

## AN EXPLORATION OF DENTAL HEALTH DISPARITIES IN AMERICA

by Cole Archambault

Many would consider the United States one of the greatest countries in the world. Yet, the U.S. struggles to provide healthcare to its citizens. While the United States' bragging rights include the highest gross domestic product (GDP) in the world, one of the world's highest adult literacy rates (99%), and one of the world's strongest militaries, American healthcare, especially dental care, has not lived up to these statistics.<sup>1</sup> A study published in the *Journal of the American Dental Association* reports that only 63 percent of the adult population (ages 18-69) seeks regular dental care.<sup>2</sup> This low rate of dental care attainment is the result of myriad causes, and research has shown that its effects could be wreaking havoc on the health of millions of Americans.

Why is dental health care such an important asset? A link has been shown to exist between oral health and general health. In the words of the United States Surgeon General Dr. Davidatcher, "oral health is integral to overall health. Simply put, that means you cannot be healthy without oral health."<sup>3</sup> Indeed, recent research has shown that gum disease (such as gingivitis and periodontitis) is a precursor to many systemic conditions. Included is the risk of prenatal complications, or complications in pregnancy. A study performed at the University of North Carolina Chapel Hill in 2002 linked periodontal disease to pre-term babies and low birth weight. "[Periodontal disease] increases the risk of pre-term delivery two-fold or greater depending on whether there is fetal exposure during pregnancy," said Dr. Steven Offenbacher from the University of North Carolina School of Dentistry.<sup>4</sup> Aside from pregnancy issues, an article in *Scientific American* states that gum disease has been proven to be a risk factor for coronary heart disease. This article, entitled, "Taken to Heart: Brushing your teeth may be good for your ticker," identifies infections, particularly those of the gums as a new risk factor for coronary heart disease. Author Julia Karow points to studies that "suggest an association between infected gums and heart disease...oral bacteria have even shown up in the sticky plaques lining diseased arteries."<sup>5</sup> This means that oral bacteria pass freely through the bloodstream, quite possibly to vital organs other than the heart. While it will take further research to show the degree to which dental plaques contribute to coronary heart disease, the number one killer of Americans, the research highlights an important benefit of dental care: prevention. If gum disease is a cause of

other diseases, then dentistry can be used as a powerful tool in preventative medicine.

When considering the gravity of gum disease, which has been hereto shown to affect several other disease states, one must consider its prevalence within the American population. According to the same article from the University of North Carolina that cited gum disease as a cause of pre-term babies, "at least half of all Americans over age 30 have gingivitis."<sup>4</sup> The prevalence rate of this disease (50+%) is astounding, especially when compared to other prevalent diseases such as diabetes (7%) and HIV/AIDS (0.6%).<sup>6,7</sup> In light of current research, it can be inferred that periodontal disease is at least partially responsible for the prevalence of many other diseases, such as heart disease. Research has been unsuccessful thus far in quantifying the effect of gum disease on other diseases. Regardless of its impact, it must be understood that gum disease, especially in its current prevalence, is a grave danger to the health of many Americans.

One reason for the great prevalence of gum disease in the adult population is that infected people do not realize that they have gum disease, and they do not seek proper dental care. In other words, many people do not go to the dentist unless they have a toothache. According to the *Merck Manual*, a medical encyclopedia, "pain is usually absent" in gingivitis.<sup>8</sup> Pain only becomes a symptom "if acute infection [such as an abscess] supervenes."<sup>9</sup> By the time pain is felt, the gum infection has progressed greatly and the patient is in danger of losing teeth. As a result, gum disease is usually severe by the time it is diagnosed by a doctor. A vast majority of the population is unaware of the symptoms of gingivitis: inflammation, redness, and sensitivity. More importantly, there is little awareness of the dangers of gum disease. Since the research showing the dangers of gum disease is relatively new, some dentists are just becoming aware of these dangers. At the current state, it will take many years for a majority of dentists to inform their patients of the newfound dangers of gum disease. And only then will those who regularly seek dental care know the danger of the bacteria that live in their mouths. Those who do not, almost 40% of the population, will continue to be unaware of the risks. This creates a dangerous cycle; those who do not seek regular dental care are not informed about the risks of not receiving the care they need to be healthy.

There are many reasons why such a large percentage of Americans do not visit a dentist regularly. The complex web of factors that affect healthcare distribution can be untangled to reveal two main types of causes: psychological and institutional. Psychological causes such as dental phobia cause people to avoid dental visits out of fear. This affects the distribution of dental care because it prevents even those people who can afford care from receiving it. Institutional causes are factors that prevent the equal distribution of care that are ingrained in society. Examples include racism, dental insurance structure, and the way in which dentists are compensated for their services. A press release from 2000 by the U.S. Surgeon General states, “major barriers to oral health include socioeconomic factors, such as lack of dental insurance or the inability to pay out of pocket, or problems of access that involve transportation and the need to take time off from work for health needs.”<sup>10</sup> Affordability is one of the main influences that prevent people from visiting a dentist. As a result of both psychological and institutional causes, many people do not receive the dental care that they need.

A study by Doctors Woosung Sohn and Amid I. Ismail published in the *Journal of the American Dental Association* pinpointed one of the main reasons why many people do not seek dental care: dental phobia.<sup>2</sup> The study states, “Dental anxiety is a significant determinant of whether people will make regular dental visits.” Doctors Sohn and Ismail attribute such anxiety to “traumatic dental experiences during childhood, family influences, certain psychological conditions, and a high general fear level.” Essentially, many people refuse to put themselves in a situation that scares them, such as the dentist’s chair, even if they know it may prevent health problems in the future. This could be explained by the correlation found between dental phobia and perceived dental health. According to the study, “Respondents who reported having good-to-excellent oral health were more likely to visit dentists regularly than were those who reported having fair-to-poor perceived oral health.”<sup>2</sup> In other words, people are less likely to visit the dentist if they know that they are in poor oral health. While the reason for this correlation was not explored in this study, it is possible that it shows that people who do not go to the dentist due to dental phobias are aware that they have been forgoing preventative care, and thus reporting low oral health.

Also, race and class disparities of dental care will provide a long-term challenge. A study by Arizona State University explored the reasons why American minorities do not receive proper care. Sam Kim, a graduate research assistant at Arizona State, said that, “the low rate of health care utilization among minorities is attributed to the lack

of knowledge about the importance of preventive health care.”<sup>11</sup> While not all minorities are low income, a strong correlation exists between income level and minority status. A low income not only prevents many minorities from affording dental care, but it also restricts their access to information about dental care they need. Certainly, income disparities directly relate to healthcare disparities. In Drs. Sohn and Ismail’s aforementioned study it was found that, “The proportion of respondents who visited a dentist regularly increased as their...annual household income increased.”<sup>2</sup> The study also stated that, “the highest income group [in the study] was about nine times more likely to visit a dentist regularly than was the lowest income group.” However, low income does not only limit care that a family can afford, but it also affects the information people receive about proper dental health.

The issue of dental care disparities as a result of income disparities raises an important question: how can dental care be made more affordable for low-income families? While there is presently no concrete solution, the dental clinic is a solution that gives some families hope. Dental clinics, establishments where people can go to receive both affordable and emergency care from either dental students or volunteer dentists. They can be a great resource for those who cannot afford a traditional trip to a dentist’s private practice. However, these clinics face many problems that prevent them from being the dental care disparity panacea. An article from the *Cincinnati Enquirer* entitled “Special Report: Cincinnati’s dental crisis” describes the overcrowding at the city’s dental clinics. Author Erica Solvig writes that there are over 10,000 people each year who seek service from the ten doctors who man the city’s clinics.<sup>12</sup> “Many others - as many as 4,000 - are on a two-year waiting list to be seen. Many of them are children,” she writes. While many are lucky enough to see a dentist, many must either go without care or wait years to be seen. What is the factor that prevents all patients from receiving care?

Dr. Daniel Kane, the Dental Director at the Saint Joseph Hospital For Specialty Care, said there is no concrete answer to this question. According to personal correspondence with Kane, Dental clinics face a complex array of problems.<sup>13</sup> While many clinics are Federally Qualified and receive government subsidies, according to Kane, “Some are paid per patient visit and not by procedure.” This makes some of the more complex, and thus expensive, procedures highly unprofitable. Dentists face financial pressures, too, says Kane. “It may be that dentists’ willingness to accept lower paying positions in public ... could be limited by the amount of student debt they have accumulated,” said he. Indeed, dental students today face a

substantial debt upon graduation of dental school. According to a 1999 article in the *Journal of the American Dental Association*, 29.3 percent of dental school graduates leave dental school with a debt in excess of \$150,000. The article reports that, “Educational debt is having a major impact on practice options and practice selection.”<sup>14</sup> This means that many new dentists are focused on recuperating their financial losses than joining a more philanthropic practice like a clinic. These financial constraints certainly will perpetuate the disparities of dental care in America.

Due to these pressures, many doctors are unwilling to accept Medicaid in their private practices. Medicaid is government-funded health insurance available to low-income families, seniors, and the disabled. Kane writes, “The [Medicaid] reimbursement rate for dental procedures is very low (in [Rhode Island] it is about 40% of the usual and customary fee, so no private practicing dentist is going to take Medicaid).” Another factor that discourages dentists from accepting Medicaid is the high number of “no-show” appointments. As Kane points out, “Providers cannot bill for no-shows appointments.” This is likely a result of transportation difficulties faced by those on Medicaid.<sup>13</sup> Due to enormous debt, dentists are forced to act in their best financial interest, even if that means that they will not be able to offer care to those without private health insurance. This financial pressure also explains one reason why dental care is so expensive.

Consequently, few people can afford to pay for dental care out-of-pocket. The rest of the population must rely on dental insurance to cover the high costs of care. However, current health insurance structure perpetuates the disparities; too few people have dental insurance. According to the Surgeon General’s report on oral health from 2000, “While 44 million Americans lack medical insurance, about 108 million lack dental insurance. Only 60 percent of baby boomers receive dental insurance through their employers, and most older workers lose their dental insurance at retirement.”<sup>2</sup> Many more people are without dental insurance than without medical insurance. The result is that people without insurance simply do not see their dentist as often. A study published by the Centers for Disease Control and Prevention entitled “Dental Service Use and Dental Insurance Coverage – United States, Behavioral Risk Factor Surveillance System, 1995” showed that in a 25-state study, 69.0% of all people interviewed had visited a dentist in the past twelve months, while the percentage was only 44.3% for those without dental insurance.<sup>15</sup> The difference in care received by those with and without health insurance shows that cost is often too great an obstacle for the uninsured to overcome. It seems as though the relatively low number of people who seek regular dental care

will continue to persist as long as millions of Americans go without dental insurance.

Presently, the idea of an equal distribution of dental care is but a dream. The changes that must be made both socially and within the structure of healthcare itself are almost innumerable. The political and financial barriers for revolutionary changes in the healthcare system are great, and advances in the distribution of healthcare will likely see many decades of steady improvement instead of immediate resolution. With such diverse causes contributing to the problem at hand, from psychological factors to the structure of health insurance, a quick fix to the problem will likely not be discovered.

It is probable that racial and income disparities as well as dental phobia will be the most persistent of the problems relating to disparities of dental care. This is because these problems are rooted in social institutions; racial and income disparities can be attributed to the many social conventions that promote an unequal distribution of wealth, and dental phobia can be attributed to past experiences and the stigma of painful dentistry. Time is likely the only solution for these problems. As each generation becomes more aware of these disparities than the preceding generation, the negative effects that they have may be mitigated. Also, as each new generation experiences new technology that has made almost all dental procedures virtually painless, dental phobia will play less of a role in preventing people from visiting the dentist. The problem, of course, is the sluggish speed at which these changes will take place.

Another slow yet necessary step that must be taken to minimize dental care disparities is education. Very few people are aware of the recent research that shows the importance of oral health. Consequently, many people, especially those currently living with gum disease, do not value dental care nearly as much as they would if they knew about the dangers they faced. As mentioned before, proliferation of knowledge about the dangers of gum disease has been very slow. It must be sped up. Since the people who are most likely to be unaware of the hazards of gum disease are those who have not visited the dentist recently, the findings of recent research must make it to mainstream media outlets. Public service announcements, for instance, could be made via television or billboards. The next question, of course, is who will fund such an awareness campaign. Since dentists and dental care supply companies (Colgate Palmolive Co., for instance) would likely profit from an increased demand for their services and products, it is likely that the American Dental Association and dental supply companies would be willing to invest in American healthcare.

Another approach is adolescent dental education. In such a program, children are taught the proper technique of brushing and flossing. As a result, children learn the value of dental health at a young age. An example of such a program is the Tufts University School of Dental Medicine Smile, Share & Care Program. In this program, according to the program website, Tufts dental students visit with children at the Boston YMCA day care center and read them books related to dentistry.<sup>16</sup> It is extremely important that children value dental care from an early age. With greater education on the importance of receiving dental care, oral health becomes a greater health priority.

One viable resolution to the increasing costs of dental care is government subsidy of private dental education. Private dental school graduates leave dental school with the greatest debt, so it can be fairly assumed that these dentists would need to have the highest fees to recuperate their debt.<sup>14</sup> In order to mitigate this effect, the government could subsidize private dental care. This would, like universal health insurance, cause an increase in taxes and/or necessitate a decrease in other government spending.

With such a complex problem at hand, and so many contributing causes, each solution can only provide slight mitigation. Most would agree, though, that government intervention is necessary to some degree. This is because health care creates positive externality. In other words, a healthy population benefits everyone. The base economic model of externalities states that, in a private market, the socially optimum quantity of dental care will not be produced.<sup>17</sup> This is because high prices prevent many people from being able to afford the care they need. One of the solutions of this problem is the government subsidy of producers, or dentists in this case. There are still many variables with this solution. Will dentists lower their fees enough for everyone to obtain dental care? Will there be enough dentists to meet the demand? Will the government subsidize on a per-patient or per-procedure basis? As with any problem of this complexity, no solution will be work exactly as planned, and each solution will likely need to be modified several times before a desired outcome is reached. As for the desired outcome of the disparity as a whole, a delicate balance of several solutions will have to be made for universally accessible dental care to be a reality.

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