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DOWN IN THE MOUTH: HOMELESSNESS AND ORAL HEALTH

by

JESSICA KLEINBERGER
B.A. University of Central Florida, 2012

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
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in the College of Sciences
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ABSTRACT

The burden of dental disease in American has been termed a “silent epidemic,” affecting the most vulnerable populations in society. Poor oral health has been linked with general health issues, such as diabetes and cardiovascular disease, as well as decreased mental health and impairments in social functioning. This burden weighs particularly heavy on the homeless, who are not only denied access to private systems of care, but are further rejected by an inadequately supported public safety net. Despite the recognition of social inequalities and the call for further scientific research, oral health care has not been extensively recognized within sociology. The aim of this research was to uncover how Central Florida’s homeless adults cope with oral health issues in the face of barriers. This study intends to begin closing the gap by exploring the ways in which structural inequalities are embodied in the teeth of the homeless. Twenty-five semi-structured interviews were conducted with homeless individuals in the Central Florida area in regards to their oral health and coping mechanisms. Results indicate that without conventional access to dental care, homeless are forced to rely on emergency departments, alcohol, illegal drugs, home remedies, and over-the-counter medications. When treatment was received, only emergency services were provided. This led to an extraction-denture treatment model which left many homeless individuals edentulous, with continued complications in their ability to eat, work, and talk.

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CHAPTER ONE: INTRODUCTION

The US Surgeon General's Report (2000: 1) has referred to the burden of oral disease in America as a "silent epidemic," affecting the most vulnerable populations in society. Despite the recognition of social inequalities and the call for further scientific research, oral health care has not been extensively recognized within sociology (US Department of Health and Human Services 2000; Exley 2009; Castaneda et al. 2010). Poor oral health can have deleterious effects on the quality of life on those who suffer with dental ailments (Griffin et al. 2012). Poor oral health has been linked with general health issues, including diabetes, cardiovascular disease, and stroke, as well as low birthweight and premature birth in pregnancy (Kaylor et al. 2010; Albert, Begg, and Andrews 2011). Furthermore, poor oral health is associated with decreased mental health, impairments in social functioning, and barriers to employment (Coles et al. 2011; Conte et al. 2006; Kaiser Commission on Medicaid and the Uninsured 2012).

The effects of poor oral health are especially pertinent in the homeless population, where access to adequate dental care is scarce (DiMarco et al. 2010). Research indicates that the needs of the homeless for oral health care are three times that of a comparable housed population (Conte et al. 2006). Moreover, about half as many homeless people have reported seeing a dentist in the last year when compared to those who are housed (Conte et al. 2006). As the homeless are excluded from conventional access to dental care, this study sought to investigate how homeless adults manage, and are affected, by oral health problems.

The inequality in access to dental services has often been attributed to racial/ethnic disparities, cultural beliefs, and independent socioeconomic factors (Butani et al. 2008; Kaylor et al. 2010; Griffin et al. 2012). However, the majority of studies have been conducted by

interdisciplinary and public health researchers, and often depend on "... inadequately understood variables of socioeconomic status, race, and ethnicity, along with vague notions of 'culture,' rather than engaging with underlying issues of social class and structural access as they relate to health care policy" (Castaneda et al. 2010: 2029). When socioeconomic status (SES) was controlled for in analyses, variables such as race, ethnicity and culture were found to be spurious in their association with dental care utilization (Doty and Weech-Maldonado 2003; Gilbert et al 1997; Lewis, Andersen, and Gelberg 2003). The focus on culture, without understanding how race and ethnicity are shaped by social class, overlooks the shared reality of impoverished people and the structural inequalities that have historically subjugated them (Castaneda et al. 2010).

In the United States' market based economy, where dental care is privatized, oral health care has become a commodity only the privileged can afford (Manski et al. 2012; Martins 2008). The economic disparity in access to dental insurance falls hardest on the poorest segment of the population, the homeless (Matter et al. 2009; Hatton et al. 2001). Not only are the homeless denied access to private systems of care, but they are further rejected by an inadequately supported public safety net. The underfunding of public dental insurance often creates additional barriers through a lack of available providers and complicated application processes (Castaneda et al. 2010; Schrimshaw et al. 2011). Although the Affordable Care Act (ACA) proposes an expansion of the Medicaid program, it is predicted to have a minimal effect on adult dental coverage (American Dental Association 2013).

While much of the literature has begun to consider social aspects of dentistry, this is not the same as aspects of dentistry being considered by sociology (Exley 2009). "Social science perspectives on oral health are necessary to not only fill the gaps in our holistic understanding of community wellbeing, but also provide specific insights for the critical study of poverty and

health disparities” (Castaneda et al. 2010: 2029). Considering the extensive barriers the homeless face to attaining dental care, the purpose of this study is to determine how Central Florida’s homeless adults cope with oral health issues. This research contributes to the gap in the literature by exploring the ways in which structural inequalities are embodied in the teeth of the homeless.

CHAPTER TWO: LITERATURE REVIEW

Class as a Barrier to Care

Wealth and income have been found to be strongly and positively associated with access to dental care (Manski et al. 2012; Kaylor et al. 2010). Manski and colleagues (2012) found utilization rates increased from 43% in those below the 30th percentile of the wealth distribution to 88% in those in the 90th percentile above the distribution. As socioeconomic status (SES) improved, perceived dental care needs were lessened and the percentage of dental visits within the last year increased (Kaylor et al. 2010).

Through the privatization of dentistry, wealth represents the opportunity to consume oral health care (Manski et al. 2012). According to the Centers for Medicare and Medicaid Services (CMS), over 48 percent of dental services are financed by private insurance plans, followed by out-of-pocket expenses (43.5 percent), and public programs (8.2 percent) (Calnon 2012). Although the proportion of dental expenditures covered by private insurance has improved, the percentage of out-of-pocket payments for dental care is still three times greater than that for general health care (US Department of Health and Human Services 2000). Meaning, expensive private dental plans come at an even greater cost than private health insurance.

Still, private dental insurance is a major determinant for oral health care in the United States (Calnon 2012; US Department of Health and Human Services 2000; Kaylor et al. 2010). Kaylor and colleagues (2010) found in their investigation of dental utilization rates in women of childbearing age that dental coverage was significantly associated with received care in lower, middle, and upper income women. Unmet needs for lower income women were *three times*

greater than the unmet needs of upper income women. Despite the disparity, only 19% of lower income women had private dental insurance, compared to 71% of those with higher incomes. As a result, less than a fifth of upper income women reported not seeing a dentist in the last year, compared to almost half of the women with lower incomes.

The definition of class as the “...major power relationships in the broad alignment of labor and capital in society” allows for a deeper understanding of the ways in which class structures oral health care access (Castaneda et al. 2010; 2029). Employer-based dental coverage is a vital way for many Americans to attain commercial dental insurance (Bailit 1999; Manski et al. 2011). Research indicates that individuals with employer-based health insurance are two to three times as likely to have dental coverage when compared to those who directly purchased their own insurance (Bloom and Cohen 2010). However, employment-based insurance is only offered to full time employees (59%) working at medium or large sized companies, and covers a limited amount of services with high copays (US Department of Health and Human Services 2000). Furthermore, employers who do offer dental insurance as a fringe benefit are increasingly cutting costs, shifting costs onto employees, or disenrolling from insurance plans altogether (Bailit 1999, Calnon 2012). Employer-sponsored health benefits have dropped from 69.2 percent to 58.6 percent from 2000 to 2010 (Calnon 2012). When employers disenroll from dental insurance programs, research indicates that lower-paid employees are no longer able to participate in insurance plans (Bailit 1999). Providing dental insurance is not required of employers, leaving individuals who comprise the part-time and low-wage labor force particularly unprotected (Seccombe 1993).

A Failing Public Safety Net: Medicare & Medicaid

Public insurance coverage has been proposed to “virtually eliminate” disparities in access to oral health care (Doty and Weech-Maldonado 2003), yet when comparing rates of utilization based on type of insurance coverage, public coverage was only marginally better than no coverage at all. As Calnon (2012) discussed, “...57 percent of people with private dental insurance had at least one dental visit; 32 percent of those with public coverage saw a dentist; and 27 percent of the population with no dental coverage had a dental visit” (P. 5). While Medicare outright excludes dental services (CMS.Gov 2013), Medicaid provides limited coverage for emergency dental procedures (Agency for Health Care Administration 2012). However, upon further investigation, Medicaid was found to provide insufficient coverage, few dentists accept it, waiting periods for service are long, and care is of poor quality (Schrimshaw et al. 2011). Insufficient coverage means high out-of-pocket expenses for low-income patients (Schrimshaw et al. 2011; Griffin et al. 2012). Additionally, not being able to find a dentist nearby that accepted Medicaid has caused recipients to continue seeing cost as a barrier to care (Schrimshaw et al 2011). Schrimshaw and colleagues found that participants waited months for Medicaid benefits, forcing them to find a way deal with their oral health issues in the meantime. Poor quality care included receiving extractions instead of restorations because it was within the allowed Medicaid budget (Schrimshaw et al.; Griffin et al.; Wallace and MacEntee 2012).

Many dentists do not accept Medicaid because of its low reimbursement rates that do not match their standard fees (Castaneda et al. 2010; Wallace and MacEntee 2012; Squillance 2009). Castaneda and colleagues (2010) found that Florida’s reimbursement rates were the lowest nationwide, in which less than a third of dentist’s usual fees are covered, compared to a national

average of 60%. In a Central Florida region with 140,000 Medicaid-enrolled children, only one provider was found to be accepting new patients. Dentists expressed a desire to run a business over a public service, and for the government to account for the rates they charge (Wallace and MacEntee 2012). Many dentists engaged in ‘balance billing’ (charging patients the difference between provider fees and what public insurance covers) in order to compensate for low government reimbursement. This practice inevitably led to long outstanding debts. Medicaid’s use of *Global Budget Method*, which caps expenditures for a certain period of time to control costs, has discouraged dentist’s involvement in the program (Squillance 2009). Ultimately, the more Medicaid patients a dentist takes, the lower the reimbursement he or she receives. The American Dental Association (ADA) advocates an expansion of the current system to ensure care for vulnerable populations and adequate reimbursement according to the ADA’s Dental Fee Schedule (Calnon 2012).

Public Insurance Barriers for the Homeless

Medicare and Medicaid’s eligibility requirements do not leave room for able bodied adults between the ages of 21 and 65 (Medicaid.Gov N.d.; Calnon 2012; CMS.Gov 2012). Florida’s Medicare and Medicaid programs do have special inclusions for those who are disabled, but qualifying as disabled requires a rigorous and lengthy process of applying for and receiving Supplementary Security Income (SSI) or Social Security Disability Income (SSDI) (Kaiser Commission on Medicaid and the Uninsured 2012; Medicaid.Gov N.d.; Social Security Administration 2012.; CMS.Gov 2012). Medicaid also has a provision for pregnant women, but after prenatal care, women are again left without dental insurance (Medicaid.Gov N.d.;

Castaneda et al. 2010). As a participant remarked in Nickasch and Marnocha's (2009) interviews with homeless individuals on their health care experiences, "to get health insurance here in (city) you have to be disabled, blind, crippled or crazy" (P.44).

The application process is often a confusing and complex process for homeless individuals. In attempting to apply, the Florida Department of Children and Families (DCF) advises applicants that they may need their social security number, date of birth, income information, resource or asset figures, housing expenses, evidence of health insurance, and proof of U.S. citizenship and identity. This is difficult when many homeless people lack the necessary documentation, and attaining the documents requires a secondary form of documentation (Kaiser Commission on Medicaid and the Uninsured 2012; Nickasch and Marnocha 2009). For example, obtaining an ID requires a social security card, and obtaining a social security card requires an ID. Further, the homeless face a barrier in their lack of resources, they do not have a phone or address to communicate with government agencies, they do not have transportation, and they do not have the financial means to pay for replacements or birth certificates (Kaiser Commission on Medicaid and the Uninsured 2012; Nickasch and Marnocha 2009; DiMarco, Ludington, and Menke 2010).

As mentioned, even if a homeless individual is able to accomplish enrollment, Medicare does not cover dental services, and Medicaid has not made dental services mandatory for states to provide (Medicaid.Gov N.d.; Calnon 2012, CMS.Gov 2013). Florida's Medicaid only allows for emergency services for adults, which includes x-rays, the treatment of abscess, extractions, and dentures (Agency for Health Care Administration 2012). Medicaid further requires enrollees to pay a five percent coinsurance for denture services (Agency for Health Care Administration

2012). As indicated in Nickasch and Marnocha's (2009) study on healthcare, the cost of office visits, medications, and treatments is still more than most homeless people can afford.

The paradox of the public insurance system in the United States is that it is a system that is ostensibly designed to take care of our most vulnerable citizens, while simultaneously pushing them out (Hatton et al. 2001; Matter et al. 2009; Lewis et al. 2003). Sixty-two percent of those served by Health Care for the Homeless are uninsured, while the rate in the general U.S. population is only 16 percent (Kaiser Commission on Medicaid and the Uninsured 2012). While Medicaid's adult dental coverage had proven to be effective in increasing homeless injection drug users (IDUs) likelihood of seeking care, it was cut from California's budget in 2009. (Robbins et al. 2010). Thus, the homeless face the most significant barriers in achieving dental care because they are not only excluded from the private, but public system of care.

In the Face of Barriers, How do the Homeless Cope?

The Stewart B. McKinney Act was passed in 1987, in part to provide health care services to the homeless (Breakey 1997). The act was intended to be a first step, yet follow-up actions to eradicate the burden of disease in the homeless have yet to be enacted. Eighty percent of all dental decay occurs in low-income and homeless families (DiMarco et al. 2010). The prevalence of oral disease is highest amongst the homeless (Conte et al. 2006). In Conte and colleagues' study of oral health among New Jersey's homeless population, they found that approximately 98% of participants needed to be referred for further treatment, compared to just 28% in a demographically similar housed population. Less than 28% of their sample had seen a dentist in the last year, compared to over 60% in the related housed group.

When dental services were sought and obtained, many homeless received extractions (Conte et al. 2006). The use of extractions, rather than restoration, only served to exacerbate negative impacts, such as problems eating, talking, and pain. Hill and Rimington (2011) investigated the oral health needs of England's homeless population. Results indicated that 77% of dentists believed extractions and dentures were the typical treatment option for the homeless. Since preventative care was a privilege the homeless could not afford, dental care was typically sought only when pain became unbearable (Wallace and MacEntee 2012).

The impoverished are often forced to seek care in emergency departments (ED), where they cannot be turned away for their inability to pay (Robbins et al. 2010; Wallace et al. 2011; Andersen et al. 2011; Griffin et al. 2012; DiMarco et al. 2010; Martins 2008; Wallace and MacEntee 2011). Andersen and colleagues (2011) found that dental visits accounted for 3% of all ED visits in New Hampshire from 2001-2008, most often for diseases of the teeth and supporting structures. ED visits for dental related problems in New Hampshire increased considerably from 11,067 in 2001 to 16,238 in 2007 (Andersen et al. 2010). The majority of patients were self-pay, having no insurance (Andersen et al. 2010). As state Medicaid plans such as Medi-Cal continue to cut dental benefits, an increased burden is placed on emergency departments (Robbins et al. 2010; Andersen et al. 2011). The reliance on emergency care provides short-term relief through medication, but does not provide a solution. Most patients were typically found back at the ED a few weeks later for continued oral health problems (Wallace and MacEntee 2012).

Many homeless coped by developing resourceful, often illegal, methods (Martins 2008; Robbins et al. 2010; Wallace and MacEntee 2011). Martins found, in her study of the homeless and their experience with health care, that many managed through sharing medication, altering

dosages, telling “white lies,” or exaggerating conditions to health care practitioners. As one participant reported:

My boss said to me, you got to get that tooth fixed. So I had to illegally use my significant other’s ex-significant other who is dying. She had full blown AIDS. I had to use her card to get my tooth fixed. So I had to do something illegal to get my tooth fixed to keep my job up (Martins 2008: 428).

A technique that was found in dealing with health issues and alluded to for oral health issues was numbing the pain through drinking and illegal drug usage (Martins 2008; Robbins et al. 2010; Wallace and MacEntee 2011). Opiates and benzodiazepines may be obtained through illegitimate means in order to self-medicate (Robbins et al. 2010). Additionally, heroin is a powerful analgesic which may be used to alleviate severe dental pain (Robbins et al. 2010). Research indicates that drug dealers often provide informal channels of pain relief for homeless individuals (Wallace and MacEntee 2011). In order to obtain the necessary drugs and alcohol, homeless persons may be forced into prostitution or theft (Martins 2008). While the use of resourceful or illegal methods for oral health issues has not been extensively explored, research indicates this may be a pervasive tactic for coping in the face of barriers.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

In order to explore how homeless adults cope with oral health issues, in-depth qualitative interviews were utilized to gather data. Qualitative methodologies have been continuously mentioned in the literature as the preferred method when working with homeless populations and matters regarding health care (Exley et al. 2009; DiCicco-Bloom and Crabtree 2006; Matter et al. 2009). Further, qualitative methods have been described as crucial in recognizing the underlying issues in stratified access to oral health care (Castaneda et al. 2012).

Sample & Sampling

A (nonprobability) purposive sample of homeless individuals was used in order to gain critical insights into the oral health practices of the Central Florida homeless. Homelessness was conceptualized as a lack of “...fixed, regular, and adequate nighttime residence,” or having a primary nighttime residence that is a shelter, institution, or unintended for sleeping arrangements (Martins 2008: 420). In-depth semi-structured interviews were conducted with 25 homeless individuals in the Central Florida area; which is indicated as an average sample size for in-depth interviewing on both oral health care and homelessness (Matter et al. 2009; Martins 2008).

For this study, homelessness was operationalized through recruitment via the Coalition for the Homeless of Central Florida and the Healthcare Center for the Homeless (HCCH). Recruitment of homeless individuals through local agencies has been found to be helpful in establishing trust and rapport with participants (Matter et al. 2009; Conte et al. 2006). The Coalition for the Homeless, HCCH’s dental clinic, and the Homeless Outreach Partnership Effort (H.O.P.E.) Team were used to gain access to Central Florida’s diverse homeless population.

While the dental clinic and the coalition are more accessible to the inner city homeless, the H.O.P.E. Team focuses on outreach with those living in the woods (Healthcare Center for the Homeless 2011). Furthermore, interviews with homeless individuals at the coalition provided the perspective of those who may not have access to dental services, such as those provided by HCCH.

IRB approval was obtained for this study (Appendix A). All participants were given an Explanation of Research, and asked for their verbal consent to be audio-recorded. Participants were informed that all information would remain anonymous and confidential. In order to ensure all interviewees were able to give their informed consent, only adults 18 years or older were included in this study.

In total, fourteen of the participants in the sample represented a local sheltered population, who did not necessarily have any form of access to dental care. Eight of the participants were currently at an appointment at HCCH's dental clinic, and receiving oral health care. The final three participants were living in homeless camps in the woods, their main contact with care being the H.O.P.E Team. The sample was demographically diverse, with the majority being male (16), African American (13), ages 50 and over (17).

Data Collection

In-depth interviews have been selected because of their extensive use in studies exploring health, oral health, and marginalized populations (DiCicco-Bloom and Crabtree 2006; Matter et al. 2009; Castaneda et al. 2010; Schrimshaw et al. 2011; Conte et al. 2006). In-depth interviews were conducted with homeless participants in order to more fully understand how the

individual's life and coping mechanisms were influenced by their oral health (Schutt 2009). Interviews took place on-site in order to accommodate the transitory nature of homeless life (DiCicco-Bloom and Crabtree 2006; Matter et al. 2009). Participants recruited from the shelter and the dental clinic were interviewed in a secluded space at the facility to ensure they were familiar with and felt safe in the environment (DiCicco-Bloom and Crabtree 2006; Nickasch and Marnocha 2009). Interviews with the non-sheltered homeless population were conducted in the East Orlando woods. Again, this was done to ensure their maximum comfort during the interview process. The H.O.P.E. Team's outreach specialists have worked many years to facilitate the necessary rapport for researcher access, and previous literature supports this as an effective means for data collection (Health Care Center for the Homeless 2011; Donley and Wright 2012).

Interviews were conducted by the primary researcher, and averaged 30 minutes in length. The interviews differed slightly based on the participant's location. All interviews started with a *grand tour* question in regards to the accessibility of dental care. Following this, six core questions from both the literature and the dental clinic were asked in respect to current oral health status, coping mechanisms, and the effects of poor oral health (Appendix B, C, & D).

Interviews were semi-structured to allow for flexibility and to guide the discussions based on an understanding embedded in the literature (Hilton et al. 2007). Open-ended questions were used to allow for more thorough answers from interviewees (Schutt 2009; DiCicco-Bloom and Crabtree 2006). While the researcher maintained an emphasis on key questions, the interview process was malleable to the array of issues homeless individuals face (Matter et al. 2009). Non-directive probes and follow-up questions were used to allow for participants' stories to emerge as naturally as possible (Martins 2008). Recorded interviews were kept in a safe box of the primary

investigator, and destroyed after transcription. In order to engage with themes as they emerged, and ensure sensitivity to the presence of a researcher, contact summary forms (Appendix E) were filled out after each interview regarding developing themes and researcher influence on the solicited responses of participants (Schutt 2009). Interviews were conducted until a saturation point in the data was reached, in which there was no new information to be gained (Schutt 2009; Nickasch and Marnocha 2009; Martins 2008).

Data Analysis

The use of contact summary forms allowed for data analysis to emerge alongside data collection, forming a reciprocal process where data and themes constantly informed one another (DiCicco-Bloom and Crabtree 2006). After transcription, codes were drawn both deductively from the interview guide, and inductively from reoccurring patterns in the data. All information was then sorted into their respective categories. In order to measure the magnitude of themes and cross-reference, an index sheet was used to organize all developing information (Berg 2007). The contact summary forms further aided the analytic process, acting as short-answer sheets which detailed concise synopses for each target question (Berg 2007). In order to maintain anonymity, each respondent was assigned a case number. The themes presented below occurred at least three times in the data. Representative quotes were selected to demonstrate key findings.

CHAPTER FOUR: RESULTS

Reported Access to Dental Care

Many of the homeless participants included in this study indicated having trouble accessing dental services. This was usually explained by a lack of financial means, transportation or insurance. As one interviewee at the shelter stated, “And since we have no vehicle, no money, it’s not a like a hop, skip, and a jump to go anywhere else. Yknow, with no insurance, nobody else is going to take you.” As indicated in previous literature (Seccombe 1993), even participants who had maintained employment described having problems affording dental care because part-time workers generally do not receive dental coverage. Other potential barriers to care included pressing health issues and inefficient case management. As an older gentleman described, “No, it’s not easy [for me to see the dentist]. Because my knee, and my back... is killing me and I can’t take the bus. It’s hard for me.” Barriers with case managers included obtaining dental referrals, being sent to wait in long lines at the health department, or losing a case manager without replacement for months at a time.

However, some participants indicated they were able to obtain formalized dental care. Various methods were described including Medicare or Medicaid, mobile dental clinics, and caseworker referrals. Although some difficulties with Medicare were reported, such as “[it] was difficult at first because I had to find a dentist that would accept my insurance [Medicare CarePlus],” public insurance ultimately led to seeing a dentist for four homeless participants. The mobile dental clinic was accessible without a waiting period, but did require some form of insurance if patients were to receive care beyond an evaluation. In contrast to the problems

associated with case management, another respondent claimed, “As soon as I came here, and um, I need to get some dental work, my caseworker just referred me. They help you good.” She further elaborated that she was sent to the health department, and everything she needed was taken care of.

In total, eight of the 25 participants were enrolled in a Medicare or Medicaid program. Many of those not enrolled believed Medicaid would be the key to obtaining needed dental care.

As one respondent described,

And the Medicaid, you don't have to go to the health clinic, that's free. Basically they give you a book, and they go by zip code, and you could go and find a doctor. You could walk into their office, present the card, and say "look, this is the services that I need." And they will give it to you.

Still, participants recounted numerous barriers to their eligibility, delays in response time, and repeatedly being denied. Overall, homeless respondents explained that they were not eligible for benefits because they were either too young, not expecting, did not currently have children, or did not qualify for SSI. When a young female was asked why she was denied she stated, “I really don't know. I think, like, if you not pregnant, or old enough then you're not gonna get it.” In discussing how long it had been, an older man recalled,

The last time I heard from them was last month, and I was supposed to have had a phone interview, and I wasn't able to get in touch with no one, so now I reapplied again and I ain't heard nothing.

Further, respondents not only reported delays in their communications, but anticipated 1-3 year long waiting periods for approval. Even when homeless individuals met the necessary requirements, additional interferences prevented their acceptance into Medicaid programs. As one middle-aged woman lamented,

They said they never had sufficient proof, but it was a matter of giving the medical reports. And they never went- I mean I already signed up for them, but they never got to them. So, if they don't have those papers they can't do the work to give me the Medicaid... I just got the letter saying that I'm eligible, and I got this lawyer, so I will be having it soon. But I've been denied so many times.

Most of the participants who were enrolled in Medicaid or Medicare described further barriers to access within the public insurance system. This included continued issues in transportation, immigration status, out-of-pocket expenses, limited services, and denied care. When asked whether he believed his Medicare gold card would help him to see a dentist, one participant responded, “I need transportation. You know, look. I’m gonna tell you something. I take the SSDI, okay? But SSDI [was] suspended because my card for immigration expired.” Because Medicare enrollees under 65 have to prove disability (through SSDI), his immigration status ultimately acted to deter the provision of health insurance.

Many homeless were still unable to find a dentist who accepted their insurance. One woman remarked, “I know the one office I went to, they denied me, that’s why I’m asking if they accept Medicaid, cuz the office I went up to... they denied me, cuz my insurance. So no, Medicaid, it’s complicated.” One man was even advised not to show his disability card to the dental providers because they would realize he had “nothing” and would automatically not accept his insurance.

Even when the homeless were able to find a dental provider who accepted public insurance, they were still paying out-of-pocket for services. As one man discussed, “Uh, when I went there [the dentist] and I told em like, uh my teeth are a mess... and um he uh replaced my teeth, but I paid cash for em.” When asked why he still had to pay cash, he explained, “Medicaid was gonna take too long, they were gonna take like- let’s see I had the teeth pulled in uh June, and I wasn’t gonna get the teeth [dentures] until January...” Because the dentist was not willing to wait six months for reimbursement, payment was required upfront. When participants were

asked what procedures were covered, they typically mentioned extractions. For those who had Medicare, even emergency dental procedures came at a price, “Before it was falling out, I asked how much would it cost. They said if you have Medicaid, nothing. If you have Medicare, \$55. To pull the tooth out. I let it fall out.”

Some of the participants who had been enrolled in Medicare or Medicaid felt it was helpful in accessing dental providers. However, this usually occurred after they had been further enrolled in WellCare or CarePlus health maintenance organization (HMO) plans. Described in further detail, “...regular Medicare didn’t cover anything, you know uh dental wise. But now that I went to WellCare I’ve gotta use up \$700 worth of insurance coverage before the end of the year.” After being asked what that entailed, one participant remarked, “Um, basically um, extractions, x-rays, cleanings. Up to \$750 a year is covered under WellCare.” Dentures had to be put off until enough coverage was available the next fiscal year.

A final potential route to obtaining dental care was the Health Care Center for Homeless’ (HCCH) dental clinic. About a fifth of the sample population interviewed at the shelter had heard of the dental clinic. As one woman put it, “I heard about one, but I don’t know if it’s the same one. Probably is. Never occurred to me.” Those who were familiar with the clinic discussed problems with insurance and having to make cash payments, as well as long waiting periods and delays. One gentleman recalled, “Uh huh, that’s where I went [HCCH] before I found out about CarePlus because up there they didn’t accept uh CarePlus at all and, and what was the one you mentioned... Medicaid! They didn’t accept Medicaid.” Another participant commented, “I don’t have no insurance, I don’t- I uh tried the free clinic, but you know they still charge.” Due to the dentist being unavailable, one participant stated, “I been laid over [delayed] twice, my mouths in

serious condition. Uh, some immediately need-a-be pulled, like three of them need to be immediately pulled. They x-rayed me, they know. And they laid me over twice already.”

However, the assessment of the homeless participants at the clinic was that it provided expedient access to much needed oral health care. This included affordable services, spending adequate time with patients, and quality care. When a man at the clinic was asked if had tried receiving care anywhere else, he responded, “Yeah but they want more money. Here’s only like \$10 a visit. And that’s like big time in here to get \$10. Half of whatever bill is.” Another patient and the clinic added, “Mhm. Like this affordable and you can actually get in. it’s not like a three year, one year, two year waiting list.” Beyond economical and timely services, other patients often raved about the clinic, saying “They’re very nice, they’re patient, and also they explain to me stuff I need to know, and they take their time. The procedures that they do they explained it to me as they go. I liked that.”

Oral Health & Hygiene among the Homeless

All participants were asked in the duration of the interview about the current state of their oral health. Participants described a multitude of issues, including sensitivity, infections, broken teeth, cavities, and problems with the functioning of their jaw. The most predominant problem was missing teeth. Although it was unprompted, 19 of the 25 participants mentioned missing teeth during the interview process. The number of missing teeth ranged from one or two, to having no teeth left at all. Worth note, all homeless individuals living in the woods reported only having a few teeth left, while other fractions of the population were more diverse.

Poor oral health was frequently a conglomeration of different issues. As one man described, “Actually, since I became homeless, um I’ve had one filling after another, and then

three molars in the back breaking. It's just been one thing after another... And then I've gotta have four teeth pulled." A sizable portion of the sample attested that their missing teeth were the result of teeth cracking or breaking, then falling out.

I've got two back molars that'd been breaking. You know they finally just got to the point, they had half the darn molars were fillings. And I had that for like over five years, and then the fillings popped... and I do the best I can, but I mean, they just, I bite into something and its hard and "crrrk" all of a sudden the tooth's a part of the molar, and it breaks off, it's like (sighs).

Broken or cracked teeth could be painful issues on their own and conditions are often complicated by infections, sensitivity, and the need for extractions. This was the case for one man, who reported, "...because my tooth right here, it cracked. And when it cracked, the one with the nerve stem stayed, and the other part, went." Infections were also agonizing for many homeless individuals, causing inflammation, which lasted up to a reported three months. If the infection progressed far enough, some participants reported developing holes in the tooth or the sides of their gums, and even bone loss. This was usually a sign that the root of the tooth had become abscessed, requiring emergency care, or extraction of the tooth.

Despite the countless dental problems homeless participants faced, the majority maintained that oral hygiene was very important to them. Participants felt oral hygiene was vital to their ability to eat, work, and socialize. Others commented that oral hygiene was important for both their self-image and overall well-being. Simply put, "...basically, the first thing is teeth. Then comes glasses, then comes the body. Because if you can't eat, then you're screwed." Other participants went into more detail, describing how cold foods could be painful, and warmer foods could leave a bad odor. Oral hygiene was key in avoiding pain to the nerve while eating, and making sure food did not get stuck between dentures or teeth.

Work was also a powerful motivator for keeping good oral hygiene. As one man responded, “Of course it’s important! It’s more important thing you can have in life. Nobody’s can hire you as a worker....Gotta work. It’s very important.” Oral hygiene was also imperative for working jobs in the service industry, where participants were concerned about being able to talk to customers, or “looking homeless”. One woman explained, “. . .if you look homeless, nobody wants to be served by a person with nothing in their mouth. They don’t feel that you’re clean.” For those who were employed, the potential problems associated with poor oral hygiene put their jobs, and livelihood at risk.

Having a smile that was presentable was not only important for employment, but in everyday social interactions. Respondents discussed a fear of rejection in conversations, and being judged by the way they look. This often became internalized, “It’s very depressing for me to be like this. 1-10? Oral hygiene's a 10 cuz, ya’ know your smile has a lot to do with how you feel, ya’ know what I mean?” Participants further discussed health concerns with poor oral hygiene, and having to prioritize it when it became too painful to tolerate.

Various explanations were given as to how oral hygiene was maintained. This included brushing, flossing, rinsing with mouthwash or hydrogen peroxide, and cleaning dentures often. Oral hygiene could be a costly investment for the homeless, as one man described,

I'd give it a nine [out of 10]. I like to brush my teeth. I had one of those one that went brrrr [vibrating sound]. My last tooth cleaning, I bought one of those, different types of brush heads, brrrr. I spent a hundred something bucks on that thing. Believe me, teeth meant something to me.

Still, not everyone described having an easy time keeping up their hygiene while being homeless. As one man at the shelter put it, “This living situation is not conducive to your health, hygiene, or dental care. It’s not. Everybody’s more concerned with day to day, hand to mouth. And it’s hard to pay a lot attention to be honest with you.” Obstacles involved relying on a shelter for the

correct quantity and quality of products, having to carry the toothbrush and toothpaste at all times, not being able to change it out after being ill, or even finding a clean place off the streets to brush. One participant discussed using bathrooms in restaurants or gyms when possible, but not being able to brush frequently started to take its toll. Having to carry the toothbrush and toothpaste around was described as “not sanitary,” but it was the only way to brush at least twice during the day. Finally, although the shelter provided toothbrushes and toothpaste, it was not enough to change the brushes out on a regular basis, or provide coverage for an entire family.

A few participants felt that oral hygiene was not very important because they had either given up on their teeth, or had more pressing concerns to attend to. One woman responded, “Well, just, I don’t know. I brush my teeth ‘cause I know they’re gonna fall out, but I just brush my teeth. I try not to think about them.” Some participants were more concerned about their children, or grandchildren, or health conditions, such as diabetes, high blood pressure, and skin cancer. How relevant the dental problem was or could become, often determined how highly it was prioritized. This finding is supported by previous research (Gregory, Gibson, and Robinson 2005), which found that relevance is constructed within people’s environment and existing expectations. In the context of homelessness, poor oral health may just be accepted as a part of life. As one younger man indicated, “You do something for so long and just, yknow, you just let it go.” Still, eating and pain often forced relevance upon homeless respondents.

It wasn't such a big deal when I had no pain. Yknow what I mean. And actually could fairly well digest food and chew up food. I had to chew on one side of course, but yknow I was maintaining. There's a lot bigger problems, yknow, in my life today, other than teeth so much, but now this- I'm in such pain that I, everyday I'm reminded, yknow, you need to be on der [the dental problem], yknow.

Furthermore, participants who had recently gotten off drugs also exemplified how priorities not only shift between, but within individuals (Gregory et al. 2005). One participant explained,

Cuz the number one priority was gettin light, you know, gettin high. Getting high and not takin care of myself, yknow just real chaotic life. I didn't wanna go sit in a doctor's office and wait while I could been out there looting or stealing, or whatever-- making money, selling drugs, or whatever, getting high. It was more important to get high then take care of myself.

As drug users came off the drugs, they often described realizing that they had painful dental issues, and wanted to make oral hygiene a priority.

The Effects of Poor Oral Health

All participants in the study were asked if missing teeth made it harder to gain employment. Most respondents agreed that missing teeth affected whether they were hired or not. Participants explained that employers judge based on appearance, especially for jobs which require smiling and working with people. It was also believed to be an indication of who they were, their personality, and sense of humor. As one woman described,

Always had my teeth, and I want my teeth back. I want my smile back. Cuz that do helps a lot when you going out tryin to find a job and stuff. Ain't nobody wanna see no raggedy mouth. You look good, you dress nice, then you open your mouth it's a different thing. No. That plays a big role.

Teeth were often viewed as a reflection of self, and missing teeth were a way for employers to categorize candidates as homeless. Those who had obtained jobs without having all of their teeth discussed having to hide their mouth and being unable to smile. Another issue for homeless participants is what smiling and laughing indicated about their personality.

Some employers, they want the pretty smile, and... first impressions are lasting, yknow what I mean. If you don't smile at jokes, they probably think that you really like, uh, dead, or, they don't really- you can't! Yknow what I'm saying, it's like mm okay you know, this guy's like, ya know, his personality is like, his sense of humor is like, naw he ain't gonna work out.

Close to a third of the sample felt missing teeth had no effect on their ability to secure a job. Reasons for this included being determined to work despite all barriers, performance based

evaluations, not needing to talk at work, and observing other people who had jobs without having teeth.

A large determinant for whether missing teeth would affect employment was the distinction between front and back teeth. A common response was, “Oh, the frontal, I would think so. You know what I mean? I mean you want someone selling your product or representing you, their looking in their mouths, gee, you know.” If teeth were missing in the back, participants did not feel it affected having a presentable smile. That smile was thought to be especially important for customer service jobs, where lots of friendly social interactions were required.

A common problem associated with poor oral health was the pain it inflicted. Respondents described feeling excruciating pain, especially when they were trying to eat or drink. As one respondent reported, “If I chew on this side- which is the side that is becoming tender, with the back molar, I mean if I get something down there ahhhhh. You know, it’s like “ouch!”” Tooth pain could become so severe that it would keep homeless participants awake at night, sending them into tears, or even rage. When asked how she dealt with pain, a young woman simply stated, “You might cry, you might can’t sleep at night cuz usually the toothache started back 1, 2, 3 in the morning when you really trying to rest. The nerve, you just feel a lot of pain and pressure...” Others described “climbing the walls,” being driven to the point of anger, and just being “restless, tired, aggravated, just everything. All of the above.”

Beyond employment, oral health problems often affected how homeless individuals felt about themselves and interacted socially with others. Many respondents reported feelings of shame or embarrassment surrounding their mouths. As one man at the dental clinic discussed, “I been in pain. I don’t like smiling. I don’t even try to kick it to no females because of it. I don’t

talk much because of it, because I'm ashamed of it. Yknow, what I look like." Other social behaviors associated with shame included having to look down, keeping a distance when speaking, and avoiding dental encounters. One woman stated that her "whole life was changed" from the minute she had crooked teeth, because she was never able to smile.

Poor oral health also had consequences for how people reacted to homeless respondents, and how they perceived themselves. As one man witnessed an older woman getting laughed at when her dentures fell out, he realized that could easily be him. Another woman commented,

A smile makes a difference, heart changes, yknow. It changes the way the person sees you, looks at you, and communicates with you. Cuz it gives you the- how far you go with that person- the leverage of movement, how they respond to you... 5 minutes you can tell, are they gonna stay there socialize with you, or they gonna shun you. So it does make a big difference on how your mouth is.

For some, dental conditions shaped how they in turn saw themselves. "It's very difficult, it affects who I am. When you laugh it doesn't show who you really are." Another man at the shelter stated, "I think it's very important for a positive outlook. People that smile believe something positive, right?" Discussing the social repercussions of poor oral health brought up feelings many respondents seemed to have repressed. A few even began to tear up as they considered what it meant for how they communicated with others, and felt about themselves.

The most discussed consequence of poor oral health was the inability to eat. Participants often described having pain, getting food stuck in their teeth, or only being able to eat soft foods. Dental problems were aggravated by chewing and biting down on food items. One man reminisced about his favorite food, saying,

I'm dying for a Philly but if I eat it I'll be in so much pain. It would go into the cavity, it would hurt my gum. I would have to eat on one side... It would be agonizing to eat.

While some managed by eating slower, just the presence of hot or cold food and drinks could produce nerve pain for others.

Another common difficulty was getting food stuck in the crevices of problem teeth. One older woman explained,

Oh that's the hard part. Um. It's because the food staying in the mouth. I hate that, I just hate it, I hate it. Always rinsing the mouth. And, sometimes it'll just stay there, you know, you can't get the food out of your mouth. And it's horrible.

Food caught between teeth could become irritating to the gums, as well as annoying for homeless respondents who constantly had to pick at it. If available, this could even influence which dental procedures were sought, because they did not want to risk having the irritation. Due to the pain and agony caused by oral health issues, many participants were only able to eat soft foods. This could result in malnourishment, because the food homeless individuals receive isn't typically a choice. When soft foods were not available, one participant said "When it's not, I just fast." Some described having to be careful, and making sure items, such as vegetables, were well cooked before biting into them. Others felt the shelter could be more sympathetic to their condition, and ensure that soft food options were available.

Not being able to eat properly ultimately caused a few participants to have digestive issues, or serious weight loss. A few respondents discussed having trouble chewing because they had so many spaces between their teeth. One man at the shelter reported,

... You know uh cuz I don't have no teeth to be really chewin food. And uh sometimes I have complications on yknow doing what I need to do after I eat or whatever yknow because, see I'm more or less swallowing it whole then then chewin it up, you know so.

Others described serious weight loss since developing dental diseases.

And if you don't eat you start losing weight. And peoples like "oh well, yknow, something's wrong with him. Why is he losing so much weight?" Dude I don't eat. I came in here at 210, I'm at 165. Yesterday made a month. So in a month I lost 60 pounds. In a month! Just not eating."

As a result, oral health problems were not only a dental issue. They often affected the quality of life, the employability, and general health of the homeless.

Coping with Poor Oral Health

As discussed previously, some homeless participants did have access to formalized dental care; others saw it as the only option. Various ways to achieve care at no or minimal costs were the health department, referrals from the shelter, Medicaid or Medicare, free dentists, or homeless associations. In reference to the health department, one participant said, “I would basically, I would have to jump the line. I would have to sleep out. I mean, that’s basically the only place I could go.” Other respondents talked about getting referrals from case managers to get into the health department, or free clinic. A few had coverage through Medicare HMOs or Medicaid and were able to find a dentist through the program. While a sizable portion had already found care through HCCH, those who were familiar with the dental clinic at the shelter also said it was helpful in coping with oral health problems. One older gentleman stated, “I just go to the clinic and they just pull em”. At HCCH’s dental clinic, the homeless were often treated with painkillers and antibiotics before undergoing any type of procedure. When asked how she coped with dental problems, one woman responded, “Until I found this clinic? I just dealt with the pain and I’d whatever I had to do. I couldn’t go to a dentist, I couldn’t afford one.” A few participants were also able to locate free dentists, or believed other homeless individuals were able to receive free care through homeless associations.

For the majority of homeless participants in this study, formalized care was not an option. As indicated in previous literature (Robbins et al. 2010, Wallace and MacEntee 2011), one way of coping with painful oral health problems was to seek care through emergency departments (ED). At the ED, homeless participants usually reported receiving some antibiotics and being sent on their way,

They would just, only like, sometimes depending on if you have an abscess or something, they can't really do nothing to you, they give you like amoxicillin or something like that just to get you- just to get the infection out, and then once you get the infection out they'll say well you need to go see your dentist or whatever, and have it pulled like dat. So really they don't really help you, know what I'm sayin.

Many of those who recounted using the ED felt it was not helpful as a long-term solution. When asked what would happen after being given medication, one female responded, "yeah, but then it would just start back hurtin." Another participant at the shelter felt the medication had helped, but later complained he was having trouble chewing because it was irritating to his gums. Still, being without a dentist and in serious pain, the homeless still found themselves back at the ED.

Further supporting assertions made in the literature, another way of coping with dental disease was to use resourceful or illegal means (Martins 2008; Robbins et al. 2010; Wallace and MacEntee 2011). This involved deceiving caseworkers, consuming alcohol, or using illegal drugs. In explaining how he tried to get dental care, one man stated, "I asked him to ask his caseworker if he could get a referral and I could get it. That's how desperate I was, you understand?" Others found refuge from dental pain in "having a beer," or "getting drunk".

When asked how he was dealing with his dental problems, one man elusively responded,

Day to day, just try to keep my teeth clean for now, which it's just too late to do all that. But I try to keep the food out of it, try not to eat too much sugar. Other than that, deal with the pain, or I might just get drunk. Yknow what I mean.

Drinking was seen as a way to forget about the pain, rather than solve it. Most frequently, "resourceful" meant the illegal use of drugs. In describing how other homeless individuals, or they themselves coped, cocaine was specifically mentioned throughout the interviews as a way to deal with tooth pain. Cocaine was either directly applied to the teeth and gums, or inhaled through the nose. As one man explained, "That numbs it, dulls it, postpones it. But usually when it wears off the toothache is grown. From what I hear." Other participants discussed miscellaneous painkillers or drug use in general as a way to "self-medicate". After asking how he

coped with tooth pain, a respondent replied, “Take my pills that I got in my pocket now. All kinda painkiller. I got the works.” When prompted for more information on drug usage, participants could become very defensive, ensuring it was “off the record,” or later declining to answer. Overall, drugs were perceived as a way to “numb the pain,” and much like alcohol, they were not believed to be a solution to the underlying problem.

Often when drug use was discussed, it was referred to as the cause, rather than the cure for declining oral health. Participants would repeatedly look at other homeless individuals and attribute their dental conditions to drug abuse. As one participant described,

...But that too comes with all the drugs they do. You see like a lot of time they have First Steps [Substance Abuse Recovery] programs for people that that’s done been crack head for all the years, and smokin, so all that alone messes up your teeth. Yknow what I’m saying? So of course everybody almost need dental help here, yes they do. I would really say that. Because over the years even just drinking, smoking, crack, cocaine, heroin, crystal meth, all dat. It really takes a toll.”

Those who were recovering also explained, that in hindsight, drug use was a deterrent to their oral health. It was not until participants had gotten clean, that they realized they were in a lot of pain and had serious needs to attend to.

Ok. Well, I’m a recovering drug addict so it’s been like that for a while, yknow what I’m saying? Drugs tear up your teeth, you don’t take care of yourself, and just, it’s been- I’d say about 15, 15 years. Cuz yknow when you’re on drugs- well me, I don’t go to appointments or nothin, I don’t keep up with nothin, my thing is just go to go get drugs. Yknow and uh... I’m glad I’m off of it now. It plays a major role in my- the way I view myself, yknow.

This again touches on the notion that the most relevant concerns become the most prioritized.

Still, this presents an interesting predicament where the source of relief can also create a lot of pain.

Another coping mechanism for oral health problems was the use of home remedies.

Remedies varied widely among the homeless population, from rubbing alcohol, to triple distilled fish oils. Other antidotes included: hydrogen peroxide, vinegar and honey, warm salt water, ice

on the face, chewing tobacco, wrapping the face, clove juice, vanilla extract, and baking soda with water. One man explained the use of remedies as such,

But they have home remedies, like when you're in jail and you are limited on stuff- This is like a jail for us to tell you the truth. When you're in jail you have very limited resources, just like how they do here. So they would invent stuff.

Each remedy had different ways of aiding with tooth pain and dental disease, such as using salt water to get rid of the infection, and chewing tobacco as a natural stimulant for pain relief. This is demonstrated in a middle-age woman's use of clove juice,

Then they got this real potent stuff, its strong as hell, you just put it on the area it's infected, and that pain goes away like that. Some people go buy whiskey, but... I get the potent stuff. It's like uh, clove juice. You put that on there and it takes the pain away.

Sometimes staff members at the shelter would offer remedies from their own friends and family, but "...to say "hey, I can give you a referral and you can go get your stuff done," or stuff like that, no, no."” Some participants guessed at how others coped, unable to imagine a long-term solution without a dentist.

The most common way of coping without access to dental care was over-the-counter medications (OTCs). OTCs such as Tylenol, aspirin, or Orajel were usually bought at the drugstore, or occasionally accessed through family or friends. Orajel, or other oral anesthetic gels were frequently used to alleviate dental pain. Participants reported that gels worked effectively to offer temporary numbness for the affected area. Benzocaine, the main ingredient in Orajel or Anbesol, works much like cocaine to remove sensation from painful dental problems (Ruetsch, Böni, and Borgeat 2001; Wilson 2009). Gels were used topically, as one participant reported, “You just rub it on your gum, it stops the pain supposedly. It goes right to the source, the root to stop the pain.”

OTCs were usually take once or twice a day, every day, for pain. When tooth pain became insufferable, respondents discussed getting “as much Tylenol as possible” because “...the hospital can’t do anything for ya, they’ll give you a painkiller and that’s that. So there’s nowhere- you just take a couple Tylenols you’re good to go.” Other OTCs included Aleve, Motrin, Excedrin, ibuprofen, and BC Powder. Another participant still found herself in the emergency room, stating, “Well I was taking ibuprofen but it was starting to get like nothing to me.” Many of the respondents reported continued pain with OTCs, and either found relief at the clinic, pulled the tooth themselves, or had to “...lay down and battle it, [because] it’s all you can do.”

An interesting coping mechanism emerged from the data, which was the use of aspirin directly on the tooth. This was done by either “biting down” on the aspirin or “crunching it up”. As one man in the woods explained,

Right on it [the tooth]. If it’s like a cavity or somethin, it’ll go down to the roots, and uh it eats the side of your mouth up too a little bit, but it actually eats that nerve in two and there’s no more pain.

It was further explained that this completely killed the nerve, only leaving the gum and the tooth remaining. Another man at the shelter concluded, “It worked well the couple times I’ve done it.”

Finally, the last method for coping was suffering the pain. Despite the listed coping mechanisms, many participants felt there was nothing they could do. Participants reported trying to eat on the other side of their mouth, crying, waiting for help, or letting the teeth fall out. As one older man lamented, “Where I going? I can’t go nowhere... deal with the pain. That’s the only way I can do, I can’t do nothing else.”

Dentures as a Solution?

The vast majority of participants, both those with and without dentures, felt having some sort of teeth would be helpful in gaining employment. Homeless respondents believed full plates or partials would improve their appearance, their smile, and build their self-esteem. One man explained, “Absolutely. It’ll boost up my confidence level. If the confidence is up, you could talk better, you feel better. So, yeah. Of course.” Teeth were perceived as a part of being “successful” because “it makes you feel better”. Another woman who had received dentures from the clinic agreed,

People look at you and judge you by your face, or your looks. And that’s what required like today anyway... So, having my teeth is like having my own. No one ever knows that they’re not mine. It feels good to have.

A few participants discussed either trying to maintain the teeth they had, or having further barriers to employment, such as physical handicaps.

Dentures were also believed to improve participants’ quality of life, enhancing their ability to eat and socialize. When asked how dentures would help her after getting a few extractions, one woman responded, “It would help me eat better if I had, I guess false teeth or whatever. Yknow I mean, help me chew in the back.” Those who had partials or dentures felt it had made eating and chewing their food easier, “Yknow, I eat... and I never have to worry about food getting stuck in the back of my mouth. Or behind my gums, and makin em sore.”

The ability to socialize or smile without embarrassment was also a motivating force behind the desire for dentures. As one participant at the clinic stated, “I don’t have to be so ashamed of myself, embarrassed. I do like to take care of myself, because I do have missing teeth it looks like I don’t take care of myself, yknow what I mean.” Other homeless respondents who were experiencing edentulism thought dentures would help to show emotions, rejuvenate them,

or enhance their dating lives. As one woman awed, “You don’t really know when people have dentures, but I’ve noticed a few people here and it’s nice. They look nice and everything. And I would like to feel like that.”

Respondents who had dentures usually reported an improvement in how they and others perceived them. As one woman with a full plate discussed, “Besides giving me a smile it identifies me as a person. I feel complete with it, yknow.” Other participants who had dentures or partials explained having an easier time socializing because of it, “Socially everything went fine. Um, even work, everything went fine. Cuz I had that partial.” However, some respondents reported having trouble adjusting to talking with dentures initially, or worrying about how their dates would react when it was taken out. As one woman at the shelter described,

In the beginning, I never used to wear them, I used to cover my mouth to talk. But then I said hell with it, and I put them in and learned to talk with em. And I don’t take em out, I leave em in. Nobody knows I have em. Unless I say somethin. I have- maybe out of five, one will ask me, and I’ll just look, and they’ll leave it alone.

Although the aforementioned participants believed dentures would enhance their dating lives, those with dentures still faced insecurities regarding their mouths, “Well, first of all it gives you an excellent smile, but then like uh if you’re dating somebody then you have to take them out, yeah yeah, you have to take them out.” When asked further how this affected the participant’s dating life, he stated, “Some women like it, and some women don’t.” Only one participant specified not wanting false teeth, and another mentioned some concerns about “painful troubles” in adjusting to them. Two participants preferred implants, which were not removable. Still, dentures could be very impactful to homeless peoples suffering with edentulism,

I’m ready to take a picture whenever. I’m ready to smile and to make another person feel better cuz I have that smile, I can. And um, it’s a blessing... I would still be looking like I didn’t care. And I’m hopeless. I’m not. I have a lot to be thankful for. And I feel great with my teeth in, and I do *not* want to part with them.

The final concept to develop within this theme was the feasibility of the extraction-denture model. Homeless participants were concerned about whether they could afford partials or dentures after extractions. As one middle-aged man revealed,

That money has to be upfront before they even start. So, that's my financial barrier. Nobody has the money. See, if I do finally get my teeth pulled (mumbles imitating having no teeth) I'll talk like this for a very long time. So yeah, uh, can you give me any help with that? And where do we get money?

Others conversed about living with missing teeth from extractions, or concerns on the cost of bridgework. Some participants had dentures in the past, but due to further extractions or constant migration living in the woods, they could not afford replacements. One man living at the shelter mentioned, "They pulled some teeth and I had dentures, and since they pulled the teeth and I don't have no dentures, you know, so, I never was able to you know provide the money they took to replace em." Another participant had owned upper and lower partial plates, but "they got lost between living [in different camps]". A few homeless respondents noted they or others were able to afford extractions and dentures, either paying upfront, with Medicaid, or through Medicare HMO plans.

The main concern of participants at the dental clinic, who currently or had previously gone through extractions, was the intensity of pain after, and their ability to eat.

It was just painful, yknow. Just painful. Even though it was painful, I still like, that's one less tooth. Yknow, and like, how many more are they gonna take outta me, ya know? So I'm not too happy about it.

Another commented, "Oh boy. I went through it. So much pain, so much pain! So much pain! But they did an excellent job. They got em out. That's all that matters, they got em out." A woman who was already missing teeth, and getting some more pulled, conveyed serious concern throughout the interview about how she was going to eat afterwards. She interrupted the discussion a few times to say, "After you get your teeth pulled, right, you can't eat?" or "Well I eat with these (few teeth on top). They going, how am I gonna eat?" Another participant said

immediately after getting their teeth pulled, they could not eat, smell, or even taste their food. While extractions were perceived as an instant source of relief, participants explained major long-term concerns in the possibility of dentures.

CHAPTER FIVE: CONCLUSION

While a small percentage of homeless individuals described having access to formalized dental care, most of the homeless interviewed in the Central Florida area did not. In order to cope with oral health problems, the homeless were found to use emergency departments, resourceful and illegal means, home remedies, and over-the-counter medications. While previous literature had anticipated the use of emergency departments and alcohol or other drugs (Martins 2008; Robbins et al. 2010; Wallace and MacEntee 2011), the use of remedies and OTCs had not been explored. This finding is particularly significant, as self-medication through the use of OTCs was found to be the most pervasive way of dealing with dental disease. If dental care was to be received, the homeless perceived extractions-dentures as the only route. Because emergency dental procedures are all that is typically available for this population, further complications to their well-being may arise from this model (Conte et al. 2006; Hill and Rimington 2011). The use of extractions without the promise of dentures leaves homeless individuals edentulous, with continued barriers to their ability to eat, work, and talk.

Limitations

Although the use of homeless service agencies to recruit participants ensured the correct population was reached, it excluded homeless individuals who refrain from using their services. This may be a population who is even farther removed from conventional access to care, living on the streets, or migratory camps in the woods. The study was further hampered by the use of on-site interviewing, which while convenient, was fraught with interruptions and interfering background noise. This affected both the continuity of the interview and the quality of the audio

to be transcribed. The inability for a private room during some interviews at the shelter, and in the camps, may have caused participants to be reserved in discussing the oral health problems and coping mechanisms they encountered. In addition, resourceful and illegal methods may be more prevalent than this research indicates. Finally, while this research intended to get the perspective of those working at HCCH's dental clinic, a focus group was ultimately not possible. Future research may benefit from understanding how those on the front lines of homelessness and dental care perceive barriers and coping strategies, as well as enlighten the differences in how providers and homeless patients see the problems themselves.

Final Discussion and Recommendations

As the literature discusses, and as affirmed here, without proper access to public dental insurance the homeless face grave barriers to care (Schrimshaw et al. 2011; Griffin et al. 2012). Even for those with Medicare or Medicaid, limited providers, long waiting periods, and continued out-of-pocket expenses often inhibited their effectiveness. The Health Care Center for the Homeless (HCCH) was able to alleviate the discord between public insurance and private providers for some homeless participants. Still, many reported being unaware of the clinic, or unable to provide any auxiliary costs. An unexpected finding, which successfully aided in participants receiving oral health care, were Medicare or Medicaid HMO plans. This included WellCare, CarePlus and StayWell plans, which provided supplementary coverage for dental care. Future research would further benefit from understanding how managed care services programs affect access to dental care for homeless adults.

Homeless shelters could also improve access by partnering with local providers, or outreach efforts to provide pro bono care onsite. While volunteer care is not a solution to the social inequity in oral health care (Castaneda et al. 2010), it may be a practical compromise until more effectual policy is enacted. At minimum, caseworkers could ensure that clients have bus passes and referrals if emergency care is necessary. Shelters may also want to consider providing soft food options, so that no one has to “fast” when they cannot eat what is provided. While shelters are not necessarily privy to what is donated, participants felt there were plausible alternatives. This may be something as mundane as blending the food, or cooking items such as vegetables a little bit longer.

The oral health status of participants was predictably poor, with the majority reporting an array of simultaneous issues. While past research has stated that the homeless do not practice proper oral hygiene, such as infrequent brushing despite owning a toothbrush (Hill and Rimington 2011), these findings indicate that oral hygiene was very important among the sample population. Owning a toothbrush did not inherently mean toothbrushing was possible without access to clean facilities where homeless *could* brush. This research further supports assertions that priorities are subject to change between and within individuals over time, as oral health becomes more or less relevant in the individuals life (Gregory et al. 2005). Often, the pain of dental disease forced teeth to be prioritized in respondents’ lives.

Poor oral health was found to affect the quality of life, employability, and overall health of homeless respondents. Dental problems caused severe pain, which was insatiable for many. This affected their ability to concentrate, sleep, and eat. When eating became troublesome participants described gastrointestinal issues, and dangerous weight loss. Others described being unable to smile or talk, whether socially or at job interviews, because they were ashamed of how

their mouths looked. They often feared being judged by employers, or internalized these feelings so that they weighed heavy on their self-esteem.

Homeless were found to cope with dental problems by using emergency departments, as well as resourceful and illegal methods. Emergency departments provided insufficient care, and are not well equipped to cure dental diseases (Robbins et al. 2010; Andersen et al. 2011; Wallace and MacEntee 2012). Resourceful and illegal methods, predominantly alcohol and cocaine usage, were discovered to aid as an escape or temporary relief from dental pain (Martins 2008; Robbins et al. 2010; Wallace and MacEntee 2011). Unanticipated findings included the use of home remedies and over-the-counter medications. As OTCs were the most predominant way to deal with dental related pain, future research should investigate how exactly they are used, how often, and if there have been any associated repercussions. Particularly, the use of aspirin directly on the tooth causes mouth ulcers or “aspirin burns” (N.S. 2004). This is why one participant reported aspirin on the tooth “...eats the side of your mouth up too a little bit”. Aspirin has further been found to have a direct relationship with damage to teeth when chewed (N.S. 2004). It is therefore important that HCCH educates patients on the use of OTCs and safe home remedies. Furthermore, the FDA has issued warnings in relation to the use of benzocaine gels, such as Orajel, which can result in rare but deadly side effects (US Department of Health and Human Services 2012). Some participants also discussed how declining oral health may be a sign of serious illnesses, such as HIV. Part of that education may be affordable and practical ways to cure pain so that more damage is not produced, and when rapidly declining oral health may be a sign of deeper ailments.

Although dentures were a solution for those who were able to pay for them, or get the costs covered, many feared a future without teeth. If the patient is not already edentulous, it may

be more practical for the clinic to invest in the restoration, rather than the extraction of remaining teeth (Conte et al. 2006; Hill and Rimington 2011). Future research may also gain from understanding how homeless children, and those not connected with services manage dental conditions without financial resources.

In conclusion, the results of this study show that for a large portion of the homeless, poor dentition is just another element in the cascade of deprivations that mark their lives. Without conventional access to dental care, the homeless are forced to rely on makeshift solutions, such as emergency departments or illegal drugs. Social inequalities not only shape their living conditions, but are embodied in their oral health. Sociopolitical factors cement their condition, in creating a two-tiered system of care that does not support the prevention and restoration of dental disease (Horton and Barker 2010). This system further secures their place in the social structure, in which standards of employment require a smile the homeless cannot afford.

APPENDIX A: IRB APPROVAL LETTER



University of Central Florida Institutional Review Board
 Office of Research & Commercialization
 12201 Research Parkway, Suite 501
 Orlando, Florida 32826-3246
 Telephone: 407-823-2901 or 407-882-2276
 www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: UCF Institutional Review Board #1
 FWA00000351, IRB00001138
To: Jessica A. Kleinberger
Date: November 04, 2013

Dear Researcher:

On 11/04/2013, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
 Project Title: DOWN IN THE MOUTH: HOMELESSNESS AND ORAL HEALTH
 Investigator: Jessica A. Kleinberger
 IRB Number: SBE-13-09721
 Funding Agency:
 Grant Title:
 Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewska, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 11/04/2013 12:15:56 PM EST

IRB Coordinator

APPENDIX B: IN-DEPTH INTERVIEW SCHEDULE HCCH DENTAL CLINIC

1. Is this your first time visiting the dental clinic?
2. Have you, or are you currently enrolled in Medicaid or Medicare?
 - a. If so, has it helped you access dental care?
 - b. If not, why not?
3. What is the current state of your oral health?
 - a. If there is a problem, how are you dealing with it?
 - b. If not, how have dealt with issues in the past?
4. How much of a priority is oral hygiene?
5. Does missing teeth make it harder to gain employment?
 - a. Would (or have) dentures make it easier to gain employment?
6. How would (or have) dentures affect(ed) your life?
7. Have you heard of any ways other homeless individuals deal with tooth pain?

APPENDIX C: IN-DEPTH INTERVIEW SCHEDULE H.O.P.E. TEAM

1. Have you ever visited Health Care Center for the Homeless' dental clinic?
2. Have you, or are you currently enrolled in Medicaid or Medicare?
 - a. If so, has it helped you access dental care?
 - b. If not, why not?
3. What is the current state of your oral health?
 - a. If there is a problem, how are you dealing with it?
 - b. If not, how have dealt with issues in the past?
4. How much of a priority is oral hygiene?
5. Does missing teeth make it harder to gain employment?
 - a. Would (or have) dentures make it easier to gain employment?
6. How would (or have) dentures affect(ed) your life?
7. Have you heard of any ways other homeless individuals deal with tooth pain?

APPENDIX D: IN-DEPTH INTERVIEW SCHEDULE COALITION

1. Is it easy for you to see the dentist if you need to?
 - a. Have you ever visited Health Care Center for the Homeless' dental clinic?
2. Have you, or are you currently enrolled in Medicaid or Medicare?
 - a. If so, has it helped you access dental care?
 - b. If not, why not?
3. What is the current state of your oral health?
 - a. If there is a problem, how are you dealing with it?
 - b. If not, how have dealt with issues in the past?
4. How much of a priority is oral hygiene?
5. Does missing teeth make it harder to gain employment?
 - a. Would (or have) dentures make it easier to gain employment?
6. How would (or have) dentures affect(ed) your life?
7. Where would you go for tooth pain now?
8. Have you heard of any ways other homeless individuals deal with tooth pain?

APPENDIX E: CONTACT SUMMARY FORM

Contact date: __/__/_____

Site: _____

1. What were the main issues or themes that struck you in this contact?
2. Summarize the information you got (or failed to get) on each of the target questions you had for this contact.

Question

Information

3. Anything else that struck you as salient, interesting, or important in this contact?
4. Have any new questions emerged for the next contact with this site?
5. How did you feel your presence as a researcher influenced the interview process?

LIST OF REFERENCES

- Agency for Health Care Administration. 2012. *Florida Medicaid Summary of Services Fiscal Year 12/13*.
- Albert, David A., Melissa D. Begg, and Howard F. Andrews. 2011. "An Examination of Periodontal Treatment, Dental Care, and Pregnancy Outcomes in an Insured Population in the United States." *American Journal Of Public Health* 101(1): 151-156.
- American Dental Association. 2013. "Affordable Care Act: dental benefits examined." Chicago, IL: American Dental Association.
- Anderson, Cherala, Traore, and Martin. 2011. "Utilization of Hospital Emergency Departments for Non-Traumatic Dental Care in New Hampshire". *Journal of Community Health* 36(4): 513-516.
- Bailit, H. 1999. "Dental insurance, managed care and traditional practice." *Journal of The American Dental Association (1939)* 130(12): 1721-1727.
- Berg, Bruce. 2007. *Qualitative Research Methods for the Social Sciences*. Boston, MA: Pearson Education, Inc.
- Bloom, Barbara and Robin Cohen. 2010. "Dental insurance for persons under age 65 years with private health insurance: United States, 2008." Hyattsville, MD: National Center for Health Statistics.
- Breakey, William R. 1997. "Editorial: It's Time for the Public Health Community to Declare War on Homelessness." *American Journal of Public Health* 87(2): 153.
- Butani, Yogita, Jane A Weintraub and Judith C Barker. 2008. "Oral health-related cultural beliefs for four racial/ethnic groups: Assessment of the literature." *BMC Oral Health* 8(26).
- Calnon, William R. 2012. "Breaking Down Barriers to Oral Health for All Americans: The Role of Finance: A Statement from the American Dental Association." *American Dental Association: A Series on Access to Oral Health* 1-15
- Castaneda, Heide, Iraida V. Carrion, Nolan Kline and Dinorah M. Tyson. 2010. "False Hope: Effects of Social Class and Health Policy on Oral Health Inequalities for Migrant Farmworker Families." *Social Science & Medicine* 71(11): 2028-2037
- CMS. Gov. 2013. "Medicare Dental Coverage".
- CMS. Gov. 2012. "Original Medicare (Part A and B) Eligibility and Enrollment".

- Coles, Emma, Karen Chan, Jennifer Collins, Gerry M. Humphris, Derek Richards, Brian Williams, and Ruth Freeman. 2011. "Decayed and missing teeth and oral-health-related factors: Predicting depression in homeless people." *Journal of Psychosomatic Research* 71(2): 108-112.
- Conte, Michael, Hillary L Broder, George Jenkins, Rebecca Reed, and Malvin N Janal. 2006. "Oral health, related behaviors and oral health impacts among homeless adults." *Journal of Public Health Dentistry* 66(4): 276-278.
- Department of Children and Families. N.d. "Welcome to FLORIDA Department of Children & Families (DCF) ACCESS Florida Online Application System".
- DiCiccio and Crabtree . 2006. "The qualitative research interview." *Medical Education* 40(4): 314-321.
- DiMarco, Marguerite A, Susan M Ludington, and Edna M Menke. 2010. "Access to and utilization of oral health care by homeless children/families." *Journal of Health Care For The Poor & Underserved* 21(2): 67-81
- Donley, Amy and James Wright. 2012. "Safer Outside: A Qualitative Exploration of Homeless People's Resistance to Homeless Shelters." *Journal of Forensic Psychology Practice* 12(4): 288-306.
- Doty and Weech-Maldonado. 2003. "Racial/ethnic disparities in adult preventive dental care use." *Journal of Health Care for the Poor & Underserved* 14(4): 516-534.
- Exley, Catherine. 2009. "Bridging a gap: the (lack of a) sociology of oral health and healthcare." *Sociology of Health & Illness* 31(7): 1093-1108.
- Gregory, Jane, Barry Gibson, and Peter G Robinson. 2005. "Variation and change in the meaning of oral health related quality of life: a 'grounded' systems approach." *Social Science & Medicine* (1982) 60(8): 1859-1868.
- Gilbert, Gregg H, Paul R. Duncan, Marc W. Heft, and Raymond T. Coward. 1997. "Dental health attitudes among dentate black and white adults." *Medical Care* 35(3): 255-271.
- Griffin S., Judith Jones, Diane Brunson, Paul Griffin, and William Bailey. 2012. "Burden of Oral Disease Among Older Adults and Implications for Public Health Priorities." *American Journal of Public Health* 102 (3): 411-418.
- Hatton, DC, D Kleffel, S Bennett, and EAN Gaffrey. 2001. "Homeless women and children's access to health care: a paradox." *Journal of Community Health Nursing* 18(1): 25-34.
- Health Care Center for the Homeless. 2011. "H.O.P.E. Team – Homeless Outreach Partnership Effort." Health Choice Network Inc.

- Hill, Kirsty B., and Debbie Rimington. 2011. "Investigation of the oral health needs for homeless people in specialist units in London, Cardiff, Glasgow and Birmingham." *Primary Health Care Research and Development* 12(2): 135-144.
- Hilton Irene V., Samanthat Stephen, Judith C Barker, and Jane A. Weintraub. 2007. "Cultural factors and children's oral health care: a qualitative study of carers of young children." *Community Dentistry & Oral Epidemiology* 35(6): 429-438.
- Horton, Sarah, and Judith C. Barker. 2010. "Stigmatized Biologies: Examining the Cumulative Effects of Oral Health Disparities for Mexican American Farmworker Children." *Medical Anthropology Quarterly* 24(2): 199-219.
- Kaiser Commission on Medicaid and the Uninsured. 2012. "Medicaid Coverage and Care for the Homeless Population: Key Lessons to Consider for the 2014 Medicaid Expansion". Washington DC: The Henry J. Kaiser Family Foundation.
- Kaylor M., Barbara Polivka, Rosemary Chaudry, Pamela Salsberry, and Alvin Wee. 2010. "Dental Services Utilization by Women of Childbearing Age by Socioeconomic Status." *Journal of Community Health* 35: 190–197.
- Lewis, Joy H., Ronald M. Andersen, and Lillian Gelberg. 2003. "Health care for homeless women: Unmet needs and barriers to care." *Journal of General Internal Medicine* 18(11): 921-928.
- Manski, RJ, JF Moeller, H Chen, PA St Clair, J Schimmel, and JV Pepper. 2012. "Wealth effect and dental care utilization in the United States." *Journal of Public Health Dentistry* 72(3): 179-189.
- Manski, Richard J., John F. Moeller, and Patricia A. St. Clair. 2011. "The Influence of Changes in Dental Care Coverage on Dental Care Utilization Among Retirees and Near-Retirees in the United States, 2004-2006." *American Journal Of Public Health* 101(10): 1882-1891.
- Martins, Diane Coccozza. 2008. "Experiences of Homeless People in the Health Care Delivery System: A Descriptive Phenomenological Study." *Public Health Nursing* 25(5): 420-430.
- Matter, Rebecca, Susan Kline, Karon F. Cook, and Dagmar Amtmann. 2009. "Measuring pain in the context of homelessness." *Quality Of Life Research* 18(7): 863-872.
- Medicaid.Gov. N.d. "National Summary of State Medicaid Managed Care Programs as of July 1, 2011".
- Nickasch, Bonnie, and Suzanne K. Marnocha. 2009. "Healthcare experiences of the homeless." *Journal of The American Academy Of Nurse Practitioners* 21(1): 39-46.

- N. S. 2004. "Dentists: Eschew chewing aspirin." *Science News* 166(5): 78.
- Ruetsch, Y., Böni, T., & Borgeat, A. 2001. "From cocaine to ropivacaine: the history of local anesthetic drugs." *Current Topics In Medicinal Chemistry* 1(3): 175-182.
- Robbins J.L., Lynn Wenger, Jennifer Lorvick, Caroline Shiboski, and Alex Kral. 2010. "Health and Oral Health Care Needs and Health Care-Seeking Behavior Among Homeless Injection Drug Users in San Francisco." *Journal of Urban Health* 87(6): 920-30.
- Schrimshaw, Eric W., Karolynn Siegel, Natalie H. Wolfson, and Dennis A. Mitchell. 2011. "Insurance-Related Barriers to Accessing Dental Care Among African American Adults With Oral Health Symptoms in Harlem, New York City." *American Journal of Public Health* 101(8):1420-1428.
- Schutt, Russel. 2009. *Investigating the Social World: The Process and Practice of Research*. Thousand Oaks, CA: Pine Forge Press.
- Secombe, Karen. 1993. "Employer Sponsored Medical Benefits: The Influence of Occupational Characteristics and Gender." *The Sociology Quarterly* 34(4): 557-580
- Social Security Administration. 2012. "Social Security: Disability Benefits." Social Security Administration.
- Squillace, Joseph. 2009. "The Economics of Medicaid Dental Care: How Global Budget Methods Affect Reimbursement." *Poverty & Public Policy* 1(2): 1-20
- US Department of Health and Human Services. 2012. *FDA Drug Safety Communication: Reports of a rare, but serious and potentially fatal adverse effect with the use of over-the-counter (OTC) benzocaine gels and liquids applied to the gums or mouth*. Silver Springs, MD: US Food and Drug Administration.
- US Department of Health and Human Services. 2000. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health.
- Wallace, Bruce and Michael MacEntee. 2011. "Access to Dental Care for Low-Income Adults: Perceptions of Affordability, Availability and Acceptability." *Journal of Community Health* 37(1): 32-39
- Wallace, Neal T., Matthew J. Carlson, David M. Mosen, John J. Snyder, and Bill J. Wright. 2011. "The Individual and Program Impacts of Eliminating Medicaid Dental Benefits in the Oregon Health Han." *American Journal Of Public Health* 101(11): 2144-2150.
- Wilson, Elizabeth. 2009. "Dental Anesthetics." *Chemical and Engineering News* 87(26): 33.