

Fall 11-15-2018

Access to Dental Care in Fillmore County Minnesota

Katie M. Ristau
University New Mexico

Follow this and additional works at: https://digitalrepository.unm.edu/dehy_etds

Part of the [Dental Hygiene Commons](#)

Recommended Citation

Ristau, Katie M.. "Access to Dental Care in Fillmore County Minnesota." (2018). https://digitalrepository.unm.edu/dehy_etds/26

This Thesis is brought to you for free and open access by the Electronic Theses and Dissertations at UNM Digital Repository. It has been accepted for inclusion in Dental Hygiene ETDs by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.

Katie Michelle Ristau

Candidate

Dental Hygiene

Department

This thesis is approved, and it is acceptable in quality and form for publication:

Approved by the Thesis Committee:

Christine Nathe
 , Chairperson

Christina Calleros

Lindsey Lee

ACCESSING DENTAL CARE IN FILLMORE COUNTY MINNESOTA

By

KATIE MICHELLE RISTAU

ASSOCIATE OF SCIENCE IN DENTAL HYGIENE, ROCHESTER COMMUNITY

AND TECHNICAL COLLEGE, 2006

BACHELOR OF SCIENCE IN DENTAL HYGIENE,

MANKATO STATE UNIVERSITY, 2010

THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master in Science of Dental Hygiene

The University of New Mexico
Albuquerque, New Mexico

December 2018

Accessing Dental Care in Fillmore County Minnesota

Katie M. Ristau

Associate in Dental Hygiene, Rochester Community and Technical College, 2006

B.S in Dental Hygiene, Mankato State University, 2010

Master in Science in Dental Hygiene, University New Mexico July 2018

ABSTRACT

Purpose:

Dental care accessibility can be an issue for certain populations and can be an issue for people on Medical Assistance. This has been a struggle throughout our country. The purpose of this research was to assess if the children on Medical Assistance in Fillmore County are in need of dental services and if parents of these children are willing to accept an Advanced Dental Therapist provider.

Methods: This descriptive research utilized a survey to collect data on access to care for children on Medical Assistance insurance in Fillmore County, Minnesota. Of the total number of children on Medical Assistance, 61.7% were sent a survey and 12.4% of the surveys were returned. The survey researched the parents of children on Medical Assistance from ages one to seventeen. Quantitative research was used with the survey to gather information and determine if there was a lack of dental care in Fillmore County for the specific age group on Medical Assistance. Diagrams, charts and bar graphs are provided to visually interpret the results from the survey.

Results: The results suggest that children in Fillmore County are in need of dental care. Twenty-four of the fifty people surveyed indicated that they were willing to accept an

advanced dental therapist as the provider for their child's dental care, 22 responded maybe, 3 responded No and 1 person skipped this question

Conclusion: These results suggest people are willing to or would consider accepting the Advanced Dental Therapist for accessing care to the children on Medical Assistance insurance in Fillmore County.

Table of Contents

Figures.....	vii
Tables.....	viii
Chapter I: Introduction.....	1
Statement of Problem.....	1
Significance of Problem.....	2
Operation Definitions.....	5
Chapter II: Literature Review.....	6
Fillmore County.....	6
Access to Dental Care for Children.....	8
Dental Caries in Children.....	9
Advanced Dental Therapist.....	10
Dentists Acceptance of Advanced Dental Therapist.....	13
Medical Assistance Insurance.....	15
Conclusion.....	17
Chapter III: Methods and Materials.....	18
Sampling.....	18
Research Design.....	18
Data Collection.....	23
Data Analysis.....	23
Chapter IV: Results, Discussion, and Conclusion.....	25
Table 1.....	25
Figure 1.....	26
Table 2.....	27
Figure 2.....	27
Table 3.....	28
Figure 3.....	29
Table 4.....	29
Table 5.....	30
Figure 4.....	31
Figure 5.....	31
Table 6.....	31
Figure 6.....	32

Figure 7	33
Figure 8	34
Chapter V: Article for Submission	38
Appendices	50
Cover Letter/Informed Consent	50
Survey	52
Approval Letter	55
References	58

Figures

<u>Figure 1</u>	26
<u>Figure 2</u>	27
<u>Figure 3</u>	29
<u>Figure 4</u>	31
<u>Figure 5</u>	31
<u>Figure 6</u>	32
<u>Figure 7</u>	33
<u>Figure 8</u>	34

Tables

<u>Table 1</u>	25
<u>Table 2</u>	27
<u>Table 3</u>	28
<u>Table 4</u>	29
<u>Table 5</u>	30
<u>Table 6</u>	31

Chapter I: Introduction

Dental care accessibility can be an issue for certain populations and can be an issue for people on Medical Assistance insurance (government funded insurance). This has been a struggle throughout our country, state, and this study assessed if there was an access to dental care issue in a local county. Fillmore County is in southeastern Minnesota and 20,866 people call this their home (U.S. Census Bureau, 2016). In 2013, there were 505,264 children on medical assistance in Minnesota (Children's Defense Fund, 2015). Of these children, 1,948 of them live in Fillmore County (Pohlman, 2015). One barrier to accessing dental care is the issue of acceptance for Medical Assistance insurance (Office of the Legislator State of Minnesota, 2013).

Dental offices often take the blame for declining Medical Assistance, and the reasoning behind the low acceptance of these insurances is due to the insurance reimbursement being too low to cover the dental offices overhead expenses. A possible solution for the lack of acceptance of Medical Assistance insurance, is a mid-level dental provider. The Advanced Dental Therapist is a mid-level provider that has been put into commission to provide services for patients struggling to access dental care.

Statement of Problem

Would the parents of children utilizing Medical Assistance in Fillmore County, Minnesota be willing to have their children be treated by an Advanced Dental Therapist?

Significance of Problem

Although largely preventable, dental caries remains the most common chronic disease of children aged 6-11 and 12-17 years. Poor oral health has been related to decreased school performance and poor social relationships (Byrd, 2016). Oral health is highly important to children's overall health. Dental professionals have a substantial role in facilitating comprehensive health of children. To provide this level of care children need to have access to dental providers. With Medical Assistance insurance being a current issue to access dental care in Fillmore County, this can put children at risk for oral disease that could be prevented.

There is a total of four dental offices in Fillmore County, all of which employ a total of five dentists. These offices serve approximately 21,000 people averaging 1 dentist for every 1,529 people (The state of Minnesota Department of Health, 2016). With further research Fillmore County, it was found that there is one dentist to every 4200 people (Minnesota Department of Health, 2016). The information provided by the Minnesota Department of Health Website is imprecise because it shows how many dentists have been registered in Fillmore County, not how many are currently practicing. Two of the four offices do not accept Medical Assistance. One is not accepting new patients, and the other has accepted a small percentage of patients who are currently using Medical Assistance, however the office is not taking any new patients on this insurance.

The dental offices do not accept state funded insurance due to Medical Assistance reimbursement being low (Health Insurance, 2015). The majority of dental offices do not accept this insurance and "only 42% of the people on Minnesota public

health programs receive dental care, meaning low-income adults and children go without needed care” (Metropolitan State University, 2010). The mid-level practitioners focus on pediatrics, elderly, and populations with special needs (ADHA). The children in Minnesota have exceeded the national average number of children living in poverty (Metropolitan State University, 2010). In Minnesota the lack of oral care needs is a reality.

The Advanced Dental Therapist can provide care for the children on medical assistance and help access care before permanent damage takes effect. The Advanced Dental Therapist was developed by the American Dental Hygienist’s Association (ADHA, 2015). This is considered a mid-level provider. The Advance Dental Therapist can provide the care between the levels of a dentist and dental hygienist. The mid-level providers do not require as much education as a dentist and they do not require as large of a salary. The goal of the mid-level provider, or Dental Therapist, is to provide access to care in remote locations, where dentists are not present. Advanced Dental Therapists also provide care to the people on state funded insurance, such as medical assistance.

The Advanced Dental Therapist can provide several services to patients. Some of these services are preventive in nature while others are restorative, extractions of primary teeth and providing prescriptions of medications without a dentist onsite (American Dental Hygienists’ Association, 2015). Ultimately, the Advanced Dental Therapist could improve access to care for the children in Fillmore County. The Advanced Dental Therapist accepts Medical Assistance insurance, practices in more

remote locations, such as Fillmore County, and does not have as high of an income as a dentist would. With these factors, an Advanced Dental Therapist could be a profession than would benefit Fillmore, County, MN.

Byrd states in her journal, *Preventing carious lesions with caries atraumatic restorative technique*, "Lack of dental insurance and poverty are key factors in determining access to dental care." In 2012, 46.5 million people were living in poverty in the United States with 1 in 7 people in poverty and 1 in 16 living with deep poverty. This was the highest number of people since the census started measuring the poverty level 54 years prior. There are groups of people who are more likely to be in poverty such as minorities, women, children, and families headed by single women, as Byrd discusses. Poverty is a reason for children to be on medical assistance. With a high level of children on Medical Assistance Insurance in Fillmore County, the study has shown a lack of access to dental care for these patients due to poverty levels. The study has shown that there is a lack of dental care for the children in Fillmore County, and there may be a great opportunity for an advanced dental therapist to locate in this area to access care for the children on medical assistance.

Operation Definitions

Advanced Dental Therapist- Also known as mid-level provider, is thought to be a solution to improve the underserved public's oral and access to quality, cost-effective oral health care and appropriate referrals within multidisciplinary healthcare teams (ADHA, 2015)

Fillmore County, MN- Located on the southern border of Minnesota, is the second county west of the Mississippi River. It is 865 square miles and 553,082 acres (Fillmore County, 2016)

Access to care- Access to health care refers to the ease with which an individual can obtain needed medical services (RAND, 2016).

Medical Assistance- Minnesota's Medicaid program for low income. This is Minnesota's largest health care program and serves children, families, pregnant women, adults without children, seniors and people who are blind or have a disability (Health Insurance, 2015)

Children- A young person, age 0-21 for this study (Merriam Webster, 2016).

Decay- (Dental caries, cavities)-localized chemical dissolution of the tooth surface caused by metabolic events taking place in the biofilm that are on the tooth surface (Somasundarum, 2014).

Chapter II: Literature Review

This literature review focused on access to dental care issues in Fillmore County, Minnesota which included the description of an advanced dental therapist to provide access to care for the children on medical assistance insurance. The Advanced Dental Therapist started in the state of Minnesota.

Fillmore County

Fillmore County is in the southeastern corner of Minnesota and borders the state of Iowa. People's livelihood of Fillmore County is agriculture, tourism, and small businesses. The majority (98.2%) of the people in this county are Caucasian and predominantly speak English. There are 20, 866 people and 5,085 are under 18 years of age. There are 1,948 children aged 0-21 that are on state funded (Medical Assistance) Insurance.

The individuals enrolled in Medical Assistance travel great distances to find dental care that will accept their insurance. The patients on Medical Assistance in Fillmore County must travel to other counties to get dental care. Rochester, Minnesota is the closest place for these patients to go and is over an hour away from certain areas in Fillmore County. Some patients are often referred to Blooming Prairie, Minnesota, which is over an hour and a half away from areas in Fillmore County. Traveling is a barrier to accessing care for these people if they do not have appropriate transportation methods. Since Fillmore County is a rural area, there are no taxis and the public transportation is very limited. In the Office of Legislation review it is stated, "Transport time from a recipient's location to a dental provider must not exceed 60 minutes,

appointment wait time must not exceed 60 days for regular care and 48 hours for urgent care." With the long commute, time from school being missed for children, and missed time away from work for parents may make it impossible to access care for children. The cost of gas and other transportation can be another factor for these people. The cost of transportation is covered by Medical Assistance insurance, but utilization of this benefit can be an issue.

There are four dental offices located in Fillmore County. There is a large lack of dental providers in Fillmore County that accept Medical Assistance. Currently there is not an Advanced Dental Therapist in Fillmore County. There is one dental office that accepts ten percent of its total patient population who have Medical Assistance. One dental office has minimal patients who utilize Medical Assistance. The other two dental practices do not accept patients who utilize Medical Assistance. The reasoning for this is low reimbursement and the large percentage of failed, or cancelled appointments.

The children on Medical Assistance in Fillmore County are part of the Child and Teen Checkups program. In the Child and Teen Checkups description it states, "Federal law requires that Medical Assistance payment rates be consistent with efficiency, economy, and quality of care (2016)." These children are entitled to dental care and there are standards that the Child and Teen Checkups require. These requirements are complete oral exam, radiographs, fluoride, prophylaxis, treating malocclusion, dental sealants, removal of third molars and dietary counseling. However, these dental cares possibly go unmet in Fillmore County.

Access to Dental Care for Children

An article written by Cunha-Cruz discusses the state program for children, called Medicaid, in the state of Oregon. The study discusses 82,000 children (under 21) and pregnant women within 14 counties in the state. During this study dental professionals screened these patients and arranged for them to be seen by a dentist. In this study in 2012, there were 25% of the children aged 6 to 10 years old had untreated dental decay. The reports statistics show that they are not utilizing the state funded insurance.

The Journal of “Population-centered Risk-and Evidence-Based Dental Interprofessional Care Team (PREDICT): Study Protocol for a Randomized Controlled Study”, gives evidence that only 45% of children aged 3 to 5 had received dental care during 2008 in the United States. This is a crucial age for a child to be seen by the dentist and dental hygienist. Many children unfortunately have their first dental visit in the emergency room, which makes dental care more expensive than if these children could see a dental hygienist or dentist for preventive care.

The study, Child-and State-Level Characteristics Associated with Preventive Dental Care Access Among U.S. Children 5-17 Years of Age, discusses there is a correlation between lack of preventive dental care and a high percentage of children on Medicaid. It was also found that the lower the income was in the child’s household, the less of a chance they had preventive dental care. Overall, there was shown to be 11.8 percent of children in the United States in the year 2006 who did not receive preventive dental care. Lin states, “Dental care is the largest unmet need among U.S. children.”

This is a devastating comment as it is a need that could be met with some changes in the profession and state funded insurance.

Study, written by Glenn Flores, discusses how there were telephone surveys done in 2003 and 2007 and represented 193,995 children aged 0-17. This study discussed the difference between access to care for white children versus non-white children. The study showed 8% of white children are considered poor, 20% of white children have suboptimal oral health, and 19% of white children experienced problems receiving specialty care.

Dental Caries in Children

“With dental caries being the most chronic childhood disease in the United States, being five times more common than asthma and twenty times more common than diabetes,” there seems to be an access to care issue for our future generations (Albino, 2012). The overall health that can be affected when a child has untreated decay is difficulty eating, sleeping, and concentrating at school due to pain, self-esteem and social development.

In the journal “Early Childhood Caries” there are several interesting facts discussed about children who suffer from decay. Decay in children is often associated with poor feeding practices, which enhance the habitat for streptococci which promote decay. Kawashita explains, “Children should be targeted with a professional preventive program that includes oral hygiene instructions for mothers and caregivers.” It has been shown the earlier in life a child gets decay, the more susceptible the child will be to this

throughout their lives. The article discusses that a child may be underweight due to the pain they are having from decay, and this can cause them to have difficulty eating.

Advanced Dental Therapist

In 2009 the American Dental Hygienists' Association had evidence of over fifty organizations supporting the mid-level dental hygienist. In Minnesota, around the same time period, a legislative initiative created two new positions: the Dental Therapist and the Advanced Dental Therapist. These two new positions would work under a collaborative agreement with a dentist, the dental therapist would work with a dentist present and the advanced dental therapist, educated at the graduate level and considered a mid-level provider, would not need a dentist present to practice .

The Advanced Dental Therapist begins as a dental therapist and then is considered advanced after they “complete 2000 hours of practice of dental therapy under direct or indirect supervision” (Minnesota Dental Association, 2013). This education program started at Metropolitan State University in Minnesota, and the student must be a dental hygienist before starting the twenty-six-month program (Minnesota Dental Association, 2013). At the University of Minnesota, the student does not need to be a dental hygienist first but does get the license for this throughout the program. An Advanced Dental Therapist can do everything a dental therapist can do and can also diagnose and make recommendations for treatment. An Advanced Dental Therapist can also extract teeth with class 3 and 4 mobility. These services can all be

provided under the supervision of a dentist. Additionally, advanced dental therapists can provide basic care, stainless steel crowns, fillings and root canals on primary teeth.

Friedman states, "A Dental Therapist is restricted to practicing under the direct supervision of a dentist, in specific areas designated as underserved, the advanced dental therapist may provide care in other facilities, such as nursing homes, with indirect supervision by a collaborating dentist, which must approve the intended treatment." Once the Dental Therapist has performed enough hours, working directly with the dentist, the professional will become an Advanced Dental Therapist and be able to work indirectly with the dentist.

With the enormous efforts of the people who have worked to advance the degree and responsibility, Minnesota has graduated 54 Dental Therapists and 24 Advanced Dental Therapists. Ninety-five percent of the Dental Therapists/Advanced Dental Therapists are employed. In 2018 there are 86 licensed Dental Therapists. With many of these graduates being employed, there has been acceptance of the advancement of dental hygiene. With this advancement, access to dental care is growing for the people who are underserved due to remote locations and lack of dental insurance acceptance.

A journal article called *Dental Therapists: Improving Access to Care for the Underserved Children*, discusses that children should receive priority preference and that solutions needed to be developed to provide access to dental care for them. This could possibly be done through a school-based program, and the article says this should start in rural areas and inner cities. The 2000 report of the Surgeon General states,

“What amounts to a silent epidemic of oral diseases is affecting our most vulnerable citizens—poor children...” The children are one of the groups who are innocently being affected by our decisions and our lack of dental care. We have now discovered an Advanced Dental Therapist who can access dental care for the most vulnerable in need.

Though this is a new practice in the United States, there are 14,000 dental therapists employed by 54 other countries. A study was done in New Zealand from 2010 to 2011 that allowed the Dental Therapist to provide care to children. The cost for providing total care for these children was averaged to be \$99, when in a private practice, the same care would have averaged over \$200. Another study was conducted in Australia and the same cost difference was discovered.

Mathu-Muju has discussed in her journal, *Saskatchewan’s School-Based Dental Program Staffed by Dental Therapists: A Retrospective Case Study*, that between the years of 1974 and 1987, a program in Saskatchewan allowed for Dental Therapists to be educated and employed by providing care to children in schools. The children served were ages 3-12. With the 13 years this program was implemented, it reduced dmft/DMFT by 43%. After 13 years, the program was shut down by the newly elected government, and this decision unemployed 400 dental therapists.

In the article, *Dental Therapists: Improving Access to Oral Care for the Underserved Children*, the goals of Healthy People 2010 was discussed. This goal is to increase annual oral healthcare utilization among children from 20% to 57%. The Healthy People of 2010 noted that this is not possible without major change in the

delivery system. The change that will make this difference is implementing the mid-level provider.

Dentists Acceptance of Advanced Dental Therapist

Acceptance of the Advanced Dental Therapist has been an issue. There still seems to be a lack of knowledge with the dentists and the responsibility of the Dental Therapist. A survey was sent to the United States dental school deans, "44% of them did not think that the dental therapist would help with the access to care" (Aksu, 2013). "Fifty percent of the deans said they would consider hiring a therapist. Those who supported the idea of adding a therapist were more likely to work in public health, academics and hospital settings" (Aksu, 2013).

In the Journal article entitled *Oral Health Care for Children in Countries using Dental Therapists in Public, School-Based Programs, contrasted with that of the United States, Using Dentists in a Private Practice Model*, there were studies done on the acceptance of the work done by Dental Therapists. In 2009, a study in Australia observed 94% of the fillings done by a dental therapist were as well placed as those by a dentist. In this same article, a study was discussed that used the criteria by Ryge, showing an evaluation of the dental restorations by Dental Therapists. They had fewer restorations noted, which were defective compared to dentists.

Though Dental Therapists have been utilized in fifty-four countries, some dentists In the United States struggle with the acceptance of the Advance Dental Therapist. Specifically, the article, *Utilization of Non-Dentist Providers and Attitudes Toward New Provider Models: Finding from the National Dental Practice-Based Research Network*, discusses the process of a study conducted to analyze the acceptance of the

Advanced Dental Therapist. In this same article it discusses the process of a study, which was conducted to get perceptions of non-dentist providers. The study began in 2010 and continued through 2011. The percentage of questionnaires received back was 76.3%, which was 632 dentists. The study found 27% of dentists never heard of a dental therapist. Sixty-seven percent of the dentists thought the dental therapist would disrupt the relationship with their patients. Though these statistics were alarming, 27% of the dentist say they would trust the work of the Dental Therapist, and 39% thought if a Dental Therapist were added to their practice, it would allow more focus time for them on time-consuming cases. Twenty-five percent of dentists thought dental therapists would have positive impact on dentistry, 51% say they would increase dental access to care, 45% think they will have no impact on dental access to care, and 4% think that they will decrease access to care in their state. The dentists from Minnesota had more positive responses than the other states included in this study. Twice as many dentists from Minnesota were more likely to hire a Dental Therapist. Also, twice as many Minnesota dentists thought Dental Therapists would improve access to care somewhat.

When reviewing the literature on acceptance of the Dental Therapist, there are several different opinions. Some dentists agree that the Dental Therapist will provide better access to care, but most will not utilize one in their practice (Aksu, 2013). Though these thoughts are being discussed about the dentist's opinions of the Dental Therapist, a dental therapist was not designed to work in a private practice, but more designed for public health settings. Advanced Dental Therapists are intended to care for patients the

dentist is not seeing, and not meant to take patients from already established dental homes. Friedman discusses a dental therapist is not meant to compete with a dentist, but to provide access to care for children. For a Dental Therapist to successfully access care to these patients, they need the support and collaboration of a dentist.

Medical Assistance Insurance

Medical Assistance is the largest program in Minnesota which supports individuals with low household income. The program serves all age groups, and for the concern of this study, specifically children. The age group of 0-21 is considered a child on this health insurance plan.

With insurance becoming increasingly more expensive, people are choosing to utilize state funded insurances. In the state of “Minnesota, there are 1,015,896 people covered by Minnesota Medicaid as of May 2015” (Health Insurance, 2015). “There are 5,303,925 people living in Minnesota,” which means that there is almost 19% of people on state funded insurance (Health Insurance, 2015). The ongoing issue with state funded insurance programs is access to care, especially for the dental community in Fillmore County Minnesota.

In the review written by the Office of Legislation of Minnesota, several facts about the Medical Assistance program in Minnesota are provided. The rates dentists are being reimbursed are lower in 2012 than in 2000. Dentists have decided they can no longer afford to accept this insurance. The rates at which the dental offices are being reimbursed are determined from fees in 1989. A national research survey shows Minnesota is ranked in the lower third of all states for reimbursement of dental care (35

out of 45 states) (Office of the Legislator State of Minnesota, 2013). In 2010, twenty-four percent of dental offices reported they stopped serving medical assistance patients. Of the dental offices that do see Medical Assistance patients, about ten percent of them only see 1-2 patients with this insurance. A dental provider that accepts state employees' insurance, must accept up to ten percent of their entire patients in the practice with Medical Assistance insurance (Office of the Legislator State of Minnesota, 2013). In 2012, almost seventy-three percent of dentists said the reimbursement for Medical Assistance is very insufficient for children, and in 2009 only forty-two percent of children on Medical Assistance utilized dental care (Office of the Legislator State of Minnesota, 2013). What is the reasoning for this?

The insurance reimbursement through Medical Assistance is twenty-five to thirty-five percent of the total fee that is sent in to insurance. An example of this was given in the Office of Legislation review (2013). A child prophylaxis averaged to fifty-six dollars, and the dental office is reimbursed eighteen dollars for the procedure. Improving oral care with dental delivery options is needed for children on Medical Assistance. In most states, children enrolled in the Medicaid program have low utilization of dental care and high prevalence of untreated decayed teeth. "Barriers to care and per patient treatment costs can be substantially reduced by a population-based approach to dental care and the provision of basic services outside of the traditional clinic" (Cyuhna-Cruz). When insurance becomes an issue, a provider is needed who can provide care to these patients.

In the journal Lin discusses, dentists' reasons for not participating in Medicaid include "low reimbursement rates, administrative burdens, and patient behaviors such as no-show appointments." The article discusses when dentists do not participate in state funded insurance this creates a "key barrier" for access to care. Friedman states in another Journal, Medicaid provides coverage to 390,000 low-income or disabled children in Minnesota, and still only forty-two percent receive dental care each year. With lack of dentists' acceptance of this insurance, a Dental Therapist is a great alternative.

Friedman discussed only twenty percent of dentists in the United States provide care for people on Medicaid. More than 43 million children are on Medicaid, and they are limited to dental care they can receive due to lack of acceptance of this insurance. The article also states that "The American Dental Association contends that a major barrier to care treating poor children is low Medicaid reimbursements."

Conclusion

Fillmore County in Minnesota has a large portion of the population on Medical Assistance. Access to care has been a major concern in this county for children. An advanced Dental Therapist may prove to be an alternative to dental care. In this study, children on Medical Assistance were randomly surveyed in Fillmore County, Minnesota to determine the need for a mid-level provider. The survey has shown what the barriers to dental care are and why they are not seeking dental treatment. The focus is on how the impact of Medical Assistance insurance effects the dental care for children in Fillmore County, Minnesota.

Chapter III: Methods and Materials

This descriptive research utilized a survey to collect data on access to care for children on Medical Assistance insurance in Fillmore County, Minnesota. This descriptive research survey collected data to determine the risk factors, such as past decay rate and distance of travel to find a dentist that accepts Medical Assistance,

Sampling

This randomized survey researched the parents of children on Medical Assistance of ages one to seventeen. Parents were eligible for selection if their children were enrolled in medical assistance in this age category. No other factors were considered. There were 1,700 children that fell into this category. The percentage of parents that were randomly selected was 30%. The participants were randomly selected by Fillmore County. The randomization was completed by using www.randomizer.org. This age group was selected because of the ADA recommendation that children should seek dental care as early as age one. The upper age limit for this study was set at 17 because by age 18, children are no longer considered minors.

Research Design

A partnership with Fillmore County was created to implement this survey. The University of New Mexico Human Research Protection Organization approved of this survey. Fillmore County has access to all the addresses and information of the children

in Fillmore County. Fillmore County applied all the address labels and removed any names when addresses were returned so this would comply with HIPPA. In this survey the questions that were asked are about dental care that the children are receiving, and Fillmore County will also be addressing two of the dental questions. There was a partnership with Fillmore County for the printing, labeling, postage application, organization and finances for this survey. The supplies in this survey are envelopes, paper, postage and labels. Fillmore County did have means to provide the return envelopes and labels for this survey and the rest of the expense was supported by the researcher.

The survey was sent to the parents of the children, age one to seventeen, on Medical Assistance in Fillmore County and they were given a two-week deadline to return the survey. The survey was completed by the parents of these children, since the children were minors. When there were multiple children in one family, one survey was sent to that family for one of the children. Self-addressed envelopes were supplied with the surveys. The survey was a simple answering format with circling the response that applies best to their child. It was also short and direct, so it increased the compliance for completion.

There were dates placed for times when labels and printing were completed. After this was completed, the surveys and cover letters were placed in the envelopes and mailed out. The envelopes are blue in color with stamps that are flowers and seasonal. Fillmore County advised that this be done to make the surveys look more inviting and less like a bill or something from the government. This was said, as it may

have increased returned surveys. The surveys were then mailed back to the Fillmore County office after completion in the prepaid envelope.

The survey questions asked the child's age, so it was known that the child would fit into the category of the survey. It also asked when the child was last at the dentist, if ever, and how far they need to travel to access a dentist. The survey also asked if the child has had fillings for decay, if they have been in dental related pain, and if they have ever had to have teeth extracted due to dental complications. The questions in the survey asked if the dentist they have seen accepts Medical Assistance and if they would be more likely to seek dental care with an Advanced Dental Therapist. There was a brief description of what an Advanced Dental Therapist is in the survey. The other questions being asked in the survey were to inquire if they were having difficulty accessing dental care and asked questions about the Medical Assistance insurance. The survey is as follows:

Dental Questionnaire

1. What is the age of your child that you are filling this survey out for?

***Check the box with the correct response that applies to your child. Please complete both sides of the survey.**

2. When was the last time your child was at the dentist?

- Never
 Less than 1 year
 1-3 years
 4 or more years

3. How far do you travel to go to the dentist?

- Do not go to the dentist
 Less than 15 minutes
 15-30 minutes
 31-60 minutes
 More than 60 minutes

4. If you cannot take your child to the dentist every 6 months, what is the reason?

- Cannot find a dentist that takes my insurance
 Do not think my child needs to see the dentist
 Do not have transportation to the dentist
 Other _____

5. Does your dentist accept your medical assistance insurance?

- Yes
 No
 I don't know

6. Would having a dental therapist in Fillmore County increase the likelihood of your child receiving routine dental care? (A dental therapist can provide several of the same services that a dentist can and accepts your Medical Assistance Insurance)

- Yes
 No
 Maybe

(OVER)

7. How long was your wait to get a dental appointment for your child at the dental office?

- Less than 1 week
- 1-2 weeks
- 3-4 weeks
- More than 4 weeks
- Have not tried to get a dental appointment
- Could not find a dentist for an appointment

8. Has your child had tooth decay (cavities) in the past?

- Yes
- No
- I don't know

9. Has your child ever had a tooth taken out due to tooth decay (cavity)?

- Yes
- No
- I don't know

10. Has your child ever had tooth related pain?

- Yes
- No
- I don't know
- Is in pain currently

11. Are you aware that your Medical Assistance will pay for or help arrange transportation to a dental appointment?

- Yes
- No

12. In the last 7 days how many times has your child had a soda or juice?

- None
- 0-2
- 3-5
- 6 or more

Data Collection

When surveys were completed and returned to the Fillmore County office the data was entered in Survey Monkey and Microsoft Excel. As responses were received, the data from the surveys were entered in the computer system. Fillmore County entered the information into Survey Monkey.

Data Analysis

The surveys were examined for completeness. If there was a survey that was not complete it was eliminated from the study sample. The data analysis was entered into Microsoft excel and Survey Monkey. The data analysis information determined if there has ever been a history of dental issues, the different possible reasons why these issues are occurring, and if this population would be more inclined to see an Advanced Dental Therapist, if this was an option.

Comparisons that were included was the last time the child visited the dentist, the decay in the past, teeth being extracted due to decay and any pain that has been caused from teeth. Comparisons were done between the distance traveled, acceptance of Medical Assistance by the dentist and if it correlates to the last time the child was seen by the dentist. The survey also determined if there was a relationship between if their dentist accepts Medical Assistance versus acceptance of the Advanced Dental Therapist.

Quantitative research was used with the survey to gather information and determine if there was a lack of dental care in Fillmore County for the specific age group on Medical Assistance. Diagrams, charts and bar graphs are provided to visually interpret the results from the survey.

Chapter IV: Results, Discussion, and Conclusion

The survey in this research project was intended to survey 30% of the population of children on Medical Assistance ages 1-17 living in Fillmore County. There were 425 surveys mailed. After Fillmore County removed 693 duplicate addresses of children, the surveyed population went up to 61.7%, which improved the study population by increasing the people receiving the surveys. Figure 2 also shows 22 surveys were returned due to incorrect addresses which decreased the amount of possible surveys that were mailed to 403. At the end of the survey time frame 50 surveys were returned, which was 12.4% of the total. Figure 3 shows the age of the respondents. The age varied from 1-17 years., with age 10 being the mode.

1543	Child and Teen Checkups Database Birth to 18 (CATCH)
1409	After removal of 18 year olds (134)
1382	After removal of addresses in counties other than Fillmore (27)
689 (N)	After removal of duplicate addresses (693)
425 (n1)	Final Sample (61.7%)
403 (n2)	After removal of envelopes removed with bad addresses (22)
50	Returned Survey's (50 or 12.4%)

Table 1

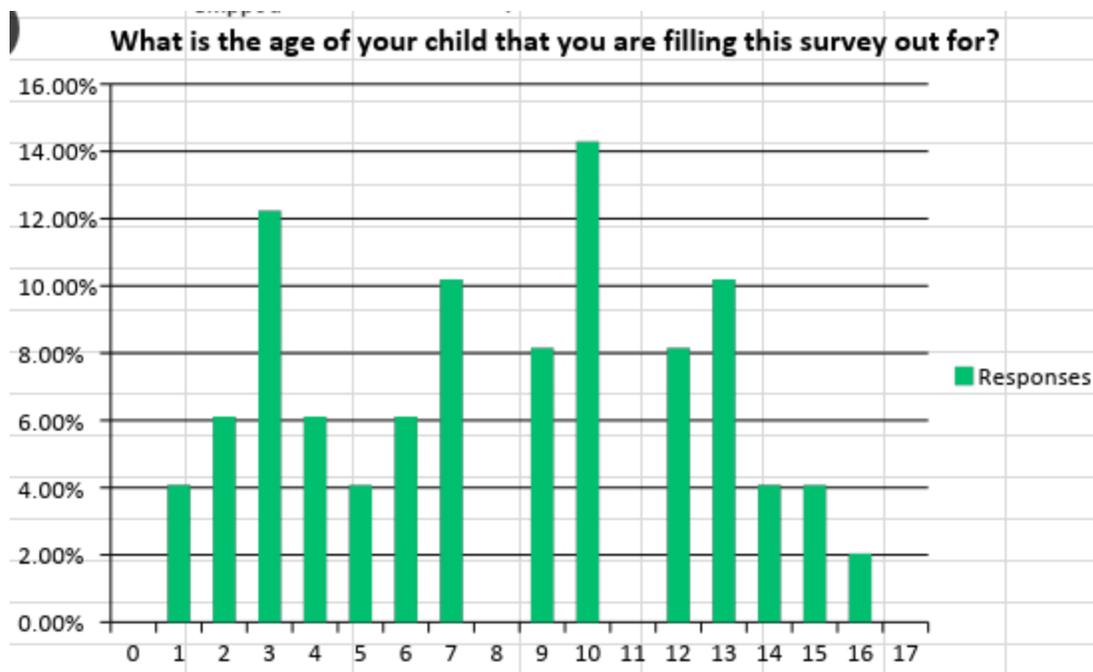


Figure 1

There were 12 questions asked in the survey. The first question was “When was the last time your child was at the dentist?” As shown in the table (figure 4), thirty-seven of the 50 respondents said that their children had been to the dentist within the last year. Two of the participants who had said their children had never been to the dentist noted that they did not feel that their child was old enough. This may indicate a miscommunication on the age appropriate time for a child to go to the dentist.

ANSWER CHOICES	RESPONSES	
Never	8.00%	4
Less than 1 year	74.00%	37
1-3 Years	18.00%	9
4 or more years	0.00%	0
TOTAL		50

Table 2

Figure 5 shows how far the respondents travel to go to the dentist. Patients are not supposed to travel for more than 1 hour from their place of residence. Four percent of the respondents travel for more than 1 hour to go to a dentist and sixty percent travel 31-60 minutes. Thirty-one to sixty minutes is a significant result because Fillmore County is not a large county, which means that several of these people are traveling out of Fillmore County to get dental care. (this would be an excellent follow-up question).

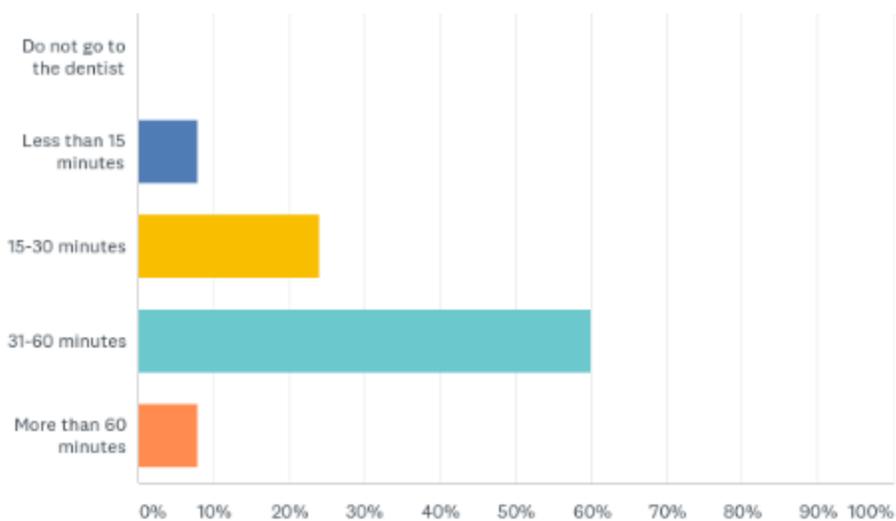


Figure 2

When asking the respondents “If you cannot take your child to the dentist every 6 months, what is the reason,” 48% of the respondents said it was because they could not find a dentist that took their insurance, 10.34% said that they did not have transportation to the dentist and 41.38% of people gave another reason. The other reasons were that the dentist is too busy, that the parents schedule is too busy, the child fears the dentist, and they cannot find a dentist to take a child with special needs. This information does not align with the information that is shown in Figure 7, which asked “Does your dentist accept your Medical Assistance insurance. The information in figure 7 suggests that 80% of the respondents said that their dentist does accept the medical assistance insurance, while in Figure 6, 14 out of the 50 respondents said they could not find a dentist that takes their insurance. Fourteen percent of people said that their dentist does not take their Medical Assistance insurance and 6% of people were unsure.

ANSWER CHOICES	RESPONSES	
Cannot find a dentist that takes my insurance	48.28%	14
Do not think my child needs to see the dentist	0.00%	0
Do not have transportation to the dentist	10.34%	3
Other	41.38%	12
TOTAL		29

Table 3

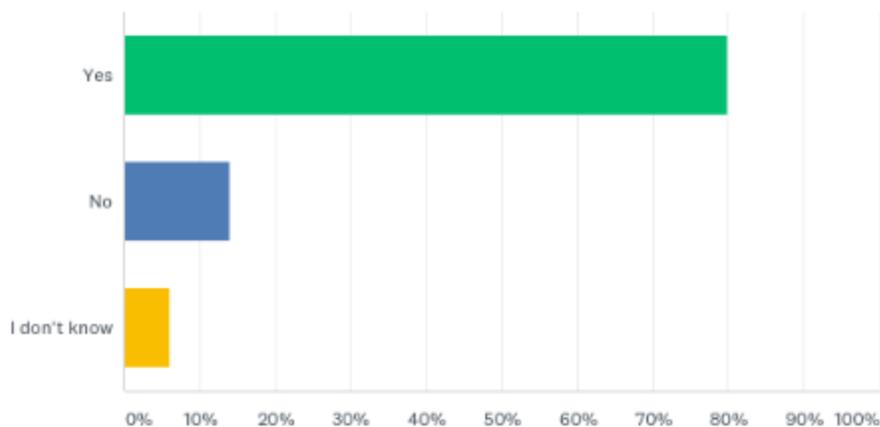


Figure 3

The purpose of the study was to try to find the need and acceptance of the Advanced Dental Therapist. The results showed that 24 out of 50 people were accepting of this position to provide dental care, 22 responded maybe, 3 responded no and 1 person skipped this question. The positive aspect of this question was that there were very few people that were against the Advanced Dental Therapist and half would accept this and the other group of people would maybe consider this option. With these results, Fillmore County may have an opportunity for an Advanced Dental Therapist.

ANSWER CHOICES	RESPONSES	
Yes	48.98%	24
No	6.12%	3
Maybe	44.90%	22
TOTAL		49

Table 4

The results in the next figure show the wait time for the children to find a dentist. These results were concerning as patients wait time was excessive in some cases. This also shows that 4% of the respondents have not tried to find a dentist and 4% could not find a dentist.

ANSWER CHOICES	RESPONSES	
Less than 1 week	10.00%	5
1-2 weeks	22.00%	11
3-4 weeks	18.00%	9
More than 4 weeks	42.00%	21
Have not tried to get a dental appointment	4.00%	2
Could not find a dentist for an appointment	4.00%	2
TOTAL		50

Table 5

Figure 10 shows that almost half of the children surveyed had decay. Figure 11 shows that 7 out of 50 children needed to get a tooth extracted due to decay. With these results it does show that many of these respondents do access dental care at some point, and many of them access dental care before the decay on their child's teeth get to the point of needing to be extracted. Though these results do show active dental visits, Figure 12 shows that 28% of the children surveyed have had dental pain. Though 28% of the respondents had dental pain, there were 70% that said they did not have dental pain. This is a positive aspect of the survey because pain is a motivator for dental care, and many of these children were getting dental care without needing to go because of pain.

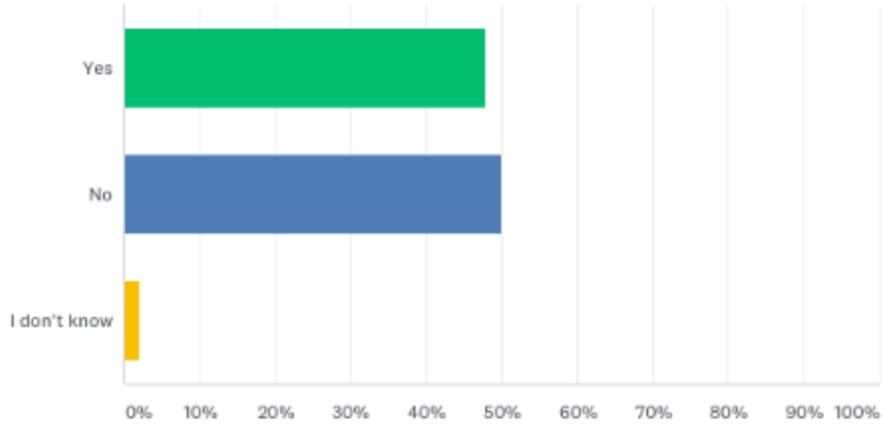


Figure 4

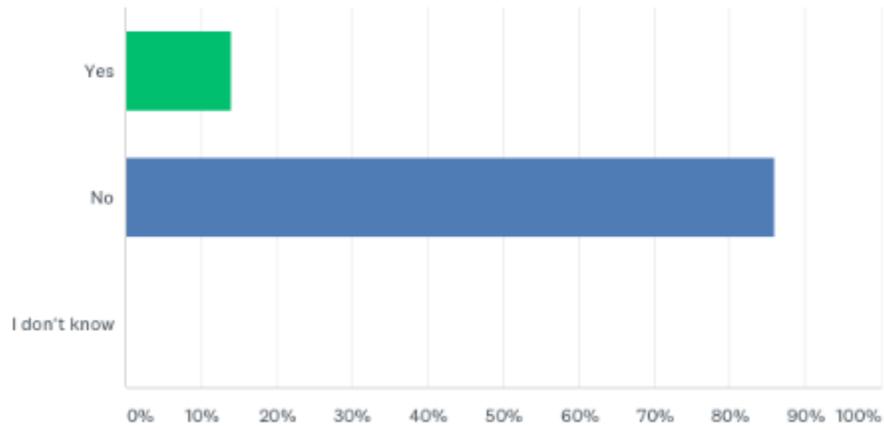


Figure 5

ANSWER CHOICES	RESPONSES	
Yes	28.00%	14
No	70.00%	35
I don't know	2.00%	1
TOTAL		50

Table 6

Fillmore County wanted the next 2 questions asked of the respondents. Medical Assistance does pay for transportation to dental appointments. Figure 13 shows that only half of the respondents knew this. When discussing this result with Fillmore County, they have realized that the information about transportation needs to be better communicated with this population.

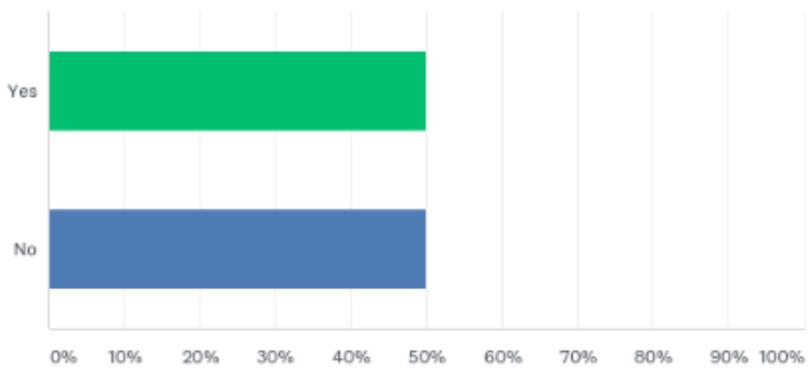


Figure 6

Figure 14 shows the data about how many beverages with sugar are consumed by these children. The results show that most respondents do not consume significant amounts of beverages that contain sugar, which shows that the respondents are educated about this topic or may not have access to these types of beverages.

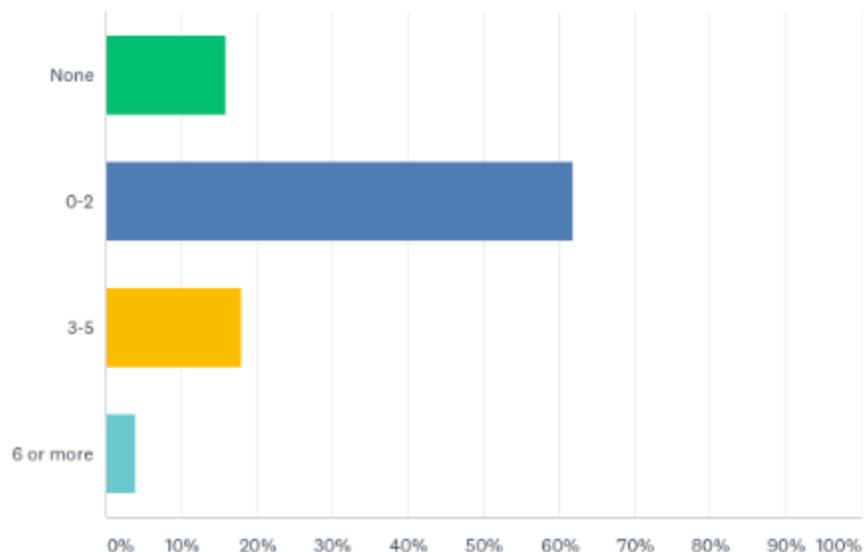


Figure 7

The Advanced Dental Therapist can be well utilized in the dental profession throughout our nation and throughout Minnesota. This survey was determining if the need for a Dental Therapist would be beneficial in Fillmore County, Minnesota. Fillmore County is in Southeast Minnesota. The department of health survey that was done in 2016 shows that only 11% of Dental Therapists in Minnesota are employed in southeast Minnesota. With few Advanced Dental Therapists locating in southeast Minnesota, Fillmore County Minnesota may receive benefits from employing this dental professional. The survey that was conducted in this study has shown a benefit for an Advanced Dental Therapist practicing in Fillmore County, Minnesota.

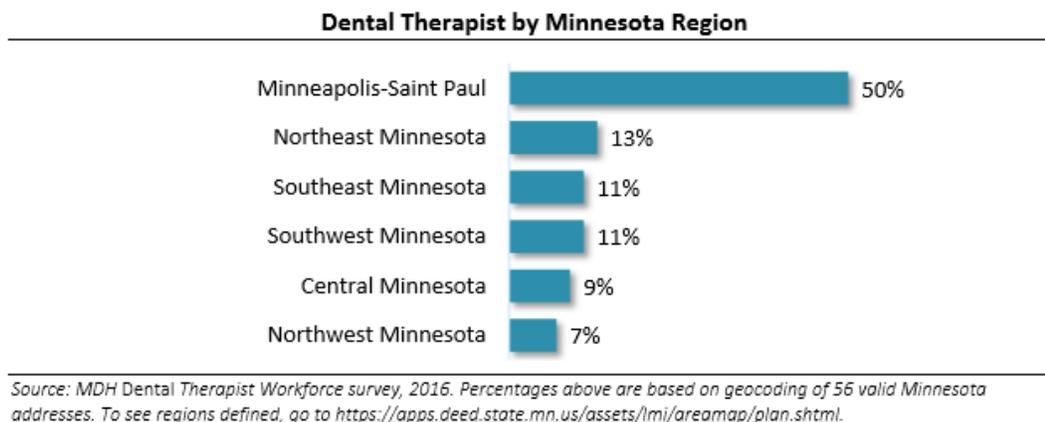


Figure 8

Dental caries is preventable and is the most common chronic childhood disease in children. When children have an increase in decay they have decreased performance in school, can have issues with relationships, and struggle with success later in life due to these issues (Byrd, 2016). In Fillmore County half of the children surveyed had decay, 28% had dental pain at some point and 14% of the children had a tooth extracted due to decay. The dental profession has a large role in the health of children, and the Advanced Dental Therapist can provide access to dental care for the children. With medical assistance insurance being an obstacle to access dental care in Fillmore County, this can put children at risks that could be prevented.

An article written by Cunha-Cruz discusses the state program for children, called Medicaid, in the state of Oregon. The study discusses 82,000 children (under 21) and pregnant women within 14 counties in the state. During this study dental professionals screened these patients and arranged for them to be seen by a dentist. In this study in 2012, there were 25% of the children aged 6 to 10 years old that had untreated dental decay. The reports statistics show that they are not utilizing the state funded insurance.

Of the children surveyed in Fillmore County, 74% of them had utilized their state funded insurance in the last year, which was significant.

The study, *Child-and State-Level Characteristics Associated with Preventive Dental Care Access Among U.S. Children 5-17 Years of Age*, discusses there is a correlation between lack of preventive dental care and a high percentage of children on Medicaid. It was also found that the lower the income was in the child's household, the less of a chance they had preventive dental care. Overall, there was shown to be 11.8 percent of children in the United States in the year 2006 who did not receive preventive dental care. Lin states, "Dental care is the largest unmet need among U.S. children." This is a devastating comment as it is a need that could be met with some changes in the profession and state funded insurance.

In the review written by the Office of Legislation of Minnesota, several facts about the Medical Assistance program in Minnesota are provided. The rates dentists are being reimbursed are lower in 2012 than in 2000. Dentists have decided they can no longer afford to accept this insurance. The rates at which the dental offices are being reimbursed are determined from fees in 1989. A national research survey shows Minnesota is ranked in the lower third states for reimbursement of dental care (35 out of 45 states) (Office of the Legislator State of Minnesota, 2013). In 2010, twenty-four percent of dental offices reported they stopped serving patients utilizing Medical Assistance. Of the dental offices that do see Medical Assistance patients, about ten percent of them only see 1-2 patients with this insurance. Of the four dental offices in

Fillmore County 50% of them do not accept state funded insurance. One takes very minimal patients and the other takes 10% of its total patient population.

In the article, *Dental Therapists: Improving Access to Oral Care for the Underserved Children*, the goals of Healthy People 2010 were discussed. This goal is to increase annual oral healthcare utilization among children from 20% to 57%. The Healthy People of 2010 noted that this is not possible without major change in the delivery system. The change that will make this difference is implementing the mid-level provider. After the respondents from Fillmore County answered the question about their acceptance of the Advanced Dental Therapist, half of them said they would accept this and the other half would consider utilizing this dental professional. With the utilization of this position, Fillmore County could make a drastic change in oral health care utilization.

The response from this survey limited the information that could have been collected from the survey, with only 12.4% of the surveys being returned. In a future study with this population, it may be beneficial to have this survey attached with other paperwork that is required, so the number of surveys completed would increase. Follow-up questions to the current survey questions would be beneficial. One of the questions that would be beneficial in the next survey would be if they traveled out of Fillmore County to receive dental care.

In conclusion, with a large portion of the population on Medical Assistance, this study has shown that the children on Medical Assistance would benefit from more opportunities to receive dental care. An Advanced Dental Therapist may prove to be an

alternative to dental care, as the study has shown acceptance or positive consideration for this opportunity. The survey focused on how the impact of Medical Assistance insurance affected the dental care for children in Fillmore County, Minnesota, and the results have proven that there is a dental need and a lack of accessibility in Fillmore County. As the research project concluded, the research has shown that the children on Medical Assistance in Fillmore County could utilize an Advanced Dental Therapist to improve their oral health.

Chapter V: Article for Submission

Accessing Dental Care in Fillmore County Minnesota

NDHA Statement: This manuscript supports the NDHRA
priority population level: Access to care (vulnerable populations)

Katie M. Ristau, B.S in Dental Hygiene
Dental Hygienist, Dental Hygiene Educator
University New Mexico
34392 County 12
Lanesboro, MN 55949
(507)273-1245

Abstract

Purpose: Dental care accessibility can be an issue for certain populations and can be an issue for people on Medical Assistance. This has been a struggle throughout our country. The purpose of this research was to assess if the children on Medical Assistance in Fillmore County need dental services and if parents of these children are willing to accept an Advanced Dental Therapist.

Methods: This descriptive research utilized a survey to collect data on access to care for children on Medical Assistance insurance in Fillmore County, Minnesota. There was a response rate of 61.7%. The survey questioned the parents of children on Medical Assistance ages one to seventeen. Quantitative research was used to gather information and determine if there was a lack of dental care in Fillmore County for the specific age group on Medical Assistance.

Results: The results did show that children were in need of dental care. The results showed that 24 out of 50 people were accepting of the Advanced Dental Therapist position to provide dental care, 22 responded maybe, 3 responded no and 1 person skipped this question. Diagrams, charts and bar graphs are provided to visually interpret the results from the survey.

Conclusion: The results of the survey has shown that almost half of the children surveyed could not find a dentist to accept Medical Assistance and half of the children surveyed had decay. The majority of people surveyed are willing to or would consider accepting the Advanced Dental Therapist in Fillmore County.

INTRODUCTION: Dental care accessibility can be an issue for certain populations and can be an issue for people on Medical Assistance insurance. This has been a struggle throughout our country, state, and local counties. Fillmore County is in southeastern Minnesota and 20,866 people call this their home.¹ In 2013, there were 505,264 children on medical assistance in Minnesota.² Of these children, 1,948 of them live in Fillmore County.³ One barrier to accessing dental care is the issue of acceptance for medical assistance insurance.⁴

The reasoning behind the low acceptance of these insurances is due to the insurance reimbursement being too low to cover the dental offices overhead expenses. The dental offices often take the blame for non-acceptance of medical assistance insurance, but also cannot afford to take this as it would negatively affect their business. One solution for increasing access to care for this population is a mid-level provider who would be able to accept public insurance for payment. The Advanced Dental Therapist has been developed as a solution for improving access to care of all populations.

There are four dental offices in Fillmore County, all of which employ a total of five dentists. These offices serve about 21,000 people.³ When researching Fillmore County, it was found that there is one dentist for every 4200 people. There is one dental office that accepts ten percent of its total patient population who have medical assistance. One dental office has minimal medical assistance patients but does have some who have been in the practice for years. The other two dental practices do not accept any Medical Assistance.⁵⁻⁸ There is a large lack of dental providers in Fillmore County that accept Medical Assistance. The reasoning for this is low reimbursement and the large percentage of patients who do not show for appointments. Currently there is not an Advanced Dental Therapist in Fillmore County, which could increase the number of providers who accept of Medical Assistance insurance.

The dental offices do not accept public funded insurance due to medical assistance reimbursement being low. The majority of dental offices do not accept this insurance and “only 42% of the people on Minnesota public health programs receive dental care, meaning low-income adults and children go without needed care”.⁹ The mid-level practitioners focus on pediatrics, elderly, and populations with special needs.¹⁰ The children in Minnesota have exceeded the

national average number of children living in poverty.⁹ The lack of oral care needs not being met is a reality in Minnesota.

The Advanced Dental Therapist was developed by the American Dental Hygienist's Association although was originally called the Advanced Dental Hygiene Practitioner.¹⁰ This provider is considered a non-doctor, mid-level provider. The goal of the mid-level dental hygiene provider is to provide access to care in remote locations, where dentists are not present and to provide both preventive and restorative care to the people on public funded insurance, such as medical assistance.

The Advanced Dental Therapist can provide several services to patients. Some of these services are preventive in nature while others are restorative, extractions of primary teeth and providing prescriptions of medications without a dentist onsite.¹¹ The mid-level provider can provide services to the children in Fillmore County and provide the children access to care. The Advanced Dental Therapist were developed to treat those who have Medical Assistance insurance and to practice in more remote locations, such as Fillmore County. With these attributes, an Advanced Dental Therapist could be a profession than would benefit Fillmore, County, MN.

Fillmore County is in the southeastern corner of Minnesota and borders the state of Iowa. People's livelihood of Fillmore County is agriculture, tourism, and small businesses. The majority (98.2%) of the people in this county are Caucasian and predominantly speak English. There are 20,866 people and 5,085 are under 18 years of age.¹² There are 1,948 children aged 0-21 that are on state funded (Medical Assistance) Insurance.³

The individuals enrolled in Medical Assistance travel great distances to find dental care that will accept their insurance. The patients on Medical Assistance in Fillmore County must travel to other counties to get dental care. Rochester, Minnesota is a near location for these patients to go and is over an hour away from certain areas in Fillmore County. Some patients are often referred to Blooming Prairie, Minnesota, which is over an hour and a half away from areas in Fillmore County. Traveling is a barrier to accessing care for these people if they do not have appropriate transportation methods. Since Fillmore County is a rural area, there are no taxis and

the public transportation is very limited. In the Office of Legislation review it is stated, "Transport time from a recipient's location to a dental provider must not exceed 60 minutes, appointment wait time must not exceed 60 days for regular care and 48 hours for urgent care."⁴

"With dental caries being the most chronic childhood disease in the United States, being five times more common than asthma and twenty times more common than diabetes," there seems to be an access to care issue for our future generations.¹³ The overall health that can be affected when a child has untreated decay is difficulty eating, sleeping, and concentrating at school due to pain, self-esteem and social development.

METHODS AND MATERIALS: The survey questioned the parents of children on Medical Assistance of ages one to seventeen. There are 1,700 children that fall into this category. There were 425 surveys that were sent out. The participants were randomly selected by Fillmore County. The randomization was done by using www.randomizer.org. The envelopes were blue in color with stamps that are flowers and seasonal patterns. Fillmore County advised that this be done to make the surveys look more inviting and less like a bill and may increase returned surveys. Self-addressed envelopes were supplied with the surveys.

The survey was a simple answering format with circling the response that applies best to their child. It was short and direct, to increase the compliance for completion. The surveys were sent out after UNM IRB approval was given. The participants had a two-week deadline to return the survey. The survey was completed by the parents of these children, since the children are minors. If there were multiple children in one family, one survey was sent to that family for one of the children. Self-addressed envelopes were supplied with the surveys and mailed back to the Fillmore County office after completion.

RESULTS: The Advanced Dental Therapist can be well utilized in the dental profession throughout our nation and throughout Minnesota. This survey determined if the need for a dental therapist would be beneficial in Fillmore County, Minnesota. The department of health survey that was done in 2016 shows that only 11% of Dental Therapists in Minnesota are employed in southeast Minnesota, which is where Fillmore County is located (Figure 1).²⁰ The survey has shown interest in the Advanced Dental Therapist practicing in Fillmore County, Minnesota.

There were 425 surveys made. After Fillmore County removed duplicate addresses of the recipients of the survey. Figure 2 shows 22 surveys were returned due to bad addresses which made the amount of possible surveys that could be sent back to 403. At the ending of the survey, 50 surveys were returned, which was 12.4% of the total. The age varied from 1-17 years, with 10 being the mode.

There were 12 questions asked in the survey. The first question was "When was the last time your child was at the dentist?" Thirty-seven of the 50 respondents said that their children had been to the dentist within the last year. Two of the participants who had said their children had never been to the dentist noted that they did not feel their child was old enough. This may indicate a miscommunication on the age appropriate time for a child to go to the dentist.

Patients are not supposed to travel for more than 1 hour from their place of residence to locate a dentist. Four percent of the respondents travel for more than 1 hour to go to a dentist. Fillmore County is not a large county, which means that several of these people may need to travel out of Fillmore County to get dental care (Figure 3).

When asking the respondents "If you cannot take your child to the dentist every 6 months, what is the reason," 48.28% of the respondents said it was because they could not find a dentist that took their insurance, 10.34% said that they did not have transportation to the dentist and 41.38% of people gave another reason. The other reasons were that the dentist was too busy, that the parents schedule is too busy, the child fears the dentist, and they cannot find a dentist to take a child with special needs. This information does not align with the question, "Does your dentist accept your Medical Assistance insurance?" The information suggests that 80% of the respondents said that their dentist does accept the Medical Assistance, while 14 out of the 50 respondents said they could not find a dentist that takes their insurance. Fourteen percent of people said that their dentist does not take their Medical Assistance and 6% of people were unsure.

The purpose of the study was to try to find the need and acceptance of the Advanced Dental Therapist. The results showed that 24 out of 50 people were accepting of this position to provide dental care, 22 responded maybe, 3 responded No and 1 person skipped this question.

The positive aspect of this question was that there were very few people that were against the Dental Therapist and half would accept this and the other group of people would consider this as a maybe. With these results, Fillmore County could have an opportunity for an Advanced Dental Therapist.

The results in figure 4 show the wait time for the children to find a dentist. These results were concerning as patients wait time was excessive in some cases. This also shows that 4% of the respondents have not tried to find a dentist and 4% could not find a dentist.

Almost half of the children surveyed had decay and 7 out of 50 children needed to get a tooth extracted due to decay. With these results it shows that most of these respondents do access dental care at some point, and many of them access dental care before the decay on their child's teeth get to the point of needing to be extracted. Though these results do show active dental visits, 28% of the children surveyed have had dental pain. Though 28% of the respondents had dental pain, there were 70% that said they did not have dental pain. This is a positive aspect of the survey because pain is a motivator for dental care, and most of these children were getting dental care without needing to go because of pain.

DISCUSSION: "Although largely preventable, dental caries remains the most common chronic disease of children aged 6-11 and 12-17 years. Poor oral health has been related to decreased school performance, poor social relationships, and less success later in life".²¹ In Fillmore County half of the children surveyed had decay, 28% had dental pain at some point and 14% of the children had a tooth extracted due to decay. The dental profession has a large role in the health of children, and the Advanced Dental Therapist can provide access to dental care for the children. With Medical Assistance insurance being an obstacle to access dental care in Fillmore County, this can put children at risks that could be prevented.

An article written by Cunha-Cruz discusses the state program for children, called Medicaid, in the state of Oregon. The study discusses 82,000 children (under 21) and pregnant women within 14 counties in the state. During this study dental professionals screened these patients and arranged for them to be seen by a dentist. In this study in 2012, there were 25% of the children aged 6 to 10 years old that had untreated dental decay. The reports' statistics show

that they are not utilizing the state funded insurance.¹⁴ Of the children surveyed in Fillmore County, 74% of them had utilized their state funded insurance in the last year, which was significant.

The study, *Child-and State-Level Characteristics Associated with Preventive Dental Care Access Among U.S. Children 5-17 Years of Age*, discusses there is a correlation between lack of preventive dental care and a high percentage of children on Medicaid. It was also found that the lower the income was in the child's household, the less of a chance they had preventive dental care. Overall, there was shown to be 11.8 percent of children in the United States in the year 2006 who did not receive preventive dental care. Lin states, "Dental care is the largest unmet need among U.S. children."¹⁸ This is a devastating comment as it is a need that could be met with some changes in the profession and state funded insurance.

In the review written by the Office of Legislation of Minnesota, several facts about the Medical Assistance program in Minnesota are provided. The rates dentists are being reimbursed are lower in 2012 than in 2000. Dentists have decided they can no longer afford to accept this insurance. The rates at which the dental offices are being reimbursed are determined from fees in 1989. A national research survey shows Minnesota is ranked in the lower third states for reimbursement of dental care (35 out of 45 states). In 2010, twenty-four percent of dental offices reported they stopped serving medical assistance patients. Of the dental offices that do see Medical Assistance patients, about ten percent of them only see 1-2 patients with this insurance.⁴ Of the four dental offices in Fillmore County 50% of them do not accept state funded insurance. One takes very minimal patients and the other takes 10% of its total patient population.⁹⁻¹¹

In the article, *Dental Therapists: Improving Access to Oral Care for the Underserved Children*, the goals of Healthy People 2010 were discussed. This goal is to increase annual oral healthcare utilization among children from 20% to 57%. The Healthy People of 2010 noted that this is not possible without major change in the delivery system.¹⁹ The change that will make this difference is implementing the mid-level provider. After the respondents from Fillmore County answered the question about their acceptance of the Advanced Dental Therapist, half of them said they would accept this and the other half would consider utilizing this dental professional.

With the utilization of this position, Fillmore County could make a drastic change in oral health care utilization.

The response from this survey limited the information that could have been collected from the survey, with only 12.4% of the surveys being returned. In a future study with this population, it may be beneficial to have this survey attached with other paperwork that is required, so the number of surveys completed would increase. I would also ask follow-up questions to the questions asked. One of the questions I would ask in the next survey would be if they traveled out of Fillmore County to receive dental care.

CONCLUSION: With a large portion of the population on Medical Assistance, this study has suggested that the children on Medical Assistance would benefit from more opportunities to receive dental care. An Advanced Dental Therapist may prove to be an alternative to dental care, as the study has shown acceptance or positive consideration for this opportunity. The survey focused on how the impact of Medical Assistance insurance affected the dental care for children in Fillmore County, Minnesota, and the results have proven that there is a dental need and a lack of accessibility in Fillmore County. As the research project concluded, the research has shown that the children on Medical Assistance in Fillmore County could utilize an Advanced Dental Therapist to improve their oral health.

References

1. U.S. Census Bureau (2016). Population Demographics for Fillmore County 2016 and 2015. Retrieved from:
<https://suburbanstats.org/population/minnesota/how-many-peoplelive-infillmore-county>
2. Children's Defense Fund (2015). Children in the States Minnesota. Retrieved from:
<http://www.childrensdefense.org/library/data/statedatarepositorychildren-in-the-states.html>
3. Pohlman, Brenda (2015, 2016, 2017). Interview. Fillmore County, Minnesota
4. Office of the Legislator State of Minnesota (2013). Medical Assistance Payment Rates for Dental Services. Retrieved from:
<http://www.auditor.leg.state.mn.us>
5. Anderson, Kim for Rushford Dental. Interview (phone conversation). April 2016.
6. Eickhoff, Jodi from Spring Valley Dental. Interview (phone conversation). April 2016.
7. Kamal at Pearl Ridge Dentistry. Interview (phone conversation). April 2016.
8. Waldo, Myron for Lanesboro Dental. Interview (phone conversation). April 2016.
9. Metropolitan State University (2010). Advanced Dental Hygiene Practitioner Demonstration Project. Retrieved from:
<http://www.mnscu.edu/media/publications/pdf/2010fedrequests/201metro dental\hygiene.pdf>
10. ADHA. The Advanced Dental Hygiene Practitioner. Retrieved from:
<http://www.nationaloralhealthconference.com/docs/presentations/2006/0502/Wend%20Kershbaum%20NOHC%20Presentation.pdf>
11. American Dental Hygienists' Association (2015). The History of Introducing a New Provider in Minnesota A Chronicle of Legislative Efforts 2008-2009. Retrieved from:
https://www.adha.org/resources-docs/75113_Minnesota_Story.pdf

12. Fillmore County (2016). About Fillmore County. Retrieved from:
<http://www.co.fillmore.mn.us/fillmore-county>
13. Albino, J., Habil, P., Inglehart, M., and Tedesco, L (2012). Dental Education and Changing Oral Health Care Needs: Disparities and Demands. *Journal of Dental Education*, (76). Retrieved from:
<http://www.identaled.org/content/76/1/75.long>
14. Cruz-Cuhna, J., Milgrom, P., Shirtcliff, M., Huebner, C., Conrad, D., Ludwig, S., Mitchell, M., Dysert., J, Scott, J. and Mancl, L. (2015). Population centered-Risk-and Evidence based Dental Interprofessional Care Team (PREDICT): study protocol for a randomized controlled study *Trials* 16(278). Retrieved from:
<https://www.ncbi.nlm.nih.gov/pubmed/26091669>
15. Self. (2016). Interview by Email.
16. Mathu-Muju, K., Friedman, J. and Nash, D. (2016). Saskatchewan's School Based Dental Program Staffed by Dental Therapists: A Retrospective Case Study. *Journal of Public Health Dentistry* ISSN 0022-4006.
17. Health Insurance (2015). Minnesota Medicaid. Retrieved from:
<https://suburbanstats.org/population/how-many-people-live-in-minnesota>
18. Lin, M., Sappenfield, W., Hernandez, L., Clark, C., Liu, J., Collins, J. and Carle, A. (2012). Child and State Level Characteristics Associated with Preventive Dental Care Access Among U.S. Children 5-17 Years of Age. *Matern Child Health Journal* 16(02). Retrieved from:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4538930/>
19. Friedman, J. and Mathu-Muju., Kavita. (2014). Dental Therapists: Improving Access to Oral Health Care for Underserved Children. *Am. J Public Health* 104(6). Retrieved from:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4062028/>
20. Minnesota Department of Health. Minnesota's Dental Therapist Workforce (2016). Retrieved from: <http://www.health.state.mn.us>

21. Byrd, T. (June 2016). Preventing Advanced Cariious Lesions with Caries Atraumatic Restoration Technique. *Journal of Evidence Based Dental Practice* (Vol.16). Retrieved from:
<https://www.ncbi.nlm.nih.gov/pubmed/?term=Preventing+Advanced+Criious+Lesions2BYrd>

Appendices

Appendix A

Cover Letter/Informed Consent

University of New Mexico Health Sciences Center Informed Consent Cover Letter for Anonymous Surveys

STUDY TITLE Access Dental Care in Fillmore County

Christine Nathe, RDH, from the Department of Dental Hygiene, is conducting a research study. The purpose of the study is to determine the dental care need for children on medical assistance insurance who are residing in Fillmore County, MN. You are being asked to participate in this study because you have a child between the age of one and seventeen who are on Medical Assistance insurance and living in Fillmore County, MN.

Your participation will involve completing the survey included and mailing it back within 2 weeks of receiving the survey. The survey should take about 10 minutes to complete. Your involvement in the study is voluntary, and you may choose not to participate. There are no names or identifying information associated with this survey. The survey includes questions such as the history of your child's dental history and if there are difficulties accessing dental care near you due to acceptance of Medical Assistance insurance. You can refuse to answer any of the questions at any time. There are no known risks in this study, but some individuals may experience discomfort when answering questions. All data will be kept for 2 years in a locked file in Katie Ristau's RDH, office and then destroyed.

The findings from this project will provide information on the access to dental care in Fillmore County, MN for children on Medical Assistance insurance. If published, results will be presented in summary form only.

If you have any questions about this research project, please feel free to call Christine Nathe at (505) 272-8147. If you have questions regarding your legal rights as a research subject, you may call the UNMHSC Office of Human Research Protections at (505) 272-1129.

By returning this survey in the envelope provided, you will be agreeing to participate in the above described research study.

Thank you for your consideration.

Sincerely,

Researcher's Name

Christine Nathe

Katie Ristau

Fillmore County

Researcher's Title

Registered Dental Hygienist

HRRC#

Version 1

Date 4/11/17

Appendix B

Survey

Dental Questionnaire

1. What is the age of your child that you are filling this survey out for? _____

***Check the box with the correct response that applies to your child. Please complete both sides of the survey.**

2. When was the last time your child was at the dentist?

- Never
- Less than 1 year
- 1-3 years
- 4 or more years

3. How far do you travel to go to the dentist?

- Do not go to the dentist
- Less than 15 minutes
- 15-30 minutes
- 31-60 minutes
- More than 60 minutes

4. If you cannot take your child to the dentist every 6 months, what is the reason?

- Cannot find a dentist that takes my insurance
- Do not think my child needs to see the dentist
- Do not have transportation to the dentist
- Other _____

5. Does your dentist accept your medical assistance insurance?

- Yes
- No
- I don't know

6. Would having a dental therapist in Fillmore County increase the likelihood of your child receiving routine dental care? (A dental therapist can provide several of the same services that a dentist can and accepts your Medical Assistance Insurance)

- Yes
- No
- Maybe

7. How long was your wait to get a dental appointment for your child at the dental office?

- Less than 1 week
- 1-2 weeks
- 3-4 weeks
- More than 4 weeks
- Have not tried to get a dental appointment
- Could not find a dentist for an appointment

8. Has your child had tooth decay (cavities) in the past?

- Yes
- No
- I don't know

9. Has your child ever had a tooth taken out due to tooth decay (cavity)?

- Yes
- No
- I don't know

10. Has your child ever had tooth related pain?

- Yes
- No
- I don't know
- Is in pain currently

11. Are you aware that your Medical Assistance insurance will pay for or help arrange transportation to a dental appointment?

- Yes
- No

12. In the last 7 days how many times has your child had a soda or juice?

- None
- 0-2
- 3-5
- 6 or more

Appendix C
Approval Letter



Human Research Review Committee
Human Research Protections Office

March 16, 2018

Christine Nathe
University of New Mexico
MSC09 5020
Albuquerque, NM 87131
(505) 272-8147
Fax: (505) 272-5584
CNathe@salud.unm.edu

Dear Christine Nathe:

On 3/16/2018, the HRRC reviewed the following submission:

Type of Review: Initial Study
Title of Study: Access to Care in Fillmore County
Investigator: Christine Nathe
Study ID: 18-040
Submission ID: 18-040
IND, IDE, or HDE: None

Submission Summary: Initial Study

Documents Approved: • HRB-HRP-581 - TEMPLATE - Social-Behavioral
Protocol.pdf
• survey questions
• cover letter

Review Category: EXEMPTION: Category (2) Tests, surveys, interviews, or
observation

Determinations/Waivers: Provisions for Consent are adequate.
HIPAA Authorization Addendum Not Applicable.

Submission Approval Date: 3/16/2018

Approval End Date: None

Effective Date: **3/16/2018**

The HRRC approved the study from 3/16/2018 to inclusive. If modifications were required to secure approval, the effective date will be later than the approval date. The “Effective Date” 3/16/2018 is the date the HRRC approved your modifications and, in all cases, represents the date study activities may begin.

Because it has been granted exemption, this research is not subject to continuing review.

The University of New Mexico • MSC08 4560 • 1 University of New Mexico • Albuquerque, NM 87131-0001 • Phone 505.272.1129 • Fax 505.272.0803 • hsc.unm.edu/som/research/hrrc •

BMSB B71

Page 1 of 2

HRRC_TEMPLATE_LETTER_Approval
 Letter
 v.0.14
 Template
 HRP-510-
 Approved By: _____
 Date: _____

Please use the consent documents that were approved by the HRRC. The approved consents are available for your retrieval in the “Documents” tab of the parent study.

As a reminder, it is the responsibility of the principal investigator to ensure that amendments must include a plan to re-consent subjects.

This determination applies only to the activities described in this submission and does not apply should you make any changes to these documents. If changes are being considered and there are questions about whether HRRC review is needed, please submit a study modification to the HRRC for a determination. A change in the research may disqualify this research from the current review category. You can create a modification by clicking Create Modification / CR within the study.

In conducting this study, you are required to follow the Investigator Manual dated April 1, 2015 (HRP-103), which can be found by navigating to the IRB Library.

Sincerely,

A handwritten signature in black ink, reading "Thomas F. Byrd". The signature is written in a cursive style with a large initial 'T' and a prominent flourish at the end.

Thomas F. Byrd, MD
HRRC Chair

References

- Achembong, L., Ashu, A., Barnhart, S., Downer, A., and Hagopian, A. (2012). Cameroon Mid-Level Providers Offer a Promising Health Dentistry Model. *Biomed Central* 10(46). Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3529690/>
- ADHA. The Advanced dental hygiene practitioner. Retrieved from: [http://www.nationaloralhealthconference.com/docs/presentations/2006/0502/Wend %20Kerschbaum%20NOHC%20Presentation.pdf](http://www.nationaloralhealthconference.com/docs/presentations/2006/0502/Wend%20Kerschbaum%20NOHC%20Presentation.pdf)
- ADHA. Transforming Dental Hygiene Education and the Profession for the 21st Century. Retrieved from: <http://www.adha.org/adha-transformational-whitepaper>
- Albino, J., Habil, P., Inglehart, M., and Tedesco, L (2012). Dental Education and Changing Oral Health Care Needs: Disparities and Demands. *Journal of Dental Education*, (76). Retrieved from: <http://www.identaed.org/content/76/1/75.long>
- American Dental Hygienists' Association (2015). The History of Introducing a New Provider in Minnesota A Chronicle of Legislative Efforts 2008-2009. Retrieved from: https://www.adha.org/resources-docs/75113_Minnesota_Story.pdf
- Anderson, Kim for Rushford Dental. Interview (phone conversation). April 2016.
- Bailit, H., Beazoglou, T., Guay, A., Heffley, D., and Lazar, V. (2012). Dental Therapists in General Dental Practices: An Economic Evaluation. *Journal of Dental Education*, 76(8). Retrieved from: <http://www.identaed.org/cgi/pmidlookup?view=long&pmid=22855595>
- Blue, C., Funkhouser, E., Riggs, S., Rindal, B., Worley, D., Pihlstrom, D., Benjamin, P., Gilbert, G (2013). Utilization of Non-Dentist Providers and Attitudes Toward New Provider Models: Findings from The National Dental Practice-Based Research Network. *Journal Public Health Dental* 73(3). Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4127301/>

Byrd, T. (June 2016). Preventing Advanced Cariious Lesions with Caries Atraumatic Restoration Technique. *Journal of Evidence Based Dental Practice* (Vol. 16). Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Preventing+Advnced+Criious+Lons2B+BYrd>

Children's Defense Fund (2015). Children in the States Minnesota. Retrieved from: <http://www.childrensdefense.org/library/data/state-data-repository/children-in-the-states.html>

Cruz-Cuhna, J., Milgrom, P., Shirtcliff, M., Huebner, C., Conrad, D., Ludwig, S., Mitchell, M., Dysert., J, Scott, J. and Mancl, L. (2015). Population-centered-Risk-and Evidence-based Dental Interprofessional Care Team (PREDICT): study protocol for a randomized controlled study *Trials* 16(278). Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/26091669>

Eickhoff, Jodi from Spring Valley Dental. Interview (phone conversation). April 2016.

Fillmore County (2016). About Fillmore County. Retrieved from: <http://www.co.fillmore.mn.us/fillmore-county>

Flores, G. and Lin, H. (2013). Trends in racial/ethnic disparities in medical and oral health, access to care and use of services in US children: has anything changed over the years? *Int. J. Equity Health*. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/23339566>

Friedman, J. and Mathu-Muju., Kavita. (2014). Dental Therapists: Improving Access to Oral Health Care for Underserved Children. *Am. J Public Health* 104(6). Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4062028/>

Health Insurance (2015). Minnesota Medicaid.

Retrieved from:

<https://suburbanstats.org/population/how-many-people-live-in-minnesota>

Kamal at Pearl Ridge Dentistry. Interview (phone conversation). April 2016.

Kawashita, Y., Kitamura, M. and Saito, T. (2011). Early Childhood Caries. *Int. J. Dental.*

Retrieved from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3191784/>

Lin, M., Sappenfield, W., Hernandez, L., Clark, C., Liu, J., Collins, J. and Carle, A. (2012).

Child and State Level Characteristics Associated with Preventive Dental Care Access Among U.S. Children 5-17 Years of Age. *Matern Child Health Journal* 16(02). Retrieved from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4538930/>

Mathu-Muju, K., Friedman, J. and Nash, D. (2013). Oral Health Care for Children in Countries Using Dental Therapists in Public, School-Based Programs, contrasted with That of the United States, Using Dentists in a Private Practice Model. *Am. J. Public Health* 103(9). Retrieved from:

<https://www.ncbi.nlm.nih.gov/pubmed/23865650>

Mathu-Muju, K., Friedman, J. and Nash, D. (2016). Saskatchewan's School-Based Dental Program Staffed by Dental Therapists: A Retrospective Case Study. *Journal of Public Health Dentistry* ISSN 0022-4006.

Minnesota Department of Human Services. Medical Assistance.

Retrieved from:

<https://mn.gov/dhs/people-we-serve/seniors/health-care/health-careprograms/programs-andservices/medical-assistance.jsp>

Merriam Webster. Child. Retrieved from:

<http://www.merriamwebster.com/dictionary/child>

- Metropolitan State University (2010). Advanced Dental Hygiene Practitioner Demonstration Project. Retrieved from:
http://www.mnscu.edu/media/publications/pdf/2010_fedrequests/2010-4-metro-dental-hygiene.pdf
- Minnesota Department of Health (2016). Dental Checkups. Retrieved from:
<http://www.health.state.mn.us/divs/cfh/program/ctc/>
- Minnesota Department of Health (2016). Dental Therapy Toolkit. Retrieved from:
www.health.state.mn.us
- Minnesota Department of Health. Minnesota's Dental Therapist Workforce (2016). Retrieved from: <http://www.health.state.mn.us>
- Minnesota Dental Association (2013). Dental therapy in Minnesota. Retrieved from:
<http://www.ncsl.org/documents/health/OralHealth121113webinarhandout.pdf>
- Nasseah, K., Wall, T., Vujicic, M. (2014). Most Important Barriers to Dental Care are Financial, Not Supply Related. ADA. Retrieved from:
http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_1014_2.ashx
- Office of the Legislator State of Minnesota (2013). Medical Assistance Payment Rates for Dental Services. Retrieved from: <http://www.auditor.leg.state.mn.us>
- Pohlman, Brenda (2015, 2016, 2017). Interview.
- Rand Corporation. Health Care Access. Retrieved from:
<http://www.rand.org/topics/health-care-access.html>
- Robert Wood Foundation Program (2015). County Health Rankings & Roadmaps. Retrieved from: <http://www.countyhealthrankings.org>

Self. (2016). Interview by Email.

Somasundaram R., Rangeeth B., Moses J. and Sivakumar S. (2014). Comparison of the source of Introduction to Cariogenic Food Substance and Caries Prevalence in Children. 8(11). Retrieved from:
<http://www.icdr.net/ReadXMLFile.aspx?id=5216>

U.S. Census Bureau (2016). Population Demographics for Fillmore County 2016 and 2015. Retrieved from:
<https://suburbanstats.org/population/minnesota/how-many-people-live-in-fillmore-county>

Waldo, Myron for Lanesboro Dental. Interview (phone conversation). April 2016.