CAPSTONE

A REVIEW OF HEALTHCARE AND ORAL HEALTHCARE DISPARITIES IN THE UNITED STATES AS A RESULT OF THE INTERSECTIONALITY OF SOCIOECONOMIC STATUS AND ETHNICITY/RACE

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Abstract: Healthcare access in the United States is not attainable for many. Given the barriers set forth by socioeconomic status (SES), ethnicity/race, immigration status, and language, many individuals are unable to receive the care they need and deserve. The sociological term "intersectionality" embodies the idea that a person can be marginalized by varying, subordinating factors beyond one limiting variable. Using this notion, we can better understand the current status of the United States healthcare system and its limitation among groups presented with more than one barring variable. Based on statistical data and self-reported healthcare status, improvements can be made to plan toward a healthier future for Americans.

INTERSECTIONALITY

In the United States, access to dental care, among access to other healthcare services and amenities is a multifaceted task presented by various limiting factors that become subcategorized into more objective terms of ethnicity/race, location, and socioeconomic status (SES). While it seems federally and state subsidized programs under Medicaid are addressing the issues of healthcare disparities, progress is still underway as more subjective barriers, affecting individual access, are assessed.

Recent studies have investigated the more objective reasons for dental disparities in the United States with respect to determining the underlying subjective causes that affect the individual rather than a general population.

Although these studies have been fruitful in determining causes and subsequent disparities, the coordinators of each respective study have suggested that further research will be necessary for a more accurate analysis. Nevertheless, the data collected in each study are comprehensive enough to implement improvements on the current status of dental care in the United States.

The notion of *intersectionality,* a term coined by sociologist, Kimberlé Crenshaw in her 1989 article *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics* can be applied to the study of healthcare disparities. Intersectionality, as defined by Crenshaw, is the notion that marginalization and subordination by privileged groups is a result of the interaction between race, gender, and other social discriminants on an individual (Crenshaw, 1989).

Although often applied in feminist theory, this sociological term's meaning has expanded throughout the years and can be applied in different disciplines to embody the phenomenon of social hierarchy and privilege with relation to an individual's personal identity.

This notion of intersectionality plays a pivotal role in the US healthcare system. Healthcare is a commodity due to underlying discriminatory barriers set to limit access to those who are most in need. Through federally and state subsidized medical programs, eligible individuals are faced with limitations by their location, immigration status, language, and sex. Through a lack of participation in Medicaid by dental practitioners, even those who are able to access Medicaid subsidized healthcare are met with limitations. In summary, the US healthcare system is set to determine who will receive healthcare, when it will be made available, and to what degree it will be distributed.

ETHNIC MINORITIES

The "paradox of dental needs" is a term coined by Gilbert and colleagues to describe how populations with the greatest need for oral healthcare those that remain absent from the dental healthcare system (Gilbert, 1998). There are are three components to the paradox: "1) need predicts dental care use but is dependent upon which measure of need is used; 2) however, persons with a higher probability of new dental problems are actually less likely to seek dental care; and 3) self-reported disease

and oral pain are associated with a higher likelihood of seeking care, whereas clinically determined need, chewing difficulty, lower self-rating, and satisfaction with oral health are actually associated with a lower likelihood, the former direction being the predominant and expected direction" (Gilbert, 2005). With oral health problems being higher among those with minimal to no previous preventative care, the likelihood of those individuals understanding the associated risks is potentially lower due to a lack of exposure to resources on maintaining good oral health. Those who are able to understand the risks have likely had some prior exposure to oral health resources, making them more likely to access care in times of oral discomfort. Overall, those who enter the healthcare system are oftentimes in better health than those who do not. Assessments on self-reporting oral health status can be difficult to make, given the blatant disparity between those who understand when they are experiencing an oral health issue and those who are unaware of the gravity of the current state of their oral health.

As with barriers faced by immigrants, many native-born Americans are also faced with inaccessibility to healthcare due to discriminatory factors relating to ethnicity/race, SES, and location. However, these limiting factors are not ones that can be regarded in objective terms and addressed linearly. Intercrossing

factors relating to *intersectionality* make current healthcare access nearly unattainable for many by setting up barriers with different parameters (i.e. ethnicity/race and SES, immigration status and SES, immigration status and culture,

etc.) that cannot be objectively addressed and readily solved.

Based on a study of self-reported healthcare access, conducted by Shi, 2010, white individuals were more likely to report fewer doctors' visits than black or Hispanic individuals, which do not correlate with statistical data that shows minorities having less access. This discrepancy may be due to a language barrier and an inability for those being surveyed to accurately answer whether or not they have received medical care. Furthermore, many minorities have lower expectations of the healthcare system than do whites due to discrimination on the basis of intersecting, marginalizing factors pertaining to non-white minorities. Overall, Shi and colleagues concluded that healthcare disparities are multifaceted, involving insurance coverage as a proxy for socioeconomic status, and discrimination. Shi suggests that special efforts should be made to remove the many barriers faced when trying to access healthcare. These efforts are, once again, based on the idea that disparities in healthcare access cannot be objectively addressed.

When determining how healthcare access correlates with different minority groups, it was determined that Hispanic women often had the greatest knowledge of the US healthcare system due to higher fertility rates than other minorities. Subsequently, Hispanic immigrants receive more pap tests than other non-English speaking immigrants (Gonzales, 2008). Even so, when compared to non-Hispanic whites, non-Hispanic blacks and Hispanics were 31% to 35% less likely to access medical care with Hispanics being 31% less likely to receive dental care than non-Hispanic whites. Furthermore, approximately 87% and 77% of non-Hispanic blacks and Hispanics,

respectively, did not receive dental care within the previous year (Shi, 2010).

Hispanics showed the greatest disparity with regards to nativity. When the study was adjusted to exclude education and income, Hispanics were still 55% less likely to have a regular medical doctor than native-born, non-Hispanic whites. However, native-born Hispanics and native-born, non-Hispanic whites showed little difference (Lebrun and Shi, 2011). Nativity status often correlates with language abilities. Those who are born in the US are more likely to speak English than those who are born outside of the US, making healthcare more accessible to the former.

When looking at the elderly population between ages 50 and 69, it was determined that Mexican-Americans are more likely to have periodontal disease in at least one tooth site than non-Hispanic black Americans and non-Hispanic white Americans. Individuals from each category over the age of 70 had an even greater likelihood of having periodontal disease (Stanton, 2003). In Stanton's investigation of disease prevalence, Stanton states that periodontal disease is more prevalent in adults than in children. Within the adult population, low- income, non-Hispanic black Americans were more likely to receive Medicaid subsidized dental care than low-income, non-Hispanic white Americans. This improved access may be due to community location with more city-run dental services participating in the Medicare waiver program. In this instance, disparities are a result of the intersectionality of an individual being non-Hispanic white and of low SES in locations that have few to no dentists participating in Medicaid. This provides insight into intersections of marginalizing factors that do not include barriers based on minority ethnicities, but

rather those experienced by non-Hispanic whites.

Gilbert, 2005, investigated whether or not a higher prevalence of disease would result in more dental visits or more dental self-care and home remedies. This investigation determined that blacks of lower SES had higher rates of periodontal damage, root fragments, caries, and mobile teeth than whites of higher SES. There were also more cases of tooth loss outside of a healthcare facility among blacks of lower SES (Gilbert, 2005).

Both income and education in conjunction with ethnicity/race also impacted an individual's access to healthcare. Those with more years of education were more likely to have a regular medical doctor, dental visits, and pap tests, and overall fewer unmet needs. Likewise, those with an income greater than $20,000 a year were also more likely to have greater access to healthcare (Shi, 2010).

These positive correlations with income and education are evident when investigating which groups have more dental visits and pap tests. Native-born adults within the top two-fifths in income were more likely to have dental visits than those in the lower one-fifth, regardless of ethnicity. Even so, without accounting for race/ethnicity barriers, nativity status is still considered one of the greatest barriers in healthcare accessibility.

IMMIGRANTS

The United States of America is believed by many to be a country of equal opportunity. There is no doubt that the US is associated with a vision of success, health,

and prosperity when it has been reported that foreign-born residents make up 12% of its current population; a number that is steadily growing (Lebrun and Shi, 2011). The children of legal immigrants make up an even greater percentage of the current US population.

Within the US, Hispanics make up the largest percentage of immigrants with Asians following in number. Lebrun and Shi reported that in the United States, 69% of Asians are foreign-born and 80% of foreign-born individuals are non-white minorities. Currently, the greatest wave of immigration into the US has been from Mexico, China, Philippines, India, Vietnam, El Salvador, and South Korea (Lebrun and Shi, 2011).

Debates relating to immigration are often based on the topic of how to secure borders, with a focus on unauthorized immigration. Immigrants are essentially treated as a second-class people, with US legislation failing to allow them benefits, such as immediate access to federally and state subsidized healthcare and a more defined means of accessing care when they are already faced with multiple barriers on a day-to-day basis (Lebrun, 2012).

According to Kao, 2009, recent immigrants to both the United States and Canada are less likely to receive routine medical check-ups, access mental health consultations, receive immunizations, and make use of dental services.

Furthermore, in 1996, US legislation implemented the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) and the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), making federally funded health care (such as Medicaid) unavailable to most legal immigrants during the first five years post

their arrival (Lebrun, 2012). It is believed that these legislative decisions have created uncertainty among immigrants as to whether or not they qualify for federally and state subsidized healthcare, even post the five-year waiting period.

According to Lebrun, 2012, the US must develop a means of addressing inequalities in order to increase healthcare accessibility among immigrant populations. Such interventions include targeting specific groups that show the greatest disparity in receiving healthcare and even lowering the five-year minimum to attain healthcare (Lebrun, 2012). Another solution to improve healthcare access for immigrants is to allow primary and preventative care to recent immigrants. This effort would actually save healthcare money by cutting down or eliminating the cost for treating progressed healthcare problems thatmay have been preventable prior to the five-year waiting period (Lebrun, 2012). This cost effective measure would reduce the marginalization of immigrants in the United States and could be beneficial to America's overall health and economic wellbeing.

Overall, the primary reason behind immigrant health status and statistically lower access to health care can be attributed to a lack of resources, requiring various alterations and implementations within the US healthcare system in order to ameliorate its current status.

LANGUAGE BARRIERS

As mentioned earlier, immigrants to the United States face many obstacles in receiving health care, among other obstacles faced in general. According to

Cunningham and colleagues, newly arrived immigrants are often in better health upon arrival than those who have been in the United States for a longer period of time (Cunningham, 2008). This may be due to the fact that many immigrants face a language barrier that was not present in their country of origin, making health care much less accessible in the United States.

An immigrant's length of stay has been shown to affect access and use of health care. Those who immigrated more recently were not as likely to access medical care than less recent immigrants (Kao, 2009). This directly correlates with an immigrant's language proficiency – those who spoke English with greater fluency were more likely to receive medical care.

Most immigrants in the US are Hispanic and, as mentioned previously, healthcare disparities pertaining to ethnic minorities are greatest among Hispanics. When obtaining data on oral health status, Telford and colleagues recorded that many Hispanic adolescents reported fair to poor oral health, which may be due to a lack of information on maintaining good health. One approach to solve this problem would be to have more bilingual dental staff available to discuss preventative care, oral hygiene, and other necessary components for maintaining good oral health (Telford, 2011).

Aside from abolishing or lowering the five-year waiting period implemented by legislators through PRWORA and IIRIRA, the US healthcare system can be radically improved by having more bilingual healthcare practitioners, gender concordance, and cultural-sensitivity training for those providing care.

Furthermore, bilingual information on healthcare should also be made available

to public schools where disparities based on language are most prevalent.

CULTURAL BARRIERS

According to Grove and Zwi, 2006, the general negative attitude American's have toward immigrants can be described by the notion of "othering." "Othering" is a concept referring to the lack of social sensitivity and an overall negative sentiment held by one group toward another group of people – in this case, toward foreign, cultural identity. "Othering" is often due to multifaceted marginalization, as described by intersectionality.

"Acculturation" is a broad term that refers to the adaptation of an individual in their new place of settlement. Immigrants, while still holding on to some of their own cultural values and ideas, often succumb to the cultural dominance of their new setting. Acculturation becomes more pronounced with time, given citizen-status, language proficiency, and the age at immigration, among other varying factors (Hunt, *et. al*, 2004).

Sociocultural factors are ones to be taken into consideration when evaluating the health care obtained by immigrants. In the United States, food availability differences based on cost and quality can vary tremendously from the foods an immigrant was accustomed to eating in their country of origin. Just as an example, in the United States, free-range chicken is a food most American's associate with pricier, organic food markets whereas the same quality chicken may be available in an immigrant's country of origin without the stigma of cost implemented by the assessed quality.

Cultural barriers go beyond the more objective ideas of food, language, religion, and customs. When relating culture to healthcare, it is important to understand an individual's perception of medicine, gender, and other factors that can ultimately affect their willingness to seek medical attention. Based on the many variables that create more subjective scenarios, healthcare professionalsworking with certain populations should be trained and prepared to approach their patients with cultural sensitivity.

HIV AND LOW SOCIOECONOMIC STATUS

Apart from the intersectionality of ethnicity/race and SES, an individual's current state of health can also affect their access to healthcare amenities. HIV- positive individuals are often marginalized without the effects of SES, ethnicity/race, and other factors. When these variables do co-exist, further marginalization can even more so decrease one's access to healthcare services.

Healthcare initiatives have been implemented to supplement Medicaid by catering to the needs of those who are both HIV-positive and of low SES. Even with these additional healthcare initiatives, dental healthcare disparities among HIV-positive patients of low SES are still largely unmet (Bonuck *et. al.*, 1996).

Those who are both HIV-positive and of low SES have greater unmet dental needs than they have unmet medical needs (Pereyra, 2011).

HIV-positive individuals will present with at least one oral complication during the course of their infection. Additionally, treating an HIV-positive individual's oral complications is more difficult than treating someone who is HIV- negative (McCarthy,

1992). Patients who received dental care at an HIV/AIDS clinic had the greatest access to dental care than other HIV-positive individuals who would otherwise seek dental care at regular dental clinic (Coulter, 2000). In a survey conducted by Pereyra and colleagues (2009) in South Florida, only one-third of a 593-person sample size reported receiving dental care at the time of their HIV diagnosis and half reported receiving dental care after their diagnosis. With HIV-positive patients experiencing increased oral health complications, the low turnout of dental visits is a concern in regards to today's healthcare system. Considering the risks encountered by an HIV-positive individual, it is recommended that patients living with HIV visit a dentist every four to six months (Steinhart, 2002).

The Ryan White Care Act, started in 1990, is a program that delivers HIV-related services for those of low SES and without sufficient health care coverage (HRSA HIV/AIDS programs). However, dental service utilization still remains low among HIV-positive, low income-individuals.

CHILDREN AND ORAL HEALTH

Through the Children's Health Insurance Program (CHIP), pregnant women and the children of immigrants are given healthcare benefits before the five-year period elapses. As of 2009, Connecticut, Colorado, and Minnesota have reauthorized CHIP. However, CHIP is not available at the federal level. Anti- immigrant sentiments have been largely responsible for barring CHIP's expansion to other states (Lebrun, 2012). The five-year waiting period set forth by PRWORA and IIRIRA still exempts the

parents of children from receiving early benefits, giving rise to implications. Davidoff and colleagues have suggested that if immigrant parents are unable to access healthcare, their children will likely not receive healthcare as well, putting CHIP in vain (Davidoff, 2003).

In terms of Medicaid, only about one in five children enrolled in the program receive preventative dental care, even though Medicaid does cover dental care. This may be in part due to the low participation rates of dental practitioners in the Medicaid program. Section 5240 of the State Medicaid Manual states that primary care physicians (PCP) are responsible for coordinating a child's screening with dental providers via referrals. Since not all children are brought to a PCP, coordination between the PCP and dentist is no longer an option, making it difficult to obtain dental care (U.S. Department of Health and Human Services, 2009).

Statistical data indicates that approximately 36.8 percent of children from low-income households between the ages of two and nine have 17.3 percent more untreated dental caries than children from higher income households.

Minority children are also more likely to have untreated dental caries. Children without insurance are half as likely than those with insurance to receive dental care. Children of poor, Mexican-American families were shown to have the highest levels of tooth decay, followed by poor, non-Hispanic black Americans (Stanton, 2003).

Dental care quality and access have been measured by studies funded by the AHRQ. These studies indicate that children enrolled in the Medicaid program and children from low-income households are less likely to visit a dentist than those from

higher income groups (Stanton, 2003), as show in **Figure 1**.

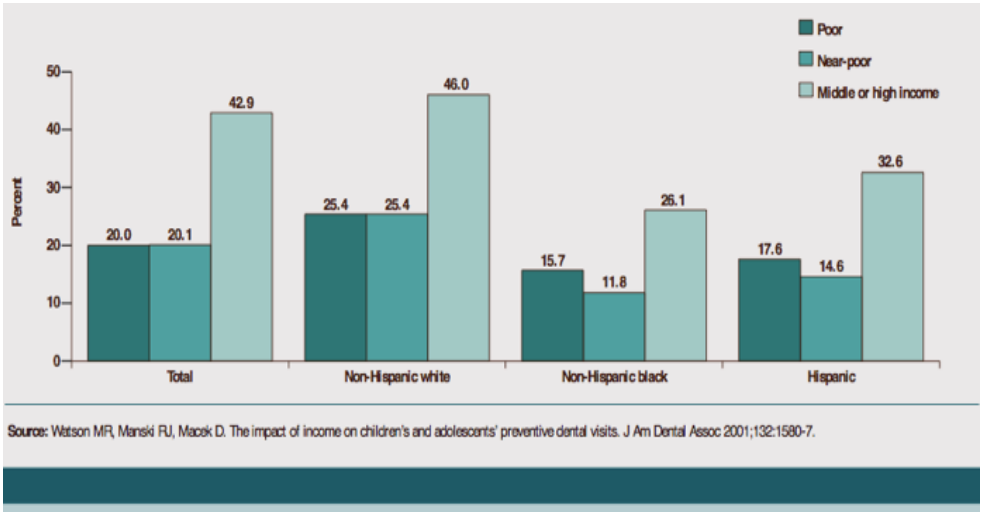

Figure 1. Percentage of children up to age 18 receiving preventative dental care, by SES and race/ethnicity The data obtained in 1996 by Watson and colleagues, 2001, shows the greatest disparities among those of low SES. Non-hispanic white children had the greatest percentage of dental care access than Hispanic children and non- Hispanic black children, even when comparing those of the lowest SES (Watson and colleagues, 2001).

A study conducted by Children's Health Insurance Research Initiative (CHIRI) indicated that, like Maryland, Alabama and Georgia were similarly low in the percentage of Medicaid-eligible children receiving preventative dental care. In Alabama, only about 18 percent received dental care in 1999 (VanLandeghem, 2003).

Liu and colleagues (2007) conducted a survey to assess dental insurance and dental care disparities in children by analyzing data based on ethnicity/race and residence (urban/rural). Results show a correlation between a lack of dental insurance and both foreign-born and minority children, while non-Hispanic white children were more likely to have insurance. In 2003, one in ten children self- reported fair to poor oral health. Hispanic children had the poorest dental health, followed by non-Hispanic black and non-Hispanic white children (Liu, 2012).

Children growing up with low SES have a greater likelihood of developing dental caries as well as developing periodontal disease in their adulthood (Telford, 2011). Correlating with the statistical data collected on adult access to healthcare, minority children were also less likely to receive dental care than white children. Approximately 25 percent of children present with 80 percent of dental diseases (Liu, 2012). These children are mostly minorities from low- income families.

Another correlation found by Liu was that of language spoken at home and a lack of dental insurance. Individuals who did not speak English as a first language were more likely to not have insurance than those who did.

Furthermore, low parental education was also correlated with a lack of healthcare access. Location also plays an important role in healthcare access. The American Academy of Pediatric Dentistry (AAPD), via a consulting firm, analyzed dental benefit premium costs for children that are covered by government-subsidized healthcare, and children covered by commercial plans. Results from this study reflected that dental benefits for Medicaid-eligible children living in rural areas in 2005 were approximately

$6.00 lower than those living in urban areas in 2005 (U.S. Department of Health and Human Services, 2009). However, rural children were more likely to be uninsured than urban children. This is often due to access issues caused by transportation unavailability. Urban children will have access to public transportation whereas rural children will likely not have access to public transportation (Liu, 2012).

The American Academy of Pediatric Dentistry and *Bright Futures* recommend at least two dental visits per year beginning at the age of one. However, Only one in every four children between the ages of one and seventeen had visited a dentist within the past year. Before reaching the age of thirteen, most dental decay is reversible with the use of intensive fluoride treatments. Past the age of thirteen, tooth decay in secondary dentition becomes irreversible. Rather than preventative care, secondary dentition requires restorative care once irreversible decay occurs. Further complications experienced by children in poor oral health include a decrease in social function, poor self-esteem, and absence from school, among other subsequent health related issues (Liu, 2012).

MEDICAID

Medicare, Medicaid and CHIP are federally subsidized insurance plans for low-income Americans. The Affordable Care Act is the joint effort of two separate legislation acts: the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act. Through the Affordable Care Act, Americans of low SES have improved access to care, enhanced quality of care, lower health costs and more

choices in healthcare. Together, these acts make Medicaid widely available to millions of low-income Americans while also implementing improvements to both Medicaid and CHIP (Medicaid.gov).

However, Depending on the state and the setting (whether urban or rural), healthcare availability for Medicaid-eligible individuals may be limited.

In terms of subsidizing oral health care, Medicaid still needs improvements. There are few dentists that receive and treat Medicaid-eligible patients. Dental care providers are often unwilling to participate in services delivered through Medicaid due to low reimbursement rates. Dentist participation rates increase with an increase in reimbursement rates, as is demonstrated by data collected in Connecticut (**Figure 2.**) (U.S. Department of Health and Human Services, 2009). Connecticut Medicaid dental care reimbursement rates, whenincreased to the 75^{th} percentile, showed an increase percentage of participating dentists when compared to New England dentists with reimbursement rates in the 50^{th} percentile.

The U.S. Government Accountability Office (GAO) determined that reimbursement rates for all states were approximately less than or equal to the 10^{th} percentile of commercial fees for three of fifteen selected dental procedures. It was also determined that an increase to two-thirds the average commercial regional fee was enough to increase dentist participation (U.S. Department of Health and Human Services, 2009). To increase the percentage of participating dentists, various states have implemented programs that partner with Medicaid.

CT Medicaid Payment Rates for Selected Procedures			Comparisons with Dentists' Claims for Insured Patients in the ADA New England (NE) Region and in the State of Connecticut			
CDT4 Procedure Code	Procedure Description	CT Medicaid Payment Rate	NE Region 50th Percentile	CT State 50th Percentile	CT State 75th Percentile	State Percentile Corresponding to CT Medicaid Payment Rate
Diagnostic						
D0120	Periodic Oral Exam	$18.08	$31.00	$37.00	$39.00	2nd
D0150	Comprehensive Oral Exam	$23.64	$50.00	$55.00	$70.00	3rd
D0210	Complete X-rays, with Bitewings	$45.00	$100.00	$109.00	$110.00	< 1st
D0272	Bitewing X-rays - 2 Films	$15.91	$33.00	$36.00	$38.00	7th
D0330	Panoramic X-ray Film	$35.00	$88.00	$95.00	$100.00	< 1st
Preventive						
D1120	Prophylaxis (cleaning)	$21.70	$48.00	$48.00	$50.00	< 1st
D1203	Topical Fluoride (excluding cleaning)	$15.15	$27.00	$30.00	$32.00	4th
D1351	Dental Sealant	$17.75	$40.00	$40.00	$44.00	< 1st
Restorative						
D2150	Amalgam, 2 Surfaces, Permanent Tooth	$37.64	$110.00	$115.00	$125.00	< 1st
D2331	Resin Composite, 2 Surfaces, Anterior Tooth	$46.20	$125.00	$132.00	$150.00	< 1st
D2751	Crown, Porcelain Fused to Base Metal	$328.48				**
D2930	Prefabricated Steel Crown, Primary Tooth	$85.01	$198.00	$222.00	$245.00	< 1st
Endodontics						
D3220	Removal of Tooth Pulp	$45.46	$114.00	$120.00	$150.00	< 1st
D3310	Anterior Endodontic Therapy	$200.01	$630.00	$550.00	$650.00	< 1st
Oral Surgery						
D7140	Extraction, Single Tooth	$33.12	$105.00	$108.00	$120.00	< 1st

Figure 2. Connecticut Medicaid program rates prior to recent increases (2004)
Dentist claims for insured patients when comparing Medicaid reimbursements to New England dentists at the 50^{th} percentile, and Connecticut dentists at the 50^{th} and 75^{th} percentile. Percentile differences were drastic, showing reimbursement rates for dentists accepting Medicaid patients to be much lower than dentists taking non-Medicaid patients, charging within the 50^{th} and 75^{th} percentile for the procedures listed (U.S. Department of Health and Human Services, 2009).

In 2008, Connecticut administered dental care for children under a no-risk arrangement after carving out benefits from its Medicaid Managed Care Program. These changes resulted in over a 100 percent increase in the number of participating dentists. Furthermore, The Connecticut Health Foundation has a contract with federally qualified healthcare centers. This contract allows for dentists not participating in

Medicaid to treat Medicaid patients. In Michigan, Health Kids Dental Program was able to increase dental visits of Medicaid- eligible children from 32 to 44 percent within its first year. This increase makes the proportion nearly the same to that of privately insured children that visit a dentist. In Tennessee, the "carve-out" raised reimbursements to the 75th percentile, increasing the amount of dentists willing to participate in TennCare (Medicaid Managed Care). This initiative was implemented when only 386 of the original 1,700 participating dentists remained available to treat approximately 600,000 Medicaid-eligible children in Tennessee. In two years, the "carve-out" has managed to increase the number of participating dentists from 386 to about 700. Alabama's initiative "Smile Alabama" has managed to increase the number of participating dentists by 47 percent since 2000. However, the number of Medicaid-eligible children in Alabama has also increased by 68,969 children (U.S. Department of Health and Human Services, 2009).

The choice dentists make when deciding whether or not to accept Medicaid-eligible individuals is based upon supply and demand. However, the charge for dental services can vary based on location and cost of production (U.S. Department of Health and Human Services, 2009). Therefore, a standard reimbursement rate at the federal level may put some states at odds when trying to improve participation rates among dental practitioners.

PREVENTATIVE CARE

The United States healthcare system is far from ideal, but has shown improvements over the past few decades. Oral health, in particular, has improved with an increase in a

caries-free population, and a lower population of adults with no remaining natural teeth (Stanton, 2003). Even so, oral health disparities are still prevalent within minority populations and populations of lower income.

The Surgeon General described oral health as being an essential component to the general health and wellbeing of the American people (Department of Health and Human Services, 2000). Research sponsored by the Agency for Healthcare Research and Quality (AHRQ) has investigated social factors impacting access to healthcare in the United States such as race, income, reimbursement, and age.

In the US, the two leading oral complications are dental caries and periodontal disease. Both caries and periodontal disease are oral complications that are preventable through proper oral care and regular visits to a dentist.

However, as stated earlier, access to oral healthcare is often complicated for many and not easily attained. Dental care can be categorized as being either preventative or restorative. Preventative care can include the use of sealants applied to the chewing surface of teeth, regular brushing and flossing, as well as routine visits to a dental office for tooth cleaning. Restorative care involves repair of a compromised tooth or the treatment of an unhealthy periodontium, often related to a lack in preventative care.

In an effort to reduce the percentage of children with untreated dental caries, dental sealants have been made available to children enrolled in Medicaid dental programs. However, even available preventative measures go largely unused by Medicaid users (Stanton, 2003).

In 1996, a survey conducted on 6,595 adolescents demonstrated the largely unmet dental needs in the United States for minority children and children of low SES (**Figure 1.**) (Watson, 2001). A similar study used to analyze Medicare and Medicaid in Maryland revealed that only 31 percent of children enrolled in Medicaid insurance received preventative dental care during 1996. This is a very low percentage given that Medicaid-eligible children are entitled to Medicaid subsidized dental care from birth until the age of 21 (Stanton, 2003).

Prevention with sealants is only effective to a certain degree. Restorative rates in high-risk children with dental caries peak at approximately age eight, and at age nine for those who received dental sealants (Stanton, 2003). When investigating the use of dental sealants used on Medicaid-eligible children, AHRQ research determined that in North Carolina, in a group of 219 Medicaid- enrolled children, 615 teeth needed sealants and only 21 teeth were sealed. Fillings were placed in 195 teeth, 23 were extracted, and 376 teeth went untreated (Stanton, 2003). Although the data collected by AHRQ may not be reflective of the entire US, it does represent a fairly unsuccessful attempt at preventing dental caries in adolescents, due to low patient participation in preventation.

DENTAL COSTS AND SALARIES

While over 100 million Americans lack dental insurance, dental fees are continuing to rise, making access to dental care even less accessible. The Center for Disease Control and Prevention released data stating that between the years 2003 and

2004, approximately 27% of children and 29% of adults had untreated cavities. Data collected in 2007 is comparable to data collected in the late 1980's, showing a rise in untreated dental caries since a surveyed improvement between 1999 and 2002 (Berenson, 2011).

One factor that leaves dentists at odds with the rest of the community are the efforts being made by the American Dental Association (ADA) to ban dental hygienists and dental therapists from providing basic care to populations with limited to no access to dental care. Furthered by the fact that many dentists do not accept Medicaid patients, many poor to lower-middle-class families have neither the funds nor resources to meet healthcare recommendations. Those who do have access to public dental clinics end up having to wait months before they can receive dental care. However, Dr. Kathleen Roth, former president of the ADA, stated that the ADA supports dental care provided by aides with basic training, in public schools. This may provide some level of prevention in regards to periodontal disease and dental caries.

Berenson, 2007, describes how the pediatric clinic at the University of Florida has low-income children wait six months for surgery. During that six- month wait, the child's health will likely decline, given the general risks associated with poor oral health.

When interviewed by Berenson, Dr. David A. Nash from the department of pediatric dentistry at the University of Kentucky stated that "most dentists consider themselves to be in the business of dentistry rather than the practice of dentistry." On the other hand, Dr. Dickinson of the Virginia Dental Association believes that dentistry

is not a charity and that dentists are in fact in a business and are deserving of their high salaries (Berenson, 2007). With these conflicting philosophies on defining the profession of dentistry, impending healthcare initiatives likely face biases and conflict of interest. Perhaps the lack of a general consensus on whether or not dentistry is a "business" or a "practice" lends itself to a broader scope of whether or not dentistry can merge and progress with general medicine, rather than remaining a separate discipline.

Statistics have shown that there is a national shortage of dentists. Not only is this causing a rise in the costs for dental care, but it also puts lower- income populations at odds when fewer dentists decide to move to locations densely populated with those who are Medicaid-eligible. Since 1990, the number of dentists has remained approximately the same (between 150,000-160,000) whereas the US population has increased by 22%. Another contributing factor to the shortage of dentists is that the average age for a dentist is a few years shy of retirement age (Berenson, 2007).

When investigating salary, Berenson reports that, on average, a general dentist in the US makes approximately $185,000 per year. Specialized dentists make, on average, $300,000 per year. With these above-average salaries, accepting Medicaid-eligible patients will not disrupt a dentist's quality of life.

Even though the reimbursement rates for treating Medicaid patients are lower than rates for treating those who are privately insured, a dentist will still make well above the national average even if he or she decides to participate in accepting Medicaid patients.

CONCLUSION

The current healthcare system in the United States is one that puts many at odds, even with implemented federally and state subsidized health insurance programs. Improvements that will result in a better yield of dental visits within the overall US population are obvious but require the cooperation of the ADA and individual dentists.

First and foremost, the low healthcare access among minority populations needs to be addressed. Although limited by the intersectionality of several marginalizing factors, healthcare access can be improved by implementing more progressive methods that are designed to target populations that would otherwise rarely or never visit a dental healthcare provider. Initiatives that can increase dentist participation in Medicaid, allocate more dental facilities near areas populated with people of low SES, and give non-English speakers access to bilingual healthcare services should be reassessed and/or implemented de novo. Furthermore, health clinics should provide information on how to find dental care, and public schools should require programs that teach children about the benefits of having good oral health habits. To further supplement potential school programs, dental sealants should be mandatory in every school district, with letters of consent written in several languages. In some cases, it is not the parent or guardian's fault that a child has not receive proper healthcare, but rather the fault of a system that does not take into account the barring effects of intersectionality. Perhaps schools should have a greater role in distributing healthcare services for the purpose of preventative care and equal opportunity.

Immigrants, both adults and children, should be allowed equal access to healthcare without a five-year waiting gap. Healthcare can be made immediate and preventative. This alone can reduce federal spending on healthcare by using preventative care to reduce potentially impending diseases. Furthermore cultural sensitivity training should be required for healthcare professionals. This may increase dental and primary care medical visits in a population that would otherwise be unwilling to receive medical attention.

Until these issues are addressed and the gap between healthcare disparities comes to a close, dental care in the United States will continue to be a luxury rather than a right. Dentistry holds fundamental importance in maintaining good systemic health and should therefore not be considered a separate discipline from medicine as a whole. The United States, with its cultural mosaic, has many improvements to make before that mosaic can be mirrored by a healthcare system (complete with dental care and other healthcare amenities) that is made for everyone, regardless of the intersectionality of ethnicity/race, immigration status, SES, gender, sexuality, age, and other marginalizing factors. Until this ideal can be reached, healthcare professionals, the ADA, the federal government, and other influential institutions should continue to work toward quality and equality in healthcare.

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