

When examining workforce capacity, it is not sufficient to do a head count of licensed health providers. Dentists often hold a current license, but may not spend 100% of their time providing dental services. Workforce capacity for patient care is more accurately assessed using dentists that reported full-time equivalency (FTE) or using the number of hours a dentist reports in patient care activities per week. However, because of the low response rate and therefore significant data limitations in this re-licensure year, calculating capacity based on the small sample size is unlikely to be representative of the entire Indiana dentist workforce. This emphasized the value of gathering high resolution supply information from health professionals on a routine basis in order to estimate the capacity of this workforce to serve the Indiana population.

Demographic Characteristics

Gender

The dentist profession has historically been largely male-dominated,[10] and this is reflected within the Indiana dentist workforce, where 75.4% of dentists were males in 2012, which increased slightly to 79.9% in 2014. However, the female respondents were on average much younger (48.0 years) than the male respondents (55.0 years). Data limitations on this survey cycle result in limited interpretation of these data. However, future quality data collection efforts will allow for thorough analysis of gender trends.

Distribution

While the analysis of dentist workforce distribution is critical to informing policy on this workforce, detailed geographic analysis (by Indiana county) of this year's survey respondents would be futile because of the small sample size which is likely not truly representative of Indiana's dentists. However, larger-scale analysis of practice location of survey respondents could be useful to determine rurality of Indiana dental practices. The majority of respondents practice in an urban setting (80.7%), while only 19.3% practice in a rural location. However, these rural locations were more likely to be currently accepting new Medicaid patients (48.8%) than urban practice locations (38.6%). A larger sample size that is more representative of the Indiana dentist population will be useful for detailed analysis of practice location. These future data demographics will help to inform policy to ensure equitable dental care access to Hoosiers throughout the state.

WHAT'S NEXT?

Information on the workforce of licensed dentists is critical to understand the capacity of Indiana's oral health care system. Historically, Indiana has gathering information on the supply and distribution of this workforce through surveys administered in conjunction with the biennial license renewal process.

Administering surveys in conjunction with license renewal reduces the time burden associated with completing the survey as a separate process and has afforded high response rate for over a decade. Unfortunately, no survey was administered during the 2014 license renewal period. In order to gather information on Indiana's dentist workforce, a survey was administered as a separate process, but the response rate to this survey was low (13.4%) and the results are not likely to be representative of the overall dentist workforce. **A lack of information on the characteristics, supply, and distribution of the dental workforce threatens relevant policy and planning initiatives.** Health Workforce Studies at Indiana University is working in collaboration with the Indiana Professional Licensing Agency and other agencies to develop strategies for ensuring the availability of high quality information on the dental workforce, and other licensed professions. These strategies will be implemented during the 2016 license renewal period for dentists and dental hygienists. Watch for enhanced dental workforce reports to be available following the close of the next renewal cycle in late 2016.

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