

**Medical College of Wisconsin Master of Public Health Program  
PUBLIC HEALTH STUDENT WRITING TUTORIAL**

**SAMPLE RESULTS SECTION #1**

When examining the dental workforce demographics, the *ADA 2005 Survey on the Distribution of Dentists in the United States* provides information on practice locations, specialties, gender, ages, and trends of all dentists in the United States. Most dentists in the United States are general practitioners (80%), male (79%), and operate their own private practices (75%).<sup>1</sup> In the period from 1998 to 2006, the number of dentists in the United States increased on average 10% from 163,291 to 179,594 while the population increased at a rate of 11.1%.<sup>2</sup> In some parts of the country, the dental provider numbers percentage increase exceeded the percent increase in the population. The *ADA 2005 Report* did not find a shortage of dental providers in the country but rather a maldistribution of dentists, and it identified the difficulty many segments of the population have in accessing care. In March of 2007, Kathleen Roth, D.D.S., president of the American Dental Association, addressed the subcommittee on Health and Commerce in Washington, D.C., and described the geographic distribution of dentists along with the lack of Medical Assistance dental providers as a barrier to providing adequate access for dental care to the underserved across the country.<sup>3</sup>

A study by Beazoglou investigated the importance of productivity in estimating the need for dental providers and whether or not true shortages exist.<sup>4</sup> In a market economy, the demand for dental services is not constant over time and is influenced by many factors. The data in this

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<sup>1</sup> ADA, *Distribution of Dentists in the United States by Region and State, 2007*. Retrieved 2/10/10 at: [www.ada.org/members/ada/prod/survey/07](http://www.ada.org/members/ada/prod/survey/07).

<sup>2</sup> Ibid.

<sup>3</sup> Roth, Kathleen DDS. Statement of the ADA to the Subcommittee on Health, Committee on Energy and Commerce US House of Representatives on Improving Access to Dental Care, March 27, 2007. Available at: [http://www.ada.org/prof/advocacy/test\\_070327\\_roth.pdf](http://www.ada.org/prof/advocacy/test_070327_roth.pdf).

<sup>4</sup> Beazo, Tryfon, et al. The Importance of Productivity in Estimating Need for Dentists. *J AM Dent Assoc* 2002; 133; 1399-1404. Retrieved 2/7/10 at [www.jada.ada.org](http://www.jada.ada.org).

study show that by the year 2020, there will be a shortage of almost 10,000 practitioners, but the shortage may be greater if the utilization by the low income population increases at significant rates.<sup>5</sup> The U.S. Department of Health and Human Services, under the Health Resources and Services Administration (HRSA) develops criteria to determine if a geographic area or population group is a Health Professional Shortage Area (HPSA). As of September 2009, approximately 49 million people live in 4,230 HPSAs nationwide. It would take 9,642 dental practitioners to meet their dental health needs and bring the population to dentist ratio to 3,000 to 1.<sup>6</sup>

where the estimated dental need will be 3,358, a shortage of only 5 practitioners.<sup>10</sup> In terms of access to care, the Wisconsin non-Medicaid population should have adequate access to dental care in 2020 since the Wisconsin population and the number of dentists will increase at about the same rate. Dental providers have increased in the state because of the increase in the Wisconsin Gross Domestic Product, attracting more dentists from out of state.

In addition, Marquette University, the state's only dental school, increased its class size from 60 to 80, with a large percentage of students coming from Wisconsin. Statistics from the WDA paper also show that the surpluses and shortages of dentists that will exist are not what might be expected nor correlate with the HPSA designated counties. Some of the larger urban populated counties in Wisconsin – Dane, Racine, Kenosha, Rock, and Washington – will have a shortage of providers, while some of the smaller rural counties – Sawyer, Ashland, and Marathon – will actually have a surplus of providers. These data indicate a shortage predicted for urban areas, while a surplus may exist in the rural areas. Therefore, based on market demand, more dentists are likely to move to the urban areas where demand is greatest. The WDA report does not dispute the fact that there are shortages of dental providers for the underserved populations in the rural areas of Wisconsin that have Medical Assistance or are unable to pay for services. Their position clearly states that increasing the number of dentists from new dental schools will not affect the number of providers in the underserved areas. In the Wisconsin Dental Report, the dentist shortage is predicted to be a total of only five dentists in the next ten years. However, this was calculated with the assumption that increasing the number of Wisconsin residents selected both in-state and in neighboring states will increase those choosing to locate in Wisconsin after graduating.

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<sup>10</sup> Beazoglou, WDA Report, op cit.

According to the WDA, a school in the suburb of Chicago will likely contribute 120 dentists to Wisconsin yearly, thereby adding to the dental pool in Wisconsin. Northwestern University, located in the Chicago suburb of Downers Grove, Illinois, has admitted their first dental school applicants for a class of 120 to graduate in 2015. This new private dental school will welcome Wisconsin residents but will offer no incentives for the Wisconsin students to attend, and they do not expect more applicants from Wisconsin than any other state.<sup>11</sup>

Further limitations of the WDA report include the fact that the market based needs are calculated from the Delta Dental workforce and not a survey or estimate of the dental needs in the state of Wisconsin. The study also had no access to data regarding the dental needs or dental health status of the uninsured in Wisconsin. Furthermore, the uninsured population utilization rates were taken and estimated to be the same as the insured Delta Dental client base in the study. The WDA study also attributed the higher rates of utilization for children covered under the Medical Assistance (MA) program in Wisconsin to the fact that the reimbursement rates are higher for children than adults in the state. What they failed to consider is that many dentists in the state who accept MA patients, limit patients seen to children only or children under 12 years of age, regardless of the difference in reimbursement rates.

In contrast to these findings, the Wisconsin Department of Health Services (DHS) has documented the dentist shortage areas in Wisconsin for the low-income populations.<sup>12</sup> There are no counties currently in Wisconsin that meet the federally recommended number of dentists per low-income population. In the state, 69 of 72 counties had serious shortages of general dentists, and three counties had no dentists with paid MA claims in 2007. The data from the State and WDA are consistent in their reporting of dental demographics. The shortages of

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<sup>11</sup> Higgs, Judith. Director Northwestern University Dental School Admissions. Personal correspondence 01/26/10.

<sup>12</sup> Wisconsin DHS DPH Primary Care Office. Dentist Shortages for Low-Income Populations Wisconsin CY 2007.

provider care are evident in the underserved population groups, along with the lack of providers in those areas willing to participate in the MA program.

***For Underserved Populations***

The lack of providers accepting patients insured by the federal Medicaid program is well documented in many studies. The GAO surveyed Medicaid programs for all 50 states and reported that less than half of the state's dentists saw at least one Medicaid patient during 1999.<sup>13</sup> In addition, there were no states where more than half of the dentists saw 100 or more patients. Twenty six states reported less than 25% of their dentists treated over 100 MA patients, and most reported less than a fourth participated at that rate. The ADA 2005 *Dental Workforce Report* found that only 26.7% of the responding dentists treated Medicaid-insured patients.<sup>14</sup> An analysis of fees paid to dental Medicaid providers showed that only 13 states had Medicaid rates that exceeded two-thirds of the average regional fees dentists charged, while only four states – Delaware

services. With low Medicaid fees and high practice expenses (59.6% of gross billings), the dentists in Wisconsin lose money seeing the Medicaid patients.<sup>17</sup>

The populations that cannot afford the private dentists, or lack access through the Medicaid system for private dental care, have limited options for their treatment. Community dentist, 5473(1)-2-23,32JT\* [(-31.3(1)-2(h)-10(y)t)-2ntists,20052(s)-1(.)]TJ .EMC /Span <<7MCID 13 >>B5 health centers and clinics operated by dental and dental hygiene schools, hospitals, and public schools comp

dental services provided at Marquette Dental School (89,000 visits/year), the FQHC's and the other dental clinic safety nets in Wisco

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**SAMPLE RESULTS SECTION #2**

Regarding a study in Western Kenya, Alaii and colleagues state, “[Insecticide treated net deployment] is apparently simple: one must ensure that the corners of a rectangular ITN are attached to eaves and walls of one’s room, lower the ITN before sleeping, and tuck the ITN under the bed or mat.” However, only 72% of individuals in the study were found to have deployed their ITNs properly.<sup>19</sup> There are numerous factors affecting appropriate use of ITNs to prevent malaria in children under five. Communities have concerns regarding ITNs, and there are environmental, educational, social, and logistical determinants of use.

*Concerns Regarding ITNs*

Communities have expressed numerous concerns regarding ITNs and the chemicals therein. ITNs are treated with pyrethroid insecticides, which have low toxicity to mammals and high toxicity to insects. This results in a high insecticidal knock-down effect, even at low doses, but few adverse affects to people. Pyrethroids are fairly stable and do not break down unless exposed to sunlight or washed.<sup>22</sup> Newer, long-lasting insecticides even remain efficacious despite repeated washing.<sup>23</sup>

In a study of community reactions to ITNs, Alaii and colleagues found individuals in Western Kenya to be distressed about various factors. Many found the chemical smell unpleasant, and some groups attributed flu-like and runny nose symptoms to the chemical. People did not want to sleep under the nets until the smell wore off, and mothers washed their babies’ nets to reduce the smell and prevent suffocation. (Washing was of concern because these



nets had not been treated with long-lasting insecticides; therefore, washing decreased efficacy.)

Other individuals thought the chemical in the nets could be a secret fertility control device from the government.<sup>24</sup>

### *Environmental Determinants*

### *Educational Determinants*

Correct knowledge of malaria transmission often affects appropriate use of ITNs. In a study of ITN possession and use in Eritrea, it was found that households demonstrating correct knowledge of malaria transmission were more than twice as likely to have all children under five sleeping under an ITN as those households that did not demonstrate appropriate knowledge.<sup>4</sup>

If individuals do not understand how malaria is transmitted and how ITNs break the transmission cycle, they are less likely to use their nets effectively. For instance, before the beginning of their trial, Alaii and colleagues found that 75% of mothers recognized mosquitoes as the cause of malaria, but only 27% understood that mosquitoes are the sole cause. Forty-seven percent believed that getting cold was the sole cause of malaria.<sup>27</sup> If individuals do not understand mosquitoes to be the only cause of malaria, they may concentrate their efforts on reducing other perceived causes, rather than proper deployment of ITNs.

However, correct knowledge of malaria transmission is not always found to be a determinant of bed net use. In a study in Ghana, De La Cruz and colleagues did not find that those who utilized a bed net had a significantly higher level of knowledge regarding methods of protecting against malaria. Also, there was no difference between those who used bed nets and

hours.<sup>20</sup>



ITN use is that bed nets were described as useful to avoid roof debris<sup>25</sup> and have been utilized for this reason.