THE EXPERIENCES OF CAREGIVERS WHOSE CHILDREN ACCESS DENTAL CARE UNDER THE HEALTHY KIDS DENTAL PROGRAM

by

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Abstract

Objectives: The intent of publicly financed dental insurance programs is to provide to children in deprived circumstances the coverage they need to remove the financial barrier to obtaining dental treatment. Recent research has revealed that publicly financed programs available to adults have failed to overcome financial barriers to dental care for many, yet surprisingly there has been no research on this issue regarding access to treatment for children. Assessing how well publicly financed dental programs are meeting the needs of children is a significant gap in the literature and this study was undertaken in an attempt to begin to fill that gap. This study is limited to the Healthy Kids Dental Program of British Columbia.

Methods: Qualitative description was the method used for this study. Little is known about this issue of children accessing dental care under publicly financed dental programs, therefore this research was exploratory. Because the research was intended to uncover the range of experiences for a specific population, the sampling technique was purposeful and sought maximum variation. Data collection was via 16 semi-structured interviews, primarily from residents in the North and Central Okanagan (14), and two from the Kootenay Boundary area. The data were analyzed using the method of content analysis. This research sought to describe phenomena by uncovering the voice of those affected through stories of their experiences.

Results: The Healthy Kids Dental Program did work very well for some families. Parents greatly appreciated the financial help that was provided. However, over half of participants interviewed did not have the financial help they needed from the program to obtain dental care. The results show that for many people the publicly financed dental program for children
in BC is not doing what it was developed to do, i.e., help parents overcome financial barriers
to obtaining dental treatment for their children.

**Conclusion:** The Healthy Kids Dental Program is valued, the program is serving some
participants well but failing others, and there exists a discrepancy between what the dentist
bills and what the government funds. This is creating financial barriers to dental care that
some families cannot overcome.
Preface

Ethical approval to conduct this study was provided by the University of British Columbia Okanagan Behavioral Research Ethics Board. The Certificate Number of the Ethics Certificate was: H10-02290.

Ethical approval for this study was also provided by the Interior Health Research Ethics Board. The second approval was required due to the involvement of the Interior Health dental public health staff in recruiting participants.
Table of Contents

Abstract ........................................................................................................................................ ii
Preface ......................................................................................................................................... iv
Table of Contents ......................................................................................................................... v
List of Tables ................................................................................................................................ x
List of Figures ............................................................................................................................. xi
List of Illustrations .................................................................................................................... xii
Acknowledgements ................................................................................................................... xiii
Dedication .................................................................................................................................. xiv

Chapter 1: Introduction .............................................................................................................. 1
  Background ................................................................................................................................. 2
    Socioeconomic disadvantage. ................................................................................................ 3
    History of funding dental care in Canada.............................................................................. 5
  Purpose ....................................................................................................................................... 8

Chapter 2: Literature Review ................................................................................................... 11
  Scale of the Problem ................................................................................................................ 12
    Oral health ................................................................................................................................ 13
  Measures of dental decay. ........................................................................................................ 14
  Decay Rates ............................................................................................................................. 15
    Canadian surveys................................................................................................................... 15
  Age related decay rates........................................................................................................ 16
  Polarization of decay. ............................................................................................................. 18
  Relationship of Dental Caries to Socioeconomic Status....................................................... 19
    Provincial data on caries and SES....................................................................................... 21
    Inequality and public dental insurance programs............................................................. 22
  The Human and Economic Cost of Childhood Decay ......................................................... 24
    Financial cost of treating early childhood caries................................................................. 26
    Use of emergency departments. ........................................................................................... 28
    Cost to health and well-being ............................................................................................... 29
  Access to Care .......................................................................................................................... 32
  Barriers to Access .................................................................................................................... 34
  Availability ............................................................................................................................... 35
Acceptability. .................................................................................................................................. 37
Affordability. .............................................................................................................................. 39
The Financing of Dental Care in Canada .................................................................................... 42
Publicly Financed Dental Programs ......................................................................................... 44
  Dentists’ perspective on publicly financed dental programs .................................................. 46
  Pro bono care. ........................................................................................................................... 48
  Dental treatment and human rights legislation .................................................................... 49
Publicly Financed Dental Programs for Children ..................................................................... 51
Healthy Kids Dental Program of British Columbia ................................................................. 52
  Billing under Healthy Kids Dental Program ....................................................................... 55
  Balance billing and dental society fee guides. ....................................................................... 56
  Prevalence of balance billing. ............................................................................................... 57
  Other billing practices. .......................................................................................................... 61
Utilization of the Healthy Kids Dental Program ...................................................................... 62
Summary ................................................................................................................................... 64

Chapter 3: Methods ...................................................................................................................... 66
  Critical Theory Research Paradigm ....................................................................................... 69
    Knowledge acquisition ........................................................................................................ 70
    Stance of the researcher ..................................................................................................... 71
    Power relations. ................................................................................................................... 72
  Methods .................................................................................................................................. 73
    Sampling ............................................................................................................................... 75
    Recruitment .......................................................................................................................... 77
    Inclusion criteria ................................................................................................................. 78
    Recruitment challenges. .................................................................................................... 80
  Data Collection ...................................................................................................................... 81
    Semi-structured interviews ............................................................................................... 82
    Interview process ............................................................................................................... 83
      Dental care pathway. .......................................................................................................... 85
      The Healthy Kids Dental Program. ................................................................................ 87
    Transcription ....................................................................................................................... 87
    Member checking. .............................................................................................................. 88
<table>
<thead>
<tr>
<th>Appendix C: Interview Script</th>
<th>................................................................. 201</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix D: Consent Form</td>
<td>.................................................................................................................. 203</td>
</tr>
<tr>
<td>Appendix E: The Dental Care Process</td>
<td>.................................................................................................................. 206</td>
</tr>
<tr>
<td>Appendix F: Exits from Dental Care Pathway (N=37)</td>
<td>.................................................................................................................. 207</td>
</tr>
<tr>
<td>Appendix G: Dental Care Pathways (N=20)</td>
<td>.................................................................................................................. 208</td>
</tr>
<tr>
<td>Appendix H: Participant Profile</td>
<td>.................................................................................................................. 209</td>
</tr>
<tr>
<td>Appendix I: Treatment Needs of Participant 9a</td>
<td>.................................................................................................................. 210</td>
</tr>
</tbody>
</table>
List of Tables

Table 2.1 Percentage of Students who are Caries Immune upon Entering Kindergarten………17
Table 2.2 Survey of Dentists and Billing Practices………………………………………………60
Table 2.3 Utilization of the Healthy Kids Dental Program……………………………………..62
Table A.1 Scan of Balance Billing Regulations of Dentists across Canadian Provinces………194
Table B.1 Billing for Children on Publicly Financed Dental Programs by Province………….199
Table H.1 Participant Profile…………………………………………………………………...209
List of Figures

Figure 4.1 Dental Care Pathway of Participant 4a.........................................................113
Figure 4.2 Dental Care Pathways (N=20).................................................................114
Figure E.1 The Dental Care Process..............................................................................206
Figure F.1 Exits from Dental Care Pathways (N=37)......................................................207
Figure G.1 Dental Care Pathways (N=20).................................................................208
List of Illustrations

Illustration I.1 Treatment Needs of Participant 9a.................................................................210
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Thank-you to my friends and family who understood that this research was something I was compelled to do. My sincere thanks to my family members who have patiently waited for several years for me to complete this work.

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Finally I would like to thank the participants. I am grateful for your willingness to share your experiences with me. Your stories documented the barriers, the successes, and the failures during your continuing struggle to do the best you can for your children.
Dedication

For all the years I worked in public health, I hope I made a difference for some.

The Starfish Story

Original story by: Loren Eisley

One day a man was walking along the beach when he noticed a boy picking something up and gently throwing it into the ocean. Approaching the boy, he asked, What are you doing? The youth replied, Throwing starfish back into the ocean. The surf is up and the tide is going out. If I don’t throw them back, they’ll die. Son, the man said, don’t you realize there are miles and miles of beach and hundreds of starfish? You can’t make a difference!

After listening politely, the boy bent down, picked up another starfish, and threw it back into the surf. Then, smiling at the man, he said I made a difference for that one.
Chapter 1: Introduction

If one were to ask the question, “What is the most common disease of childhood?” most people would provide answers such as asthma, bronchitis, chicken-pox, or perhaps ear infections. They would be surprised by the correct answer. Dental caries\(^1\) is the single most common chronic childhood disease (U.S. Dept. of Health and Human Services [US Dept], 2000). Dental decay is a critical component of overall health but is overlooked by the public, the media, and policy makers. It has been called the “neglected epidemic” (Allukian, 2008). Left untreated dental decay can cause pain and infection and can lead to disruption of eating and sleeping patterns and other behavioral issues as the child tries to cope with the pain. Dental treatment is expensive and can be a drain on families’ resources as they weigh paying for dental care against other family needs. For older children there is loss of school days and lack of ability to concentrate. The end result for some is early tooth loss, disfigured smiles, and loss of self-esteem. Obtaining treatment can bring an end to the current symptoms but not to the problem as having had tooth decay is the strongest predictor of having future decay, thereby setting the child up for a lifetime of potential decay problems (Sheiham, 1997).

In Canada we pride ourselves on our health care system but it must be recognized that dental care stands outside of Canada’s universal publicly funded health care system and is left largely to private markets. Private dental insurance is, for the most part, a privilege of the privileged. Those with full time employment in higher paying jobs are the Canadians most likely to receive private dental insurance as a benefit from their employer. The rest of the population either pays out of pocket or relies on limited government financed public programs. Among

\(^1\)The term dental caries is used in the singular and refers to the disease commonly known as tooth decay.
nations of the Organization for Economic Co-operation and Development (OECD) Canada ranks second last in public financing of dental care (Quiñonez & Grootendorst, 2011).

Recently there has been a swell of research documenting the difficulties encountered by low income groups as they try to obtain dental care. But the research has focused almost entirely on the adult population. A group that has not been researched is children who receive dental care while on publicly financed dental care programs. This gap in research is likely the result of a misconception. In the literature there appears to be an unspoken agreement that the dental needs of children are being met by the public programs. In the absence of data, assumptions are often made. For example a recent research article states in the abstract: “Parental awareness about public health funding for dental services that is available did not seem to provide enough motivation to seek dental care for young children” (Amin, 2011). There is no recognition of the possibility that the parents are seeking care but are encountering barriers, i.e., lack of motivation may not be the issue.

Background

The problem of dental decay receives little attention in the midst of all the other health related issues affecting children. Childhood obesity is currently at the top of the agenda for many health promotion programs. Outbreaks of infectious diseases such as whooping cough and meningitis grab the attention of the public; yet the magnitude of the problem of dental decay among children is huge. No other chronic disease occurring at such high rates receives such little attention. Almost 60 percent of Canadian children 12-19 years of age have at least one decayed, missing or filled adult tooth (Health Canada, 2010). In British Columbia nearly half of children (47 percent) who enter kindergarten have experienced dental decay (Ministry of Health Services, 2010). In British Columbia dental procedures are the most common surgical procedure that
children receive in hospital, resulting in significant costs to the health care system (Provincial Health Officer, 1998).

Data from the latest survey of Canadian children shows that on the whole dental caries is on the decline. Unfortunately the reverse may to be true with the youngest group of children. Canadian data are not available for children under six, but in the US the proportion of children with cavities, between the ages of two and five years old, increased 15 percent during the past decade (The Pew Center on the States [Pew], 2010). On a global perspective the 2005 World Health Organization’s review on oral health reports that in most industrialized countries dental caries is still a major health problem affecting 60–90 percent of school-aged children (Petersen, Bourgeois, Ogawa, Estupinan-Day, & Ndiaye, 2005).

**Socioeconomic disadvantage.**

While dental decay is widespread across all sectors it is children in low socioeconomic households that suffer disproportionately more decay, both treated and untreated. In Canada vulnerable groups include children with special needs and children in low-income households, particularly Aboriginal children and children of immigrant ethnic minorities (Casamassimo, Seal, & Ruehs, 2004; Federal Provincial and Territorial Dental Directors [FPTDD], 2005; Locker, Clarke, & Murray, 1998; U.S. Dept, 2000; Werneck, Lawrence, Kulkarni, & Locker, 2008). Among preschool children in remote First Nations communities decay has prevalence rates ranging from 66 percent to 98 percent (Lawrence, 2010). It is through advances in education and prevention that progress has been made in reducing rates of decay. But this progress is not shared equitably and vulnerable groups shoulder a disproportionate burden of this disease. It is estimated that 80 percent of decay occurs in 25 percent of children (Featherstone, 2000). And the pattern becomes set for life. As with other health issues a child’s experience of
socioeconomic disadvantage is associated with greater rates of dental decay as they become adults (Poulton, Caspi, Milne, Thomson, Sears, & Moffitt, 2002).

The striking disparities in dental disease by income are a pattern seen not only in Canada but repeated throughout the industrialized world. In the US poor children suffer twice as much decay as those economically better off and their disease is more likely to be left untreated (U.S. Dept, 2000). In European children the most important social factor explaining the difference in caries rate is the social class of the family (Bolin, Bolin, Jansson, & Calltorp, 1997; Sweeney & Gelbier, 1999). In Australia, among 5–6-year-olds, the average decayed, missing and filled teeth of children in the lowest socioeconomic group was approximately 70 percent higher than for those in the highest socio-economic group (AIHW DSRU, 2006).

Not only do children in disadvantaged circumstances have higher rates of decay they also have less access to dental care to obtain treatment. There is of course a direct correlation: if parents cannot afford to pay for dental treatment their child will have more untreated decay. This was the circumstance that lead to the tragic death of Deamonte Driver, a 12 year old boy in the US who died in 2007 of a brain abscess resulting from an untreated infected tooth. His mother had been unable to find a dentist who would accept Medicaid clients (Otto, 2007). We like to think this couldn’t happen in Canada because our medical system is superior to the US. But it wasn’t the US medical system that failed Deamonte as he did receive several operations at Maryland’s Children’s Hospital to try and save his life after he developed the infection; rather it was the lack of access to dental care that resulted in the infection that the medical treatment could not overcome.

Private dental insurance is a benefit for 62.6 percent of Canadians and of those that have private insurance the highest proportion (78.2 percent) is found among the most affluent groups. Other Canadians (31.9 percent) have no dental insurance and pay through out-of-pocket
expenditures, and the remaining 5.5 percent have public insurance (Health Canada, 2010). This system results in a socioeconomic gradient in the use of dental services where those with the most money to pay for dental care are the most likely to have insurance plans to help pay for the care, while those least able to afford it have no insurance, or in the case of publicly funded dental care they may have limited insurance. This situation has been pointed out by Dr. James Leake, a prominent dental researcher in Canada, as an example of the “inverse care law” whereby people that need the most care receive the least (Leake, 2006). This is a universal issue when it comes to dental care. In all OECD countries it is high income persons who are more likely to have visited a dentist within the last 12 months (OECD, 2009).

Sadly, access to dental care for children in low-income households is more a function of their ability to pay rather than their actual need. For children ages 6 to 11, 19.3 percent in the lower income bracket vs. 5.5 percent of children in the higher income bracket avoided visiting a dental professional within the last year because of costs (Health Canada, 2010). In the US in 2008, 4.6 million children were unable to obtain needed dental care because their families stated they could not afford it (Institute of Medicine [IOM], 2011).

**History of funding dental care in Canada.**

In order to discuss the publicly funded dental programs it is necessary to introduce the key historical elements that led to their development. The current health care system in Canada was most influenced by the work done by the Royal Commission on Health Services in 1961. The commission was aware of the extent of dental disease and gave careful consideration to the submission made to them by the Canadian Dental Association, incorporating many of the CDA’s recommendations. The Commission agreed with the CDA and recommended the establishment of organized programmes targeting children and welfare recipients, the establishment of hospital dental departments, an increased number of training facilities to address the shortage of dental
personnel, and fluoridation of public water systems. But the commission did not declare
dentistry a universally essential service and because of this, dental services did not come under
the same umbrella as physician and hospital services. Instead, dental services were targeted to
groups deemed most at risk and/or without regular access to dental care (Quinonez, Locker,
Sherret, Grootendorst, Azarpazhooh, & Figueiredo, 2007b). Provinces were then in the position
to determine which services would be covered and who would be eligible to receive them. The
result is the current situation where publicly funded dental services vary across the provinces.
Currently in Canada there are both federal and provincial government financed dental plans.
Each Canadian health jurisdiction has control over how they ration dental care and as a result
provincial publicly funded dental programs vary widely; however, in general it is children who
are entitled to the most dental health related benefits. Provincial governments are also
responsible for surgical-dental services that require hospitalization, and are responsible for dental
care provided to inmates in provincial prisons (Quinonez, et al, 2007b).

Children in BC may have access to dental services through three different government
financed programs. If the child has First Nations or Inuit status they are entitled to the Non-
Insured Health Benefits program (NIHB) under the federal government. If the child is a refugee
they are entitled to the Interim Federal Health program (IFH), again a federal program. Children
from low income families who are not already covered under one of these two federal programs
are entitled to British Columbia’s Healthy Kids Dental Program (HK).

As stated, each Canadian province has a provincial government financed dental plan to
help children in low income families to access dental care; but how well are these plans
working? There has been little research done in Canada on how well these publicly financed
dental programs are working to reduce barriers to dental care specifically for children (Ismail &
Sohn, 2001), and there has been only one review on this topic in British Columbia (Quinonez,
et.al 2007b). In the case of adults much more research has taken place over the last ten years (Bedos, Brodeur, Boucheron, Richard, Benigeri, Olivier, & Haddad, 2003; Birch, & Anderson, 2005; Health Canada, 2010; Leake, 2005, 2006; Leake & Birch, 2008; Main, Leake, & Burman, 2006; Melanson, 2008; Quinonez & Locker, 2007a; Quinonez, Figueiredo, & Locker, 2009a; Quinonez, Figueiredo, Azarpazhooh, & Locker, 2010b; Quiñonez & Grootendorst, 2011; Wallace, 2000). In the U.S. there is a plethora of research describing the lack of access to dental care for poor children on the Medicaid program.2 As child poverty in the US continues to increase the current disparities in dental care are predicted to continue or worsen (Edelstein & Chinn, 2009). While Canadian and U.S. medical systems differ in many respects the same is not true of publicly financed dental programs. Canadian programs resemble the Medicaid dental program in the US in that dentists working in private practice dental offices provide only limited services and only to specified groups of low income clients and are reimbursed by the government for their services. These similarities make the data from the US useful and informative.

In both Canada and the US the data demonstrate that access to care issues exist for children under government financed dental plans. Publicly insured children in the 6 to 11 age group have almost twice the number of untreated decayed teeth compared to children with private insurance (Health Canada, 2010). In BC only 40 percent of children eligible for the publicly financed dental program (Healthy Kids) utilize it (Quinonez et al, 2007b). In the US, 38 percent of Medicaid-enrolled children between the age of 1 and 18 received any dental care in 2007. In contrast approximately 58 percent of children with private insurance receive care each year (PEW, 2010).

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2 Medicaid is health insurance in the US that helps many people of low income who can't afford medical care pay for some or all of their medical bills.
Purpose

It is clear that dental caries is a disease affecting a very large number of children especially our most vulnerable children, and that these vulnerable children can potentially access publicly financed dental programs. However it should also be clear that even with these programs many children at the lower end of the socio-economic spectrum are not getting the care they need and are suffering from more dental decay, including more decay that is untreated, than are non-poor children. If programs are in place to help reduce financial barriers to dental treatment why do children from low-income families have more untreated decay? What factors are at play creating this inequity? This thesis is intended to research only a portion of the access to care problem described but it is a portion that has received almost no attention in the research arena. While there are several publicly financed programs, both provincial and federal this thesis investigates only the British Columbia provincial publicly financed program called the Healthy Kids Dental Program. Of the government financed dental plans in BC it is the Healthy Kids Dental Program (HK) that provides coverage to the most children with an estimated 146,294 (2009/2010 data) children eligible for the program (British Columbia, Ministry of Children and Family Development, 2010). Yet only 40 percent of eligible children are accessing the HK Dental Program (Quinonez et al, 2007b).

A recognized limitation of this research is the focus on financial barriers to dental care. While there are many other barriers to accessing dental care, the Healthy Kids Dental Program was developed only to reduce the financial barrier. Other barriers identified during the research will be discussed but are not the focus. There are a number of professionals who provide dental care services but only dentists (and in limited cases dental therapists) can treat dental decay and therefore it is only the services provided by dentists that are included in the research. There are a limited number of alternative treatment centres providing dental care outside of the private dental office setting. Alternatives to the private dental office are available but the programs are
limited and are usually attached to hospitals and university-based dental schools. For example the UBC Children’s Dental Program treats children at no cost, but since the clinic resides in the dental school at the Vancouver campus it is only available to a limited group. One alternative treatment centre (the Kelowna Gospel Mission Dental Clinic) is available to qualifying clients in the geographic area of this study. The majority of dental treatment in BC is provided at private practice dental offices operated by dentists working on a fee-for-service basis. Finally, there are always many voices that make up a story. In the case of dental treatment provided under the Healthy Kids Dental Program there is the governmental voice of the Ministry of Social Development who provides the dental coverage, there is the voice of the dentists who provide the treatment under the financial limitations of the program, and there is the voice of the client who is receiving treatment under the program. People who access publicly financed dental plans are from low-income families and represent a group with less power and authority than the other two voices. A qualitative research design was chosen as the best method to capture the previously unheard voice of the client. Semi structured interviews were conducted with caregivers of children accessing the Healthy Kids Dental Program and they were asked to describe their experiences with the program including a description of the dental care pathway of their child as they sought and/or underwent treatment under the Healthy Kids Dental Program.

The research question for this thesis arose out of a culmination of three factors; first was the well documented inequity in the dental health of underprivileged children, secondly the research was shaped by the limitations described, and finally the research focused on capturing the missing voice of the people trying to access and use the program. The result is the research question this thesis explores: What are the experiences of caregivers whose children access dental care under the Healthy Kids Dental Program?
The next chapter, the Literature Review, provides a detailed description of the issue of dental disease as it affects children in families of low socioeconomic status. The chapter introduces the access to care model used in this study. Also provided is a history of publically financed dental programs and how the Healthy Kids Dental Program functions in British Columbia. In the Methodology chapter, the rationale and methods of this qualitative description study are outlined. A thorough outline of the sampling strategy and interview process is provided. The results follow in Chapter 4. Following the qualitative description method the presentation of the results stays close to the voice of the participants. Themes that arose from the interviews are presented. A discussion of these findings, presented in Chapter 5, concludes the thesis.
Chapter 2: Literature Review

This chapter presents the literature concerned with the status of children’s dental health related to low socio-economic status (SES) and will begin with a review of the scale of the problem and potential effects on the health and wellbeing of the child and the financial costs to families and the health care system. The argument will be presented that dental caries is a significant problem that the public should be aware of and concerned with. Following this is a discussion of access to care and barriers to care which moves more specifically to the financial barriers to care. This leads to a review of how dental care is financed in Canada and then more specifically to a discussion of publicly financed dental programs with an emphasis on the current situation in British Columbia regarding the Healthy Kids Dental Program. Here the argument will be presented that there exists a misunderstanding about the treatment of dental caries in low SES children. This likely exists because all Canadian provinces have publicly financed dental programs and health professionals, researchers, and the public assume that the programs provide children with the access to dental care they need. Personal experience of the researcher suggests this is not the case and was the impetus to begin this research. Assessing how well publicly financed programs are meeting the needs of children is a significant gap in the literature and this research was undertaken to attempt to fill that gap.

There has been some research done in Canada on the use and non-use of publicly financed dental programs for children; but there is also a wealth of information from the US. As earlier explained the program in the US to help low-income families access dental care is called the Medicaid Dental Program and resembles the Canadian model of access to dental care for low income families. Using data from a joint Canadian/U.S. survey of health, Lasser et al. (2006) compared access to health care in the United States and Canada and reported that “In Canada, income disparities were much more pronounced for dental care than for medical care and were
of a similar magnitude to the U.S. disparities” (p. 1306). Whenever possible Canadian data are used but out of necessity this literature review makes use of U.S. data.

One major difference that should be noted is that in the US there are many Federally Qualified Community Health Centers (FQCH) which provide medical and dental care to people on Medicaid or those who do not have health insurance. They are considered “safety nets”, providing care in underserviced areas. These centres receive federal grant money and must provide services to all regardless of ability to pay (Rural Assistance Center, 2012). It is estimated there are over 35 million people receiving dental services at 1,100 community health centres across the US (Kaufmann, 2012). An equivalent to the FQCH does not exist in Canada.

**Scale of the Problem**

One of the biggest challenges to providing data on the decay rates in children is simply lack of data. Oral health status is not part of the disease surveillance process of provincial or federal departments of health. Historically provinces have conducted dental surveys but not in a consistent manner. Until recently Canada was one of the few developed countries not to have national survey data. In 2000 when the US dedicated a Surgeon General’s report on oral health, Canada was without a National Oral Health Strategic Plan and without a Senior Dental Consultant for the Government of Canada. Fortunately things have changed, with the changes spearheaded by the leading dental public health group in Canada, the Federal/Provincial/Territorial Dental Working Group (FPTDWG). This group was first formed sometime in the 1970’s (personal communication with Dr. S. Bennett) and was known as the Federal/Provincial/Territorial Dental Directors (FPTDD). In 2002, the FPTDD made a submission to the Commission on the Future of Health Care in Canada, also known as the Romanow Commission. The organization made many recommendations including the need for a standardized surveillance system (Federal/Provincial/Territorial Dental Directors [FPTDD],
2002). This was followed in 2005 by a second report, A Canadian Oral Health Strategy which reiterating the need for “…nation-wide epidemiological data collected in a comprehensive standard format…” (FPTDD, 2005, p. 7). Another recommendation which was strongly advocated for in both reports was the re-establishment of a Senior Dental Consultant position, a position that had been vacant since the mid-nineties. The Office of the Chief Dental Officer (OCDO) was created in October 2004. One of the many accomplishments of the OCDO was the inclusion of an oral health component into the recent Canadian Health Measures Survey (CHMS) that was conducted from 2007-2009. The CHMS gathered information on the Canadian population aged 6 to 79. Oral examinations were performed on 6000 people across 15 randomly selected communities and the report is the first national survey with an oral health component since the Nutrition Canada National Survey conducted between 1970 and 1972. Data from the new national survey are now available to draw upon and to compare to other countries. The good news is that in the 38 years that have passed between the surveys, the oral health of Canadians has improved significantly in several areas.

**Oral health.**

To clarify what is meant by oral health (and its relationship to decay) the following information is provided. The mouth not only includes the teeth and gums but also their supporting connective tissues, ligaments and bone, along with the soft and hard palate and the rest of the tissue lining the mouth and throat. It also includes the tongue, lips and salivary glands; the muscles used for chewing, and the full upper and lower jaw (US Dept, 2000). Many diseases manifest themselves in the oral cavity such as HIV/AIDS, diabetes, lupus, bulimia, and others. Oral health incorporates the health of all these structures and tissues and means much more than healthy teeth. Periodontal disease, oral cancer, orthodontic treatment needs, oral/dental injuries, and the incidence of cleft lip and/or palate are also part of many oral surveys used to determine
oral health status. The World Health Organization (WHO) has a Global Oral Program (WHO, Health Topics, Oral Health). On their website they define oral health as: “Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity” (http://www.who.int/topics/oral_health/en/).

**Measures of dental decay.**

An explanation of the measures of dental decay is also included to provide background to understanding the data to be presented. *DMFT* is an acronym for Decayed Missing and Filled Teeth. Primary (or baby) teeth use the symbols *dmft* to differentiate primary teeth from the capital letters which denote permanent teeth. The DMFT or dmft describes the amount of dental caries in an individual by calculating the number of decayed, missing (due to caries), or filled teeth. The sum of these three figures forms the DMFT index (OECD, 2009). The DMFT of 12 year olds is the standard index used by WHO for international comparisons. ECC is the acronym for Early Childhood Caries. The American Academy of Pediatric Dentistry (AAPD) website provides this widely accepted definition of ECC (AAPD, 2008a):

The disease of ECC is the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months of age or younger. In children younger than 3 years of age, any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). (http://www.aapd.org/media/policies_guidelines/d_ecc.pdf)

Just as the mouth is made up of more than teeth, oral health covers many aspects other than just dental decay. However the research for this thesis is focused only on children and their access to the prevention and/or treatment of dental decay; the many other aspects of oral health will not be discussed.
Decay Rates

A historical look at the rates of decay shows improvement both in Canada and globally in developed countries. An improvement does not necessarily mean low rates - it means better rates. Tooth decay is still a common disease with 60-90 percent of school children and nearly 100 percent of adults affected in developed countries (Petersen et al., 2005). Though prevalence of decay is high, severity is typically low. For a small proportion of children however, severity can be high and treatment very expensive. This occurs most often in children from lower socio-economic groups and is demonstrated in the data provided throughout this chapter.

Decreasing decay rates are attributed to improvements in broad socio-economic factors, behavioral changes such as improved diets and oral hygiene, the increased use of fluoride especially in toothpastes, and preventative treatments such as sealants (Leake & Birch, 2008; Watt & Sheiham, 1999). But as decay rates in developed countries are declining, unfortunately a reversal of the decline is appearing in developing countries. In most developing countries rates of decay historically have been considered low but are now on the rise. This is thought to be due to an increase in consumption of sugar and low exposure to fluoride (Petersen et al., 2005).

Canadian surveys.

The two national Canadian surveys reflect this global trend as the Canadian data show a decrease in decay rates over the years but with a continued high prevalence of the disease. The previous national survey, the 1972 Nutrition Canada Survey (Nutrition Canada, 1977), found that approximately 93 percent of children in the 12-14 year age group had experienced at least one cavity in a permanent tooth. There is no direct comparison to this finding in the 2009 Canadian Health Measures Survey (CHMS) due to the different age groups but a close comparison is the age group of 12-19 where the prevalence has dropped to 59 percent having experienced at least one cavity in a permanent tooth. The prevalence of decay rises again in the
adult group (ages 20-79) to 96 percent of adults with teeth having experienced decay. The severity of the disease is also decreasing as fewer teeth are affected with decay. In the 1972 survey of 12-14 year olds the mean DMFT was 8 and in 2009 the mean DMFT has reduced to 2.49 (Health Canada, 2010). In other words in 1972, for a child who had experienced decay, he or she would average 8 teeth being either decayed, missing due to decay, or filled. The average in the 2009 survey is 2.49 teeth affected.

How do Canadian rates compare to rates in the countries of the Organization for Economic Co-operation and Development (OECD)? The DMFT index for OECD countries has shown similar reductions as we see in Canada. The average DMFT in 1980 was 4.7, it dropped in 1990 to 2.7. The latest data are for 2006 and the average DMFT is 1.5 for 12 year old children (OECD, 2009). Since the DMFT index for 12 year olds is the standard global index, the CHMS calculated the DMFT for 12 year old children separately and found the rate was 1.02.

What conclusions can be drawn from all these Canadian and OECD comparisons? First Canada has not completed national surveys in a way that trends can be followed with any certainty; however the data allow enough comparisons to be certain dental health is improving. Decay rates are dropping in the age groups surveyed and the severity of the disease is decreasing. Canada is roughly comparable to other OECD countries in terms of the DMFT index of 12 year old children.

**Age related decay rates.**

The positive numbers discussed above reveal a good news story, but there are other stories to be told about the dental health of children. Some recent reports from the US and Australia are finding a slowing of the decline in decay rates and in some cases even an increase (Leake & Birch, 2008; OECD, 2009). In the US, the Report by the Centers for Disease Control and Prevention reports the proportion of children between 2 and 5 years old with cavities
increased 15 percent during the past decade (Dye et al., 2007). The youngest age group to be captured by the Canadian Health Measures Survey is the 6-11 year olds. There is no national data for children under age 6 and it is the under age 6 cohort believed to be at most risk for decay. Provincial data from British Columbia’s kindergarten dental screening program verifies that dental decay has been increasing in the younger age groups. In 1993, 68 percent of Kindergarten children entering the school system were caries immune, i.e., they had not experienced decay. As seen in Table 2.1 this figure steadily dropped to a low in 2000 when only 59 percent of children entering the school system had not experienced decay (Min. of Health Services, 2008).

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In 2006 the caries immune rates begin to improve and a second positive movement is seen in 2009 (which is the most recent year of the survey). While the caries immune rate has improved to 63.3 percent it is still below the high of 68 percent in 1993. Additionally the Province of B.C. has lowered its benchmark.³ In 2002 the BC Ministry of Children and Family Development was working from the benchmark that 70 percent of children entering Kindergarten should be caries immune (BC, Min of Children and Family Dev., 2002). The benchmark was lowered in 2005 and the revised goal is that 60 percent of BC’s Kindergarten population will not have experienced decay (UBC, 2011). In other words, in this era of

³Benchmark data reflect a desired level of performance, determined by what has been achieved in a comparable jurisdiction (best practice); by what is thought to be reasonably achievable based on historical performance, research and evaluation findings; or as established by authorities with an operational interest in the outcomes (target).
increasing decay rates in younger children the province has lowered the target figure from a previous desired level of performance. It is easier to meet a target when it has been lowered to the rate already being achieved. This also makes a statement via acknowledging that caries is increasing in young children and the previous 70 percent figure may be unattainable in this climate.

**Polarization of decay.**

An important point is that the data that have just been presented reflects average caries counts and fails to capture the polarization of decay. The data overstate the decay rates of the majority of children who are at low risk for decay and under-state the rates of the children who are at high risk (FPTDD, 2005). In the dental world, dental caries prevalence is the common measure used to quantify inequalities and the statement that 80 percent of decay is found in 25 percent of the population is often used to bring attention to the unequal distribution of dental caries. However Macek et al. (2004) has shown that the 80/25 statement has been used too broadly as the figures vary by age group. In reality the figures he presents show the inequalities are more profound in different age groups. In the 2-5 age group, 75 percent of dental caries was found in only 8.1 percent of the US population. Among 12 year olds 75 percent of dental caries was found in 25 percent of children (Macek, Heller, Selwitz, & Manz, 2004). Highlighting these inequalities are the groups of children in Canada for whom the decay rates reach over 90 percent (Lawrence, 2010). These important facts get lost when the data from small at-risk groups of children are aggregated into the whole population.

While it is important to see how far we have come it is equally important not to lose sight of the prevalence of this disease. Almost 60 percent of Canadian children 12-19 years of age have at least one decayed, missing or filled adult tooth. When children entered kindergarten in British Columbia in 2009, 47 percent of them had already experienced dental decay, and of that
number 17 percent had one or more cavities that were untreated. That number represents 6,021 children with untreated decay. Two percent of the kindergarten students were found to be in urgent need of dental treatment due to the severity of their condition (Ministry of Health Services, 2010). This means that approximately 708 children were in school with teeth that were aching and/or had infection. This undoubtedly affects their ability to learn.

The best way to sum up the scale of the problem of dental disease in children is to return to the statement from the US Surgeon General’s report (2000): “Dental caries (tooth decay) is the single most common chronic childhood disease—5 times more common than asthma and 7 times more common than hay fever.” (p.2).

**Relationship of Dental Caries to Socioeconomic Status**

Like other aspects of health, oral health is strongly influenced by socioeconomic status (SES) and disproportionately more decay (both treated and untreated) is found in children from lower socioeconomic groups. This disparity has been documented extensively in the dental literature (Hobdell, Oliveira, Bautista, Myburgh, Laloo, Narendram, & Johnson, 2003; Leake & Birch, 2008; US Dept., 2000) and the disparity exists throughout the world (Kwan & Petersen, 2010). For example in a Scottish study of 1500 one-year-olds, the most significant risk factor for the child having decay was living in social housing (Scottish Intercollegiate Guidelines, 2005). This relationship is confirmed in the data produced by the Canadian Health Measures Survey (CHMS) and the Human Early Learning Partnership at UBC, and is presented below.

The CHMS divided children into 2 age groups; ages 6-11 and 12-19. Again, it is important to remember children under 6 are not included in the CHMS data. This is important because it is children in the under age 6 category that are showing increases in incidence of decay (Edelstein & Chinn, 2009) and have the highest rates of decay in some populations. For
example in some remote Aboriginal communities in Canada, early childhood caries is epidemic with up to 98 percent of the children affected (Lawrence, 2010).

In the CHMS one measure collected was the percent of persons reporting that they declined recommended care within the last year because of costs. In the 6-11 age group, 13.7 percent of children in the lower income bracket reported declining care while 3 percent of children in the highest income bracket reported the same.\(^4\) For the 12-19 age group, 21.8 percent of children in the lower income bracket reported declining care due to costs while only 1.6 percent of children in the highest income bracket reported the same. The number declining care when on public or private insurance could not be reported due to sampling variability or small sample size.

Numbers are available for prevalence and severity of dental decay and the factors of level of income and public vs. private insurance show effects here. Children in the 6-11 age group on public insurance have more teeth affected by decay (3.58) than children on private insurance (2.58) and a higher percentage of children have experienced decay, 68.6 percent on public insurance and 56.1 percent on private insurance. Children in the lower income category have more untreated disease; 17.6 percent have untreated decay vs. 11.8 percent of children having untreated decay in the higher income group. The same pattern is repeated in the 12-19 year old age group. Prevalence of decay in this age group is 81.9 percent among the publicly insured and 56.5 percent among the privately insured. As public vs. private insurance is a marker for income it is expected this pattern to repeat with income as the determinant and this holds true. The prevalence of experiencing decay is 70.1 percent in the lower income group and 51.4 percent in the higher income group.

\(^4\) Lower income is defined as less income than the middle group and higher income is defined as higher income than the middle group. The middle group is defined as:
- $30,000-$59,999 for 1 or 2 persons
- $40,000-$79,999 for 3 or 4 persons
- $60,000-$79,999 for 5 or more
the higher income group. As seen in the younger age group the severity of decay is also affected
by income with 3.43 teeth affected in children in the lower income group and 1.96 teeth affected
in the higher income group. And once again there is more untreated disease in the lower income
group with adolescents from the lower income category having a three-fold higher proportion of
untreated disease compared to those in the higher income group.

**Provincial data on caries and SES.**

The national data are supported by the provincial data produced by the Human Early
Learning Partnership (HELP) which undertook an evaluation of the British Columbia Early
Childhood Dental Programs in 2011. Every third year children entering kindergarten in BC
undergo a dental screening. The survey is conducted by public health dental staff who use a
small light and tongue depressor to visually inspect children’s teeth.\(^5\) The purpose is to identify
dental health problems in children, to collect data to identify provincial trends in dental health, to
determine the prevalence of dental decay in BC, and to identify cases for referral (UBC, 2011).
This was a particularly unique and productive partnership as HELP is internationally recognized
for its production of neighborhood level data regarding school readiness as measured by the
Early Development Index. The HELP expertise allowed linkages to be drawn between dental
outcomes and neighborhood level data. The provincial results mirror the national results. First it
was found that children in lower SES circumstances have experienced more decay; “…dental
decay rates varied greatly depending on the SES of the neighborhood. Approximately 5 in 10
children from low SES neighborhoods experience dental decay…approximately 3 in 10 children
from high SES neighborhoods experience dental decay” (p. 23). Second, children with untreated
decay were more likely to come from lower SES families. The report states that the strongest

\(^5\) This is a visual check that detects only obvious or visible decay and does not replace a
regular dental exam
correlation between the SES index used by HELP and the percentage of children with visible decay was family wealth.

The data validate the claim that in Canada more children in lower income situations (and therefore likely on public insurance) have experienced decay, they have higher severity of decay and more of them have untreated decay compared to their more affluent peers. This pattern is repeated throughout the world in both developed and developing countries (Petersen et al., 2005). The evidence of the relationship of socioeconomic factors to poor oral health in children is clear and unequivocal.

**Inequality and public dental insurance programs.**

Why this relationship exists is subject to continuing debate. One aspect of the relationship between untreated decay and socioeconomic status that is easy to comprehend is the inability to pay for treatment. Since dental care stands outside of Canada’s universal publicly funded health care system it is left largely to private markets where, for many, the ability to pay becomes a determining factor to receiving care. Private dental insurance is a benefit for 62.6 percent of Canadians and of those that have private insurance the highest proportion (78.2 percent) is found among the most affluent groups. While private dental insurance reduces financial barriers to care it does not eliminate them. Even high income, privately insured individuals can find the cost of dental care out of reach. Data from a recent national sample of Canadians found 14 percent of respondents who were both high income and had private dental insurance reported they delayed or avoided care because of the cost. Among individuals with private insurance but with low income, 36 percent reported they delayed or avoided dental care because of cost (Locker, Quinonez, & Maggirias, 2009).

Other Canadians (31.9 percent) have no dental insurance and 5.5 percent have public insurance (Health Canada, 2010). Public insurance is financed by the government and is made
available to low-income families to help them overcome the financial burden of obtaining dental treatment. The intent of these public dental insurance programs is to provide to children in deprived circumstances the coverage they need to remove the financial barrier to obtaining dental treatment.

Research from Canada and other nations show that having public insurance does not always translate to getting dental care and disparities between those with private and those with public insurance remain. Ismail (2001) investigated the association between socioeconomic status and the severity of dental caries in 6-7 year old children in Nova Scotia. Throughout their lives these children had access to a universal publicly funded dental care program, yet disparities in caries experience persisted. Other studies have found that supporting access through financial measures can play a major role in equalizing dental health. A study by Chen and Hunter (1996) found that the universal dental care provided to all children in New Zealand removed the relationship of SES to dental caries. However this study was not replicated. In the US, Edelstein & Chinn (2009) reviewed the data on children’s oral health since the Surgeon Generals’ 2000 report and found the greatest increase in U.S. children attending a dentist occurred among children newly covered by the State Children’s Health Insurance Program (SCHIP). In other words when insurance became available the children attended the dentist. In this research visits to a dentist are considered a marker for care (Edelstein, 2002). That is; if a child visits the dentist the researchers consider that the child is under dental care.

Thailand recently implemented a universal dental program and this provides a good opportunity to investigate if introduction of universal access to care in a developing country can achieve reductions in socioeconomic related inequalities. Research shows that even with

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6 SCHIP is a program administered by the United States Department of Health and Human Services that provides matching funds to states for health insurance to families with children. The program was designed to cover families with incomes that are modest but too high to qualify for Medicaid, leaving the children uninsured.
universal coverage, inequality in dental care utilization persists (Somkotra & Vachirarojpisan, 2009). The authors report that some of this is due to professionals unwilling to locate in underserved areas of the country. They also note providers may be unwilling to deliver services when rates of remuneration offered under publicly-funded programs are below those in private facilities.

A review of the research findings show that increasing access to dental care either through universal programs such as in New Zealand or expanding insurance coverage for children in low-income families such as the US can help close the inequality gap with respect to dental care. But access to care is not enough to change inequalities in the oral health status of the poor compared to their more affluent peers. These findings echo the findings in medical research that shows universal access to health care does not explain inequalities in health outcomes (Marmot, Kogevinas, & Elston, 1987; Marmot & Feeney, 1997). Social determinants of health as well as access to treatment need to be addressed before gaps in oral health will close.

**The Human and Economic Cost of Childhood Decay**

Dental decay comes with both a cost to the child in terms of their wellbeing, and with a financial cost to the family, and to the health care system. Providing percentages of dmft or DMFT or the rates of ECC in the population fail to convey the impact of the disease to the health and well being of the child. The ultimate cost to the child was brought to light in the widely publicized case of Demonte Driver, the 12 year old boy from Maryland who died as a result of untreated caries (Otto, 2007). Within 2 weeks another young boy, 6 year old Alexander Callender from Mississippi, also died from untreated dental decay (Casamassimo, Thikkurissy, Edelstein, & Malorini, 2009). In both cases these young boys had infections resulting from untreated caries that could not be overcome by medical treatment and they died from the complications of the infection. Recently an 11 year old boy in Ontario survived an intracerebral
abscess that was determined to be the result of a dental infection (Hibberd & Nguyen, 2012). A death was prevented in this case, however the child spent 93 days in intensive therapy and continues to require rehabilitation. Fortunately deaths from dental infections are rare. More common are deaths from anesthetic or sedation, which are often used to perform invasive dental procedures in young children. As succinctly stated by Casamassimo et al. (2009):

> ECC-associated mortality secondary to infection and treatment likely never will be known owing to inadequate surveillance, lack of an ECC registry, issues of confidentiality, the terms of some legal settlements, missing or incorrect diagnoses, and even inconsistent diagnostic coding choices by hospitals and physicians. (p. 652)

Cote et al. (2000) studied pediatric deaths related to sedation over a 30 year time period. They found that dental specialists were disproportionately represented among pediatric health providers who had adverse events. In addition, dental specialists had the greatest frequency of negative outcomes associated with the use of three or more sedating medications and accounted for all the pediatric deaths when receiving nitrous oxide. The authors suggested that dental procedures compromise the airway in a number of ways including abnormal head and tongue positions, foreign materials in the mouth such as cotton rolls and rubber dams, and the presence of blood, saliva and water for irrigating. These factors may account for the disproportionally high number of deaths related to sedation (Cote, Karl, Notterman, Weinberg, & McCloskey, 2000).

Another concern related to providing dental care under anesthetic is arising from recent research into the possibility of adverse side effects from anesthetic used with pediatric patients. Animal research has found “all commonly used anesthetics have been found to briefly, but dramatically increase neuronal cell death immediately following the exposure, as well as to lead
to subsequent neurological abnormalities in some studies” (Ward & Loepke, 2012). The data from these animal studies are not yet sufficient to make recommendations, but the research does raise another layer of concern regarding the use of general anesthetic for dental treatment in young children.

**Financial cost of treating early childhood caries.**

Treating severely decayed teeth requires invasive and extensive dental treatment that is well beyond a young child’s ability to cooperate for the procedure. As a result the majority of early childhood caries (ECC) cases require sedation or a general anesthetic. The numbers of cases are staggering; pediatric dental surgery is the most common surgical daycare procedure at most pediatric hospitals in Canada (Schroth & Morey, 2007; Wright & Menaker, 2011).

Quinonez and colleagues undertook a study to determine the use of day surgery visits for dental problems in the province of Ontario (Quinionez, Gibson, Jokovic, & Locker, 2009b). The number of visits was approximately 26,378 for each year of the three year study period. The majority of visits were for children 0-14 for treatment of dental caries. In terms of overall volume, day surgery for dental problems was among the top five most common day surgery procedures when encompassing all hospitals. When the data were extracted for the largest pediatric hospital, dental problems were the third most common day surgery procedure. In British Columbia the Provincial Health Officer’s Annual Report reported that dental procedures were the most common surgical procedure that children under the age of fourteen received in hospital, surpassing both myringotomy (tubes in ears) and tonsillectomy (Ministry of Health and Ministry Responsible for Seniors, 1997).

In 1999, the Association of Dental Surgeons of British Columbia struck a task force to research the growing evidence of an epidemic in early childhood caries. The task force, The Children’s Dentistry Task Force, produced their report in 2001 (Assoc Dental Surgeons of BC
This report provides the best estimates of the financial costs of treating ECC in BC. It is reasonable to expect the costs of treatment have increased since due to increased costs of hospital services and increased numbers of children needing treatment for ECC.

The report produced by the task force shows that in 2000, there were 5841 children in BC, under the age of four, treated for ECC either in a hospital or in a private facility. The annual cost for this treatment was estimated to exceed $10.5 million (ADSBC, 2001). Each case of ECC was estimated to cost between $1,650 and $2,090 (estimated in the year 2000). What is not captured in this cost estimate is the number of children over the age of four who were treated in hospital nor the number of treatments under sedation in private dental facilities. Adding in these data would increase the total number of children treated and the cost estimates.

Quinonez et al. (2009b) in his study of day surgery in Ontario used costing data from Alberta to extrapolate costs associated with day surgery and estimated that given the annual volume of day surgery for dental problems the costs approached $41.3 million per year in Ontario. These figures are similar to those coming from the US where the National Maternal and Child Oral Health Resource Center documents that under Medicaid expenditures, costs range from $1,500 to $2,000 per case for treatment of ECC under general anesthesia (Bertness & Holt, 2004).

The number of ECC cases needing hospitalization has not gone unnoticed. In 2007 the Canadian federal government announced an investment of $2.6 million in a Wait Time Guarantee pilot project for children in need of surgery. There were six key surgical areas identified for the project to address and dental treatment was one of the six (Prime Minister of Canada, 2007). In a recent study the duration of waits for surgery for children and youth at Canadian paediatric hospitals found the highest percentage of surgeries completed past target (45
percent) were in dentistry. This represented 4,409 children waiting for surgery beyond what is considered the maximum acceptable waiting time for the procedure (Wright & Menaker, 2011).

Use of emergency departments.

Another area of concern is the use of emergency departments (ED) for dental problems. A recent study utilizing ED data has been published in Canada to estimate the volume of ED visits for dental problems. Quinonez, et al. (2009b) reported that in Ontario, over a three year study period (2003-2006), there were 141,365 visits to the ED for dental problems of nontraumatic origin. The category of nontraumatic origin is used to distinguish toothaches and other oral problems, such as oral lesions, from injuries suffered from trauma such as a fractured jaw, which would require surgery in a hospital and would be an insured service. This number of visits represents 0.93 percent of the estimated 15.2 million ED visits during this period. This number is similar to visits for pneumonia, and greater than those for diabetes and hypertensive diseases. The most common dental problems reported by patients were abscess, toothache, and dental caries. Emergency departments are staffed by physicians without the knowledge, skills, or tools to provide dental treatment. As a consequence the majority of patients received no intervention though some received pharmacotherapy (antibiotics and/or analgesics).

Such emergency department visits are obviously ineffective and are themselves costly to the healthcare system yet unhelpful to patients. Only a small percentage of people may get emergency dental treatment if they live in a major centre with a university that has a dental school and a dental resident program. The Canadian findings are confirmed by data collected in U.S. studies where patients with dental-related complaints also represent a significant portion of ED visits (Cohen, Magder, Manski, & Mullins, 2003). A few studies have been done that involved children only attending at pediatric hospitals (Pettinato, Webb, & Seale, 2000; Graham, Webb, & Seale, 2000; Oliva, Kenny, & Ratnapalan, 2008). In cases where the ED visit resulted
in hospital admission one U.S. study discovered the claims ranged from US$2215 to US$43,907 with a median charge of US$3,787. As would be expected, outpatient charges were much less and ranged from US$175 to US$1,073 with a median charge of US$275 (Pettinato et al., 2000). When considering these figures it must be remembered that most outpatient care consisted of assessment followed by the administration of antibiotics and/or analgesics with no definitive treatment, therefore more costs will be assumed at a later date if and when treatment occurs.

A retrospective chart review of children visiting a pediatric hospital in Toronto for the period of January to December 2005 found .5 percent of all patients who presented at the ED were comprised of visits for nontraumatic dental complaints. Eight percent of these children were admitted to the hospital and had a median hospital stay of 3 days (Oliva et al., 2008). Determining the precise financial costs to the healthcare system in Canada is not possible as there is no costing data for admissions related to ED visits; nevertheless, the cost is probably considerable. In the study by Oliva as well as the study by Quinonez most patients (90 percent) were discharged on a course of antibiotics and/or analgesics. This occurred in the Oliva study even though the hospital in Toronto had a dental clinic.

Cost to health and well-being.

The healthcare burden and related costs are considerable. Harder to classify are the costs to the health and well-being of the child and family. The very young child is particularly vulnerable as children with severe early childhood caries (S-ECC) are too young to articulate the problem. Their indicators of pain such as increased crying, disrupted eating patterns, and inability to sleep may increase the stress level of caregivers, taking a toll on both child and parents. When dental caries progresses to pain and infection more than just the dentition is involved; i.e. nutrition can become compromised when it hurts to eat. Acs and colleagues (1992) reported a relationship between ECC and failure to thrive (FTT). Failure to thrive is a description
applied to children whose current weight or rate of weight gain is significantly below that of other children of similar age and sex. In their study they found children with ECC were significantly more likely to weigh less than 80 percent of their expected weight (as compared to controls) which satisfies one of the diagnostic criteria for FTT (Acs, Lodolini, Kaminsky, & Cisneros, 1992). This effect of severe caries on the health and quality of life was confirmed in a study by Low et al. (1999). In this Canadian study of children attending the Montreal Children’s Hospital, parents were asked to report on their children’s pain, eating habits, and social behaviour before and after treatment of S-ECC. Before treatment 48 percent of children complained of pain, 61 percent ate sparingly, 35 percent had problems sleeping, and 5 percent had behaviour problems. After treatment most of the problems were eliminated. Of those that had reported complaints, 97 percent no longer complained of pain, 60 percent improved their eating habits and 84 percent showed improvement in sleeping habits (Low, Tan, & Schwartz, 1999). These finding were confirmed in another study done by Acs et al. that showed that children undergo catch-up growth following dental treatment; i.e. after carious teeth had been restored children who were in the lower percentiles for weight (25th to 50th) had growth velocities that shifted them to the higher percentiles (50th and 75th) so that by the end of the study none of the children were in a percentile that indicated faltering growth (Sheiham, 2006).

The effects on the child are obvious but there are also effects on the well-being of the family that should not be underestimated. A recent study conducted in Nova Scotia by Snow and McNally (2010) documented that low-income families are unable to afford both a nutritious diet and dental care. Paying for one child to receive dental care may mean other children in the family go without other necessary items. These are difficult choices for parents to make.

When a child eats sparingly and does not sleep properly the toll on the parents can be significant. According to Dr. P Casamassimo (Chief of Dentistry at Nationwide Children’s
Hospital and a Professor of Pediatric Dentistry at The Ohio State University College of Dentistry, and a well-known spokesperson for the dental health of children) there is an established relationship between ECC and neglect. “There is a troubling association between ECC and child maltreatment” (Casamassimo et al., 2009, p. 655). For older children there are the additional issues of pain and infection leading to lost days from school and inability to concentrate while in school. One of the measures of the oral health portion of the Canadian Health Measures Survey was time lost from school for dental sick-days and for dental visits. It is estimated 2.26 million school days are lost annually due to dental visits or dental sick-days (Health Canada, 2010). These figures resemble those found in the US where more than 51 million school hours are lost each year to dental-related illness (US Dept. 2000). One would expect that dealing with the pain of a toothache would hinder a child’s ability to focus on school work and thereby reduce their success in the classroom. In severe cases the chronic absenteeism can make it difficult for children to keep up with their peers. This was shown to be the case in research by Blumenshine and colleagues (2008) where they were able to demonstrate that dental problems when left untreated impaired classroom learning and behaviour (Blumenshine, Vann, Gizlice, & Lee, 2008). Children need to be able to come to school free of pain and ready to learn.

Together all these studies confirm that dental pain and infection can have a detrimental effect on the health and well-being of children. Dental caries is a common condition (it is the single most common chronic childhood disease) and when severe can affect the growth and development of young children and affect the learning ability of adolescents. Not discussed are other important effects such as reduced self-esteem, embarrassment, increased irritability, and fewer social interactions (Filstrup, Briskie, da Fonseca, Lawrence, Wandera, & Inglehart, 2003). It is clear this neglected epidemic of dental disease is taking its toll on Canadian children.
Access to Care

Access to dental care is the goal of all health care systems including any publicly financed dental care program. It was the recognized vulnerability of children living in low-income families that led each province to establish some type of program enabling children to access dental care. While the programs vary widely by province there exists in each province some type of program targeting children.

Before a discussion can begin on access to care and barriers to care, a definition of access to care is required. The term “access to care” is used frequently in the health and dental literature but the precise meaning of the term is unclear. Several of the frameworks that define access come from the medical and the health policy literature (Gulliford, Figueroa-Munoz, Morgan, Hughes, Gibson, Beech, & Hudson 2002; McIntyre, Thiede, & Birch, 2009; Penchansky & Thomas, 1981; Ricketts & Goldsmith, 2005). These frameworks were developed to understand access to health care so can be applied to both medical and dental systems.

Frequently discussed frameworks include the Penchansky Model and Anderson and colleague’s Behavioral Model (Karikari-Martin, 2010). An established framework used to describe and predict dental care interventions is Andersen’s Behavioural Model of Health Services Utilization. Originally developed by Andersen in the 1960s it has since undergone several revisions (Andersen, 1995). This framework has been widely used in both medical and dental studies and was used by the WHO’s International Collaborative Study of Oral Health Outcomes (ICS-II) (Andersen & Davidson, 1997). The framework posits that oral health behavior is influenced by community-level and individual-level characteristics. It has been found to be particularly effective in policy analysis to “describe, predict, and explain population-based health behaviors and health outcomes” (Andersen & Davidson, 1997, p. 203).
The model proposed by Penchansky and Thomas was developed in the 1980s and defines access “as a concept representing the degree of ‘fit’ between the clients and the system” (Penchansky & Thomas, 1981, p. 128). The ability of the system to meet the client’s needs is measured across five dimensions: availability, accessibility, accommodation, affordability and acceptability. In a dental model the term availability involves the demand for services compared to the supply of dentists. Accessibility is the geographic distance between the client and the dentists. Accommodation is how the dental offices are organized to accept clients and includes such things as office hours. Affordability is not only the client’s financial ability to pay for services but also the perception of value. Acceptability is the reciprocal position between the perception of those who receive benefits towards their provider, and the provider’s perception of the clients to whom they provide services. It is the acceptability dimension that encompasses attitudes and cultural acceptability.

Karikari-Martin (2010) compared three access models; the Behavioral Model, Penchansky’s Model, and the Institute of Medicine’s Model of Access Monitoring. She concluded that Penchansky’s model was the most useful when “subjective experiences with health care access were needed to inform policy makers” (Karikari-Martin, 2010, p. 290). Accordingly the research undertaken in this study is based upon the subjective experience of caregivers who are attempting to get dental care for their children. It is not intended to predict population based health behaviours and for this reason the Penchansky framework is the better of the two models to apply to this study.

The Penchansky model was further refined by McIntrye, Theide and Birch (2009) primarily by collapsing the three dimensions of accommodation, accessibility and availability into one term: availability. This addressed one criticism of the Penchansky model: the difficulty of keeping clear delineations between all five dimensions (Anderko, Uscian, & Robertson,
The model proposed by McIntyre and colleagues has three dimensions; availability, affordability and acceptability.

Frameworks are useful in that they provide a logical structure of meaning and are linked to standard definitions. They provide a framework for the interpretation of data. The intent of this research was not to apply an access model to determine its usefulness but rather to explore the experiences of caregivers in seeking dental care for their children and in doing so recognize that barriers to care would be uncovered. Relating the findings back to an accepted framework improves the reliability of the findings. The access model chosen as the reference model when discussing the results of this research is the Penchansky model as revised by McIntyre and colleagues. This model is best suited for documenting subjective experiences of clients seeking health care, thereby making it the best fit for this research.

**Barriers to Access**

“Unfortunately, individuals who face the greatest barriers to care are often among the most vulnerable members of our society” (p. vii). This statement was made by Harvey Fineberg, on July 2011 in the forward of the Institutes of Medicine’s report Improving Access to Oral Health Care for Vulnerable and Underserved Populations (IOM, 2011). The most recent and most prominent report on the oral health of Canadians; the Canadian Health Measures Survey (2010) makes a similar statement: “Access to care for disadvantaged Canadians is a major issue…the data consistently show that access to dental services is unequal” (p. 13). And a premier dental researcher in Canada, Dr. James Leake offers this statement: “Individual’s capacity to purchase health care is least when their need for health care is greatest” (Leake & Birch, 2008, p. 288).

The situation that exists for Canadian children has already been demonstrated, i.e. more children in lower income situations (and therefore likely on public insurance) have experienced
more decay, they have higher severity of decay and more of them have untreated decay compared to their more affluent peers. There are a number of barriers that prevent access to dental care that are suggested as contributors to this situation. These barriers can be discussed within the three dimensions of the McIntyre access to care model; i.e. availability, affordability and acceptability. It is the interaction between the three dimensions that determines access. To highlight the usefulness and inclusivity of these three domains it is worth noting the evidence respecting the three main barriers to children in the US accessing dental care under the Medicaid program, and that each of the three barriers fits into one of the three access domains. The three major reasons consistently provided by dentists for their lack of participation in the Medicaid program are 1.) low reimbursement rates (affordability), 2.) problematic patient behaviours (acceptability) and 3.) burdensome paperwork associated with Medicaid (availability) (Borchgrevink, Snyder, & Gehshan, 2008).

**Availability.**

Availability refers to having the appropriate provision of services available to meet the needs of the client. It is often thought of in terms of provider to population ratios but it is much more than that because locating a provider in a community does not ensure that the individuals who need the care will receive it. Availability includes other aspects such as:

- The time and expense to travel to obtain services is an availability issue. Low-income families may have difficulty traveling to obtain service if they do not have a vehicle and public transportation is limited or non-existent. The extra expenses of fuel and lodging if travelling long distances is an additional barrier.
- Provision of services in relation to the needs of the client. Many children are too young to be treated by general dentists and require the services of a specialist in pediatrics or a
general dentist with hospital privileges to perform treatment under anesthetic. Wait times for hospital operating rooms and the availability of specialists are potential barriers.

- The ability and willingness of service providers to provide care to the client. When dentists are unwilling to accept fees provided through the publicly financed dental program, they create a barrier to care. The lack of provision of dental services at the emergency department when parents arrive with children needing emergency care for pain and/or infection is an example of an inability of the service provider (ED physician) to provide the care required by the client.

- The ability of the client to fit into the schedule of the service provider and the extent to which the provider accommodates the client. For example, working parents may find it difficult to make appointments when most dental offices are open only during regular work hours.

- Provider to population ratios. Rural and remote areas often experience problems with provider to population ratios. As pointed out by Penchansky and Thomas (1981) “When the level of demand is high relative to supply, physicians practice in different ways and have differing ability to select the clients they desire to serve” (p. 129). The selection of clients can occur when dental offices are so busy they can choose not to accept assignment as occurred in one area of the province of B.C. (The Dental Offices of Fort St. John). The research for this paper was conducted in the Okanagan which is not an

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7 When a dental office chooses not to accept assignment it means the insured client will be required to pay the bill in full at the time of treatment and the insurance carrier will reimburse the client the amount of the treatment costs the plan covers. If the dental office does accept assignment the client will pay only the amount not covered by the insurance carrier at the time of treatment and the dental office will bill and be reimbursed by the insurance carrier. According to the Healthy Kids Dental Program the dental provider must bill and receive payment directly from the BC Healthy Kids Program (BC Govt, 2011), however there are reports of dentists’ charging clients.
underserved area so there are enough dentists to meet the demand for services. The exception is the availability of pediatric specialists in the Okanagan region.

There have also been suggestions that the ability of other service providers to provide oral health care should be improved. Since oral health services are part of primary care they should be included in the primary care specialties of family medicine, pediatrics, obstetrics and gynecology (Warren, 1999). Availability of services will improve if more health professionals are recognizing and responding to the issues of oral health. For example in the US, a number of states reimburse family physicians for applying fluoride varnish to the teeth of young children in their practice (Lewis, Lynch, & Richardson, 2005). Since the very young child is more likely to see a physician before they see a dentist this preventive measure increases the availability of care.

Acceptability.

Acceptability is often referred to as social or cultural access because it is concerned with attitudes, beliefs and expectations between the provider and the client (FPTDD, 2005; McIntyre et al., 2009). It is the acceptability dimension where the ‘degree of fit’ described by Penchansky is most reciprocal. Acceptability is not only the client’s perception of the characteristic of the provider but also the provider’s attitudes about acceptable characteristics of clients. “Providers either may be unwilling to serve certain types of clients (e.g. welfare patients) or, through accommodation, make themselves more or less available” (Penchansky & Thomas, 1981). This dimension of access has been given the least attention in the literature, yet it plays a significant role. After removing affordability issues the strongest predictors of non-use of dental services are lack of perceived need for care and fear, which are both acceptability issues (Pegon-Machat, Tubert-Jeannin, Loignon, Landry, & Bedos, 2009; Bedos et al., 2003). Acceptability includes aspects such as:
• Provider expectations that clients attend appointments and follow advice. The study by Pegon-Machat et.al. (2009) found dentists who repeatedly experienced irregular attendance applied exclusion strategies not only to individual patients but also to the group they represent (i.e. publicly financed). Some dentists equate missed appointments with lack of respect (Wallace & MacEntee, 2012). Clients expect that the provider will treat them with respect and offer the same treatment as would be offered all clients; i.e. they not be discriminated against. Studies that questioned low-income clients of their experiences at dental offices have found many of the barriers encountered by this group relate to perceptions of disrespect and discrimination by the dental office (Mofidi, Rozier, & King, 2002; Kelly, Binkley, Neace, & Gale, 2005; Patrick, Lee, Nucci, Grembowski, Jolles, & Milgrom, 2006). These experiences are certainly not limited to dental offices as the same barriers are encountered when seeking other types of health care. (Allin, Grignon, & Le Grand, 2010; Chen & Hou, 2002).

• Personal beliefs and perceptions. Past experience influences a client’s perception of dental care. Many people who fear the dentist had a bad experience at one time. That experience not only limits their own attendance at the dentist but their fear is often transmitted to their child. Some cultures believe baby teeth need not be fixed as they fall out anyway. Such beliefs may prevent the parent from accepting a treatment plan. Provider beliefs also play a role as some dentists do not accept clients before age three feeling there is no reason to check a child’s teeth until they have all erupted.

Acceptability is a dimension that requires more attention. Some publicly financed dental programs have increased dentist reimbursements only to find access to care did not increase as expected. Other barriers besides the ones perceived by dentists (i.e. low reimbursement) were not considered and the programs failed to achieve the desired effect (Borchgrevink et al., 2008).
When services are organized from the perspective of the system and its providers as opposed to from the perspective of the client trying to access the services, acceptability issues persist. Recent projects have tried to take into account the client’s perspective on acceptability including a unique pilot program in New York State called the Dental Case Management Program. The program was able to show an increase in the percentage of Medicaid beneficiaries receiving dental services. The program addressed issues beyond reimbursement such as increasing treatment compliance and reducing missed appointments (Greenberg, Kumar, & Stevenson, 2008).

**Affordability.**

Over and over the cost of dentistry is documented as the major barrier to receiving care for low-income populations in the US and Canada (Quinonez & Figueiredo, 2010a; Warren, 1999). As reported by the US Government Accountability Office (GAO) the top reason, nationwide, given for children’s inability to access necessary dental care was because the caregiver could not afford the care. This result was found within all insurance groups: private insurance, Medicaid and uninsured (US GAO, 2008). The Canadian Health Measures Survey (CHMS) reports that lower income Canadians have a higher proportion of persons avoiding dental visits because of cost and declining recommended care because of costs compared to higher income groups. The pattern was seen across all age groups including children. Unfortunately this same category could not be estimated in the CHMS for the publicly insured vs. the privately insured or the uninsured due to extreme sampling variability or small sample size.

Birch and Anderson (2005) reported that 42 percent of low-income clients did not visit the dentist because of cost even though they had dental needs. They also found that about four times as many Canadians did not seek dental care than did not seek medical care for the reason
of cost. The lower the income the more visits to physicians but the inverse holds for dental visits where the lower the income the fewer visits to dentists. This all points to what has been referred to as the ‘Inverse Care Law’ (Hart, 1971) which states that “The availability of good medical care tends to vary inversely with the need for it in the population served” (p. 405).

Affordability is defined as the relation between the full cost to the individual to obtain the services and the individual’s ability to pay. It also includes the client’s perception of worth relative to the total cost (Penchansky & Thomas, 1981). This is an interesting aspect of affordability as adults consider the worth of care differently for themselves then for their children. Adults with barriers to care are known to adapt to the symptoms and use self-medication until the pain becomes too severe (Bedos et al., 2003). However avoidance is seldom used when children are involved and care is sought as soon as the adult understands there is a need for dental care. (Seeking care does not guarantee receipt of care. This was demonstrated in the case of Demonte Driver.) Hence the perception of worth relative to cost is different for adults than for their children. Affordability in this section will be discussed in relation to children who are on publicly financed dental programs in BC and includes aspects such as:

- The price of the service at point of delivery. In the case of publicly financed care this is the cost to the parent for dental services not covered by the program. There are several examples of direct cost where the parent is responsible for paying an amount of money above what is covered by a publicly financed program. The first example is balance billing whereby the dentist charges a patient covered under a publicly financed program the difference between the rates paid by the government program and those rates in the current fee guide used by the dentist. Another example is payment up front where the family must pay the full amount of the cost of treatment to the dental office and then be reimbursed by the publicly financed plan. Although reimbursement will be coming, the
A third example is paying for services not covered by the dental program. This includes the common “hospital booking fee”, a fee charged to parents to compensate the dental office for the time spent arranging bookings for dental care in the hospital. This fee is not covered by publicly financed programs so must be paid by the family. A final example is paying for services that have gone beyond the yearly allotment. Publicly financed dental programs have ceiling amounts and any treatment provided above that amount becomes the financial responsibility of the family.

- Other direct costs associated with receiving care. This would include such things as the cost for transportation, prescription medications, or lost wages if taking time off work to attend appointments, etc.

- Indirect costs associated with obtaining dental care. There may be consequences to the family when limited income is used to pay for dental care. Canadian researchers have demonstrated that for low income families with fixed incomes, paying for dental care can mean less money for purchasing food (Muirhead, Quinonez, Figueiredo, & Locker, 2009; Snow & McNally, 2010). An apt quote came from a low-income mother who made the statement: “The cost of a dental visit is the same as a month’s worth of groceries. What would you pick?” (Wallace, 2000 p. 3).

The three dimensions of access; availability, acceptability and affordability, are not easily separated. Affordability would be tied to availability in an example where a dentist in a practice decides to balance bill their clients leaving them having to travel elsewhere to find a dental office without this practice. Acceptability is tied to availability in the case where a local dentist is unable to provide treatment to an uncooperative young child with extensive decay, leaving the parent to again have to find a dental office in another area who can provide this treatment. The
cost of transportation in these cases is tied once again to affordability. It is the interrelationship of these three dimensions that must be considered when trying to improve access to care.

The Financing of Dental Care in Canada

As reviewed in the introduction, dental care was never incorporated into the federal Medical Care Act of Canada and therefore sits outside Canada’s universal publicly financed health care system. Therefore it is not subject to the principles of universality, comprehensiveness, public administration, portability and accessibility (McEntee, Harrison & Wyatt, 2001). While 98.6 percent of physician’s services are reimbursed with public funds, the opposite is true of dental services where a major portion of payments for dental care comes from private sources (Health Canada, 2010). Only 5.5 percent of dental services are publicly funded with the remainder funded either through private insurance (62.6 percent) or through out of pocket expenditures (31.9 percent). Dental care and prescription drugs make up the greatest proportion of total private health spending (Canadian Dental Association, 2010a). Expenditures on dental care are surprisingly large. In 2009 it is estimated that dental services will account for seven percent of total health expenditures. It is expected the trend from previous years will continue with dental services exceeding the direct costs of treating mental disorders, digestive diseases, respiratory diseases, injuries and cancer (Health Canada, 2010).

A group of researchers (Quinonez, Locker, Sherret, Grootendorst, Azarpazhooh and Figueiredo, 2007b) conducted an environmental scan of publicly financed dental care in Canada. This environmental scan along with the dissertation by Dr. Quinonez, The Political Economy of Dentistry in Canada (2009), provide the most current and definitive work on the history and the current situation regarding publicly financed dental care in Canada. The history briefly outlined here originates in those works.
The Medical Care Act of 1966 provided the legislation that universally insured physician services, but it did not capture dentistry. In their 1964 report, the Royal Commission on Health Services conceptualized dental care as an individual responsibility but with allowance that certain groups had a lessened ability to care for themselves. These groups included children, welfare recipients, the physically and mentally handicapped, expectant mothers and those requiring hospitalization for dental care. Only those conditions requiring hospitalization were deemed a right; those services relating to persons with social needs were deemed a benefit. Unfortunately the Commission did not define what those rights or benefits entailed thus leaving them open for interpretation. It is argued by Quinonez in his dissertation that the consequence of the Royal Commission’s findings is that dental care in Canada “became defined as an uninsured service, specifically from the point of view of social responsibility” (p. 86). Prevention remained the focus of the Commission’s recommendations and included fluoridation and a continued emphasis on improving the health of children through prevention. As astutely pointed out by Quinonez: “as the Royal Commission closed the door to private health insurance for hospital and physician services…it arguably opened the door for private dental insurance” (p. 91). Private dental insurance began to develop rapidly and the Canadian Health Measures Survey found that by 2009, 62.6 percent of Canadians had private dental insurance. While the rise of private dental insurance was a benefit for many it also had a negative consequence. With government spending on the national health insurance program creating economic challenges, and with an increasing number of people on private insurance, the opportunity to integrate dental services under the universal public health insurance disappeared. In this climate publicly financed dental care was no longer on the agenda to be a right for everyone, but to be a targeted benefit to a few.

The 1970s saw a rise in public financing of dental care for children and social assistance recipients. Public share of total spending of dental services reached an all-time high in 1981 at
15.4 percent. But this trend would not be sustained and in the grips of one economic recession and then another, publicly financed programs lost substantial ground. From a high in 1981 there has been a steady decrease, and the public share of total spending on dental services is currently at 4.9 percent (Canadian Centre for Policy Alternatives, 2011).

Dental care was never universally insured, though several academics believe the intention of Justice Emmet Hall was to extend Canadian Medicare coverage to dental care (Blakeney, 2007; Lahey, 2010; Marchildon, 2011; Romanow, 2007). In today’s climate where Medicare is under scrutiny for being unsustainable and other services such as pharmacare, home care, and long term care vie for increases in public coverage, there is little hope that dental care will receive much attention. Yet a handful of dedicated researchers are moving the agenda forward and some progress is being made. After many years of cutting back programs some provinces (including BC) have, in the last few years, dedicated investments in public dental care (Quinonez, et al., 2007b).

Publicly Financed Dental Programs

Publicly financed dental programs exist at both federal and provincial levels. They also exist at health region levels, though in BC this is limited to the Vancouver Costal Health Region which is the only region in BC that has a dentist hired to perform dental treatment. Federally, the government finances about 40 percent of publicly financed dental care and has responsibility for Canadian Forces personnel, RCMP, Veterans, federal prison inmates, refugees and those with state-recognized indigenous status (Quinonez, et al., 2007b). Provinces provide the remaining 60 percent and are responsible for financing surgical-dental services requiring hospitalization, social

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8 Dr. J. Leake, Dr. D. Locker, Dr. C. Qunionez, and Dr. B. Wallace are some of the researchers heavily referenced in this paper due to their concentrated efforts to bring attention to the issue of inequities of dental access to care.
assistance recipients and their dependents, adults with disabilities, and children living in low-income families. Some provinces also provide a plan for seniors.

There has been some recent Canadian research looking at access to dental care for low income individuals from the perspective of both the clients who are the recipients of care, and the dentists who are the providers of care (Bedos et al., 2003; Locker, Maggirias, & Quinonez, 2011; Quinonez et al., 2010b; Quinonez et al., 2009a; Wallace & MacEntee, 2012; Wallace, 2000). One of the earliest researchers to gain the perspective of the client’s experience in accessing dental care while on a government sponsored dental plan was Dr. Christophe Bedos from McGill University. His 2003 article: “The dental care pathway of welfare recipients in Quebec” was the inspiration for the research undertaken in this thesis. That article begins with the assumption that welfare recipients have “enjoyed the benefits of a government programme that entitled them to free basic dental care” (p. 2089). As the welfare recipients were followed through their dental care pathway it became evident that the government program had major gaps. Of the sixteen participants in the study, several encountered financial barriers and could not obtain needed treatment. The conclusion by the researchers was that both affordability and acceptability were compromised under the government program and that coverage should be improved. An important message from this research (and from the other studies referenced above) is that the assumption that publicly financed dental programs remove financial barriers to care is incorrect.

All of the referenced literature focuses on adults. Only one Canadian article documenting access to dental care limited to children on publicly financed programs has been located (Amin, 2011). The purpose of the study by Amin was to explore utilization of dental services for children using the two government sponsored dental programs available in Alberta. The study used a structured questionnaire to gather data. It is particularly relevant to the research
undertaken in this thesis in that it explores a new area of research, viz. the use of publicly financed dental programs specifically by children. In the survey caregivers stated the government programs available to them helped them get dental services for their children they would not otherwise be able to obtain, however utilization remained low. The opinions and experiences of clients accessing care for their children were not captured so the potential barriers that create this underutilization were not part of the survey. The study concludes by recommending an exploration of these barriers as an area for further research. This thesis is an effort to fill this purported research gap.

Publicly financed dental programs were put in place to protect the most vulnerable people in our society by removing financial barriers to care, yet cost is still a major barrier for this group as described in the affordability section of this chapter. This implies public programs are not doing what they were meant to do, i.e. overcome financial barriers. A closer look at publicly financed programs from the perspective of the provider (the dentist) helps to provide some insight into the situation.

**Dentists’ perspective on publicly financed dental programs.**

Dental treatment in Canada is primarily provided by dentists in private practice settings on a fee for service basis where the cost of care is for the most part the responsibility of the individual. As pointed out by Leake & Birch (2008), “a major problem with non-universal systems is that the publicly funded sector is competing with the privately funded sector for the time of providers who work in both” (p. 290). Leake goes on to reason that if the publicly funded programs do not remunerate the dentist at the same level as the private system the “opportunity cost of time spent providing services under the public system is the foregone earnings of using the same time providing services under the private system” (p. 291). Lack of equivalent remuneration between the private and public systems is at the heart of the financial barrier to
care for clients of publicly financed dental programs. In many cases this gap has led to providers
limiting the number of clients they will see on publicly financed programs. Recent research by
Quinonez et al. (2009a) involved a survey of a nationally representative sample of dentists and
discovered some important details. First, 70 percent of dentists have less than 10 percent of their
clients covered by public insurance. Second, one third of dentists have made a business decision
to reduce the number of publicly financed clients in their practice. In relation to that reduction in
clients, 67 percent of respondents said their dental practice could accept more clients with
publicly financed plans if more funding was made available.

As discussed in the section on access to care the three dimensions of access interplay to
create the barriers to care, but once again affordability is key. The dentists surveyed had a list of
conditions that bothered them about publicly financed dental care including low fees, the limited
number of services covered, missed appointments, administration issues such as slow payment
and complicated paperwork. When the data were broken down to look specifically at provincial
children’s programming, the greatest dissatisfaction was with the fees. This is a significant
finding and provides the foundation for this thesis in that it confirms that Canadian dentists,
when questioned, state that they are dissatisfied with the reimbursement they receive from
provincial publically financed dental programs for children. It is this dissatisfaction with
reimbursement that is at the heart of the issue of access to care for children accessing the Healthy
Kids Dental Program of BC.

Another important finding of the survey is that while dentists are dissatisfied with
publicly financed program they are not in agreement with government becoming involved in a
direct delivery approach to providing dental services. This creates a disconnect where, on one
hand, the majority of dentists are not satisfied with current programs and some are choosing to
restrict clients on publicly financed programs, yet on the other hand are not in agreement with
the dental treatment for this group being provided in any other form. The tenuousness of this state of affairs is well documented in the recent article by Wallace & MacEntee (2012). Their qualitative study obtained the perspective from both clients and providers and found:

Dentists and low-income patients alike explained how the current model of private dental practice and fee-for-service payments do not work well because of patients’ concerns about the cost of dentistry, dentists’ reluctance to treat this population, and the cultural incompatibility of most private practices to the needs of low-income communities. (p. 32)

The conclusion of the study is that “alternative models of delivering dentistry to low-income and vulnerable communities are needed beyond the model of private clinical practice” (p. 38). Until such changes are made however the current situation requires that dental treatment is primarily provided by dentists in private practice settings on a fee-for-service basis.

**Pro bono care.**

Just as the literature is replete with findings of dentists limiting their intake of publicly financed clients, is it also replete with examples of dentists providing *pro bono* care. The same study by Quinonez, et al. (2009a) that sought dentist’s opinions on publicly financed care also gathered information on *pro bono* work. Dentists were asked to estimate the amount of *pro bono* work they do in a month and, of the respondents, almost 18 percent provide more than $1,000 a month. The majority, 73 percent, do less than $1,000 and 8 percent provide none. A similar survey was conducted in 2005 in Alberta where the *pro bono* work was estimated per year not per month (Patterson, Fritz, Gaultier, Jain, Smith, & Susoeff, 2006). The survey found 14 percent of dentists donated less than $1000 per year, the majority (49 percent) donated between $1000 and $5000 per year, 20 percent donated between $5000 and $10,000 per year, and finally 17 percent donated greater than $10,000 per year. Considering this is on a yearly basis not a
monthly basis the *pro bono* work in the Alberta survey is similar to the results in the nationwide survey. It should be kept in mind that individuals over-report activities deemed to be socially desirable. Research by Randall and Fernandes (1991) found that perceived desirability of behavior has a great influence on self-reported behaviors. Since both surveys relied on dentist’s self-reporting their own conduct this potential bias should be taken into consideration regarding the survey findings.

Some provincial dental associations also organize special projects that deliver free dental services such as Community Dental Day in BC and Open Wide in Alberta. These projects are usually one day events held each year where private dentists and their staff donate their time and materials to provide free treatment to people who cannot otherwise afford a dental visit. In BC there are a number of low-cost dental clinics; some provide treatment using dentists volunteering their services. The provision of *pro bono* work by the majority of dentists is evidence that the dental needs of the low-income population are not being met by the current system. As eloquently stated by W. Mouradian (2006) discussing the issue of dentist’s volunteering to provide treatment: “It is not the fault of these volunteers that their efforts are inadequate. But such efforts should be part of, but not a substitute for, larger systematic solutions” (p. 1175).

Dental treatment and human rights legislation.

Human rights legislation applies to dentists in their role as service providers. Dentists have the right to choose to treat an individual or not, but that choice cannot be made on discriminatory grounds. For example a dentist may choose not to accept a person because the office is busy and is not accepting new clients; but the choice not to accept must not be based upon prohibited grounds (Llewellyn, 2010). What constitutes discriminatory grounds differs

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9 There are approximately 13 low cost dental clinics (besides UBC Faculty of Dentistry) that are listed on the British Columbia Dental Association website: [http://www.bcdental.org/Find_a_Dentist/ReducedCostClinics.aspx](http://www.bcdental.org/Find_a_Dentist/ReducedCostClinics.aspx). Some of these clinics use volunteer dentists. More communities are attempting to establish low-cost clinics.
based on the Human Rights Act of each province. In British Columbia it is illegal to discriminate against a person because of their race, colour, ancestry, place of origin, religion, marital status, family status, physical or mental disability, sex, sexual orientation, age, criminal conviction and political belief (in employment context only), and lawful source of income (in tenancy context only) (Ministry of Attorney General, 2008). There is no provision under the Human Rights Act to prevent a dentist from not accepting a client who is on the Healthy Kids Dental Program. This situation creates an interesting circumstance. If the government has decided to publically fund dental care for groups of people with low income in order to provide them with access to dental care, and if a dentist can chose not to treat a client based upon their benefits as a member of that group, then the government is not guaranteeing availability of a service they have chosen to publicly fund. If access is not guaranteed can equality be guaranteed?

Although not comparable due to different laws, this issue of right of access to publicly funded dental care has been legally challenged in the US. In the US, “Federal Medicaid law requires states to ‘assure that payments are….sufficient to enlist enough providers so that care and services are available under the [Medicaid] plan…”’(Gehshan & Snyder, 2009, p. 576). A search of Medicaid cases to improve dental access was undertaken by the National Health Law Program in 2006 and a total of 26 cases were located. The legal challenges focused on the issues of reasonable promptness, the requirement that payments assure equal access, and the requirement of states to make providers available (National Health Law Program, 2006). A common argument presented in these cases was that the Medicaid agency had failed to make dental services available in accordance with Medicaid law because the agency ‘maintain[s] a dental reimbursement fee schedule that [does] not ensure that Medicaid beneficiaries have access to dental services at least to the extent that the general population has access to these services” (p.4). Most of the settlements addressed payment rates, whereas some included provisions to
address other barriers such as administration of claims and patient transportation issues. These multi-faceted approaches acknowledge the interaction of the three dimensions of access; affordability, accessibility and availability.

Publicly Financed Dental Programs for Children

In this section the focus begins to narrow to speak only about publicly financed programs for children. Children within each province can be covered by either federal or provincial programs. There are two federal programs available for children. Children with state recognized indigenous status are eligible for dental care under the Non Insured Health Benefits (NIHB) program administered through the First Nations Inuit Health Branch. Children of newly arrived refugees are eligible for the Interim Federal Health Program (IFH) administered through Citizenship and Immigration Canada. As each Canadian health jurisdiction has control over how they ration dental care the provincial publicly financed dental plans for children vary widely. Recognizing the importance of dental care to the overall health of children and recognizing that low income families would be unable to afford the high cost of dental treatment, each provincial government has a publicly financed dental plan for children. This is not surprising as “children are the group for which the strongest argument for public financing can be made” (Lahey, 2010). Children are not responsible for their oral health problems, they have no control over the environment in which they are born into, and must rely on adults for access to dental care (Mouradian, 2002). In addition, society is in agreement that children are in a special category in terms of their vulnerability and that special measures should be in place to ensure their health needs including their oral health needs are met (Mouradian, Huebner, Ramos-Gomez, & Slavkin, 2007). For all these reasons, at the most basic level, it is Canadian children from low-income families that are entitled to the most support for accessing dental services in every province (Quinonez, 2007b).
**Healthy Kids Dental Program of British Columbia**

The discussion presented throughout this chapter has been providing the background information to lead up to this final section. The data have been presented that show the significance of the problem of dental decay and how the lives of children can be affected. Also presented were the relationship of dental decay to socioeconomic status and the barriers facing families who need to obtain dental treatment for their child. The history of publicly financed dental programs in Canada was briefly outlined. It is time to narrow the discussion to the one specific publicly financed dental program that is the focus of this research: the Healthy Kids Dental Program of British Columbia.

The government of British Columbia developed the Healthy Kids Dental Program in 1996 to help children ages 0 through 18, in financially disadvantaged families, obtain basic dental care (Ministry of Social Development, 2010a). The program has this statement on their website: “The BC Healthy Kids Program helps low income families with the costs of basic dental care” ([http://www.eia.gov.bc.ca/publicat/bcea/healthykids.htm](http://www.eia.gov.bc.ca/publicat/bcea/healthykids.htm)). The plan is income based and children whose families receive Medical Services Plan (MSP) premium assistance through the Ministry of Health Services are automatically enrolled in the Healthy Kids (HK) Dental Program. The family does not receive information announcing their enrollment, thus potentially creating the situation where the family is unaware they have the coverage. There is a toll free number that families can phone to get information about their coverage under the HK Dental Program. Because of the connection of HK to MSP, if a family is in default paying a balance owing to MSP, or if a family does not file income tax (to ascertain their income level) they cannot get coverage under the Healthy Kids Dental Program. Also covered by the HK Dental Program are children of parents who are on income assistance, disability assistance, and children under the Child in the Home of a Relative Program.
Previously, children were eligible for $700.00 of basic dental services per year. Basic dental services include exams, x-rays, cleanings, fillings and extractions. In 2009 two significant changes were made to the program. Before the changes children could attend the dentist for an exam and cleaning twice a year, but starting in 2009 that was reduced to once a year. Adjustments were made to the yearly maximum entitling children to a $1400 maximum limit over a two year period. This change does not provide any increase in the amount of funding available but does allow for the combination of two years funding at one time which is very helpful to families facing large dental treatment bills. However, if the full amount is used on one treatment plan there will be no funding available until the end of the next calendar year. The exception is for treatment considered to be emergency care which allows for treatment when the child needs immediate attention to relieve pain, or control infection or bleeding, or if their health or welfare is otherwise immediately jeopardized (Min. of Social Dev., 2010a). Young children with extensive decay often require treatment in a hospital under a general anesthetic and in these cases an additional $1000.00 is available to help cover the cost of treatment when performed in a hospital or an approved private facility. When dental treatment is performed in the hospital the fee for extraction of teeth is billed to MSP and the dentist is directed not to bill the family for any portion of this service since it is an insured benefit of MSP. This is prescribed by the Medical Services Plan of the Ministry of Health of BC (BC Min. of Health, 2011). This statement is reinforced in Schedule A of the Oral and Dental Fee Schedule for General Dental Practitioners of BC (BC Min. of Health, 2008) developed by the Medical Services Plan of the Ministry of Health of BC:

When a dental/oral surgical procedure is a benefit listed in the Payment Schedule and therefore, payable by the Medical Services Plan, that payment at the rate listed in the Schedule is considered to be payment in full and there may
be no additional charges to the patient for in-hospital surgical procedures, associated in-hospital care, or for the professional component of associated out-of-hospital services....(p. A-1)

Other treatments, such as restorations, are not covered by MSP and billing is via the Dental Program for clients on HK. Enrollment in MSP is optional for health care providers and so dentists, just as physicians, may be enrolled then choose to be “opted-out” of MSP. Opted-out allows the dentist to charge the patient for the service and then submit a claim to MSP on behalf of the patient in order for MSP to reimburse the patient.

Dentists are not required to offer services under the HK Dental Program and it is the responsibility of parents to find a dentist who is accepting children covered by the program. The dentist bills and receives payment directly from the HK Dental Program, though there are several reports of dentist’s requiring clients to pay for treatment up front then be reimbursed by the dentist after payment is received from HK. Unlike MSP the dentist is able to bill the parent for additional charges for treatment above what HK reimburses the dentist for the service performed. The possibility of additional fees is clearly pointed out in the HK website and brochures. Highlighted on the website is the following statement: “Before any dental…services begin, check with your dental…provider to see if there will be any additional charges to you over and above what the Healthy Kids program will cover” (http://www.eia.gov.bc.ca/publicat/bcea/healthykids.htm). Additionally, the website informs clients of other charges for which they may be responsible, such as services that go over the annual limit and/or services in excess of the remuneration rates paid to the dentist by the program. It is these “other charges” that can create a financial barrier to accessing dental care for clients on the Healthy Kids Dental Program and this will be more thoroughly discussed below.
Billing under Healthy Kids Dental Program.

In order to understand how access to a publicly financed dental insurance program can still result in economic barriers to care, an explanation of billing procedures is required. The dental associations of each Canadian province (with the exception of Alberta) publish fee guides which list codes and suggested fees for each procedure performed in a dental office. In British Columbia, the British Columbia Dental Association (BCDA) produces an annual suggested fee guide reflecting increases in fees for services performed. In February 2012 the average year-over-year increase was 2.38 percent. The 2012 fee increases range from a low of 1.4 percent for fixed prosthodontics to 5.9 percent for oral surgery (Sun Life Financial, 2012). The fees are meant to be used as a guide and no dentist is obligated to charge the fee as itemized in the guide. Most private dental insurance plans cover costs based upon this fee guide. While the BCDA fee guides are not made available to the public, they are housed in and can be viewed at most major libraries. Specialists have their own fee guides with higher fees to reflect their specialized knowledge and expertise.

Publicly financed dental plans also produce their own fee guides. The Healthy Kids Dental Program adheres to the eligible services and fees listed in the Schedule of Fee Allowances produced by the Ministry of Social Development (http://www.hsd.gov.bc.ca/publicat/pdf/dentistschedule.pdf). This fee guide lists the procedures covered by the plan and the fees that may be charged for services provided to clients covered by the Healthy Kids Dental Program. The guide provides information to the dentist on how to confirm eligibility and how to obtain payment for services. It also contains the rules, frequency, and financial limitations associated with each service rendered. The fees of the Ministry fee guide are negotiated through a consultation process between the British Columbia Dental Association and the government and are not increased yearly as occurs with the BCDA
fee guide. The last increase in fees was in April 2005 when dental coverage was increased to 80 percent of that year’s BCDA fee guide (BC, Min. of Health Services, 2005). There has not been an increase since then and with the BCDA fee guide increasing fees yearly, it is estimated that currently the Schedule of Fee Allowances pays, on average, approximately 62 percent of the 2012 BCDA fee guide. This estimated figure of 62 percent is calculated using the 80 percent coverage in 2005 minus the percentage cost increase of the BCDA fee guide each year from 2006 to 2012.

**Balance billing and dental society fee guides.**

The term “balance billing” refers to the practice of a dentist charging a patient covered under a government financed dental plan, such as Healthy Kids, the difference between the rates paid by the government and those rates in the current fee guide used by the dentist. Since dentists in British Columbia are reimbursed at approximately 62 percent of the current fee guide the dentist may hold the client responsible for the remaining portion of the fee - which is the balance of the bill. In British Columbia, charging this balance is at the discretion of each dentist. Research into the publicly financed dental programs for children was conducted for each province to ascertain whether or not balance billing was permitted. A wide variety of payment scenarios exist and these are summarized in Appendix A. In most provinces balance billing clients of publicly financed dental plans contravenes the agreement between the dental society and the provincial government. The British Columbia government is the most permissive of all the provinces with respect to balance billing.

Research was also conducted on the rates paid to dentists providing services to clients on publicly financed dental plans (PFDP) in relation to the fees of the provincial dental association. Appendix B is a chart of those findings. The information for this chart was provided directly by the dental associations in each province with the exception of Ontario where the information was
provided by a government official in the Ministry of Health and Long Term Care. As previously explained, each provincial PFDP has their own fee guides which specifies what amount the program will reimburse the dentist for each service the plan covers. In three provinces the rates of the PFDP keep pace with the dental association fee guide paying at approximately 90 to 95 percent of the current dental association fee guide. In Alberta there is no fee guide and in two other provinces the dental association did not provide the answer to the question. In British Columbia, along with four other provinces the PFDP does not keep pace with the dental association fee guide. The result is that the dental association fee guide goes up each year and the PFDP does not. The gap between the two expands. As seen in the chart the percentage the PFDP is paying in relation to the dental association fee guide ranges from a low of 57 percent in Ontario to a high of 95 percent in Newfoundland/Labrador. In British Columbia, as already noted, the remuneration is at approximately 62 percent of the 2012 fee guide and so was at approximately 64 percent in 2011. These are the figures that relate back to the comments earlier attributed to Dr. Leake who pointed out that if the publicly financed dental programs do not remunerate dentists at a level comparable to the private system there is no financial incentive for the dentists to accept PFDP children into their practice. This chart also points out that British Columbia stands alone in dentists’ ability to balance bill children who are on PFDP. The only other province to allow balance billing of any kind is Saskatchewan and there it is limited to children on the Family Health Benefits program. Balance billing is not allowed for children on the Ministry of Social Development program.

Prevalence of balance billing.

In the province of BC, dentists are free to choose if they will accept clients on a PFDP and free to make the choice to balance bill or not balance bill any client on a provincial PFDP. There is no source of data available to the public providing information on the number of dentists who
do and do not balance bill. The impact of the practice of balance billing on access to treatment is unknown but hypothesized to be of great importance, and so attempts were made to gather information wherever possible. Two sources provided estimates on the prevalence of balance billing and are explained below. It is important to note that data from both sources did not come from representative samples.

The British Columbia Dental Association (BCDA) is the recognized voice of dentistry in the province. Each year the BCDA does a survey of its members. Some of the information from the survey is used to help the public find dentists that are accepting new patients and what services the dentists offer to the public, including if the dentist will accept children on the Healthy Kids Dental Program (http://www.bcdental.org/Find_a_Dentist/DentistSearch.aspx). There is no requirement for dentists to respond to the association’s survey. In addition, the website only lists dentists accepting new clients. For these reasons the website is not a reliable source for determining the percentage of dentists in B.C. who accept clients on the Healthy Kids Dental Program.

A member of the supervisory committee acted as a liaison between the researcher and the BCDA. A number of questions regarding the issues of accepting clients on the Healthy Kids Dental Program and the prevalence of balance billing were posed to the BCDA by the committee member on behalf of the researcher. Jocelyn Johnston, the Executive Director of the BC Dental Association, provided the following comments in response to the questions posed to her:

- “1/3 of dentists accept HK and do not balance bill (Ms. Johnston suggested that this fraction might be increasing because so many more families qualify now for HK because of the downturn in the economy).”

\[10\] The comment that more families now qualify for the HK program has not translated into an increased number of children using the service. As can be seen in Table 2.3 the number of children using the program has steadily decreased since 2006/2007.
• 1/3 of dentists accept HK and balance bill
• 1/3 of dentists do not accept HK” (Johnston, J., personal communication, September 27, 2012).

The estimates provided from BCDA suggest that approximately two-thirds of dentists in BC accept clients from the Healthy Kids Dental Program and one-third does not. Of the dentists that do accept HK clients, half of them balance bill and half do not.

Another source of information was accessed to help provide an estimate on the prevalence of balance billing. Public health dental program staff in some regions of BC conduct a yearly survey of dental offices in their region. Conducting the survey is at the discretion of the program staff and is not consistently performed across the province. Public health dental staff often liaise between the public and dental offices and use the lists to help direct clients to appropriate dental offices. The regions with the largest populations (Vancouver Costal Health and Fraser Health) as well as some smaller regions (Central and South Okanagan, South Vancouver Island) have not conducted surveys for several years. In some regions staff conduct surveys but only for segments of the regions such as a geographic section of the city in which they work. In such cases the survey results have not been included in this report as the information was either too old or was incomplete. Program staff who do not routinely do the survey list the common reasons for not doing the survey as: not having the staff time to do the survey, the difficulty of keeping the list current (Rosenberg, D., personal communication September 29, 2011), and dental offices not responding to the request to provide information (Gunderson, K., personal communication September 14, 2011). The section of the survey of interest to this research was the section that gathered data on whether dentists accepted children on the Healthy Kids Dental Program, and if they accepted HK clients, whether they balance billed. The dental program was willing to provide the information under the covenant that only
aggregated data for the region be displayed. The data collected by those surveys are displayed in Table 2.2. It is important to note the data are not an accurate representation of the practices of dental offices. It is not known how many dentists did not respond to the survey and the survey is not done in every region of the province.

### Table 2.2. Survey of Dentists and Billing Practices

<table>
<thead>
<tr>
<th>Health Region</th>
<th># dentists responding</th>
<th># and% Offices that accept HK</th>
<th># and % Offices not accepting HK</th>
<th># and % offices that BB</th>
<th># and % offices that do not BB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Health ‡</td>
<td>180±</td>
<td>166*/180 (92%)</td>
<td>14/180 (8%)</td>
<td>123/166 (74%)</td>
<td>43/166 (26%)</td>
</tr>
<tr>
<td>Northern Health</td>
<td>100</td>
<td>75/100 (75%)</td>
<td>25/100 (25%)</td>
<td>55/75 (73%)</td>
<td>20/75 (27%)</td>
</tr>
<tr>
<td>Vancouver Island (N. Van Island only †)</td>
<td>43</td>
<td>40/43 (93%)</td>
<td>3/43 (7%)</td>
<td>26/40 (65%)</td>
<td>14/40 (35%)</td>
</tr>
</tbody>
</table>

Source: B.C. public health dental program staff

Note. HK = Healthy Kids Dental Program, BB = Balance bill

‡ Central and South Okanagan are not included in these totals as a survey was not done in those regions

±28 of these offices required the client to pay up-front (not clarified if they only pay the balance bill up front or the whole treatment amount)

* 4 dentists specified they limit the HK clients they accept to previously established clients; i.e. new clients who are on HK are not accepted

† Only the North Vancouver Island region of the Vancouver Island Health Authority was surveyed

The estimates that have been provided came from two independent and unassociated sources, the British Columbia Dental Association and the provincial public health dental program staff. While neither source provided data with any level of certainty there can be a degree of confidence in the numbers provided given they were obtained from two unassociated sources, and the figures are similar.

The data collected by the dental program staff show a higher acceptance of clients on the Healthy Kids Dental Program in the Interior Health and North Vancouver Island regions than estimated by BCDA. The Northern region (at 75 percent acceptance) is closer to the BCDA provincial estimate of 66 percent acceptance. There is some discrepancy in the figures regarding the percentage of dentists that balance bill. The data gathered by the public health dental staff show that 65 to 74 percent of dentist’s balance bill their clients, while the BCDA suggest the
percentage of dentists who balance bill is approximately 50 percent. The data offered by BCDA were at the provincial level. The Health Authority regions with the largest populations did not complete the regional public health survey. If the figures from those regions (Vancouver Coastal Health and Fraser Health) were to be in the same range as the BCDA survey the numbers would bring the public health dental survey in line with the BCDA estimates.

Data provided at the community level get lost when aggregated up to the regional level then to the provincial level, yet the situation at the community level has the most impact on the clients. If a small rural community only has two dentists and they both balance bill then for every family on a PFDP the percentage of dentists balance billing is 100 percent. When the supply of dentists in a community is lower than the demand for care dentists may choose not to accept clients. It would not be unreasonable in such a situation for a dentist to choose not to accept a client on a publicly financed dental program (PFDP). This is the situation that existed in the Peace River area of BC. The government recognized that clients on PFDP were not able to access dental care and a pilot program was developed to help address this issue (Ministry of Employment and Income Assistance, 2007). A $300,000 grant was provided to operate a dental clinic that would give priority to treating clients on PFDPs without balance billing the client.

**Other billing practices.**

Other billing practices can also result in a financial barrier to care, for example when treatment plans exceed the yearly limit of the program. The Healthy Kids Dental Program has a limit of $1400.00 over two years. Any treatment needs beyond that will be billed directly to the family. Another billing practice that can result in a financial barrier is the requirement that the family pay for full treatment at the time of provision of services with reimbursement from the Healthy Kids Dental Program to the family at a later date. There may also be charges for services that are not covered by the program such as a second sealant placed on a permanent tooth if the
first sealant is lost. It is the very people for whom the publicly financed dental plans were originally developed that cannot afford these types of billing practices. Billing practices such as balance billing, payment up front, treatments plans exceeding yearly limits, and billing for services not covered by the plan can create a financial barrier that cannot be overcome by some low socioeconomic status families.

**Utilization of the Healthy Kids Dental Program**

As shown in Table 2.3 utilization of the Healthy Kids Dental Program has consistently remained at approximately 40 percent.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Number of Eligible Children</th>
<th>Number of Children Who Received Services</th>
<th>Percent Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004/2005 Yr End Rollup</td>
<td>161,706</td>
<td>63,953</td>
<td>39.55</td>
</tr>
<tr>
<td>2005/2006 Yr End Rollup</td>
<td>169,779</td>
<td>65,984</td>
<td>38.86</td>
</tr>
<tr>
<td>2006/2007 Yr End Rollup</td>
<td>165,467</td>
<td>66,691</td>
<td>40.30</td>
</tr>
<tr>
<td>2007/2008 Yr End Rollup</td>
<td>153,134</td>
<td>61,787</td>
<td>40.35</td>
</tr>
<tr>
<td>2008/2009 Yr End Rollup</td>
<td>143,981</td>
<td>59,685</td>
<td>41.45</td>
</tr>
<tr>
<td>2009/2010 Yr End Rollup</td>
<td>146,294</td>
<td>58,657</td>
<td>40.10</td>
</tr>
<tr>
<td>2010/2011 Yr End Rollup</td>
<td>150,882</td>
<td>58,228</td>
<td>38.59</td>
</tr>
</tbody>
</table>


In 2007 the province instituted a promotional program to raise awareness of the Healthy Kids Dental Program (Min of Employment and Income Assist, 2007). Toothbrushes and information packages were delivered to approximately 365,000 elementary and middle-school students. The promotion was estimated to have cost $500,000. The increase in utilization the following year was a modest 1.1 percent, and was not maintained.

It is striking that the utilization rate of the Healthy Kids Dental Program is only 40 percent. Given the high cost of dental treatment one would expect a plan geared to help low income families would be better utilized. No research into this paradoxical situation could be located. The following list of possible barriers to utilization is based on discussion with dental public health program staff and represents educated speculation:
• People are unaware they are on the program. Families are automatically enrolled in the Healthy Kids (HK) Dental Program the month following acceptance of their Medical Services Plan (MSP) premium assistance application. However the family is not given notice of the enrollment in HK and may be unaware they have coverage. Dental offices have a direct line to HK to check eligibility on behalf of patients and the Ministry of Social Development fee schedule (2010) directs them to do so. The fee guide states: “Eligibility must be confirmed for all clients prior to proceeding with any treatment to ensure active coverage is in place” (p. i). This recommendation of confirming eligibility may not be adhered to.

• Barriers common to government programs. Language barriers, lack of access to the internet to learn about the program, and difficulty with reading and comprehension levels required to understand and fill out premium assistance forms are all potential barriers to applying to the program.

• Ineligibility issues. Coverage under HK is connected to MSP and if a family is in default paying a balance owing to MSP, or if a family does not file income tax, they cannot get coverage under the HK Dental Program.

• Payer of last resort. A family can be low income and therefore be eligible for HK but in fact have a dental insurance plan through an employer. When a family has private dental insurance, the HK Dental Program will not contribute.

• Billing practices of dental offices. As previously outlined, there are several billing practices that may prevent families from obtaining dental services under the program. Families faced with payments due to balance billing, payment up front, treatment plans exceeding yearly limits, and billing for services not covered by the plan may result in the child not attending the dentist and therefore not utilizing the HK Dental Program.
Investigating the low utilization rate is not addressed in this research project. In order to be part of the research, families had to be on the Healthy Kids Dental Program. As a result each family knew about, and was utilizing, the program. As families discussed their experiences on the HK Dental Program some insights into utilization were uncovered, but not in a structured way.

Summary

This literature review provided evidence of the strong relationship that exists between low socioeconomic status and children’s dental health. Data from both Canadian national studies and British Columbia provincial studies show that children from low SES families suffer more decay - both treated and untreated. Decay rates may be decreasing but improvements have not yet translated to low rates. Dental caries is the single most common chronic childhood disease and the rate of decay appears to be on the increase in the youngest age group (ages 2 to 5). The evidence has also been presented describing the strain this disease puts on the health and well-being of the child and family, particularly when many of the children are so young they require treatment under general anesthetic.

The prevalence of dental disease is extensive, the treatment is expensive and the access to care is unequal. Many barriers exist to accessing dental care but, over and over, it is the cost of dentistry that is documented as the major barrier to receiving care for low income populations. Recent research has revealed that both nationally and provincially the publicly financed programs available to adults have failed to overcome financial barriers to dental care for many. Surprisingly there has been no research on this issue regarding access to treatment for children. This thesis project is a beginning step in an attempt to fill that gap.

Within this literature review, an assertion was made that the publicly financed dental plan in British Columbia for children, the Healthy Kids Dental Program, may not be providing
children the access to dental care they need. As part of building evidence for that assertion the billing practices of dental offices, such as balance billing, were described in detail. But the evidence must come from the families themselves. Asking families on the Healthy Kids Dental Program to share their experiences of obtaining dental care while on the program was the approach used in this project to ascertain how well the program is working for the people for whom it was designed.
Chapter 3: Methods

Like other health care fields, research in the field of dentistry has historically been driven primarily by the philosophical foundations of a positivist paradigm using experimental methods and producing quantitative data. Recently there has been a shift towards using more qualitative methods as the dental research community recognizes the need to explore the social issues affecting the polarization of dental decay. A qualitative approach is considered appropriate when a research problem needs to be explored and when the researcher seeks to understand the perspective of the participants (Creswell, 2007). Qualitative research in the area of access to dental care for children on publicly financed dental programs is scarce and only one other study in the subject area from the perspective of the program participants was located. In 2004 in Ontario, a qualitative research project was conducted and included interviews with key informants, a survey, and focus groups (Lomotey, Hatzipantelis, Currie & Janzen, 2004).

There have been no published studies of this topic in BC even though, as was established in the literature review, only 40 percent of families eligible for the BC Healthy Kids Dental Program (HK) actually use it. With so little known about the utilization of the program the place to begin is at the beginning. The place to begin is by using a qualitative research design to ask the program participants themselves to describe their experience using the program. The research described in this thesis uses this starting point in an effort to begin the process of determining how the Healthy Kids Dental Program is working for the very people for whom it was developed.

An important concept in qualitative research is methodological congruence. Qualitative researchers strive to maintain congruence between their theoretical perspective, the research question they intend to answer, the methods they choose to collect and analyze data, and the results they produce. Qualitative research begins with philosophical assumptions which flow
from the researcher’s worldview and are processed through their theoretical lens. Their worldview, or paradigm, will influence the type of research question that is developed, which in turn will determine the approach to inquiry, which in turn will determine the method used. And finally, each method has a data collection and data analysis approach most appropriate for the method. Without this fit the results will not be trustworthy. For example, ethnography, with its foundations in anthropology, is considered the best method to answer questions about what is happening in a culture-sharing group. Data collection relies primarily on firsthand observation during extended time in the field. Data are analyzed through development of thick description of the group and the results are presented in a narrative that richly describes the features of the culture-sharing group. In this example, a researcher who chose a data collection technique that relied on open-ended questionnaires would be unable to produce a thick description of the culture. This would constitute methodological incongruence. How methodological congruence was maintained in the study for this thesis will be discussed throughout this chapter.

Researchers are positioned according to their philosophical underpinnings, their worldview, their paradigm. As stated by Mayan (2009) the “research paradigm is the net that holds the researcher’s ontology, epistemology and theoretical position/perspective” (p. 24). As investigators are shaped by their worldview so will their research be shaped by their paradigm. It is advised that researchers bring to the fore the values and principles that influence them as an investigator. Working with the ethnography example started previously, classical ethnography does not judge, critique, or attempt to enact change on a group. When ethnographers do encourage questioning of cultural assumptions they are applying critical ethnography. A feminist ethnographer will attempt to reveal the social inequalities between genders within the culture under study. This exemplifies the importance of the researcher making clear the research
paradigm from which they are working. In the example provided, the reader needs to be aware that a feminist critical approach has influenced the finished product.

The choice to work qualitatively is made when the research question requires it. The research question for this thesis was a “what” question that sought to explore and describe “what” barriers existed for families by exploring the experiences of caregivers who sought dental care for their children while on the publicly financed dental program in BC called the Healthy Kids Dental Program. Since little is known about this issue this research was exploratory. Because the research was intended to uncover the range of experiences for a specific population, the sampling technique was purposeful and sought maximum variation. Data collection was via semi-structured interviews and dental treatment plans, and the data were analyzed using the method of content analysis. This research was not theory driven. Instead it sought to describe phenomena by uncovering the voice of those affected through stories of their experiences.

This chapter on methods describes the methodology used in this research project. As the researcher, I begin by outlining my research paradigm which follows the recommendation of bringing to the fore my values and principles. I then explain why the method I chose (qualitative description) was the best method to answer my research question. The type of sampling method and recruitment of participants are outlined in detail. Data collection and the data analysis techniques appropriate for the chosen method are provided and the final section of this chapter addresses the issue of rigor and how it was managed in this study.

A note on the use of voice. This paper is written from two points of view. The third person, the researcher, is used when the information presented is knowledge held in the world and switches to first person when I describe the aspects of the research in which I have personal involvement. Writing in the first person allows me to make my opinions known and communicates my awareness of self in the research. It allows me to be clear about the ownership
of the statements I propound. The argument presented by M.Q. Patton (2002) makes a convincing case that, while the use of the first person may not be conventional, it can be the best approach in sections of qualitative research:

It takes no great self-awareness or self-confidence to report a statistically significant $t$ test with confidence intervals based on a formula and calculations easily replicated and confirmed. It can take considerable self-awareness and confidence to report: I coded these 40 interviews, these are the themes I found, here is what I think they mean, and here is the process I undertook to arrive at those meanings. (p. 66)

**Critical Theory Research Paradigm**

Critical theory is the research paradigm that examines power issues and how they play a role in promoting inequalities (Kirby, Greaves, & Reid, 2006). A critical theorist takes a critical perspective. This perspective presumes the importance of an imbalance of power and it seeks not just to study and understand society but also to critique and ultimately change society (Patton, 2002). It represents the perspective of the less powerful and tries to increase society’s consciousness about injustices.

Kincheloe and McLaren have produced seminal works on critical theory and are among the most quoted authors in discussions of the critical theory paradigm. Their original article “Rethinking Critical Theory and Qualitative Research” was published in 1994, and an updated version of that article appeared in 2008. In the qualitative literature there exists a large amount of material on research paradigms with each author providing a version to consider, leaving researchers with many guidebooks from which to discover the version that most resonates with them. The in-depth explanation of the paradigm provided by Kincheloe and McLaren, along with the acknowledged expertise of these authors, are the reasons I chose to use their description of
critical theory as the basis for my decision to orientate myself with this paradigm. Kincheloe & McLaren (2008) advise readers that the critical theory paradigm is always changing and evolving and, because there are many critical theories, cannot be explained in a precise manner. Qualitative research exists in a climate of blurred boundaries such that “…any attempts to delineate critical theory as discrete schools of analysis will fail to capture the evolving hybridity endemic to contemporary critical analysis” (p. 405). I align myself within the critical theory paradigm while acknowledging that every statement made about the paradigm will not resonate with my theoretical position. There is room within the paradigm for variations of intensity in the application of the theory.

**Knowledge acquisition.**

Critical theory has been described as transformative and as having its aim of inquiry to “stimulate oppressed people to rationally scrutinize all aspects of their lives…which will ultimately change social policy and practice” (Lincoln, Lynham, & Guba, 2011, p. 106). While societal transformation of the oppressed may be an end goal, such transformation is not necessarily achievable in exploratory research. When little is known about a situation, knowledge acquisition may be the first and most appropriate goal. This is acknowledged by Kincheloe and McLaren (1994) when they state that “critical researchers often regard their work as a first step toward forms of political action that can redress the injustices found” (p. 140). This is how I perceive my research – as a first step in a longer journey towards improving access to dental care and ultimately towards reducing the inequalities of oral health for low socioeconomic children. The research undertaken in this thesis was not about empowering the families to change their social position. It was about increasing society’s awareness of the inequalities that exist. The importance of the research lies in hearing the voice of the people and putting that
voice out for the rest of society, including policy makers, to hear. Everything starts with a first step.

**Stance of the researcher.**

An important aspect of critical theory is the stance of the researcher. Kincheloe & McLaren (2008) point out that “critical researchers enter into an investigation with their assumptions on the table, so no one is confused concerning the epistemological and political baggage they bring with them to the research site” (p. 408). In contrast to this up-front assertion of values, other research paradigms demand researchers maintain neutrality. But “critical researchers frequently announce their partisanship in the struggle for a better world” (Kincheloe & McLaren, 1994 p. 140). I provide the following information in order to satisfy that criteria. For approximately 30 years I worked as a public health dental hygienist. In this capacity I often worked closely with families on the Healthy Kids Dental Program, some of whom approached the dental public health staff for help with accessing dental care for their children. Many of these families found the billing practices of some dental offices (which are influenced by the limitations of financial help from the HK Dental Program) left them unable to access dental care. In addition, I noted that the practice of balance billing was unlawful in other provinces. I also recognized that it was only a small number of people who approached the Health Unit for help. Did this mean that most people were able to work with the system as it existed? Or was it that people gave up trying to access treatment through the program? What other situations were families experiencing that I was not aware of? The answer to these questions resided with the families. Questioning a variety of families about their experiences of accessing dental care while on HK was the logic first step in understanding how the program was working to meet the needs of the clients for whom it was developed.
Power relations.

Critical theory is a theoretical perspective that focuses on marginalized or underrepresented groups. It provides the lens through which I see existing inequalities in access to dental care as a social justice issue. Critical theory focuses on unequal relations of power (Mayan, 2009) which I see in the access to dental care issue. There is an unequal relation of power that exists between those people who can and those who cannot obtain dental care due to economics; and that exists between dentists and the clients they serve. There is also an unequal relation of power that exists between those who are economically deprived and rely on government sponsored dental plans and the policy makers who set the parameters of these dental plans while they themselves have the privilege of a private dental plan that comes with their position in society. Researchers who identify with the critical theory paradigm assume “that certain groups in any society are privileged over others and…the oppression that characterizes contemporary societies is most forcefully reproduced when subordinates accept their social status as natural, necessary, or inevitable” (Kincheloe & McLaren, 1994, p. 140). Families who access dental care under HK are, by virtue of their eligibility in the program, low-income. Additionally, the field of dentistry (as with other health fields) maintains a power imbalance of knowledge. Income inequality and hierarchical standing in society are two important social determinants of health, and people on HK are in unequal relationships. The statement that best aligns with my stance regarding the critical theory paradigm is provided by Michael Quinn Patton (2002):

The “critical” nature of critical theory flows from a commitment to go beyond just studying society for the sake of increased understanding. Critical theorists set out to use research to critique society, raise consciousness, and change the balance of power in favor of those less powerful. (p. 548)
This research is driven by my belief that it is important that research on the subject of access to dental care be organized in such a way that the research is done “with” and not “on” the people it is ultimately supposed to benefit.

**Methods**

In qualitative research the choice of method always comes from the research purpose (Richards & Morse, 2007). There are many methods to choose from when doing qualitative research. The key is to choose the one that will best answer the research question. As reported by Sandelowski (2010) there unfortunately still exists today published qualitative research that purports to have used a method yet produces “findings that show no evidence these methods were used” (p. 77). It was this researcher’s desire not to take the “square peg” that was the purpose of the research and pound it into a “round hole” that was one of the well-known methods such as phenomenology, grounded theory, ethnography or narrative study. To do that would not only compromise methodological congruence but would do injustice to proper application of the method and injustice to the results of the research. It was the method of qualitative description that provided the necessary fit so that no pounding of square pegs into round holes was required.

Margarete Sandelowski is considered the expert in the method of qualitative description and researchers who use this method rely heavily upon her written work. In 2000 she put forward an argument that qualitative description is a valid method of inquiry for nursing and health sciences research. That article, in the journal *Research in Nursing & Health*, is one of the most downloaded and cited articles in the history of the journal. Her work formed the foundation for subsequent qualitative research using the method, and, as is appropriate, her work is frequently quoted in this chapter.
Qualitative description is the method of choice when low-inference description of phenomena is desired (Sandelowski, 2000). This method provides a comprehensive summary of human experience without an in-depth level of interpretation, producing themes rather than theory. Other well-known frameworks such as ethnography, grounded theory, and phenomenology rely on high levels of interpretation and theory development (Sullivan-Bolyai, Bova, & Harper, 2005). Researchers using these other qualitative methods are “obliged to put much more of their own interpretive spin on what they see and hear. This spin derives, in part, from these methodologies themselves” (Sandelowski, 2000, p. 336). The spin results in transformation of the event as it was seen or experienced by the participant, to a description of the event as interpreted by the researcher. In contrast qualitative description does not theorize the data but rather provides a description of participants’ experiences, and uses a language similar to the participants’ own language and from their own point of view (Neegaard, Olesen, Andersen, & Sondergaard, 2009). An important point is that while the qualitative description method stays close to the participants experiences it still requires rigorous data analysis and interpretation. The intent is not simply for data to be reproduced or topics listed, but to move towards describing themes. “Although closer to the data as given, these thematic surveys are still detailed and nuanced interpretive products” (Sandelowski, 2010, p. 78). This method is well suited to this research in that the intention was not to develop a theory but rather to try to give a voice to the experiences of the research participants. The data analysis still required interpretations but they were not highly transformed.

Sullivan-Bolyai (2005) argues that qualitative description is particularly useful for vulnerable populations because the resultant data stay close to the participants’ direct experience so can readily be understood by the participants. This is opposed to interpreting data through the lens of an academic that can result in data that are “culturally incongruent with that of the person
experiencing the health disparity” (Sullivan-Bolyai, et al., 2005, p.129). The focus of this research is on exploring the experiences of the low SES families who are trying to obtain dental care for their children through government sponsored dental plans and qualitative description is the preferred approach when the participants’ perspective is a goal in itself (Neergaard, et al., 2009). As earlier stated the goal was to do research “for” the participants, not “on” the participants. The research question was designed to explore and describe experiences, not to develop theories and this was best achieved by using qualitative description. Choosing the method to match the research purpose maintained methodological congruence.

**Sampling.**

Qualitative research requires sample procedures that ensure an appropriate and adequate sample. While quantitative research benefits from a random and statistically representative sample which permits generalization from the random sample to the larger population, in opposition, qualitative research benefits from purposively choosing information-rich cases that can best inform the study. Appropriateness is achieved by searching out those cases that have the knowledge to contribute insight and experience central to the purpose of the research. As explained by Patton: “What would be ‘bias’ in statistical [quantitative] sampling, and therefore a weakness, becomes intended focus in qualitative sampling, and therefore a strength” (Patton, 2002, p. 230). Drawing participants randomly would result in people who knew little about the topic. In the realm of qualitative research “random selection is not only useless to the aims of qualitative research but may be a source of invalidity” (Morse & Field, 1995, p. 80). Deliberately selecting cases that have the insight and experience to best inform the research is termed “purposeful sampling” and was the sampling method used in this study.

The second principle guiding qualitative sampling is adequacy. This requires collecting data until saturation is achieved. Saturation is reached when no new data emerge during the
information gathering process. It can be difficult for a researcher to decide when saturation has been reached as each participant’s experience is complex and each new case brings nuances to the table. But the time comes when doing another interview is no longer adding anything new to the research. Mayan (2009) brings good advice to this debate with her suggestion to:

…return to your research question and ask yourself whether you have answered it to the best of your ability; not whether you have it ‘right’ but whether you have something important to say, to contribute, or to problematize. If that is the case, you have reached saturation. (p. 65)

With a sample that is both appropriate and adequate the results will be rich data and the reliability and validity of the study will be enforced. Patton (2002) states, “the validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information richness of the cases selected…than with sample size (p. 245).

There are many forms of purposeful sampling; Patton (2002) lists sixteen purposeful sampling strategies. The strategy most relevant to this research was the maximum variation sampling strategy. This is consistent with the design features of qualitative descriptive studies (Sandelowski, 2000, 2010) thereby maintaining methodological congruence. Maximum variation requires “determining in advance some criteria that differentiate the participants” (Creswell, 2007 p. 126) then choosing participants that represent the variations of those criteria. When differences are maximized it increases the likelihood that the findings will reflect the differing perspectives and this representation is the ideal in qualitative research. Negative cases are important in qualitative research as they add validity to the sample. If all cases had the same experience it is unlikely the sample achieved maximum variation.

From my work experience I was very familiar with the Healthy Kids Dental Program (HK) and used this knowledge to identify cases that would represent the range of experiences
caregivers could have while using the program. For example, during previous work in the field of dental public health I had parents inform me of a number of ways they sought to overcome financial barriers such as seeking funding from charitable organizations, borrowing from family or friends, or delaying treatment until requisite money was saved. In addition I knew that other families did not encounter financial barriers associated with treatment under the HK Dental Program representing another variation to seek. Additionally there were barriers such as travel and access to dentists with hospital privileges to undertake extensive dental treatment under general anesthetic. With all this background knowledge I was able to continue seeking participants until all known experiences where captured. At the time I felt all known experiences had been captured I was also experiencing saturation as no new information was emerging.

Recruitment.

Based on my knowledge of the subject I estimated that 12 interviews would capture all scenarios. After 12 interviews there were still known scenarios that had not been captured and more participants were recruited. In the end 16 interviews were completed and transcribed and the dental pathways of 20 children were documented. While several of these cases overlapped in significant areas, each brought enough variance of experience and caregiver perception to be included. Two interviews were conducted but not transcribed for analysis. In one case the interviewee did not have the cognitive ability to understand the questions. In the second case the interviewee did not remember enough details of his children’s dental visits and treatment to complete the dental care pathway. The children’s dental appointments had been taken care of by his wife who was now estranged and unavailable to interview. In each of these two cases the participant was given the $20.00 participation incentive and the interview was wrapped up in a timely fashion. A third interview was conducted and transcribed but during the analysis process it became clear it should not be included and all reference to the interview was removed from the
study. The caregiver did not meet the inclusion criteria of having children currently enrolled in the HK Dental Program. The interview had originally been conducted because of the caregiver’s strong desire to tell of her experience with HK, and had in fact brought to the table a scenario not captured elsewhere (i.e. she felt belittled by the dental staff who initially refused to continue to see her children as patients when they went on the HK Dental Program). However, since the family had only been on the program for a short time, and the family was not currently on the program nor had been for the last six years, their experience was a snapshot in time no longer related to their present situation. These three interviews are not part of the results.

**Inclusion criteria.**

Participants selected for interviews were the primary caregiver of a child (or children) currently enrolled in the Healthy Kids Dental Program. Initially the study proposed that participants would be required to meet four inclusion criteria to order to be interviewed:

1. Child is currently enrolled in the Healthy Kids Dental Program. Because the purpose of the study was to investigate the experiences of caregivers who access dental care under HK they would have to be currently enrolled in the program.

2. Child has been referred for dental care by a health care professional. The basis for this criterion was to limit the sample to caregivers who were actively seeking care or knew they should be seeking care. This separated out the situation where the child did not need to see a dentist in which case there would have been be no experience of using the Healthy Kids Dental Program.

3. The caregiver has experienced obtaining or attempting to obtain dental care within the last 12 months. It was reasoned that the care episode should be recent enough that caregivers will have accurate recall of events (not more than one year) but enough time should have elapsed
to give time to work through the many steps of the dental care pathway (which may take six months or more).

4. Caregiver is fluent enough in English to provide consent and to participate in an interview conducted in English. No provisions were made to accommodate subjects that do not speak English. This research used a purposeful sample not a random sample and the vast majority of residents of the Okanagan speak English.

As the interviews progressed and problems with recruitment were encountered the inclusion criteria were modified. In several cases the initial child met the inclusion criteria but siblings also had their dental care pathway followed even though their treatment had been over a year ago. In one case this provided an informative scenario as the dentist had performed dental treatment several years ago on a sibling without balance billing, but was going to balance bill the family for the current treatment. In another situation the treatment stemmed from a dental accident that happened a long time ago. This was still a valuable interview as the caregiver’s situation provided a scenario not covered in any other interview; i.e. a payment plan that took over two years to pay. In addition this caregiver was one of the few who was not currently balance billed by her own dentist and therefore provided a negative case. In several other cases the child had not been referred by a dental or health professional. There were situations where caregivers were prompted to take their child to the dentist because the child complained of a toothache, the parent saw the decay themselves, or the child had an accident and needed emergency care (broken teeth in a fall). In each case the child was not referred by a health care professional yet the parents were actively seeking dental care. The second inclusion criterion was therefore found to be faulty and was not enforced.

The geographic boundary had to be expanded. This was done for two reasons; first to find more participants to interview, and second to increase the number of dentists with hospital
privileges. Interviews were done with participants who lived in both the North and Central Okanagan and the Kootenay Boundary area.

Recruitment challenges.

Many problems with recruitment were encountered. Ethics approval had been applied for and received from the University of British Columbia Okanagan Behavioral Research Ethics Board for third party recruitment. Using other people to find participants proved onerous. The dental public health staff had been envisioned as the primary source of recruitment as the Health Unit program targets children at high risk for decay, and because low SES is strongly associated with decay, staff are already in contact with the clients that meet the inclusion criteria. Additionally, staff work throughout the Interior Health region and are in contact with families from all geographic locations. Approval to use this method was applied for and received from the Interior Health Research Ethics Board. A significant issue with this method arose because the public health dental staff usually become involved with cases when they are applying for special charity funding. As a result, cases receiving charity funding quickly became overrepresented and other methods of recruiting participants via third party recruitment had to be found.

The Kelowna Gospel Mission operates a free dental clinic for people who cannot afford dental care at a private dental office. Although they treat few children they were approached (after ethics approval) as a source of finding low income individuals who were using the Healthy Kids Dental Program. They agreed to help recruit, but unfortunately no participants were recruited this way. I then applied for and received ethics approval to place posters in strategic locations urging people on the Healthy Kids Dental Program to self-refer. Posters were placed in over 15 locations but only one interview was generated from this approach. The poster was turned into a flyer that could be handed out to clients in the hope that handing out the request for participation made it more personal. After receiving ethics approval from Okanagan College the
flyers were given to the Okanagan College Dental Assisting Program to hand out at their clinics where low income clients often seek care. No potential participants came from this source. I then approached several dental offices asking them to act at third party recruiters and outlined to them the scenarios left to be captured so they could recruit selectively. Fortunately, that approach did result in a few interviews. I then reached a point where I was faced with the dual problem of not only having difficulty getting any referrals, but additionally, needing to be selective based on the potential participant’s experience in order to capture the last few scenarios. The final interviews were obtained through working with social workers who advertised the research project with clients, specifying the experiences that had not yet been captured. The recruitment difficulties encountered, along with the numerous applications to several different ethics boards, resulted in interviews stretching over an eleven month period.

**Data Collection**

Qualitative research encompasses many ways of collecting data. The most common forms are interviews, participant observation, documents and visual data (Creswell, 2007; Mayan, 2009). In order to maintain methodological congruence, the data collection technique of any research will depend upon the method of inquiry. The data collection technique used in qualitative description is generally “directed toward discovering the who, what, and where of events or experiences...[and] usually include minimally to moderately structured open-ended individual and/or focus group interviews” (Sandelowski, 2000, p. 338). Review of documents and other relevant materials is also appropriate with this method (Neergaard, et al., 2009). The data collection methods used in this research involved semi-structured interviews and, when available, review of dental treatment plan documents.
Semi-structured interviews.

In qualitative research, interviews are the most commonly used approach to collecting data because the method allows the participants’ points of view to be captured and their experiences to unfold. If capturing the experience of the participant is the goal, then asking the participant to describe their experience is the means to achieve that goal. Semi-structured interviews are most useful when the researcher has “enough idea of what is going on in or with the phenomenon to develop questions about the topic but not enough to predict the answers” (Mayan, 2009, p. 71). Since I had worked many years liaising with families and dental offices that were using the Healthy Kids Dental Program, I was very familiar with how the program was designed to work. I was not however, knowledgeable on how families navigated through the system on their own, if the families felt the program met their needs, and how the families valued a program that helped them obtain dental health for their children.

During the interviews it was important to keep participants on track to ensure all aspects of the dental care pathway were uncovered. The semi-structured interview format was useful in that it allowed a script so that questions were not forgotten, and also gave participants the freedom to expand upon answers. Probing questions were used when answers needed fleshing out. As the researcher I conducted all the interviews of this study. I developed the interview script (see Appendix C) and it received approval from my supervisory committee. The interview script consisted of four main sections chosen for their probable influence on dental utilization: demographics, beliefs, dental care pathway, and Healthy Kids Dental Program experiences. Before interviews were scheduled, one pilot interview was conducted and resulted in slight modifications in the wording of some questions.
**Interview process.**

First contact between myself and potential participants was over the phone after they had provided consent, via a third party, to be contacted. In the one case of self-referral, initial contact was between myself and the participant. During this initial telephone discussion the project was briefly outlined and any questions answered and an interview date and time arranged. During this discussion I was able to ascertain if the participant’s experience would add to the knowledge base that was accumulating. As the research progressed some potential participants were not interviewed as their experiences were too similar to what had already been captured.

An offer was made to have the interview conducted in the setting of the participant’s choice. The choice of a neutral setting was given as an option in case the participant was uncomfortable having me in their home. The majority of interviews were conducted in the participant’s home as it proved to be more convenient. Some participants did not have personal transportation and most needed to be home to take care of their children’s needs. Two interviews were conducted outside of the home; one in an office in an outlining community and one at the site of a parent centered care program the participant was attending with her children. In all interviews the participants were parents of the children.

Two interviews were conducted (and audio-taped) over the phone. While not ideal, the decision to do phone interviews was based upon the difficulty of recruiting participants (as outlined in the recruitment section). Both phone interviews were conducted with parents in the Kootenay Boundary area who had been referred through a dental office. The dental office in which treatment was performed was actually in the Okanagan, which was the original geographic catchment area of the study. Both interviews were needed to cover scenarios that were known to exist but had yet to be represented, and both would have entailed approximately a 6 hour commute to conduct the interview in person.
When I arrived to conduct the interview, the first order of business was to review each paragraph of the consent form and obtain written consent (see Appendix D). For the phone interviews the consent form had been discussed in detail and a signed copy received before the interview took place. Participants were asked to provide consent to allow contact after the initial interview to allow for member checking. The participants were given a copy of the consent form for their own records. The recording device was activated and the interview commenced. Interviews took between 30 minutes to one hour depending upon the complexity of the treatment and the number of children for whom a dental care pathway was mapped.

The interview consisted of four sections: demographics, beliefs, dental care pathway, and Healthy Kids Dental Program experiences. Demographic information that has known associations with the utilization of dental care were obtained; specifically caregiver’s age, level of education, and income. Level of income was not a direct question but the level of assistance the family receives from the Medical Services Plan was determined. The level of assistance received is related to the families’ adjusted net income and was an indirect way to determine income levels. The next section was on dental beliefs and probed the parent’s perception of dental health by asking them to reflect on their own dental health status and their experiences of dental care. This would bring up any negative feelings or experiences that may influence their attitudes towards dentists and dental care. For example, parents who have a fear of the dentist may put off taking their child to the dentist. In addition the parent was asked questions around how they care for their child's teeth. This would bring to the fore their knowledge of oral health and the value they place on dental health, and set the stage for the remaining questions.
**Dental care pathway.**

The dental care pathway was the longest section of the interview. Parents were asked to describe the steps that were involved from the time they first decided their child should see a dentist until the dental care was completed, or in the case of incomplete treatment, to the stage they were in as of the date of the interview. Following the child’s pathway was done in order to map their progress in a flowchart called The Dental Care Process (see Appendix E). This flow chart is part of a behavioral model developed by Grembowski, Andersen & Chen (1989). The model was successfully used for mapping dental care pathways of welfare recipients in Quebec in the research conducted by Bedos et al. (2003). The pathway is not a prescriptive model. It does not require that the experiences of participants be molded to fit into a predefined flow chart. There was great variation in the dental care pathways of the children in this study. The flow chart worked very effectively as a tool to expose similarities and trends in the convoluted pathways covering many different scenarios.

The Dental Care Process flowchart was slightly adapted to fit this study as the original chart is geared primarily to adults making personal decisions. For example, the Dental Care Process discusses the scenario of a patient choosing a pathway of coping with the symptoms of a toothache as opposed to attending a dentist. “If the individual can cope with the symptom, or if non-professional treatments are available (e.g. modified diet, aspirin), the individual may decide not to visit the dentist” (Grembowski, et al., p. 447). It is my experience that parents do not consider home treatment of a child’s toothache (e.g. Advil) as an alternative to seeking dental treatment. However, after having made that statement, one interview participant did use avoidance of the dentist for a child complaining of a toothache. In this case the avoidance was because the family could not afford the bill as opposed to a decision to cope with the symptoms.
in place of visiting the dentist. Unlike adults, coping with symptoms is not seen as an optional exit mechanism for children.

The Dental Care Process model was chosen as it accommodates the many ins and outs, or stops and starts that can happen when trying to obtain dental treatment. Looking only at treatment completed outcomes denies awareness of the steps that occurred to get there. Several participants had very simple pathways that flowed from deciding to access treatment to treatment completed. However, many were more complex and decisions made by both parent and provider influenced care. The advantage of this model is that it includes “the ability to trace patient experience from initial perception of a dental problem through some definable termination, and to examine delay in seeking care and referral patterns” (Grembowksi, 1989, p. 444).

Following the dental care pathway required the most recall of information on the part of the parent. The first few interviews made it apparent that parents had trouble recalling the detail necessary to complete the pathway mapping. A strategy to overcome this problem was to ask the parent to obtain a history of dental visits from the dental office and to have this available at the interview. Changes were made to the ethics application and the consent form to accommodate the review of these documents. Having the dental treatment plan to review added greatly to the accuracy of the dental care pathway.

The dental care pathway was the only section which was repeated if required and was done to capture the experience of other children. If the experiences of the siblings were very similar, for example each of the children go every year for a check-up and cleaning and all have had similar treatment requirements over time, then only one pathway was followed as it was representative. If the experiences were different enough to capture unique situations then other siblings had their pathway mapped. A flow chart depicting the dental care pathway was constructed for each child for whom a treatment pathway was followed during the interview.
The Healthy Kids Dental Program.

The last section of the interview specifically questioned the parent’s experience with the Healthy Kids Dental Program. It was placed last so that by the time the interview reached this section, the previous questions had caused the parents to reflect on aspects of dental health and obtaining treatment, and they were better prepared to respond. Since they had gone through the dental care pathway process any instances of where HK worked well, or alternatively fell short, was fresh in their minds. When the interview was complete the participant was given $20.00 in cash to acknowledge the contribution of their time spent in the interview process.

Transcription.

As the researcher I both conducted and transcribed each interview. This was very valuable as it allowed me to stay close to the data, I was familiar with the dental terminology and its meaning, and it resolved the issue of third party transcription errors. The transcription was done soon after the interview which is key to ensuring accuracy. All identifying information was removed during the transcription process including names of participants and dentists. Any reference to location of the dental office was also removed. Extra steps had to be taken to protect the anonymity of the dentists. Since many of the children required extensive treatment they were often referred to dentists who have hospital privileges and there are a small number of these dentists. To help maintain anonymity I removed all references to towns or cities or names of hospitals. In addition, I went the extra step of finding interview participants who had treatment in places outside my original geographic area to add a protective layer of ambiguity as to which dentists may have performed which treatment. Children needing treatment in a hospital setting could have been seen by one of six dentists with hospital privileges practicing in several different communities.
Being both the interviewer and transcriber allowed me to include relevant nonverbal communication as I was present during the interview to witness it, such as the mother who began quietly crying and asked to pause the tape so she could get a Kleenex and compose herself. In addition I produced field notes in a journal immediately after each interview to document other important insights. For example, a mother who knew the exact amount of her dental bill to the penny without checking it against a treatment plan communicated nonverbally how significant that bill was to her.

*Member checking.*

Following transcription a summary of the interview was written in lay language and sent to each participant via the format (mail or email) which had been discussed during the consent process. The participant was asked to review the summary and respond asking either for changes to be made if there were inaccuracies, or confirming the summary was an accurate interpretation of their perspective. Lincoln and Guba (1985) maintain member checking is “the most crucial technique for establishing credibility” (p. 314). It adds to the credibility of the research by validating the accuracy of the findings of the interview, and it gives authority to the participant to confirm their perspective which reduces interviewer bias. Two interviewees could not be reached so two of the summaries did not receive approval by the participant. However, the 14 summaries that were reviewed were approved as originally written with no changes requested.

*Researcher bias.*

Given my critical theory perspective I approached my role as an interviewer with an awareness of an existing power relationship. I am a dental hygienist and therefore I hold knowledge of the dental field that the participants did not, thus creating a hierarchy of knowledge. My professional work however had been in public health where I routinely
advocated for clients seeking dental care and it was common for me to sit and discuss with clients the very topics that were discussed during the interview. Having spent 20 years speaking with clients I had already been privileged to a wide range of stories about economic barriers to dental care and I was very comfortable in my position as an interviewer. During the consent process it was emphasized that I was not currently working in the dental profession, nor was I working for a government agency. I was in fact a full time student with an interest in the access to dental care issue stemming from my previous work. This reduced the perception of a hierarchy of power between the participant and the researcher.

While my previous experience was a benefit to me as an interviewer, negatively it created the opportunity for researcher bias. My challenge was to recognize that each participant was an expert of his/her own experience and what he/she believed must not come under influence by me and my perceptions. Following each interview I wrote in a journal not only what I observed during the course of the interview, but recorded my own impressions, feelings, and concerns. Undertaking this procedure helps identify personal biases. Richards & Morse (2007) assert that making assumptions explicit is a way to help contain them. I wrote about my assumptions during the conception phase of this project, throughout the interview process, during data analysis, and finally while putting my research onto paper. Rigor in qualitative research requires attention during all aspects of the research including data collection. As a researcher I had to be conscious of being open and “willing to relinquish any ideas that are poorly supported regardless of the excitement and the potential that they first appear to provide” (Morse, Barrett, Mayan, Olson, & Spears, 2002, p. 18). Throughout the research project there were times my assumptions were realized and there were times they were negated. Being responsive to what the interviewers were telling me was an important aspect of verification of the data collected.
Data Analysis

Sometimes referred to as the ‘creative’ stage of the research process (Morse & Field, 1995), data analysis is the process of breaking down the data so they can be seen by the researcher in a new way. The main tools for analyzing data depends upon the methodological approach of the study, and methodological congruence needs to continue through this final stage. The beauty of adhering to methodological congruence is that the process flows naturally from the research question, through data collection and into analysis, and finally to interpretation. Content analysis was the data analysis methodology most suited to this project and its use was confirmed by Sandelowski (2000): “qualitative content analysis is the analysis strategy of choice in qualitative descriptive studies” (p. 338).

Content analysis encompasses a broad range of strategies but at the most basic level it takes a volume of qualitative material and through the identification of patterns and themes it reduces the data to a series of core meanings (Patton, 2002). It is an analysis method that can be used with both quantitative and qualitative data and in an inductive or deductive way. While both quantitative and qualitative content analysis involves counting responses the end result in qualitative content analysis is that the counting is “a means to an end; not the end itself” (Sandelowski, 2000, p. 338). When used in qualitative research summarizing the data numerically is a process towards finding patterns, or confirming the relevance of an observation through counting the number of times it is repeated. This has been referred to as a ‘quasi-statistical’ style (Sandelowksi, 2000, Neergaard et al., 2009) and in qualitative description is used as a supplement. This process of counting was used in this research when synthesizing the dental care pathways. The intention of the counting was not to have as an end result a list of numbers representing exits from the pathway, but to use the numbers as a tool to underscore the complexity of the pathway and to highlight the patterns of pathway exits. The final process was to take the information one step further to a description of the cause and effects of the exits.
Content analysis can be inductive or deductive. A deductive approach is used when the purpose of the study is to “validate or extend conceptually a theoretical framework or theory” (Hsieh & Shannon, 2005, p. 1281). In this approach existing theory focuses the research question and the study tests the theory in a new setting. In contrast, inductive content analysis is used when there are no previous studies dealing with the research topic, or the research literature is limited or fragmented, as is the case with the research presented here. As stated at the beginning of this chapter only one other qualitative research project focusing on participants’ experiences with publically financed dental plans for children was located and that project was limited to the programming available in Ontario (Lomoteym et al., 2004). No studies focusing on this issue have been located in British Columbia. When the purpose of the study is to provide new knowledge or insights the inductive approach is the most appropriate and was used in this research. The access to care framework discussed in the literature review did not inform the data analysis as it would in a deductive content analysis. Instead the framework was revisited after the inductive analysis was completed. This was done to see if the results did indeed fit within an accepted framework.

Content analysis can be applied in many different qualitative methodologies. For example it is often used in case studies and ethnography (Mayan, 2009; Patton, 2002). The results will look different depending on the research process. What sets qualitative description apart from the other more common qualitative analysis methods is nicely summed up by Neergaard et al. (2009) who states: “the aim of QD is neither thick description (ethnography), theory development (grounded theory) nor interpretative meaning of an experience (phenomenology), but a rich, straight description of an experience or an event”. To stay true to the intent of qualitative description the data should be presented as a description of the patterns and themes that emerged from the data but not re-presented (Sandelowski, 2010). That is
because the intent of the methodology is to provide a descriptive summary of the data that were collected without transforming the data through the author’s interpretation. This is what is meant by staying close to the data, or to use Sandelowski’s terminology to stay “data-near”. There can be description and low-inference interpretation of the data but not transformation.

While this section may have the title of Data Analysis, analysis actually began in the data collection stage. Creswell (2007) describes the core elements of qualitative data analysis in three stages. First is preparing and organizing the data for analysis which, in the case of interviews, is the transcription process. The second stage is coding the data then condensing the codes into categories and eventually themes. Creswell describes the final step as representing the data. This can be done in figures, tables or discussion. Miles and Huberman (1994) break the second stage down into more detailed steps called analytical moves but the core concepts remain. Following Creswell’s outline the first stage of analysis was carried out during the process of transcribing and summarizing the interviews. The second stage of coding and categorizing is described below. The final stage of representing the data is covered in the Results chapter.

**The coding process.**

The coding process of any qualitative analysis begins with reading all the data to get a sense of the whole. Many authors advise the researcher to read the transcripts in their entirety several times to immerse themselves in the data and get a sense of the interview as a whole (Creswell, 2007; Hsieh et al. 2005; Mayan 2009; Sandelowski, 1995). The process of personally conducting each interview and transcribing it, then writing a summary of each interview for member checking had resulted in my immersion in the data. Once all interviews were completed I was no longer distracted by the process of finding the next participant. This was the right time to read through every interview transcript and get a sense of the whole. At the end of each interview transcript I wrote down the one or two prominent observations that arose from the
interview. This process was aided by the fact I was so familiar with the interviews that I could hear the voices and remember the faces of the people whose words were on the page. The interviews were then reread a second time and after each informative statement made by the participant I asked: “What are the data telling me”? At this reading I highlighted key concepts and wrote notes in the margins of my ideas or impressions arising from the text.

The process of developing codes was governed by the use of the semi-structured interview process to collect the data. Each person was asked the same questions following the same pattern. Probing questions were used to expand on ideas but were in addition to the script and therefore did not change the core questions. This structured process results in coding and categories arising from the questions themselves. Mayan (2009) provides this observation regarding semi-structured interviews: “…all participants are asked the same questions, in the same order, and the answers to each question are studied together. Because semi-structured interviews are conducted and analyzed in this manner…each question might become a category” (p. 92). And, in fact, most of the codes and categories did arise naturally from the structured outline of the interview script. For example, each parent was asked a series of five questions about the Healthy Kids Dental Program (see Appendix C). One question was “how long have you been involved in the Healthy Kids Dental Program”? Answers given to this specific question were coded as “length of enrollment” and subsequently these codes were placed in the parent category of “Experience with the Healthy Kids Dental Program”.

The coding process remained open and fluid and one question equals one category was not an enforced rule. The interviews were not so structured that there was no room for expansion and discussion and many caregivers did have comments that fell outside the interview script. This resulted in the development of other codes and categories. One prominent observation that arose from the data was the use of advocates. A pattern emerged of advocates helping
participants get through the dental care pathway when problems were encountered. Use of advocates became a category. Another category was created to contain the comments relating to emotions expressed towards the dentist and the care he/she provided. Allowing the information gained from the participants to influence the coding instead of imposing predetermined inflexible categories ensured the knowledge generated from the research was grounded in the data (Hsiech, et al, 2005).

Organization of the data was aided by the use of the NVivo 8™ computer software program. Initially, the Tree Nodes function was used to create the codes and categories aligning with the interview script questions. Additional nodes were then created when patterns arose that had not been part of the script. For example, a node was created under the dental care pathway category to contain the references to the amount of money owed by the family for dental treatment. A benefit of the NVivo™ program was the ability to slot attributes into a casebook which was helpful for depicting participant profile data. Although the program does have a Model function for producing flowcharts I found it time consuming to manipulate the shapes and developed my flowcharts by hand.

Once all the transcripts were coded and the codes placed in categories, each category was reviewed to ensure any code placed within it was a good fit. Following the suggestion of Mayan (2009) and Patton (2002) the categories were then reviewed to ensure internal and external homogeneity. The test of internal homogeneity is to ensure the data in the categories reflect the category and fit nicely into it, and the test of external homogeneity is to ensure the relationships between the categories confirm that each category is distinct and separate. Reviewing the categories this way revealed that a large amount of overlapping data existed in relation to the experience of balance billing. The concept appeared both in the dental care
pathway category and the HK experience pathway. The codes and categories were reworked until the data fit in the most appropriate category with minimal overlap.

**Data displays.**

The production of “quasi-statistical” data can be a part of qualitative description as supported by Sandelowski (2000). In the presentation of data from this research, quasi-statistical data appear in a table listing participant profile data, and in the form of figures classifying activities that happened along the dental care pathway. As previously discussed a flowchart depicting the dental care pathway was developed for each child following the model developed by Grembowski et al, (1989). I found that the decision making process I had to go through to translate the pathway as described by the parent into a flowchart provided a deeper understanding of the circumstances that affected the treatment pathway. Miles and Huberman (1994) consider data displays to be an inevitable part of qualitative data analysis. They suggest the value of the data displays is that they allow the researcher “to see a reduced set of data as a basis for thinking about its meaning” (p. 429). Using the flowcharts as data displays did achieve the effect predicted by Miles and Huberman. The flowcharts reduced the data to a form where patterns became evident. Following the dental care pathway of each child resulted in two figures. The first figure (Appendix F) displays the reasons that children exited their dental care pathway. The second figure (Appendix G) reveals that the majority of families were unable to afford to pay the balance bill. That barrier presented a hurdle for sixteen of the twenty pathways. These figures provide a thought provoking visual representation of the circumstances faced by families as they seek needed dental treatment for their children. Detailed discussions of the pathways and the implications of exits from the pathways are provided in the Results chapter.
Rigor

When doing research ensuring rigor is paramount; every researcher wants to be sure “they got it right”. The value of rigor is so central to research that “without rigor, research is worthless, becomes fiction, and loses its utility” (Morse, et al., 2002, p.14). Unfortunately, qualitative research is overrun with a variety of terms all referring to the same concepts, making it difficult for a beginning researcher to find their way. Even experienced qualitative researchers find the overabundance of criteria confusing: “We have so many terms to cover the same concept…Anybody who does anything at all on reliability makes up a new term” (Brink as cited in Mayan, 2009, p. 102).

Trustworthiness was introduced by Guba & Lincoln in 1981 as a term to be used in qualitative research to replace the terms reliability and validity (which were deemed to be applicable to quantitative research and the positivist paradigm). Trustworthiness, as the name implies, refers to the extent to which the researcher’s findings can be trusted. According to Lincoln & Guba (1985) trustworthiness is dependent upon four criteria: credibility, transferability, dependability, and confirmability. Within each of these four criteria are strategies for achieving trustworthiness. In the 2000s some qualitative researchers and authors began to argue that a change in terminology is not required if the goal remains the same (Mayan, 2009; Morse, et al, 2002; Richards & Morse, 2007). If credibility mirrors internal validity, and transferability mirrors external validity, and dependability is a different term for the concept of reliability, then why do we need different terms for parallel concepts? Mayan (2009) asks the question, “Can we not use the terms that represent good science (validity, generalizability, and reliability) but apply different rules of rigor accordingly” (p. 105)? Reliability and validity can be determined differently in qualitative vs quantitative research but a reliable and valid study is still the goal of a qualitative researcher. This argument is provided by Morse (1999b):
To state that reliability and validity are not pertinent to qualitative inquiry places qualitative research in the realm of being not reliable and not valid. Science is concerned with rigor, and by definition, good rigorous research must be reliable and valid. If qualitative research is unreliable and invalid, then it must not be science. (p.717)

As a student new to qualitative research it is unconventional to forgo terminology such as trustworthiness introduced through the seminal work of Lincoln & Guba. But the arguments put forward by M. Mayan and J. Morse are convincing, and I believe the criteria for rigor can be adhered to without adding a layer of confusion by introducing and defining new terminology. As I describe my methods for achieving a rigorous study I draw heavily on the work of Mayan.

Validly, generalizability, and reliability.

Using the terms validity, generalizability, and reliability in qualitative research does not mean applying these terms in the way they are used in quantitative research. So while the words are the same the definitions are different. In all research the measure of validity is whether or not the findings are an accurate representation of the data, but the end product is arrived at differently. With quantitative inquiry the researcher achieves internal validity by controlling extraneous variables. In contrast the qualitative researcher strives to show that the descriptions provided arise from the data and not from preconceived ideas or under the influence of the researcher’s bias. Strategies that enhance validity include researcher responsiveness, and thinking theoretically.

In regards to generalizability the goal of all research is to transfer knowledge gained but again, the means for determining generalizability are different. In quantitative study the ability to transfer findings from the sample to a larger population involves obtaining an adequate and random sample that represents the population. In contrast qualitative studies use samples that are
selected purposefully in order to capture experiences with the phenomenon under study. The findings that come from a purposeful sample represent a variety of experiences and can be used to understand similar scenarios or problems (Mayan, 2009). The knowledge gained through the research is not limited only to the demographic studied, the knowledge gained can be generalized to other populations (Morse, 1999a). Selecting an adequate and appropriate sample is a strategy to enhance generalizability.

Reliability in quantitative inquiry requires that the same results would be obtained if the study was replicated. While exact replication cannot be achieved in qualitative inquiry, reliability is achieved through repetition or duplication within the data. When common experiences are shared over and over by participants, reliability is attained. Ensuring saturation is a strategy to enhance reliability.

**Verification strategies.**

The main thrust of the arguments presented by Morse et al (2002) is that the methods established in the qualitative literature for showing rigor, such as audit trails and member checks, are special procedures that are applied external to the research process. This is a problem because the criteria used to evaluate rigor are applied at the end of the study to look back upon it and check if the steps were performed. These strategies are more about evaluating rigor than ensuring rigor. Morse argues the preference should be to use criteria that direct the study as it is being conducted such as methodological congruence. As an example, confirming that an audit trail was kept does not ensure a rigorous study, it only documents that the steps were taken. In contrast, the five verification strategies outlined by Mayan (2009), guide a researcher on how to ensure rigor while conducting the research so that the results are valid and reliable. The five verification strategies are outlined below, along with the steps I took to incorporate these strategies.
Researcher responsiveness.

Researcher responsiveness is defined as the ability of the researcher to be open to the data and to allow the data to develop the insights instead of looking for confirmation of pre-determined ideas. This is the strategy Morse et al (2002) believes to be the greatest threat to validity. Lack of responsiveness is often due to an investigator who works deductively with the data from previously held assumptions. This was a threat that I had to be particularly careful with due to my long history of working with clients who had trouble getting dental treatment while on the Healthy Kids Dental Program. Data coming from the interviews were clear and were contrary to my expectation. Clients were extremely grateful for the help provided by the Healthy Kids Dental Program. They recognized dentistry is expensive and that financial barriers exit even with HK. But the majority did not complain that the program did not pay enough of the dental bill they faced. Comments that the program should pay more did come up but usually in response to asking for suggestions on how to improve the program. This served as a wakeup call that preconceived ideas must be relinquished if poorly supported by the data.

Due to unforeseen circumstances my research was put on hold for several months, and I found that moving away from absorption in the data was actually helpful. I had been involved in the lives of families trying to obtain dental care and the step away provided a distance that allowed me to see the situations more objectively.

Methodological congruence.

The second strategy is adherence to methodological congruence to ensure the researcher maintains congruence between their theoretical perspective, the research question they intend to answer, the methods they choose to collect and analyze data, and the results they produce. My adherence to methodological congruence has been detailed throughout the methods chapter.
Adequate and appropriate sample.

The third strategy is ensuring an adequate and appropriate sample. Participants who best represent the topic are necessary to ensure optimal quality of data. When saturation is achieved it “ensures replication in categories; replication verifies, and ensures comprehension and completeness” (Morse, et al., 2002, p. 18). Negative cases are considered essential. It is through finding cases that do not fit the pattern that we increase our understanding of the pattern. As stated by Patton (2002) negative cases “may be exceptions that prove the rule. They may also broaden the ‘rule’, change the ‘rule’, or cast doubt on the ‘rule’ altogether” (p. 554). Exploring the reason why these cases fall outside the main pattern can add valuable and interesting observations to the main findings. A scenario in which a negative case was found in this study was regarding a family whose pathway differed from the others when receiving treatment performed by a hospital privileged dentist (HPD). All other families seeing a HPD exited the dental care pathway when they found themselves unable to pay the balance bill. This family also had a large balance bill to pay, yet was the only family not to exit the pathway at this point. Exploring what was different about this case shed light on the pattern of exiting the pathway at this juncture. None of the HPD offices accept payment plans. This family had a father who worked full time and had a credit card. The balance bill was paid using the credit card which, for the family, is equivalent to a payment plan. In this case the payments are being made to the credit card company instead of the dental office.

An adequate and appropriate sample is one area in which my research does have fault. My reliance on the dental public health staff to obtain my sample resulted in an overrepresentation of participants using charitable funding to pay the balance bill. Two of these charitable organizations are only available in the geographic location in which the study was
conducted and this greatly limits the generalizability of the study. This fault is well documented throughout the thesis and particularly in the limitations section.

Analyzing data concurrently.

The fourth strategy outlined by Mayan (2009) is collecting and analyzing data concurrently in order to move between what is learned and what needs to be learned. This strategy was enhanced in my research by the fact that I did the interview, then transcribed and summarized each case as soon as the interview was over. Doing all this myself gave me a deep understanding of the data as they were collected. Given my many years of working with the Healthy Kids Dental Program I was exposed to and therefore aware of certain scenarios (i.e. parents with difficulty paying the balance bill) but did not encounter other scenarios (i.e. parents who are not balance billed by their dentist). I was therefore attuned to the different scenarios that needed to be captured. These two conditions helped me effectively move between collecting and analyzing the data.

Thinking theoretically.

The fifth and final verification strategy is thinking theoretically. This is explained by Mayan as a process of using the literature to inch forward, while avoiding the tendency to leap to conclusions after a few interviews. My background in the field was an obstacle I knew I had to overcome to apply this strategy effectively. By resisting the urge to focus on the pathway exits related to balance billing I was able to recognize that the pathway exits relating to referrals to hospital privileged dentists (HPD) were nearly as numerous as the exits for balance billing.

Other strategies.

Acceptance of the argument for a return to the use of validity and reliability does not preclude the use of other strategies; qualitative inquiry is not that prescriptive. Other strategies
can strengthen the quest for rigor. In addition to the strategies for verification already listed, qualitative researchers frequently turn to the strategies suggested by Lincoln & Guba (1985) for ensuring trustworthiness. These strategies include prolonged engagement, participant checks, journal writing, peer review and audit trails. The application of each of these strategies in my research is briefly outlined in the points below:

- Although I did not have prolonged engagement during this research period it should be noted that my 20 years of experience counseling families who have encountered economic barriers to dental care did provide me with the insight that would come from prolonged engagement such as understanding the culture of participants and recognizing misinformation.

- Each participant was provided a summary of the transcript and asked to review it for accuracy. Although two participants could not be reached to provide participant checks, the other 14 participants approved the summary as accurate without asking for any changes. This bodes strongly that the summaries were accurate reflections of the interview.

- My personal journal was used to record my assumptions previous to initiating my interviews and detailed how the information I gathered was affecting those assumptions.

- My supervisor provided peer review from the point of an academic mentor.

- The audit trail forms one part of my journal and was used to track justifications for decisions I made throughout the research process.
Chapter 4: Results

The purpose of this study is to explore the experiences of caregivers whose children access dental care under the Healthy Kids Dental Program. The purpose of this chapter is to present the results of that exploration. The research participants entrusted me with their stories. To give voice to their stories the information they shared must be written so that others can know what I learned and how I learned it. The advice offered by Patton regarding presenting results is, “Do your very best with your full intellect to fairly represent the data and communicate what the data reveal given the purpose of the study” (Patton, 2002, p. 433).

An important feature of qualitative description is the recommendation to produce a final product that describes the participants’ experiences in a language similar to the participants’ own language (Neergaard et al. 2009). My objective was to follow the qualitative description method so it was important that the final product be recognizable to the participants and not transformed to another level of meaning. This sentiment is captured by S. Jones in her quote: “the story told must be one that is recognizable to those who told it; that emerges directly from their words…and that holds together as coherent, believable, and cogent to all who read it” (Jones, 2002, p. 468). My primary intention in doing this research was not to develop a theory, but rather to try and give a voice to the experiences of the research participants.

This goal of this chapter is to present the results of the data collection and analysis process in a clear and comprehensive manner. The chapter begins by describing the findings using the framework provided by the interview script. Following the headings of the interview script, results will be presented on Demographics, Beliefs, Dental Care Pathways and Healthy Kids Dental Program Experiences. The chapter finishes with an exploration of the themes found in the data.
The results chapter is more than listing topics or reproducing interview data. It is proposed by Sandelowski and Barroso (2003) that to leave the data simply “on the surface of the words”, with no interpretation, does not constitute qualitative research. Qualitative research requires interpretation, although with qualitative description the interpretation remains “at the lowest level of abstraction” (Sandelowksi & Barroso, 2003, p. 912). This would be in contrast to, for example, grounded theory which transforms data into theory. This chapter is written to meet the requirement of presenting data close to the participant’s voice, and meeting the requirement of interpreting the data in order to be considered research. The findings are first described in detail to allow the reader to see how the themes arose from the data. The chapter then ends with a presentation of the main themes that arose as the data went through a greater degree of transformation into themes. Interpretation moves no further than this lower level of abstraction.

**Demographics**

A total of sixteen interviews were conducted, transcribed and analyzed. In all interviews the participants were parents of the children and consisted of the biological mother in 13 interviews, the adoptive mother in one interview, and the biological father in two interviews. Demographic information with known associations with the utilization of dental care was obtained, specifically caregiver’s level of education and household income. For convenience the information described below is also in a table format in Appendix H.

One parent was over age 50, two were between ages 20-29, five were between ages 40-49 and eight were between ages 30-39. Three parents had less than high school education, five had high school only, and eight had some level of post secondary education. Of the eight with post secondary education, three had begun their education but left the course before they completed and one was just beginning courses. Two participants had obtained a Bachelor degree. No participants had obtained a graduate level degree. Level of income was not a direct question but
the level of assistance the family receives from the Medical Services Plan was determined. The level of assistance received is related to the families’ adjusted net income and was an indirect way to determine income levels.\textsuperscript{11} Fifteen of the sixteen families received 100% full coverage from premium assistance and one family received 80% premium assistance. This translates to 94 percent of the families living on an adjusted net income of $22,000 or less. Participants were also asked their marital status. Six parents were in a marital relationship and one was in a common-law relationship. Three parents were separated from the child’s other parent, two were divorced, one was widowed, and one was single. The marital status of the first two interviewees is unknown as the question was added after those two interviews had already been conducted.

Most families had one, two or three children currently on the Healthy Kids Dental Program. Two families had four children, and one family had five children currently on HK. In three families there were older children that had been on HK but due to age they were no longer covered by the program. Once a child reaches 19 years of age they are no longer eligible for the Healthy Kids Dental Program. Children for whom pathways were followed ranged in age from two years of age to 17 years of age. There were 11 children age five and under and nine children age six and older.

Beliefs

The next section of the interview asked the participants to discuss their beliefs about dentists and dental treatment, and about their views on keeping their children’s teeth healthy. Asking parents to speak about their own personal experiences was intended to bring to the fore

\begin{center}
\begin{tabular}{|l|l|}
\hline
If the Family’s Adjusted Net Income is: & The Family will Receive: \\
\hline
$0 - $22,000 & 100% premium assistance \\
$22,001 - $24,000 & 80% premium assistance \\
$24,001 - $26,000 & 60% premium assistance \\
$26,001 - $28,000 & 40% premium assistance \\
$28,001 - $30,000 & 20% premium assistance \\
Over $30,000 & No premium assistance \\
\hline
\end{tabular}
\end{center}

\textsuperscript{11} If the Family’s Adjusted Net Income is:
any attitudes parents might have towards dentists and dental treatment which could influence their perceptions of obtaining care for their children.

**Parents own dental health.**

Participants were asked questions about their own dental health. They were asked to rate their own dental health on a 6 point Likert scale from very poor to excellent, and to discuss their own experiences of going to the dentist. Parents rated their dental health across the spectrum: three parents rated their dental health as poor, the majority (seven) rated it as average, three rated it as good, one as very good, and two rated their own dental health as excellent.

When asked to relate their dental experiences either as a child or as an adult only four participants related negative experiences, with two of them describing quite negative experiences:

Well what happened when I was 15 my mom saved two thousand dollars and we went to my dentist and she requested that he pull my whole top bridge...and he wouldn’t do it. He said no ‘cause I was too young and we wanted to repair them so he repaired my whole top bridge and within a year they were broken - so basically that money went to waste (P1).

Uhhh, it was a really bad incident that I had here in [name of city] when I moved here. Uhmm one of the dentists did a root canal, did the worst job [emphasis by participant] and ended up leaving, like I ended up having the tooth pulled. I’ve still got the stakes, he pushed the stake when he did the root canal too far in to my bone structure and it stayed when the tooth was pulled. I just - I’ve had rough dentists, beyond belief (P5).

Most participants however related positive experiences or attitudes toward dentists and receiving dental work. As opposed to actually liking the dentist their experiences were often
expressed in relation to the fear aspect of dentistry: “They’ve been good experiences, I’ve had uhmm, no pain associated with dentistry or my dental work” (P10), “I had a really good dentist as a child, so he made going to the dentist very comfortable” (P12), “I don’t have any personal qualms against dentists or dentistry, I’m not, you know, afraid of the dentist as some people would be” (P15), “Like I don’t have any fear of it” (P4), “Uhmm, never had any bad experiences. They were always kind and very gentle so never had any rough dentists” (P6), “I had some fillings but nothing very traumatic, nothing bad” (P7).

There was no direct question posed to the participants in relation to the parent’s financial ability to obtain dental treatment for themselves, and yet all but two participants brought this issue forward. Many parents strongly expressed a desire to have their own dental needs met: “Well, I think for uhmm more than 10 years I’ve known that I have to have work done, but it’s the point of having the finances to be able to go through and do that” (P16), “Uh, I love going to the dentist, I wish I could get there more often, I can’t afford it plain and simple” (P17), “I woke up every morning and wished I could afford to go to the dentist” (P1), “I haven’t physically been to a dentist in probably 15 years just because of the cost” (P7). Others spoke of having to endure toothaches because they cannot afford to get their teeth fixed, “I’ve had a lot of pain over the years with my wisdom teeth…but again can’t afford to get them pulled” (P11).

In summary most parents had good impressions of dentists and most conveyed positive attitudes. There was only one parent who expressed a personal distrust of dentists. A theme that emerged from this section of the interview was that parents wished they could go to the dentist more but cannot afford it. This translates to placing a high value upon getting dental care for their children, so the children do not end up with problems with their teeth that are being endured by the parents, “Oh, it’s so important to me, I don’t want my kids to go through what I went through. No! Definitely not” (P1).
**Reasons not to take child to the dentist.**

The next question in the Beliefs section asked the parents to provide a response as to why they thought some people might not take their child to the dentist. This question was framed in the third person to avoid putting a parent in a position of feeling self-conscious if finances were a problem for them. It also allowed the parent to give an answer that exemplified their knowledge of the world. If the people in their environment made decisions a certain way, it would reflect in their answer. When answering this question, twelve participants gave more than one reason why parents may not take their child to the dentist. For example, participant 8 provided three reasons: first reason was financial, second reason was fear, and third reason was level of importance:

They can’t afford it, number one. Or they had a fear when they were a child and they put that fear on their child too, I think, a lot of times. And so either their child is scared to come or the parent just doesn’t bring them cause they don’t see it as important. (P8)

The overwhelming answer to the question of why parents might not take their child to the dentist was finances. Not taking their child to the dentist because they cannot afford to was given as an answer by every participant. Twelve listed it as their first reason and it was included in the answers given by the other four. Participant 12 emphatically made this point with her answer:

Uhmm, because it is expensive, and unfortunately even with 100% coverage it still doesn’t cover ahh everything there is, there’s extra costs you have to incur every time you take your children to the dentist, so depending on their income level, uhmm I guess it would depend on whether they wanted to pay the dentist or whether they wanted to eat that month. (P12)

Fear was the next most commonly given answer. Two participants gave fear as the first reason but it was mentioned by another six people. Three participants gave the answer that
parents might not think it was important to take their child to the dentist as the first reason, and it was part of the answer by three more people. One person added the suggestion that a parent might think their child’s teeth are fine when they are not. These answers echo the findings from other research which found that the primary barrier to receiving dental care is affordability, but that after removing affordability issues the strongest predictors of non-use of dental services are lack of perceived need for care and fear, which are both acceptability issues (Pegon-Machat, et al., 2009; Bedos, et al., 2003).

Keeping children’s teeth healthy.

The next section asked questions specific to the participants’ children. Parents were first asked what they do to help their children keep their teeth healthy. The premise behind this question was to see if parents believed taking the child to the dentist was considered a part of keeping teeth healthy. Only four interviewees mentioned seeing a dentist (or describing procedures done in a dental office) as part of what they do to keep their child’s teeth healthy. There are two possible explanations for why the recognition of dental visits as a part of keeping teeth healthy was so low. First, it may be a reflection of parents feeling dental visits are out of their realm of control, and what happens in a dental office is the professions’ role for keeping teeth healthy, not the parents’ role. The second explanation lies in the interview process. Because the entire interview was focused on access to dental treatment it is possible that parents felt the issue of visiting the dentist was being dealt with in many other questions and therefore this question should focus on what they personally do for home care practices.

Brushing teeth was mentioned by all parents and whether they did the brushing, monitored the brushing, or just encouraged it depended upon the age of the child. Flossing, in addition to brushing, was mentioned by ten of the 16 respondents. From a dental health standpoint it is interesting to note that while seven of the interviewees recognized that snacking
plays a role in keeping teeth healthy, a higher number of interviewees (nine) did not mention the role diet plays in keeping children’s teeth healthy.

**Deciding on treatment needs.**

The final question in the Beliefs section asked the parent how they decide if their child is in need of dental care. The premise for this question was to investigate if parents used regular check-ups as a way to keep dental problems from happening or if they waited until problems with the teeth prompted them to make an appointment. An important note here is that all parents are using the Healthy Kids Dental Program and in 2009 the program reduced the allowable recall visits to one recall visit per year. Many of the families had been used to a six month recall schedule and responded to the question with the previous twice-a-year schedule in mind.

Most interviewees followed a pattern of attending the dentist regularly and felt that by attending regular dental appointments the dentist would see if any dental care was needed. These parents did however explain that between dental visits, should the child have a complaint about their teeth it would be investigated. These families left it to the dentist to tell them if their child needed dental care.

Well, because they go to the dentist, if they catch it, but if it’s other than that, if they tell me, like if they’ve got a sore if there’s a tooth, or they think there’s a cavity, then, then I’ll do something then. But they can only go twice a year so, ya have to watch that too (P7).

Two parents noticed what they thought could be decay on their young children’s teeth and that prompted them to take them to the dentist even before they had planned to make the first dental visit. These children were under age three when the parent noticed areas of concern. Another three families were prompted to see a dentist because their child complained of pain. In two of these cases the children were older but not attending the dentist on any regular schedule
and it was the compliant of a toothache that resulted in an appointment, “Uhmm, basically when he says that his teeth hurt, which is usually the trigger” (P9). In the third case the child was young (age four) and had never seen a dentist. In this situation the parents knew they should be going in to see the dentist but they were avoiding making an appointment because they could not afford it. The child’s complaints triggered making an appointment:

It [appointment with a dentist] was something that we weren’t able to do at all, until my son started to express pain in his teeth, which really is far, you know, has taken it much too far, uhmm before we went to see the dentist, but you know finances didn’t allow it (P15).

Dental Care Pathway

The third section of the interview followed the dental care pathway of the child from the time the parent first decided their child should see a dentist until the dental care was completed, or in the case of incomplete treatment, to the stage they were in as of the date of the interview. Though only 16 parents were interviewed the dental care pathways of 20 children were followed. When the experiences of the siblings were very similar, then only one pathway was followed as it was representative. If the experiences captured unique situations then other siblings had their pathway mapped. In one family the pathways of three siblings were followed during the interview and in two other families the pathways of two siblings were followed.

Flowcharts.

After each interview the pathways, as verbally described by the parents, were transformed into a flowchart. The Dental Care Process flowchart developed by Grembowski et al. (1989), and described in the Methods chapter, proved to be an excellent tool in making sense of the many stops and starts along the pathways as parents described the events which took place while trying to access care. The use of the flowchart provided a visual instrument that enhanced
understanding of the children’s experiences. The argument that presentation of data outside of the written word is useful in qualitative research is provided by Morse and Field (1995):

The presentation of some qualitative methods is particularly enhanced by the use of diagramming, modeling, or effectively using tables to provide overviews or schemes of the study. They serve to keep the reader on track…and may even assist the researcher in the process of writing. (p. 179)

Providing an example of how a pathway is displayed in a flowchart is the most efficient way to explain the process and an example is provided in Figure 4.1. The majority of children (thirteen) had two exits from their dental care pathway and so the example provided is a pathway with two exits.
**Stimulus**
Parent was made aware of decay in child (age 2) by a dental hygienist when attending the dental public health fluoride varnish clinic

**Decision to Visit**
Parent follows up on recommendation to take child to the dentist

**Search**
Parent aware of KGMDC* where clients are not balance billed. She makes appt. at this clinic

**Oral Exam**
Exam of child, need for treatment confirmed

**Oral Exam**
Dental office tells parent a $150.00 fee is required before appt. can be booked

**EXIT**
$150.00 fee is not covered by HK and parent does not have the money to pay the fee.

**Outcome: Pathway exited without any treatment received**

**Dentist Diagnosis & Treatment plan**
General dentist at clinic cannot treat child of this age and refers parent to a specialist in Vancouver

**EXIT**
Parent cannot get to Vancouver so no appt. made

**Begins New Search**
Dental hygienist from public health makes referral to Hospital Privileged Dentist (HPD) in community in which parent lives

*KGMDC: Kelowna Gospel Mission Dental Clinic*

**Figure 4.1. Dental Care Pathway of Participant 4a**
**Pathways and billing practices.**

Figure 4.2 is a visual representation of how billing practices affected the 20 pathways. In every pathway that was followed during this project there occurred a billing to the parent beyond what was covered by the Healthy Kids Dental Program.

**Figure 4.2: Dental Care Pathways (N=20)**

In four of the 20 pathways the family was balance billed but was able to pay the bill and treatment proceeded in a timely manner (see box N=4). In three of these four pathways the treatment needs were relatively minor and treatment was provided by a general dentist. In these three cases the extra costs that are incurred when using sedation, or general anesthetic, or specialist fees did not apply in these pathways. However, one of the pathways did involve a general anesthetic and the bill to the family was large. Many low income families are unable to obtain credit cards, but this family was able to use a credit card to pay for treatment.

The dentist gave us a first quote…and it was upwards of $4000.00 including everything. It was quite a lot, much more than we had originally anticipated. But
the dentist worked with us…to help bring the bill down…we ended up only
paying about $1300.00 ourselves….We had no option but to charge to a credit
card the most of that…and now we’re paying it off to a creditor that charges
insane amounts of interest (P15).

In 16 of the 20 pathways the family was unable to afford the bill presented to them as
their patient portion owing (see box N=16). The bill represents costs beyond what is paid by the
Healthy Kids Dental Program and is the responsibility of the family. In Appendix G the
flowchart depicted in Figure 4.2 is expanded to provide more detail about the situations
represented in each of the boxes. There are five children who, at the time of the interview, were
not scheduled for treatment because the family does not have the money to pay the balance bill,
or in two cases an administration fee. 12 This represents five children (or 25 percent of the
pathways followed) that have identified treatment needs that are not being met (see box N=5). At
the time of the interview the families did not know when, if, or how they would obtain treatment,
“They’ve [dental office] actually tired to contact me and I haven’t answered the phone because I
have no idea of when I can afford the $407 for dental” (P17).

Two families (representing three children) were able to find a different dentist who
agreed to do the dental work without balance billing and treatment was completed without
additional charges to the parent (see box N=3).

Another group of children (see box N=8) received treatment only after finding a
charitable funding organization to pay all or a portion of the balance bill and/or
administration/sedation fee. Three of these charitable organizations are available provincially but

12 The parent of these two cases referred to the fee as an administration fee. From her
description of the situation, and information provided by the dental office website it is believed
that the dental office charges a $150.00 fee to reserve operating room time for a child. The fee
must be paid before the dental office will book the appointment. A child who is having treatment
under sedation in the dental office is charged a “sedation fee”. This fee reserves the time for the
child and also must be paid in full before the appointment is booked. These fees are not covered
by Healthy Kids so the parent is required to pay the full amount
one is only available in the geographic area in which this research was conducted. The four charitable organizations are briefly described.

**Charitable organizations available provincially.**

Save-A-Smile (SAS) is a provincial charitable organization established in 1991. It began as an initiative of the British Columbia Dental Association (BCDA) and is supported through donations from dentists and corporate sponsors. “SAS is a community-based direct care program that works in partnership with dental public health staff across BC to ensure that children without access to public or private dental plan coverage receive the dental care they urgently need” (Ciriani, 2012). All children in BC who meet specific inclusion criteria are eligible to receive funding from SAS. The family must connect with the dental public health staff to apply for the funding. There is a yearly limitation on funds available. Four children from the families that were interviewed received financial assistance from this charity to obtain treatment.

The Elks and Royal Purple of Canada operate a Personal Assistance Program. The program provides financial assistance to help children with special needs when funds are not available from other sources. The funds are available to children under age 19 for any purpose that is for the good and welfare of the child ([www.elks-canada.org/uploads/FileQ-A_program_000.pdf](http://www.elks-canada.org/uploads/FileQ-A_program_000.pdf)). Families must complete an application form confirming their financial status, providing medical confirmation of the child’s need for treatment, and proving that no other sources of funding is available. One of families interviewed received financial assistance from this program.

The Cy and Emerald Keyes Charitable Foundation is a registered charity that supports both education and health initiatives in BC. In 2011, 50 percent of annual proceeds went to educational scholarships, and 50 percent towards dental and medical assistance to children (Howard, G., personal communication, July 20, 2011). There is a $500.00 funding limit per
client for dental procedures but the charity can use its discretion to increase this amount in special circumstances. There is a yearly financial limitation on funds available. During personal communication with the president of the foundation it was confirmed that, although the foundation will provide assistance to any region in BC, it is only the Interior Health region that routinely applies for financial assistance for dental treatment cases. Seven children from the families that were interviewed for this project received financial assistance from this charity to obtain treatment. This financial assistance would not have occurred in other regions of BC since other regions do not use this funding mechanism. It is important to note that should other regions start to use this charity the yearly limit will be reached more quickly and less funding will be available to clients in the Interior Health region.

**Charitable organizations with limited geographic availability.**

In 2004 the Kelowna Gospel Mission Dental Clinic began providing dental services as an emergency extraction only clinic. An affiliation with the dental program at UBC in 2009 allowed the clinic to expand to a full restorative clinic where all basic services are provided at no cost to low income clients. Families with children on the Healthy Kids Dental Program are not balance billed for any treatment received at this clinic. The clinic is only open to residents of Kelowna and as such represents access to a charitable organization that is not available elsewhere. From the families that were interviewed there were three children who attended this clinic. One received treatment, but the other two were unable to cope with treatment due to age related behaviors and no treatment was performed.

**Reliance on charitable organizations.**

Eight of the twenty children (40 percent) for whom a pathway was followed used a charitable organization and this is viewed as an overrepresentation. It is extremely unlikely that a random sample of children accessing treatment on the Healthy Kids Dental Program would have
40 percent receiving financial help from charitable organizations. This overrepresentation occurred because, in this project, the dental public health staff were heavily relied upon as a source for clients to interview. Because the dental public health staff are the referral source for both the Save-A-Smile program and the Cy and Emerald Keyes program many of the clients they referred for an interview were accessing these charitable organizations.

The most heavily relied upon charity was the Cy and Emerald Keyes foundation with seven children accessing their funding. As stated there is a funding limit per client. For five of these seven children a second funding agency was involved as the amount available from Cy and Emerald Keyes was not sufficient to overcome the balance owed by the family. Four of the seven children had the Save-A-Smile program also contribute and one child had additional work done at the Kelowna Gospel Mission Dental Clinic after the funding from Cy and Emerald Keyes had been exhausted paying for treatment provided by the family dentist.

**Families not balance billed.**

Balance billing has become the norm in BC as shown in the literature review and echoed in the results of this project. It was presented in the literature review that the number of dentists that balance bill vary from 50 percent (estimated by the British Columbia Dental Association) to 65 to 74 percent (estimated by the provincial dental public health staff). Every family interviewed for this project described a pathway in which they were billed by the dental office. There are however, families in this project that historically had occasions where they were not balance billed. For the most part these happened several years ago and therefore would have occurred when the fees paid by HK were closer in remuneration to the dental association fee guide. “But yes, I do remember that [in 2002] it was paid in full by Healthy Kids. We didn’t have to pay” (P11). This same family is attending the same dentist (now with the younger sibling) and is being charged a balance bill.
There are three families who currently are not balanced billed by their regular dentist and this represents approximately 20 percent of dentists not balance billing. Alternatively, this represents 80 percent of dentists in this sample who are balance billing. In this project the percentage of dentists who balance billed was higher than the estimates provided in the literature review. Since the sample for this project was a purposeful sample it is not representative of the general population. In each of these three cases of no balance billing the family has regularly attended the same family dentist for a long period of time. In each of these families balance bills were incurred when following the dental care pathway due to circumstances causing them to see a dentist outside of their regular family dentist. In one case it was due to a referral to a hospital privileged dentist, in another case the child had had a bad experience and did not want to return to the regular family dentist so the family searched for a new dentist, and in the third case it was due to emergency treatment required when the regular dentist was out of town:

If I’d gone back to the original dentist it would’ve been fine but because we had to go to another dentist they wouldn’t cover it…I questioned them about why…and she [receptionist] was ‘no sorry’, just ‘they’re [HK] not covering it, you gotta pay’ (P7).

Data were presented in the literature review showing that there are dentists who do not balance bill families on the HK Dental Program and in this project these three families represent that scenario. “So, they’ve [dental office] worked really well to make sure our needs are met by what Healthy Kids covers” (P3), “I said how come some dentists charge that extra 20 or 30 percent and Dr. [name of dentist] doesn’t…and she [receptionist] said because she does this for the children” (P14).
Pathway exits.

The 20 pathways described above were analyzed in detail to ascertain the reasons why a child exited the dental care pathway. An exit is described as anytime the process towards obtaining completed care is interrupted or stopped. Three children had pathways that were straightforward with no exits. The parent knew the child needed treatment, they made an appointment, the necessary treatment was provided, and the child left the pathway with treatment complete. These are the same three children described in the previous heading that had treatment needs that were relatively minor and treatment was provided by a general dentist. The majority however, involved circuitous pathways with children exiting and re-entering the pathway as dictated by decisions or situations involving the parent and the dental care providers.

In addition to the three children who had no exits, one child had one exit from the pathway, thirteen children had two exits, two children had three exits, and one child had four exits from their pathway. There were a total of 37 exits from the 20 pathways. The exits from the pathways are combined and presented in a flowchart in Appendix F. Putting these events into the flowchart did not turn the experience into a number therefore taking away the human aspect. Instead it made it easier to grasp the reasons for the exists, which in turn made it possible to see patterns and develop themes.

Combining all the exits into one chart resulted in the observation that the principal reasons children exited the pathway was the inability of the parent to pay the balance bill, or other out-of-pocket charges levied by the dentist. Keep in mind that these are children who are on the Healthy Kids Dental Program, a program designed to help families overcome financial barriers to obtaining dental treatment for their children. Yet these billing practices created financial barriers that resulted in 20 exits from the pathway. An example of an exit caused from
billing practices is the second exit in Figure 4.1. That particular exit was explained by the mother:

Well, see what I asked them to do is uhmm, I would phone them when they, when it was more appropriate for me to be able to book him in because of the hundred and fifty dollar administration fee, it’s not something that I have at the moment. So, it’s something that I want to make sure I have in case ya know they phone me and they want to book me and then I don’t have the money for it ya know what I mean. (P4)

The second most common reason to exit a pathway was due to referrals for treatment to be done by another dentist in hospital, or under IV or oral sedation. This type of referral resulted in 12 exits. Very young children do not have the ability to cope with the extensive and invasive nature of dental treatment. Eleven of the twelve children referred due to age related inability to cope with dental treatment were age five and under. The two children who were age five did have attempts made by the family dentist to provide treatment in a regular dental office setting, however the attempts were unsuccessful. In both cases a decision was made that in the best interest of the child and avoidance of possible negative effects for future dental care, a referral to a specialist for sedation or to a hospital privileged dentist for treatment under general anesthetic was required. As explained by the mother of one of the five year olds, “They didn’t want it to be an unpleasant experience. You can’t hold a child down, right” (P3)? An exit due to a referral is also part of the dental care pathway followed for participant 4a and is the reason for the first exit in Figure 4.1. This exit was explained by the mother:

They had referred him to Vancouver originally…Yeah, they didn’t have as long a waiting list in Vancouver and so in that time I was quite concerned about having
to travel down there and what not…. I talked to [public health staff]…she had actually done a referral to the one [specialist] here. (P4)

There were four exits from the pathway due to the child refusing to see the dentist out of fear. In one case the child was very young and the intention was for the child to have a first dental visit. The child overcame her fear by age four and was able to attend for a check-up. The other three exits were the result of children refusing to return to a dentist after having had a bad experience.

The final category that resulted in one exit was a unique situation where the child was discharged by the dentist but treatment was not complete. From the description provided by the mother it appears the dentist felt the service provided (application of fluoride varnish) was adequate for the child’s needs and the dentist requested the child return in one year. However the areas of decay progressed and it was confirmed by another dental professional that restorative treatment was required and the child had to re-enter the dental care pathway.

**Healthy Kids Dental Program Experiences**

The final section of the interview focused on discussing the parent’s experiences using the Healthy Kids Dental Program and consisted of a series of five questions, each of which is discussed in a heading below. Questions about HK were placed at the end so that by the time the interview reached this section the parents had reflected on instances of where the Healthy Kids Dental Program worked well, or alternatively fell short, and was fresh in their minds. To introduce this interview segment each participant was informed that the statement they were about to hear was taken directly from the BC Healthy Kids Dental Program website. The following statement was then read to each participant: “The BC Healthy Kids program helps low income families with the costs of basic dental care” 

([http://www.sd.gov.bc.ca/publicat/bcea/HealthyKids.htm](http://www.sd.gov.bc.ca/publicat/bcea/HealthyKids.htm)).
Awareness of the Healthy Kids Dental Program.

The first question asked of the participants was how they learned about and became enrolled in the Healthy Kids Dental Program. For seven of the participants the HK Dental Program and eligibility for the program had been explained by a worker for a social program. Several people remember the enrollment occurred when they applied for social assistance: “When I first applied for social assistance, they automatically enrolled me” (P16), “I believe being on social assistance I was just automatically enrolled with my children” (P12), “I was on income assistance, and they told me that as soon as I get her medical card and she needs dental she will be put onto it…that’s how it worked for me” (P5), “If I remember right I saw a social worker, and they told us about the program” (P9). Four of the participants learned about the program through the dental office, “I believe it was just suggested by the dental office…and they checked on mine or however they do through the dental office and just said ‘Yes’” (P10), “so it was actually our dentist who we first heard it from” (P6). Another three of the participants learned about the program through a friend speaking to them about it: “My friend told me we might be eligible for that program. She phoned for me…and found out that yes, we are, we can, be eligible and we were enrolled” (P11), “we heard by word of mouth from a friend that there was such a thing here in BC” (P15). And finally there were two participants who could not remember how they became enrolled, “I can’t really remember where I learned about it” (P14), “Actually I didn’t even know we were enrolled…and I found out through them needing glasses” (P8).

Only one family had experienced going on and off the program as dictated by changes in their income. This family was self-employed and when their income was above the eligibility criteria they went off the program but when the business was not doing well their income dropped to a point they could enroll again through premium assistance. This family appreciated
that enrollment in HK was tied to premium assistance so they did not have to reapply for the HK Dental Program “I like that they can just check at the dental office and it’s not something I have to go and apply for on my own” (P10).

Length of enrollment.

Parents were asked how long they had been involved in the HK Dental Program. Two families have been on the program less than a year, six families have been on the program one to five years, three families have been on the program five to ten years, and five families have been on the program for more than ten years. This information is included with the participant profile information presented in Appendix H.

Experience with the Healthy Kids Dental Program.

The third question posed to the parents asked them to describe their experiences with the Healthy Kids Dental Program, specifically asking if they had any challenges getting enrolled and if the program was meeting their needs. There were two parts to this question and each is discussed in a heading below.

Enrollment.

When asked if they had any challenges getting enrolled in HK, every respondent answered that they had not faced any challenges. “No, I didn’t find there were any challenges getting enrolled” (P12), “It was a very smooth transition to be able to start utilizing it” (P15), “there wasn’t any challenges in getting enrolled, you just have to be low income” (P8), “I didn’t find any challenges. Like I was saying, it was a process that was done for me” (P16). From the comments it would appear that the Healthy Kids Dental Program has been successful in making enrollment a smooth process. However there is an important consideration regarding using this project as a study of the ease of enrollment. One of the inclusion criteria to be interviewed for
this project was that the participants had to be enrolled currently in the HK Dental Program. If they had encountered barriers and had been unable to enroll they would not have been interviewed. There was a family that was referred by the public health dental staff to be considered for an interview. The family however did not fit the inclusion criteria because they were not currently on HK. It was ascertained that this family had encountered barriers to enrolling in the program. Because they had not filed a tax return they could not prove their income level and therefore could not obtain premium assistance which is the precursor to getting on the Healthy Kids Dental Program. But it is worth noting that none of the sixteen families that were interviewed had encountered any enrollment issues in their past. One of the families had been on the program consistently for over twenty years.

Meeting needs.

The second part to the third question asked the participants if the Healthy Kids Dental Program was meeting their needs. Responses varied. The responses of seven participants indicated that HK was not meeting their needs. Participant 10 had been on and off the program over the years depending on the income from the family business. The mother described how the program previously had met their needs when they were making more money (yet still low enough to be on premium assistance) and the balance bill charged to them was billed at a lower percentage of the fee guide. However, at the time of the interview, this family was experiencing a very difficult year and their annual income was much lower. In addition, the balance bill was now being charged at a higher percentage.

[Previously] we were at a lower level of income and it was tough to go to the dentist, [but] because we were on the Healthy Kids Program it made it so that I would make the appointment because a greater portion of the bill was covered.

Right now, uhmm, we’ve had a really, really poor winter as far as work has gone,
so right now it’s not meeting our needs because I can’t even afford the - I think it
looks like it covers about two thirds of the bill - the Healthy Kids Program, I
can’t even afford the one third right now, so it’s not meeting my needs now.

(P10)

At the time of the interview one of the children had recently complained of a toothache
but the parent was not making an appointment because they could not afford the balance
bill that would be charged to them. The outcome of this situation was that this child was
not receiving care for a toothache.

My one daughter came home from school just the other day because she had a
toothache. But I can’t afford to make them the appt to uhmm get their check-ups
and if I was to go in and get check-ups probably they would ya know be needing
cavities filled or other dental work done, but I know I can’t afford to pay for that
right now so I’m just not making the appt to even go in and get the check-ups.

(P10)

Another mother discussed how the increased prevalence of balance billing and the
growing portion of the patient user-pay have changed her ability to get dental treatment, “Well, it
started out meeting our needs very well, we didn’t pay anything for uhmm all [child’s name]
early appointments [in 2002], but this now, it’s not really meeting our needs” (P11). This mother
represents one of the families in Figure 4.2 that had been unable to pay the balance bill, and had
obtained treatment because of finding a dentist who agreed not to balance bill (see box N=3).
Another participant explained that any dental procedure came with a cost that he could not afford
to pay. He used the term “user fee” to refer to the procedure of balance billing, “well, because it
doesn’t cover the user fees, its – it helps a small amount I suppose but it’s not enough to warrant
using it. There’s just not enough money in my budget to pay an extra bill” (P9). One participant
made the observation that the description of the program on the website specifically states that the program “helps” people obtain dental care. His comment reflects the observation that the program is meeting its commitment to help meet needs, “Well, I suppose the purpose is to ‘help’, uhm with dental needs, so with that definition I suppose it’s, it is fulfilling its commitment” (P15).

There were a total of seven respondents who stated that, to varying degrees, the Healthy Kids Dental Program did meet their needs. The first group within this group of seven represents three families that are not balance billed for regular procedures by their family dentist. For regular dental work the HK Dental Program worked well as their children received dental care and the parents did not have to pay a balance bill in order to obtain that work:

Because I’m going to [dentist’s name] and she’s not charging [i.e. balance billing] me it’s meeting all my needs. But if I - if it weren’t for the local dentists and I was having to put out money every year - I don’t know if I’d be able to do it. (P14)

One of these three families did face a balance bill when procedures were done by the family dentist that were not covered by the program, but the amount of the bill was manageable for the family, “Excellent, ya know there’s times when there’s been extra that we’ve had to pay, but ya know what they’ve helped with all those others, you can’t complain about those extras” (P3). For another one of the three families the mother opted out of a procedure that would have incurred a bill because the treatment was not covered by HK, “The only time they were gonna charge me is…to do a fluoride treatment thing and that would have cost me and at the time we just didn’t do it” (P7).

The next group within this group of seven who stated the HK Dental Program did meet their needs comprises three families who had been unable to obtain dental treatment without the help from charitable organizations to pay the balance bill. This creates an interesting conundrum
with the families stating the program met their needs while during mapping the dental care pathway, the families exited the pathway due to their inability to pay the balance bill. They were not able to obtain dental treatment relying only on HK and two families were only able to re-enter the pathway to treatment when charitable organizations provided funding: “It has met my needs with my daughter definitely, but I’m also having problems with it right now which I’m working on resolving” (P1), “I think it’s great. You know any type of sponsorship towards dental care is awesome, instead of paying the whole amount you know I’m thankful that they cover what they do” (P2). The third family had not yet obtained dental treatment because they could not pay the administration fee which is not covered by the HK Dental Program. So while the mother stated HK met her needs, “I mean it’s meeting, it’s meeting my needs” (P4), the reason her children had not yet received dental treatment was because of the portion of the bill she owed due to balance billing and administration fees, “Yeah and I mean even though it’s a smaller amount it’s something that just I’m still struggling with right now…the hundred and fifty dollar administration fee, it’s not something that I have a the moment.” (P4). Taking into consideration the answers provided by the parents and the exists from the pathways due to inability to pay, it would appear that the parents are thankful for the financial help they get from the Healthy Kids Dental Program and are aware that their bills would be much higher without HK. They feel HK is helping to meet their needs as explained by this mother: “For the amount that I do have to pay, I mean the amount that I would have to pay if they didn’t help is extreme so I’m just, I’m thankful for what they were able to help with” (P4).

One family, who was at 80 percent premium assistance and therefore represented the family with the highest low income, described how well the program met their needs: “Good, very well. It’s been a big help” (P6). This family did not have any exits from their dental care pathway, “[the dentist] gave us a quote at the beginning…and he said he would sent it into
Healthy Kids program and that he would get back to me with what my portion would be…and I paid the remainder” (P6).

The last person responding to this question differentiated between the program and the billing practices of the dentists. She felt the HK Dental Program itself does meet the needs for which it was designed and that it is the billing practices of the dentists which create barriers:

Uhmm, it meets the needs for direct work. On the other hand it’s the dentists [emphasis by interviewee] that are charging over and above what the Healthy Kids Program covers that is really making it hard - with all the fees, all the costs, the extra charges. (P5)

During the interview one participant relayed a troublesome story about the Healthy Kids Dental Program refusing to pay their portion of her child’s dental bill:

What happened is [name of dental clinic] phoned me and said it turns out they [HK] denied their share which is twelve hundred dollars was their share and they denied it because they said there was a lapse in her benefits for two weeks. And when I phoned Healthy Kids the other day they said ‘No, she’s covered.’ And so it must be an oversight and I asked why it would be denied, they couldn’t tell me….But I’m confident ‘cause they had it on their computer screen that she was covered. (P1)

During the interview the mother had agreed that the researcher could keep in contact with her about this matter of the unresolved bill. The interview took place in November of 2010 and the last contact was June 2011. Eight months had passed and the issue had not been resolved and the dental office had informed the mother they would be employing the services of a collection agency to recover the costs that were supposedly to be paid by HK.
The most extreme example of HK not meeting the needs of the family was the case of participant 5. The child had complained of a toothache, the mother had taken her to a dentist, the tooth was treated, and the balance bill was paid by the child’s grandmother. Much more treatment was required and a treatment plan was given to the mother for the rest of the dental work but the mother could not afford to pay the balance bill. The mother then began a search to find another dental office that did not bill as much and so did not return with her child to the original dental office for more treatment. Because the child was not brought back for urgently needed treatment the dental office called social services to report the mother for child neglect:

The next day I had a social worker show up on my doorstep. They [dental office] had reported me for neglect on my daughter’s teeth cause I refused to bring her back in there…He [social worker] more or less told me that if I didn’t get something done they were taking [child’s name] away, because I neglected her teeth. (P5)

Through the use of advocates two separate charitable organizations became involved. The Keyes foundation covered some of the treatment provided by the dental office by paying the balance bill. The remainder of the treatment was provided at the Kelowna Gospel Mission Dental Clinic where balance billing is not done as it a charity clinic. It is also important to state that the original dental office did some dental work pro bono.

**Reasons not to attend the dentist.**

The fourth question in the section discussing the Healthy Kids Dental Program asked the parents why they thought some people might not take their child to the dentist even though the HK Dental Program provides financial help. This question was asked in the hope it would help understand why the HK Dental Program consistently remains at only 40 percent utilization.
Most respondents gave more than one answer to the question. The most common answer was financial and was given by 14 of the 16 participants: “because the Healthy Kids Program does not cover everything and they may fear the bill that might come out at the end and how and where they’re gonna come up with that funding” (P12), “I mean Healthy Kids only pays a portion depending on how much work you need done. Money once again is still a factor for most people in low income situations” (P16), “I know if finances were not in my way my kids would be there” (P4), “basically that’s financial…I think if people have knowledge that the entire thing would be paid for I think [they] would be getting a 6 month check-up…I would have anyway” (P9). In her response, one participant listed three ways in which finances prevents people from taking their children to the dentist: inability to pay the balance bill (referred to as patient portion), requiring full payment to be made up front, and not providing a payment plan:

Simply not having the money to pay your patient portion, and the fact that offices are asking for parent portion up front that day. If there was an option to have monthly installments, or a payment plan, then it would be much more accessible” (P17).

It is worth noting that the two respondents who did not provide finances as an answer are also families that are not balance billed by their regular dentist.

The second most common answer provided as to why parents may not take their child to the dentist even with the HK Dental Program was lack of awareness about the program. This answer was provided by four respondents: “Why wouldn’t they take their kids with the Healthiest Kids program? Well, if they didn’t know about it” (P14), “That’s silly, I have no idea, unless they don’t know about it” (P7). The next most common answers related to the concepts of fear and of time, and three people gave each of those beliefs as an answer: “Time, maybe, I don’t know…maybe it’s a time thing, being able to get away to make a dental appointment” (P6), “I
don’t know…maybe their own personal fear of the dentist” (P4). Two other answers were provided that stand alone. One respondent felt that people on HK may view it as charity and be uncomfortable with that concept, “Ya know, they don’t want to admit that they need that…I think it’s a gift to be able to offer your kids to help them have good teeth when you’re not able to [financially]” (P3). Finally, one respondent felt that parents might not care enough to take their child to the dentist, “I guess some parents don’t care at all” (P9).

**Suggestions to improve the program.**

The final question of this section asked participants to provide suggestions on how they felt the Healthy Kids Dental Program could be improved. Participants had discussed how the program was or was not meeting their needs and this was an opportunity to elicit feedback on how improvements could be made. This was also an opportunity to allow the often marginalized group of low income clients to play a role in the production of knowledge. As the end users they brought to the research the insight that comes from firsthand knowledge of using the program.

Many participants made several suggestions, though two participants offered no suggestions at all. The suggestion most often provided was again, in relation to finances, with nine people commenting that the program should cover the full fee so that the low income parent is not left with unmanageable bills: “If the government is going to offer this program to help the kids to have healthier teeth, why wouldn’t they do it 100 percent” (P14)?, “I don’t know what they could do better other than paying more, I mean there’s really – that’s the only way to say that” (P15), “Well, I think especially for children, and for low income families that can’t afford it in the first place there shouldn’t be a cost to them at all” (P8).

The next most common suggestion centered on making policy changes to the Healthy Kids Dental Program. Some participants perceived that the program should be able to govern how dentists charge: “The dentist’s should be required to accept post dated cheques or accept a
payment plan” (P17), “try to put a cap on dentists and what they can charge people that have their kids on the Healthy Kids program” (P5). Others felt the government should change the fee guide of the Healthy Kids Dental Program so there is no need to balance bill the client: “I think it’s the government’s responsibility and they need to kick it up for the kids…it’s not up to the dentists” (P8), “The fee guide is behind the times, it’s a matter of being current with the fees” (P9). One mother suggested that the lower the family income the more the HK Dental Program should pay so less is charged as a balance bill, “I wonder if it would be better to do it sort of like how the premium assistance fluctuates, so if your income drops below a certain point then more is covered” (P10).

The third most common group of suggestions revolved around lack of information about the program, specifically access to HK Dental Program information and awareness that the program exists. Many parents felt they could not access information and suggested the program could do more to inform parents:

I don’t have any information on it so I don’t even really know what they cover so if there was something extra that could, like if I did have an extra benefit I’m not aware of that, or...if I was to go off of the coverage, and the dental office didn’t catch it, I’m still not - I don’t feel like I have the means to be aware of that. (P10)

Several parents felt that having the information on the internet was not the best way to reach a low income client base as many can’t afford the internet connection or do not have the skills to search the sites. Three participants suggested that information be mailed and recommended it be sent with tax notices or with MSP information.

Requesting suggestions on how to improve the HK Dental Program was the last item on the interview script. As the interview wrapped up parents were offered the opportunity to ask any questions of the interviewer or to discuss any items they felt had not been covered but were
important to include. Any comments made during this final stage of the interview did not produce a new category; rather they were coded and placed in appropriate preceding categories.

Themes

The preceding section of this chapter presented data collected from the participants during the interview process while staying close to the participant’s voice and using participant quotes for illustration and validation. In this section of the Results chapter the themes that emerged from the data will be described. Themes represent a greater level of transformation of the data: a movement from the concrete description of data points by the participants to concepts that capture the essence of the descriptions provided (Morse & Field, 1995). "Themes are thoughts or processes that weave throughout and tie the categories together" (Mayan, 2009, p. 97). It is the job of the researcher to determine how the categories are related and identify the common threads that tie them together. This is the process through which themes emerge. From analysis of the data gathered during the interviews three prominent themes emerged. First, that the Healthy Kids Dental Program is helpful for some families in certain situations but for the majority of families in this project it did not overcome financial barriers. The second theme was the use of advocates; participants frequently used other people to help them negotiate through the HK Dental Program and obtain dental care. The final theme was of acceptance, i.e., the participants’ acceptance of their situation even when it meant their child went without dental treatment.

The Healthy Kids Dental Program: A success and a failure.

Throughout the interview process the most frequently discussed issue was the financial difficulty of accessing treatment. Every participant was on the Healthy Kids Dental Program and therefore low income. Given that HK exists to help families overcome financial barriers to
accessing dental treatment for their children, is it meeting its mandate? From the data analysis of this qualitative research project the answer to that question is: “sometimes”.

**The Healthy Kids Dental Program working successfully.**

The Healthy Kids Dental Program did work very well for some families and exploration of the theme will begin with those families. There were two scenarios in which HK worked well: first, when the dentist did not balance bill, and second, when the treatment needs were minor enough that the balance bill was manageable for the family. These scenarios have been thoroughly discussed under the “Meeting Needs” subheading. Participant 3 provides a good example of HK successfully working for a family. Over a span of twenty years this family has used the program for the dental needs of their eight children. The family dentist does not balance bill and charges are incurred by the family only when dictated by limitations of the program. For example sealants can only be applied once per the life of a permanent tooth so when a sealant was lost the family had to pay for the second application, “Some treatments haven’t been covered. Sealants…they’re only allowed to have them once in their life but they’ve fallen out…but ya just put them back in and pay for them and be thankful they were covered the first time” (P3).

One participant in this project had no situation in which the HK Dental Program did not meet their needs. This family received 80 percent premium assistance, they were balance billed, and the treatment needs were minor. They were very thankful for the program and understood how much more expensive their treatment would have been without the program.

Unfortunately, even for some of the families for whom HK has been a success, they experienced times when it did not meet their needs; specifically when treatment circumstances led them to attend a different dentist where they were balance billed. When one child of participant 3 had to attend a hospital privileged dentist (HPD) for the first time, the family faced
a dental bill they could not afford. Eventually the initial treatment plan was adjusted, the family received charitable funding, and “we were left with about eight hundred. Uhmm, over eight hundred cause we had to pay a deposit and we had to pay on this eight hundred last week” (P3).

For families that had minor treatment needs the program worked well as the balance bill was perhaps a hardship but not an insurmountable barrier, “It still costs money so when you’re low income, anything that’s gotta come out of your pocket takes away from something else, so having to pay a balance for dental work is hard” (P8). But what is a hardship one year can become an insurmountable barrier the next year as was seen with participant 10. Being self-employed the family experiences fluctuations in their income and the mother praised HK for the help it had given her other years. This year however, they could not afford a bill of any amount and were putting off dental visits for the children until their financial situation improved. She needed the program to be more responsive to her fluctuating financial circumstances. Families can quickly move from having the program successfully meet their needs to having it fail for them.

**Healthy Kids Dental Program failing.**

For the majority of participants in this project the Healthy Kids Dental Program failed to provide the family with the financial help they required to access care. The financial difficulty of obtaining care was the overriding theme during the interviews for this project. It arose in the Beliefs section, where it was felt by the respondents that the number one reason people do not take their child to the dentist is due to finances. In the section discussing experiences under the Healthy Kids Dental Program, finances arose again as the number one reason people do not take their child to the dentist even with the financial help from HK. And when it came to suggestions, the most common comment was a need to improve the amount of coverage under the program.
Parents not only talked about this issue they also experienced it. The dental care pathways show the majority of pathway exits were due to the inability of the family to pay the balance bill or other billing practices such as administration fees (see Figure 4.2). There were five children, who at the time of the interview were not scheduled to receive treatment due to the parent’s inability to pay the cost of treatment. Another eight children were not able to obtain appointments for treatment until a charitable organization contributed money to pay the patient portion owing. An important point is raised by this situation: for eight children the HK Dental Program operates in such a way that obtaining necessary dental care was reliant upon charity.

This inability to obtain dental care by low income families is supported by the literature. The Canadian Health Measures Survey (CHMS, as reported in the Literature Review chapter) found children in the lower income bracket reported declining dental care due to cost. In the 6-11 age group, 13.7 percent of children in the lower income bracket reported declining care while 3 percent of children in the highest income bracket reported the same. If children cannot afford dental treatment the obvious consequence is untreated decay and this was also found in Canadian statistics where there is more untreated disease in the lower income group. The CHMS found adolescents from the lower income category having a three-fold higher proportion of untreated disease compared to those in the higher income group.

_No money and no plan._

Within this theme of financial difficulties was another thread which related to the parent’s surprise at the amount of money they would have to pay in order to receive treatment and the lack of any ability to get the money to proceed. A good example of this challenge is provided by participant 16 who had a patient portion owing of approximately $850.00. The mother approached both the child’s father and grandfather but neither would contribute. She began to think of which teeth the child could afford to lose, “Okay, so how bad is it? So she’s
gonna lose a few teeth which you’d fix, and she’s four and a half now…maybe it’s not too long” (P16). When asked how long she thought waiting to get the money would go on for she was unable to answer:

I don’t know – I don’t know how to answer that question. How long did I think it was gonna go on? Until I had the money, until I was working and earning money. At that point I wasn’t so [trails off]. (P16)

Of the eight children who relied on charitable organizations to get their treatment costs covered, there was only one parent who had a plan if the charitable money was not forthcoming. This mother previously worked as a social worker before a disability left her unable to work. She felt she knew enough about social assistance that she could apply for the hardship allowance to cover her rent after using her rent money to obtain treatment. The other parents were unable to move forward and appointments for treatment were only booked after they obtained charitable funding. Without charitable help they would likely have joined the other five children in the “Child not Scheduled for Treatment” group (see box N=5).

Participant 9 was faced with a balance bill of $1,911.00 and is on a fixed income provided through the social program for people with disabilities. He had originally thought he could take money from his food budget to pay for his son’s teeth (9a) that urgently needed treatment:

He had teeth that were bothering him so I guess I would haveta take the money out of food money and pay whatever had to be paid. But I wouldn’t be getting all the work done, it would just be whatever’s absolutely necessary. It would make my food budget really tight cause it’s only $250 dollars now a month. (P9)

The father had not anticipated the extent of the bill and acknowledged that taking money from his food budget to pay a two thousand dollar dental bill was not viable, “Looking at the cost
now, I doubt that I’d be able to. I don’t see how I could pay some of them; they’re over a hundred dollars. I was expecting like twenty, thirty dollars for each tooth” (P9). (The treatment plan for 9a is in Appendix I). The father isn’t even sure where the money will come from to pay the current $60 dollars owing for the initial visit to the dentist, “That’s a good question. I guess we will be starving for a week” (P9). This resignation was echoed by another participant when asked what she would have done if charitable funding hadn’t come through. Her answer: “my children would be suffering” (P2).

The role of hospital privileged dentists.

Eleven of the 20 children for whom a pathway was followed were under the age of five so this younger age group was overrepresented in this project. This is a result of using dental public health staff to recruit, as they work almost exclusively with very young children. Since children under age five are often unable to cooperate well enough to receive treatment in the dental chair, it was through this overrepresentation that the role of hospital privileged dentists (HPD) in relation to barriers to access to care became apparent. There were 12 exits from the dental care pathway due to referrals to have treatment in hospital or under sedation. Some of these referrals resulted in long delays. For example, participant 1 waited four months to get an appointment with a HPD, only to find she could not afford the pay the balance bill and a second search began. After finding a second HPD, receiving another exam, and then waiting for charitable funding, a year had past between the first referral and treatment. During that time the child was on antibiotics twice to treat abscesses, “She was on antibiotics twice for two back molars that were bothering her. She wasn’t eating properly…because she couldn’t chew properly because her teeth were bothering her” (P1).

Time delays are due to a lack of dentists with hospital privileges. Dentists with hospital privileges are booked well in advance and with competition for operating room space they have
very limited access to hospital facilities. Access to accredited private facilities has alleviated some pressure on the limited number of hospital days available to dentists.

In addition to time delays the issue of large balance bills was also prevalent with HPD. One explanation is that children requiring a general anesthetic usually require extensive treatment. Appendix G is an expanded version of the pathway in Figure 4.2. Of the 16 children whose parents could not afford the balance bill, 11 were seeing a HPD for treatment. Of the five children who were not seeing a HPD, four were old enough to accept treatment in a regular dental office setting and one young child (age 3) had the treatment plan modified to use an atraumatic restorative technique which was successfully performed in the dental chair.

The pathway outlined in Figure 4.1 provides a visual example of how using a HPD can result in barriers to care. The first exit was due to the general dentist referring the child to a HPD who could treat a very young child. The second exit was due to the parent being unable to afford the $150 dollar billing which was explained to the parent as an administrative cost related to booking the hospital appointment. Because the child, at the time of the interview, had not yet attended the dentist it remains unknown if the balance bill would also have been a barrier to care and caused a third exit.

Use of advocates.

The second theme that arose from the data was the use of advocates. There were 17 specific incidents related by the participants that involved their use of an advocate in some way. The advocates ranged from health professionals to friends and family. In two cases the participants related examples where they acted as their own advocate: “So, I talked to the dentist here and I said you know we cannot [emphasis by participant] pay to have his teeth fixed at the pediatric dentist, so he and I came up with a plan” (P11), “I definitely am one that advocates and
receives more funding than what the normal person does for the simple fact that I’ve sat down and read the Act [the Disability Act]” (P12).

Of the 17 incidents involving an advocate, 12 of them referred to using the dental public health staff. Three of these 12 uses were in relation to referrals either to a HPD or to a dentist who did not balance bill. In nine instances dental public health staff supported families through the process of accessing charitable funding. (Two of the charitable organizations require applications to come from the dental public health staff.) It is important to note that reliance on advocates is an outcome of the fact that every participant who used charitable funding was referred to the project through the dental public health staff and if they had not been used as a referral source the use of advocates would have been less.

There were four incidents where family or friends acted as advocates: “[I chose the dentist] because my friend worked there and she told me that he didn’t balance bill at the time” (P11), “[I went] down to my mom’s saying ‘help, what steps do I take’” (P5)? One participant had a social worker help advocate for his son to receive treatment:

[I] went to a program through mental health and the worker there told me that there has to be a way that it [son’s dental treatment] can get done….So then he made some calls and phoned [name of dentist] to find out what was wrong with – why I wasn’t gettin’ an appointment or whatever.” (P9)

The frequent use of advocates speaks to the difficulty the population has with accessing social programs and may also reflect the imbalance of knowledge that exists in the dental field. This reliance on advocates is supported in the literature. Programs in the US that have attempted to increase the use of Medicaid have found that an important part of any successful program included the use of personnel whose role was to act as a liaison and an advocate for the Medicaid clients (Greenburg et al., 2008).
Acceptance.

The third theme that arose from the data was the participant’s apparent acceptance of their struggle, and sometimes failure, to obtain dental care for their child while on the Healthy Kids Dental Program. The mind-set of resigning themselves to their situation is echoed in the statement of Kincheloe & McLaren (1994): “the oppression that characterizes contemporary societies is most forcefully reproduced when subordinates accept their social status as natural, necessary, or inevitable” (p. 140). The majority of participants did appear to accept that their financial limitations made obtaining dental treatment difficult, or in some cases impossible. They appeared to accept that they would be in a waiting pattern until something changed that enabled them to get treatment. There were some participants however that expressed the opinion that waiting was not all right when the health of their children was at stake, “It [tooth decay] actually affects your overall health, and if your child has bad teeth it’s gonna effect their learning at school, it’s gonna effect everything, their nutrition” (P1).

The interview guide did not contain a question to directly ask about balance billing but it frequently came up during the discussion as the balance bill caused the financial barrier for most families. Families spoke about having an amount of coverage under the HK Dental Program and told they would have a portion to pay but with no explanation accompanying the figure. The lack of questioning why they have a bill to pay while on a government sponsored dental program reflects their acceptance of the billing procedures, “I had 60% coverage with Healthy Kids which was wonderful… up to 60%...I’m not sure how it works, they didn’t explain much” (P17). Other parents had received more information, “It [HK] only pays a portion or what I was told it pays, right now it pays the 2009 prices…or something like that” (P9).

The public does not have the information to understand the negotiation process that determines both the dental association fee guide and the Ministry fee guide. Parents are affected
by the billing practices of the dental offices and have no understanding of how those billing practices are determined. In addition they have very limited understanding of the coverage provided by the HK Dental Program. This creates an imbalance of knowledge and this lack of knowledge may contribute to the acceptance. Accepting that they must endure the situation also ties into the heavy reliance on the use advocates discussed in the preceding paragraphs. It was the Mental Health worker that insisted there had to be a way to get treatment for the child of Participant 9, “The worker there told me that there has to be a way that it can get done, ya know. Has to be a way ta get the funding somehow” (P9). The mental health worker did not accept the lack of options to obtain treatment to which the parent had become resigned.

Another example that illustrates the theme of acceptance is provided by the participant with the Bachelor of Social Work degree. She has knowledge of the system and she did not accept that she could not get her child’s dental work done, “Knowing the Act, quite frankly, I would have simply taken my entire cheque and put it towards my son’s teeth, then gone back to the Ministry of Social Development and demanded a hardship cheque” (P12). Her knowledge and subsequently her actions are in contrast to the other participants who felt they had no options. Admitting they have no options is a feature of acceptance and was discussed in the previous heading “No money and no plan”, where participants described an inability to move forward to obtaining dental care.

This theme of acceptance that exists among the participants is independent of whether or not they have any power to make changes. They have no ability to change the billing practices and they have no ability to change the HK Dental Program. However, an increased understanding of the billing and HK limitations can change their perception of what is possible. Understanding the balance billing process empowered participant 11. Instead of accepting that balance billing was inevitable she phoned dental offices and was able to find one that agreed not
to balance bill. Another parent could not accept the amount of the bill and was able to negotiate changing the treatment plan. This enabled the child to receive necessary treatment but not the higher end treatment first proposed, “First quote was forty five hundred dollars….They said ‘okay we won’t put veneers on the front teeth’, which were gonna fall out anyway, ‘so that will save you a thousand’” (P3).

**Summary**

In the literature review an assertion was made that the publicly financed dental plan in British Columbia for children, the Healthy Kids Dental Program, may not be providing children with the access to dental care they need. The aim of this research was to speak to the people for whom the plan was designed to see if their experiences on HK bore out that assertion. In summary, over half of participants interviewed did not have the financial help they needed from the Healthy Kids Dental Program to obtain dental care. The results show that for many people the publicly financed dental program is not doing what it was developed to do i.e., help parents overcome financial barriers to obtaining dental treatment for their children. When faced with the bill showing the patient portion owing, most parents were surprised at the amount of money they would have to pay in order to receive treatment and many lacked the ability to get the money to proceed. The financial difficulty of obtaining care was the overriding theme during the interviews for this project.

The main reason that parents were unable to obtain treatment was due to the billing practices of some dental offices. Balance billing is ubiquitous and some hospital privileged dentists (HPD) require payment of administration fees that are due before appointments will be booked. These fees leave the low-income families with a patient portion owing that is beyond their ability to pay. What must be factored into the issue of billing practices is the reality that the HK Dental Program pays the dentist at the Ministry fee guide which is approximately 63 percent
of the current BC Dental Association fee guide. The program also has restrictions on treatment services that it will cover. These factors contribute to the prevalence of billing practices and must be part of any discussion towards improving the HK Dental Program.

The project had an overrepresentation of young children requiring the services of a HPD and this may account for such a large proportion of children whose dental needs were not met by the program. The project also had an overrepresentation of participants using charitable funding to access dental treatment as well as an overrepresentation of participants using dental public health staff as advocates. Each of these overrepresentations was due to using the dental public health staff as a referral source to obtain participants for the project. These overrepresentations however also provided insights that added valuable information to the research.

The HK Dental Program did work very well for some families. The enrollment process worked very well for every participant interviewed, while a lack of knowledge that the program was available was raised as an issue that should be addressed. Parents expressed their gratitude for the program and even for families where HK did not overcome their financial barrier to care, the parents greatly appreciated the financial help that was provided. For some of these families the HK Dental Program allowed them to attend the dentist for regular check-ups and minor treatment needs and it was only when their child’s treatment needs became excessive that the program did not overcome the financial barrier to care. The HK Dental Program is valued by parents and should continue to be available in this province. Changes that overcome the financial barrier to dental care should be addressed by the program so that it can meet the treatment needs of low income children in this province.
Chapter 5: Discussion

The discussion chapter begins with a summary of the study which provides an overview of the purpose of the study, the research paradigm within which it is positioned, and a brief review of the methodology and the major findings. A discussion of the findings section then expands on the results that were presented in the previous Results chapter. This is the section in which meaning and significance are attached to the analysis presented in the Results chapter. Implications for practice and recommendations for further research are also presented. This chapter ends with the conclusions derived from the research undertaken in this project.

In BC funding decisions for publicly financed dental program are made by governments in consultation with the dental profession, leaving families affected by the decisions outside the process. This research project was designed to hear only the views and experiences of the families and as such did not hear the voices of the other players involved in this issue. The value of this research project is in giving a voice to the third player in the issue of access to dental care, and bringing to light their experiences with obtaining dental care under the program.

Summary of the Study

The purpose of this study was to explore the experiences of families who attempt to obtain dental treatment for their children under the British Columbia Healthy Kids Dental Program and to report on those findings. A body of literature exists documenting that low income adults face financial barriers to care even when they have publicly financed dental care (Bedos et al., 2003; Locker et al., 2011; Quinonez, et al., 2010a; Quinonez, et al., 2009a; Wallace & MacEntee, 2012; Wallace, 2000). There is, however a lack of research into the effectiveness of publicly financed dental programs for children. This study provides the first research into documenting the experiences of families using the BC Healthy Kids Dental Program, a publicly financed dental program for children in BC. As such it is a starting point in
the process of determining how the Healthy Kids Dental Program is working for the people for whom it was developed.

Critical theory is the research paradigm in which this study is positioned. In critical theory the researcher takes a critical perspective. This perspective presumes the importance of an imbalance of power and it seeks not just to study and understand society but also to critique and ultimately change society (Patton, 2002). It represents the perspective of the less powerful, who in this study, are the families on the HK Dental Program. The desired outcome of this perspective is to move beyond an increased understand of an issue, to raising consciousness about the issue in order to increase society’s awareness of the inequalities that exist.

Qualitative description was the research design method chosen for this project because the intention was not to develop a theory but to give a voice to the experiences of the research participants. The sampling technique was purposeful and sought maximum variation. Data collection was via semi-structured interviews. Sixteen interviews were conducted and the dental care pathways of 20 children were followed. All interviews were recorded with a digital voice recorder and transcribed verbatim by the researcher. NVivo 8™ software was used to manage the analysis of each transcription. Content analysis was the technique used to analyze the data. Data analysis remained at a low level of transformation, describing the experiences of the families and expressing the themes that arose from the data.

The findings of the study portray a publicly financed dental program that is meeting the needs of only some of the children on the program. For the majority of families in this project HK did not overcome the financial barrier to care. Dental care pathways were developed for each child and used as a tool to follow the progress of seeking and obtaining dental treatment (Appendix G). Mapping pathways revealed that seven children (35 percent) were able to receive
treatment in a timely manner using the Healthy Kids Dental Program. There were eight children (40 percent) on HK who were only able to receive treatment after a charitable funding agency provided money to help parents pay the portion of the bill they owed beyond the portion paid by HK. In this study, dental treatment for children on a publicly financed dental plan was often dependent upon charity. Even more troubling is the fact that there were five children (25 percent) on HK whom, at the time of the interview, were not scheduled to receive needed dental treatment because the family was unable to overcome the financial barrier to accessing treatment. As the researcher I see this as the most important discovery of the research project. If it were not for charity there would be 13 out of 20 (65 percent) children whose parents did not know how they would overcome the financial barrier to getting necessary dental treatment.

The findings provided insight into how limitations of the HK Dental Program contribute to financial barriers. Several participants commented on the requirement of paying an administration fee that was not covered by HK. Combining the high cost of dental treatment with the extensive nature of some treatment plans and the $1400 two year limit of the HK Dental Program was exceeded by a number of participants. Any costs exceeding the limit are the responsibility of the family.

Billing practices by BC dentists were also shown to contribute to financial barriers. Practices such as balance billing, requirement of payment up front, and lack of payment plans created financial barriers that could not be overcome by some clients. Each of these billing practices was encountered by participants in this study. Balance billing was the most commonly discussed obstacle. The practice of balance billing is influenced by the reimbursement schedule of the Ministry. At no time since the beginning of the HK Dental Program has the Ministry paid

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13 Three of the children had treatment with no exits from their pathway. Four children had two exits from their pathway before receiving treatment. In all seven pathways the families either paid the balance bill themselves or found a dentist who did not balance bill.
the full amount of the provincial dental association’s current fee guide (McGowan, A., personal communication, December 13, 2012).

The findings uncovered a heavy reliance by parents on the use of advocates to help them navigate between the HK Dental Program, the dental office and in some cases the charitable funding organizations. This reflects the imbalance of knowledge that exists between the general public and health care systems. It also suggests that information about HK is not as accessible as it could be.

The findings also provided a deeper understanding of the attitudes and opinions of participants towards HK. Participants expressed gratitude that the program existed and helped with the financial cost of care. However the majority did recommend that the program cover more of the costs of dental care. They also expressed a desire that the HK Dental Program provide them with more information about the program and provide them with easier access to program information. Several participants had been unaware of the program and would have taken advantage of it earlier had they known. This generated the recommendation from the participants that more should be done to increase the public’s awareness of the program.

**Discussion of the Findings**

It was proposed in the Literature Review that low income families may be unable to overcome billing practices to obtain dental treatment. This would imply public programs are not doing what they were meant to do, i.e. overcome financial barriers. That assumption was verified in this study. By following the dental care pathways this study did show that the Healthy Kids Dental Program was not overcoming the financial barrier to care for the majority of children in the study. Also in the Literature Review was the proposal that there are three dimensions to the access to care issue: availability, affordability and acceptability, and that interaction between these three dimensions determined access. This was reinforced as each of these dimensions was
encountered by participants as they sought dental care. The fit of the results of this study into a recognized access to care framework increases the reliability of the results.

Availability surfaced for many people when their general dentist determined they could not treat the child and the parent was referred to a hospital privileged dentists (HPD). Several other participants had to travel long distances because a HPD was not available in their community. Acceptability also arose for several participants as evidenced by three children who refused to return to a dentist after having a bad experience. As predicted, the dimension exerting the most pressure was affordability.

Affordability is defined as the relation between the full cost to the individual to obtain the services and the individual’s ability to pay. It includes the price of the service at point of delivery. In the case of publicly financed care this is the cost to the parent for dental services not covered by the program. It includes other direct costs associated with receiving care. This would include such things as the cost for transportation and accommodation for the two families who had to travel long distances to obtain care by a HPD. And it includes indirect costs associated with obtaining dental care such as consequences to the family when limited income is used to pay for dental care. An example of indirect costs was expressed by participant 9 who stated the money to pay for dental services would come from his food budget “I guess we will be starving for a week” (P9).

The cost of dental services not covered by HK include billing practices such as balance billing, payment up front, treatments plans exceeding yearly limits, and billing for services not covered by the plan. While all of these billing practices were experienced by participants in this study it was the balance billing that created the most issues for the most participants.
**Balance billing.**

The concept of balance billing and its relation to the fee guides was outlined in the Literature Review. In the Results chapter it was presented in relation to the experiences of the families. Here the practice will be discussed in relation to the impact on families.

An argument can be made that it is the individual billing practices of dentists and not the HK Dental Program itself that are creating the financial barriers to care. Yet, as long as HK allows the practice of balance billing then the program is not addressing this barrier. As stated before, BC is the only province in Canada that permits balance billing for all children on the provincial publicly financed dental program (PFDP). Some other provinces have shown an understanding of the impact of balance billing and have addressed the issue directly. In 2006 the Newfoundland/Labrador government signed an agreement with that province’s dental association to increase the fees in the Medical Care Plan (MCP) to keep pace with increases in the association fee guide. The government of Newfoundland/Labrador recognized the issue of balance billing as a detriment to obtaining treatment: “The [increase] will eliminate the need for ‘balance billing’, which was a significant financial barrier to children visiting the dentist” (Government of Newfoundland and Labrador, 2006). This government went an important step further: “Included in the agreement is a clause to increase the fees listed in the MCP payment schedule, on April 1 of each year, to address the rising costs of providing dental services”.

Recognition of the need for a yearly increase is significant for reasons outlined below.

In 2005 the BC Ministry of Human Resources increased the percentage the Ministry pays in relation to the dentist’s fee guide from 63 percent to 80 percent in an effort “to improve access to dental treatment for young children and low-income families” (Ministry of Health Services, 2005). However without an annual increase, each year the Ministry guide pays a lower rate until in 2012 it is estimated to remunerate the dentist at approximately 62 percent of the BC Dental
Association fee guide. This is approximately the rate at which it was paying before the increase in 2005. Although the HK Dental Program has never reimbursed the dentist the full amount of the dental association fee guide, paying at a higher percentage does make a difference. This statement is substantiated by several families in this project who historically had occasions where they were not balance billed but this practice has changed over the years. One family returned to the same dentist who had not balance billed them in the past, but in 2011 the family was advised they would now be charged a balance bill.

Would removing the right to balance bill improve access to dental services? Any negotiation that is directed towards removing the ability of dentists in BC to balance bill must carefully consider the possible consequence of this action. Dentists in BC are free to choose who they accept for clients (as long as the decision is not made on discriminatory grounds based upon the BC Human Rights Act). If the option to balance billing was removed, and if the publicly financed dental programs were not increased yearly so as to remunerate dentists at a level comparable to the private system, there would be no financial incentive for the dentists to accept publicly financed dental program (PFDP) children into their practice. Research by Quinonez et al. (2009a) reported one third of dentists, in a nationally representative sample, have reduced the number of publicly financed clients in their practice, but would accept more if more funding was made available. In the US (where balance billing children on Medicaid is illegal) there is a plethora of research showing low reimbursement rates have a negative impact on the number of dentists willing to treat children on the Medicaid program (IOM, 2011). Balance billing is having a detrimental effect on the ability of low income families to obtain treatment, but removing the dentist’s ability to balance bill without addressing the reimbursement rate would likely have the very negative effect of dentists’ refusing to accept clients on HK into their practice.
Other financial obstacles.

While the balance bill was discussed most frequently by the interview participants there were examples of other financial obstacles that also challenged the family’s ability to obtain care. Unfortunately many parents did not have their child’s treatment plan14 making it impossible to know what portion of the bill was due to exceeding the limit of funds available from the HK Dental Program. Treatment plans were available for a few children and it could be determined that four children did have charges to the family that were due to exceeding the HK biannual limit of $1400. Due to the extent of decay and the need for several root canals on permanent teeth, the child of Participant 9 had reached the $1400 limit with eight teeth left to treat (see Appendix I). Participant 9 was a recipient of charitable funding. Fourteen hundred dollars is a significant amount of money but dental treatment is expensive. Enforcing the biyearly limit leaves parents having to choose to treat some teeth but not others. It would be a wait of approximately two years before those remaining teeth could then be treated in which time the decay would have progressed significantly.

Another financial obstacle that has been discussed is the requirement of full payment up front with the dentist receiving the refund from HK then passing the refund onto the parents. The Ministry will only refund the dentist directly; unlike many private insurance companies they will not refund clients. Requiring payment of the entire bill up front is particularly troublesome for low income families. It is a struggle just to pay their patient portion owing without having to also pay up front the amount that will be covered by HK. A common complaint of dentists when dealing with publically financed dental plans is administrative issues (Qunionez, 2009a) and this

14 A treatment plan lists the procedures the dentist plans to perform (estimate) or has performed (statement). The plan commonly includes the code (from the fee guide corresponding to each procedure), the tooth number, and the description of the procedure. It also breaks down the total fee into the amount that will be paid by the insurance carrier (in these cases the Healthy Kids program) and the portion billed to the patient.
may be the cause of their payment up front billing practice. A future research project that seeks input from dentists may find the reasons for this practice.

**Inequity.**

The literature validates that children from low income families have more untreated decay, underscoring inequity in access to dental care (Petersen et al., 2005; Health Canada, 2010; UBC, 2011). According to Margaret Whitehead\textsuperscript{15} inequity “refers to differences [in health profiles] which are *unnecessary* and *avoidable*, but in addition are considered *unfair* and *unjust*” (Whitehead, 1992, p. 431). Whitehead argues that equal access to available care for equal need is one aspect of achieving equity, and public policies should work to achieve this. Policies should help those least well off to achieve a level of health closer to that of the more fortunate group and “in doing so, such policies encourage equity in health” (p. 437). In this study alone, five children were not attending the dentist for needed treatment due to the inability to pay for care, and another eight were only able to attend with help from a charity to cover costs. These families are not experiencing equal access to care for equal need.

The reason for government to initiate the Healthy Kids Dental Program was to provide access to treatment for a vulnerable group of children and HK did work very well for a number of families. Without HK there would conceivably be many more families unable to access dental care. Children are not responsible for their oral health problems, they have no control over the environment into which they are born, and must rely on adults for access to dental care (Mouradian, 2002). Society is in agreement that children are in a special category in terms of their vulnerability and that special measures should be in place to ensure their health needs

\textsuperscript{15} Professor Margaret Whitehead is currently the Head of the World Health Organisation (WHO) Collaborating Centre for Policy Research on the Social Determinants of Health.
including their oral health needs are met (Mouradian, et al., 2007). Given the findings from this study the plan is only working for some children in BC but not for others, i.e. the program only partially meets its objectives.

Dentists have described the difficulty of operating a business when the reimbursement from the publically financed dental plan (PFDP) barely covers overhead costs and have become “resentful of demands that they feel are not expected from other businesses or professions” (Wallace, 2012). They juggle the often conflicting demands of being a health care provider and a business owner. As the dentists’ face these challenges, the government faces pressure to reduce spending. Caught in the middle is the low income sector of the public who are facing increased inability to obtain care.

Not meeting the health needs of a child is considered neglect in the province of BC. Who is neglectful in the situation of the five children in this project whose parents do not have a way to obtain dental treatment? Is it the parents who do not have the money, or the province failing to adequately fund the program? This is not a hypothetical question as exemplified by the poignant story of Participant 5 who was confronted by a social worker after the dental office reported her for neglect for not getting dental treatment for her child. This mother was caught in an extraordinary situation. One government social program was penalizing her for not getting the necessary medical treatment that the other social program would not cover. At the interview the mother relayed the words she spoke to the social worker and they best describe this situation: “And I said, ‘No, let me correct you on that one, I didn’t neglect her teeth; I can’t afford [emphasis by mother] to fix her teeth” (P5). The mother asks an important question reflective of the situation: “If you don’t have the money to pay for it, how can that be classified as neglect” (P5)? Ontario addressed this issue of dental neglect in 1987 with the introduction of the program
Children In Need Of Treatment (CINOT). The history of the program is provided by Quinonez et al, (2007b):

CINOT was a response to new interpretations of the Child Welfare Act of 1978, where dental neglect became considered a form of child abuse (133). Parental follow-up by Children’s Aid Societies often noted “a lack of money to pay for the required care” (133, p. 40), thus CINOT aimed to remove financial barriers to accessing basic and emergency dental care. (p 50)

What Healthy Kids is doing right.

The families interviewed in this study expressed deep gratitude for the financial help the program offered. For seven families being on the HK Dental Program allowed them to receive timely dental care for their children. For the families who were unable to obtain care it was often due to the need for a large amount of treatment resulting in a large balance bill. Some of these families have been using HK successfully to obtain yearly check-ups and cleanings and complete minor treatment needs for their other children. Even for those facing balance bills that they could not pay, as they try to find the money they recognize the bill would have been much larger and would take much more to overcome without the HK Dental Program.

Families also commended the program for the ease of application. Having enrollment in the program attached to the premium assistance program of the Medical Services Plan was a convenience the families appreciated. Several comments were directed towards the need to increase awareness of the program.

Previously, under the HK Dental Program, children had been eligible for $700 of dental services per year. In 2010 the program implemented a change allowing children to receive up to $1,400 every two years. While this did not increase the total amount of money available it did increase flexibility. For families whose children have extensive treatment needs the new ceiling
means $700 more that HK will pay at the time of treatment. The downside is that no coverage
will be available for the next two years, not even for check-ups and cleanings. There is however
an allowance for emergency care so that if the child has exhausted their limit they can be treated
for relief of pain. The program has responded to the high cost of treatment needs for children
who undergo dental treatment under general anesthetic or intra-venous sedation. According to
the Ministry of Social Development’s Schedule of Fee Allowance 2010:

If your client is found eligible and dental treatment is performed under GA/IV
sedation in hospital through the Medical Services Plan (MSP) or in an approved
facility through the above noted agency, access to an additional $1000 of basic
dental treatment is available. (P. iv)

Implications for Practice

“Implications for practice” is a section which provides the opportunity to suggest how the
results of this study can be applied to practice. Briefly described below are suggestions that
could contribute to alleviating some of the barriers that were uncovered in this study. The first
two suggestions propose dental procedures be delivered outside the current private practice fee-
for-service model, either in community clinics or schools. Policies would be required to direct
funding to alternate models of delivery such as community dental clinics and school sealant
programs. The third suggestion, the alternative restorative technique, is a dental procedure that is
already within the scope of practice for dentists and dental therapists in Canada and could be
easily integrated into any dental practice in BC. Finally, improving the publicly financed dental
program would require the Ministry of Social Development to initially increase reimbursement
rates, then in discussion with both the British Columbia Dental Association and the parents that
utilize the Healthy Kids Dental Program, undertake addressing other barriers to care that can be
improved by changes to the program.
The inability of a family to obtain necessary dental care for their children due to the families’ lack of income is an example of unequal access. And not having equal access to care for equal need results in inequities. The suggestions below are not new, they do not require new programs be developed, they only require adaptations of ideas and reproduction of other successful programs and practices. To not move forward, to instead maintain status quo after exposing the failings of the Healthy Kids Dental Program, would be to accept that children from low income families will continue to be excluded from obtaining equal access to oral health.

**Community dental clinics.**

The Canadian Dental Association (CDA), the collective voice of dentists in Canada, has developed a position paper on access to oral health care for Canadians. The paper recognizes that vulnerable groups within society do not have access to dental care and therefore “alternative models of care or funding should, therefore, be explored to alleviate such inequities” (CDA, 2010c). The CDA specifically recognizes dental clinics providing free dentistry for the relief of pain and infection as a successful oral health care initiative. The Federal, Provincial and Territorial Dental Directors in their report *A Canadian Oral Health Strategy*, recommend that various levels of government “investigate, promote and implement alternate service delivery (such as…community health centres or other community facilities) to address the needs of people who do not have adequate access to care” (FPTDD, 2005, p. 21). They further recommend that legislation be developed that assures access to care and options to care delivery.

In BC there has been a dramatic increase in the number of community dental clinics, from three clinics in 2000 to 18 in 2012. The development of community dental clinics in BC has been a response to the access to care issue. Many low income people do not have private

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16 A community dental clinic is a phrase that encompasses not for profit clinics providing low cost or free dental treatment to those who cannot afford to get dental care in a regular dental office. Proof of low income is required.
plans and are not eligible for provincially funded dental programs. And publically financed
dental programs (PRDPs) do not ensure access to dental care as dentists in private practice can
refuse to see clients on a PFDP, or the charges to the client may make treatment out of reach
financially.

Dr. Bruce Wallace recently completed an in-depth study of community dental clinics in
BC (Wallace, 2012). His findings are that the current model of providing dental treatment in the
private practice setting does not facilitate access for the low income population: “Just as low-
income people face considerable barriers to accessing care, dentists also perceive considerable
barriers to providing care within the restrictions of private practice and public dental benefits”
(Wallace, 2012, p. 107). His findings echo those of Dr. Carlos Quinonez, who in a national
survey, asked dentists to provide their opinion of publicly financed dental care. Canadian
dentists report they are dissatisfied with PFDP quoting long-term complaints with low fees,
limited coverage, and administrative issues (Quinonez, 2009a). Is it time to take the delivery of
dental care to vulnerable groups outside the private practice dental office? The answer to this
question may already be in process given the recent proliferation of community dental clinics as
individuals and agencies grapple with how to provide equal access for equal need.

Access to a community dental clinic was a factor in this study. There were three children
who live in Kelowna and attended the Kelowna Gospel Mission Dental Clinic. One child had
already used the $1400 HK limit and still needed a significant amount of treatment which was
completed at the Kelowna Gospel Mission Dental Clinic at no charge to the family. While
community dental clinics can help children obtain dental care they can only help the residents of
the community in which they operate, and if the family does not live in one of the 18
communities the existence of these clinics is of no consequence to them.
Expanding public health preventive services.

The focus of this study has been on access to dental treatment not access to preventive services. However, prevention can reduce the need for treatment so a brief discussion is appropriate. Sealants are recognized as an effective method for the prevention of pit and fissure sealants in children and can be applied by auxiliary dental personal. In BC the public health dental staff provide a targeted fluoride varnish program to children under the age of three, but sealants have never been provided as a preventive service by public health staff. Ontario, Alberta and PEI have successfully integrated sealant programs into their public health programs (Quinonez, et al., 2007b). These staff members are employed through-out the province enabling many children to receive the service. Health regions should explore expanding the public health program in BC to provide sealants, beginning with a program that targets children of low-income families. Implementing this practice would help low income children receive this important preventive measure and reduce the costs to parents for preventive care and future restorative care.

Alternative restorative techniques

Atraumatic Restorative Technique (ART)\textsuperscript{17} is a minimally invasive technique that removes demineralized tooth tissue using only hand instruments followed by the placement of an adhesive filling material. The filling material of choice is glass ionomer cement (GIC) as it bonds to the tooth structure forming a seal and it releases fluoride which aids in the remineralization of the remaining tooth tissue. This release of fluoride makes GIC capable of halting or slowing the progression of decay (Mickenautsch, Yengopal & Banerjee, 2009). The technique was originally developed to treat cavities “in children living in under-served areas of

\textsuperscript{17} Interim Therapeutic Restorations (IRT) employs the same technique ART but has different therapeutic goals. IRT is the technique recommended by the American Academy of Pediatric Dentistry (AAPD).
The world where resources and facilities such as electricity and trained manpower were limited” (Dorri, Sheiham & Marinho, 2009).

The Children’s Oral Health Initiative (COHI) is an initiative of the Federal Government in a response to help “address the disparity between the oral health of First Nations and Inuit and that of the general Canadian population” (Health Canada, 2012). The program was launched in 2004 and ART is one aspect of a package of services. In BC, the ART procedure is performed by dental therapists who are licensed to perform this procedure on First Nations and Inuit children. ART has therefore been used in an organized manner in BC since 2004.

ART has demonstrated success and is being adopted for some populations in “first world” countries, including Canada (as per the COHI program). In short term studies the use of GIC placed using the ART approach have performed well when compared to conventional restorations using “drilling” and placement of amalgam (Honkala, Behbehani, Ibricevic, Kerosuo, & Al-Jame, 2003; Mickenautsch, et al., 2009). Even should an ART restoration fail after several years, the child may then be of an age where they are able to cooperate well enough to receive conventional treatment.

Both the Canadian Dental Association and the American Academy of Pediatric Dentistry (AAPD) recognize the technique as a beneficial procedure when traditional restorations are not feasible (AAPD, 2008b; CDA, 2010b). ART requires minimal cavity preparation and may be more easily tolerated by young children. Local anesthetic [freezing] and handpieces [drills] are not required, although hand instrumentation is usually necessary. The technique has been advocated for use in accessible dental cavities in the very young, the uncooperative, and when traditional cavity preparation needs to be deferred. (A common reason for deferring treatment is the wait for treatment under general anesthetic.) Another important advantage of ART over conventional restorative techniques is the lower cost.
The use of ART is slowly integrating into the armamentarium of dentists in BC as evidenced by the fact that it is a key technique in an ongoing research project at UBC-Vancouver (Campbell, Harrison, Ng, & Glassby, 2012) and it is part of the package of care provided by the Children’s Oral Health Initiative (Lawrence, 2010). ART was also successfully performed on one child in this study. The three year old child was originally referred to a hospital privileged dentist (HPD). The mother contacted the office of the HPD and ascertained that she would be unable to pay the administrative fee and the fees from balance billing. Her own dentist reassessed the child and determined the cavities could be treated using ART. The procedure was well received by the child and the cost was affordable for the parent.

In this study referrals to a HPD accounted for 12 exits from the dental care pathway. Of the 12 children referred to a HPD, seven received contributions from a charitable organization to help pay for treatment, three were not getting dental care at the time of the interview, one family paid the patient portion owing and one child returned to the family dentist and had the ART procedure. Children referred to HPD often have extensive treatment needs that simply may not be appropriate for ART or the child may be unable to cooperate for the procedures. Each child must be examined and treated in a manner appropriate for that child. However, there are likely some instances when ART may be appropriate as an interim or even long-term measure. It is quite possible that some of the young children in this study referred to a HPD may have been appropriately managed with ART. Such an intervention would have substantially reduced the cost to the family and the waiting time to be seen by the limited number of HPD who invariably have long waiting lists. Acceptance and integration of this technique into dental offices has the potential to relieve the high cost of traditional dental treatment for some children.
Improvements to publicly financed dental programs.

The research by Quinonez et al (2009a), shows that dentists are dissatisfied with publically financed dental programs (PFDPs) as was discussed at length in the Literature Review (see heading: “Dentists’ perspective on publicly financed dental programs”). Primary complaints are about the plans themselves such as low fees, limited services covered by plans and issues with administration of the plans including slow payment and complicated paperwork. Other complains revolve around the clients that use PFDP and include broken appointments and patient non-compliance issues.¹⁸

The highest ranking complaint by dental providers is low reimbursement. The British Columbia Dental Association in 2011 submitted a request to the government for an improvement in fees and coverage to the Ministry of Social Development Fee Schedule. The association informed the government that “many offices charge Ministry clients additional fees to cover costs or alternatively limit the number of [Ministry] clients they have as regular patients to minimize the economic impact [to their dental office]” (BCDA, 2011 p. 1). The participants of this study found that balance billing was their biggest obstacle to care so the issue affects both sides. Parents were also affected by the $1400 two year limit set by HK which was quickly reached given the high cost of dental care combined with extensive treatment needs.

This study did not obtain the opinions of dental offices so is not able to determine on whether or not administration issues exist with the HK Dental Program. However, payment in full up front was required by a number of dental offices. This could reflect slow payment but cannot be confirmed. The issues of broken appointments and non-compliance could not be ascertained as again the view of the dental office was not obtained. Studies from the US indicate that all aspects of the dentists’ complaints (low fees, administration, and patient non-compliance)¹⁸

¹⁸ The findings from the research by Dr. Quinonez are a compilation of all provincial and federal plans covering both children and adults.
must be addressed for there to be any significant change in dentist’s attitudes towards accepting clients on publically financed dental programs (PFDPs): “[The] majority of experts interviewed felt that while adequate reimbursement rates were necessary for improving access to Medicaid dental services, they were not sufficient on their own” (Borchgrevink, et al., 2008).

Dentists are not satisfied with the Healthy Kids Dental Program and yet the vast majority of HK clients must obtain their dental care in a private dental practice. Both the families and the dentists feel strongly that “financial barriers to dentistry are due largely to a failure of public dental benefits to provide both necessary care for vulnerable communities and necessary reimbursement for dental services” (Wallace, 2012). There is no indication that the provision of dental care will move outside of the current private practice fee-for-service model to any appreciable amount. Dentists’ dissatisfaction with PFDP will continue to cause exists to dental care pathways for children as were described in this study. While other larger fundamental changes are being deliberated, making significant improvements to the HK Dental Program is a modification that can be quickly implemented. This point must be recognized by the government programs that operate to provide our most vulnerable citizens, children from low-income families, with access to dental care.

Limitations

A qualitative research design limits the ability to generalize the results to a larger population since the sample is obtained purposefully not randomly. This limitation was particularly obvious in this study due to the overrepresentation of certain characteristics of the sample population. This overrepresentation arose from the way participants were recruited but was not obvious to the researcher until the data analysis was completed and the results reflected upon.
Due to the vulnerable nature of the low income population the use of third party
recruitment was favored, resulting in a reliance on others to find potential participants. It is
natural that other people do not have the same intimate knowledge of the sample required, nor
the time and desire to devote to finding people for a study they are not part of. Use of third part
recruiters became a liability. It had been hypothesized that the dental public health staff would be
an effective recruiter but in reality use of the dental public health staff resulted in
overrepresentation of a number of participant characteristics. Due to the nature of their work
they are frequently in contact with parents seeking help accessing dental care. Because of this
their referrals had extensive treatment needs accounting for the high number of clients needing
the services of hospital privileged dentists (HPD). Again, due to extensive treatment needs, the
families were seeking help to access charitable funding and the dental public health staff are the
administrators for some of the charitable organizations. This overrepresentation impacts the
generalizability of the results. It is extremely unlikely that a random sample of children
accessing treatment on the Healthy Kids Dental Program would have such a high percentage
needing a referral to a HPD, and receiving financial help from charitable organizations. A study
using a more adequate and appropriate sample, that guarded against overrepresentation of any
particular characteristics would be a valuable contribution to work in this area of research.

Maximum variation in sampling is an important technique to ensure a wide variety of
experiences are captured. This was achieved in this study as evidenced by participants
representing the extremes of possible experiences with the HK Dental Program. Several
participants found HK provided the financial help they needed to get dental treatment for their
children, while several other participants found that HK failed to overcome their financial barrier
to care. The purpose of the study was to explore the range of possible experiences with the
knowledge the results would not be generalizable. The sample did achieve this goal as it revealed a wide variation of experiences.

Another limitation is the accuracy of the recall of parents. Although it was requested that they obtain treatment plans from the dental office that was not always achieved. The imbalance of knowledge and power that exists between the public and the dental providers often results in people not asking questions or calling for explanations. In addition, the complexity of dental treatment and billing practices leaves people unclear as to what happens during treatment and what procedures they are billed for. All these factors combined create a situation where the participant’s understanding of what happens in a dental office may be inaccurate. This study was designed to get the stories from the participant’s point of view: their experiences, their stories. Beyond requesting treatment plans, this study did not attempt to verify the information presented during the interviews.

The results revealed that all parents found the HK enrollment process unproblematic. While this bodes well for the program the value of that result is limited. Inclusion criteria dictated that the family must be enrolled in the program in order to be interviewed. If a parent did have problems with enrollment they would not have been included in the study. Of the 16 families that were interviewed only one had a problem with enrollment in the form of a lapse in coverage.

**Further Research**

A number of recommendations for further research were generated over the course of the study. A question that remains unanswered is why utilization of HK is so low. In 2005 the fees in the Ministry fee guide were increased to approximately 80 percent of the dental association fees. It would be expected that with a higher reimbursement rate fewer dentists would balance bill resulting in more clients with fewer challenges to accessing care. Yet, utilization stubbornly
remains at 40 percent, and the reasons for this remain unknown. Research should be conducted to understand why so few people utilize the program.

The British Columbia Dental Association states that the “expense to gross ratio for the average dental office is 65%” (BCDA, 2011), and for this reason many dentists balance bill or limit the number of Ministry clients they see. But do they change this practice when the reimbursement rates go up? Is there a “reimbursement tipping point”? At what rate do dentists feel they should be reimbursed? Answers to these questions would be important information in negotiating a Ministry fee guide that would be acceptable to the dental community.

BC is the only province that allows dentists to balance bill all children on their provincial publicly financed dental plan, and balance billing arose as the primary barrier to accessing dental care in this study. Should the ability to balance bill be removed? What would be the consequences of such an action? Research into the impacts of billing restrictions on the acceptance of children with publically financed dental plans (PFDPs) in other provinces should be done. This would be an important step and this should be investigated thoroughly due to the potential negative consequences of implementing such a policy.

As described in the Limitations section, there was an overrepresentation of young children with extensive treatment needs seeking care from hospital privileged dentists (HPD) and an overrepresentation of children receiving charitable funding. Further research should encompass a larger sample from several geographic areas and ensure an adequate and appropriate sample is obtained. Replicating results would be an important step to validating the results found in this study.

This was the first research conducted into the experiences of families who access dental care under the Healthy Kids Dental Program. Therefore it is only a first step towards investigating the issue. By identifying the barriers faced by this purposeful sample, the stage has
been set for further research. In a market economy of supply and demand the dentist to population ratio may play a role in the number of dentists who accept children on the HK Dental Program and on billing practices. This is a variable that was not investigated in this study. It is possible that balance billing and other billing practices are different in other areas. Perhaps other barriers to care unaccounted for in this research would be uncovered.

The use of the atraumatic restorative technique (ART) has potential for significantly reducing the cost of treatment for some children. The University of BC Faculty of Dentistry is leading research into the acceptance, both by clinicians and parents, of this technique. Having the reputable institution of UBC advocate for the appropriate use of the technique will go a long way towards its acceptance by private practice dentists. Continued research and knowledge translation will be important in moving this promising method of treatment forward in this province.

Conclusion

This was a qualitative study, designed to interview participants in order to explore their experiences of trying to obtain dental care for their children while on the Healthy Kids Dental Program. While there has been recent Canadian research looking at access to dental care for low income individuals, the focus has been on adults. There has been no research on the topic of children’s access to dental care on publically financed dental plans (PFDPs) so this study was exploratory and was seen as a first step in understanding how the program is working for the very people for whom it was designed. By adding the experiences of children the findings from this study contribute to the current knowledge base of access to care issues.

The findings from this study show the program has both successes and failures. Some parents found the HK Dental Program provided the financial help they needed and were able to obtain care in a timely manner. Since all families on HK are low income the program most likely
makes the difference between getting treatment and not. Unfortunately, however, the majority of parents in this study encountered so many financial barriers they were either unable to obtain care or they required a charitable organization to pay the bills the HK Dental Program was not covering. This large number of failures must be considered in relation to the overrepresentation of young children with extensive treatment needs. Even given that limitation there are five children in this one study that are not receiving treatment. That is a significant finding.

The reasons for the failure of the Healthy Kids Dental Program involve complicated interactions between billing practices by dental offices and reimbursement rates and funding limits by the government. Dentists have a monopoly on the provision of dental treatment, therefore do they have an ethical obligation to provide dental treatment to children even if the parents are unable to pay their balance of the bill? Alternatively, can dentists be expected to respond to the access to care issue without adequate compensation for their services? And the one question that does not need debate: should children go without needed dental care? While the previous two questions get debated, the situation of no resolution is leaving children without treatment.

It was recognition by the provinces that people with low income would be unable to obtain dental care for their children that prompted each province to establish a PFDP and tackle this inequity issue. When a parent is faced with a child with tooth decay only a dentist can treat the child. Parents and their children are confined to the current situation, i.e., whatever the dentist bills them compared to what is covered by HK is what they have to pay to receive services. Leaving the situation as it currently exists has the consequence of children going without care. Measures briefly mentioned such as community dental clinics, alternative restorative techniques, and public health dental staff providing more preventive services may be worthwhile initiatives to help alleviate the disconnect that currently exists between billing
practices and government funding. But this disconnect is ultimately the issue that needs resolution.

In conclusion the participants’ voices told the following stories: the Healthy Kids Dental Program is valued, the program is serving some participants well but failing others, and the discrepancy between what the dentist bills and what the government funds is creating financial barriers to dental care that some families cannot overcome.
References


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010.pdf


OECD. (2009). Health at a glance 2009: OECD indicators. Retrieved August 9, 2011 from: [http://www.oecd.org/document/14/0,3343,en_2649_33929_16502667_1_1_1_1,00.html](http://www.oecd.org/document/14/0,3343,en_2649_33929_16502667_1_1_1_1,00.html)


The Dental Offices of Fort St. John. (Clipping of an announcement from an unidentified newspaper). Electronic copy in possession of author.


Appendices

Appendix A: Scan of Balance Billing Regulations of Dentists across Canadian Provinces

Table A.1

<table>
<thead>
<tr>
<th>Province</th>
<th>Provincial Publicly Financed Dental Programs for Children</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>Healthy Kids Dental Program</td>
<td>* personal communication with BCDA</td>
</tr>
<tr>
<td></td>
<td>• There is currently no contract between the British Columbia Dental Association (BCDA) and the government; consequently dentists are permitted to balance bill at their discretion. </td>
<td></td>
</tr>
<tr>
<td></td>
<td>• In 2005, 62% of dentists responding to a BCDA survey, balance bill GSDP clients†</td>
<td></td>
</tr>
<tr>
<td>Alberta</td>
<td>Alberta Child Health Benefits (ACHB)</td>
<td>Memorandum of Understanding between: Her Majesty The Queen in Right of Alberta (as represented by the Minister of Employment and Immigration, the Minister of Children and Youth Services and the Minister of Seniors and Community Supports and Alberta Dental Association and College</td>
</tr>
<tr>
<td></td>
<td>• Memorandum of Understanding between the Province of Alberta and the Alberta Dental Association and College states that dentists are “not obligated to accept an eligible individual as a patient”, but if they do they “shall not bill or seek additional fees (i.e. balance bill or extra bill) an Eligible Individual for the dental services set out in the Schedules.”</td>
<td></td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>Supplementary Health Program (Ministry of Social</td>
<td>* Supplementary Health and Family Health Benefits: Dental</td>
</tr>
<tr>
<td>Services</td>
<td>Benefits Fee Schedule, page 5  Section 6.</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>• Dentists are NOT permitted to charge the beneficiary the difference between the fee outlined in the Supplementary Health and Family Health Benefits schedule and their customary fee as prescribed in the Fee Guide of the College of Dental Surgeons of Saskatchewan.*</td>
<td>+ <a href="http://www.health.gov.sk.ca/health-annual-report-02-03">http://www.health.gov.sk.ca/health-annual-report-02-03</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family Health Benefits (low income families)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dentists ARE permitted to charge the beneficiary the difference between the fee outlined in the Supplementary Health and Family Health Benefits schedule and their customary fee as prescribed in the Fee Guide of the College of Dental Surgeons of Saskatchewan.*</td>
<td></td>
</tr>
<tr>
<td>• Amendments to allow extra billing became effective 2002*</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manitoba</th>
<th>The Dental Health Services Act 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A dentist who has agreed...to provide dental services to beneficiaries under this Act shall not charge, demand or accept a fee for those services, that is greater than the fee for those services provided by the agreement or established by regulations under this Act.</td>
<td><a href="http://web2.gov.mb.ca/laws/statutes/ccsm/_pdf.php?cap=D33">http://web2.gov.mb.ca/laws/statutes/ccsm/_pdf.php?cap=D33</a></td>
</tr>
<tr>
<td>Province</td>
<td>Policy Details</td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
</tr>
</tbody>
</table>
| Ontario | **Healthy Smiles Ontario 2010**<sup>*</sup>  
- Providers who accept program clients agree to seek payment for services covered and paid for under this schedule only from the local PHU and agree that this payment will constitute payment in full for those services (i.e., providers may not balance-bill or extra-bill for services covered and paid for under this schedule).  
**MCSS Schedule of Dental Services and Fees** (For All Dependent Children under the Ontario Disability Support Program, ACSD Program and Ontario Works)<sup>%</sup>  
- Extra billing or balance billing is not permitted for services covered and paid for under this schedule. A dentist may bill for services not covered and not paid for under this schedule.  
**Children In Need of Treatment 2009**<sup>&</sup>  
- Practitioners agree to seek payment for covered services from the health unit/department and not from the parents or guardian of the child (i.e., the practitioner will not balance-bill or extra-bill for covered services.) |
| Quebec | **Dental Service Coverage**  
- Dentists are not permitted to balance bill children on Ministry sponsored dental plans.<sup>*</sup>  
Several dentists participate in the Health Insurance Plan, i.e. they accept the Health Insurance Card. Insured persons entitled to covered services do not have to pay these dentists for the services |

<sup>*</sup>personal communication with ACDQ *(Association des Chirurgiens Dentistes du Québec)*  
received. Instead, the Régie pays the dentists. Certain dentists, known as *non participants*, do not participate in the Health Insurance Plan, i.e. they do not accept the Health Insurance Card. These dentists charge their patients. Therefore, the Régie cannot reimburse the cost of the services provided by these non-participating dentists. Nevertheless, they are obliged to make their situation known to the persons consulting them.

<table>
<thead>
<tr>
<th>New Brunswick</th>
<th>Health Services Dental Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A GSDP does not exist just for children; the only program is for recipients of Social Assistance which includes children as well as adults.*</td>
<td></td>
</tr>
<tr>
<td>• Dentists must not request any upfront fees from the client. Dentists who bill the plan for authorized services must not extra-bill the patient for such services. (an exception applies to certain restorative procedures where fees over and above the rate may be billed to the caregiver if they have agreed before service is rendered)%(</td>
<td></td>
</tr>
</tbody>
</table>

*personal communication with the New Brunswick Dental Society%

%2008-2011 Agreement Between the Province of New Brunswick and the New Brunswick Dental Society. Article 7 (Fees), pg. 8.

<table>
<thead>
<tr>
<th>Newfoundland/Labrador</th>
<th>Children’s Dental Health Program</th>
</tr>
</thead>
</table>
| • Dentists may not Balance Bill patients for | Newfoundland Labrador, Department of Health and Community Services, Dental Health Plan Payment Schedule, April 1, 2010 schedule, Preamble, Section 4: Balance Billing,
<table>
<thead>
<tr>
<th>Province</th>
<th>Program Name</th>
<th>Details</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nova Scotia</td>
<td>Children’s Oral Health Program</td>
<td>The tariff for the MSI Dental Plans is negotiated between the Nova Scotia Dental Association and the Nova Scotia Department of health and regardless of whether a dentist is “opted-in” or “opted-out” of the Plan, he/she is required to bill to tariff and no balance billing is permitted.</td>
<td>Health Services and Insurance Act, MSI Regulations (Includes children’s oral health program and optometric services plan) (O/C 69-276 as amended) April 1, 2006, pg 3.</td>
</tr>
</tbody>
</table>
| Prince Edward Island | Children’s Dental Care Program                  | • The caregiver is responsible for paying a 20% co-pay of the fee in the Children’s Dental Care Program fee guide for each procedure covered under the program. If the family’s net income is $30,000 or less they can apply to be exempt from the co-pay in which case the dentist bills following the CDCP fee guide but does not receive the co-payment. Any extra fees other than described above are not permitted. | * [http://www.gov.pe.ca/photos/original/HPEI_dentalprg.pdf](http://www.gov.pe.ca/photos/original/HPEI_dentalprg.pdf)  
* Personal communication with public health dental staff in PEI. |
### Appendix B: Billing for Children on Publicly Financed Dental Programs by Province

#### Table B.1

<table>
<thead>
<tr>
<th>Question #1</th>
<th>BC</th>
<th>Alberta</th>
<th>Sask</th>
<th>Manitoba</th>
<th>Ontario</th>
<th>Quebec</th>
<th>New Brunswick</th>
<th>Nfld/Labrador</th>
<th>Nova Scotia</th>
<th>Prince Edward Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are dentists allowed to balance bill children on Provincial government publicly sponsored dental plans?</td>
<td>Yes</td>
<td>No</td>
<td>Min. Of social services: No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Family Health Benefits: Yes</td>
<td></td>
<td></td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Question #2</th>
<th>BC</th>
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<th>Manitoba</th>
<th>Ontario</th>
<th>Quebec</th>
<th>New Brunswick</th>
<th>Nfld/Labrador</th>
<th>Nova Scotia</th>
<th>Prince Edward Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are Ministry fees maintained at a percentage of the dental association fee guide?</td>
<td>No</td>
<td>No fee guide to compare to</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No answer provided</td>
<td>Yes</td>
<td>No</td>
<td>No answer provided</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question #3</th>
<th>BC</th>
<th>Alberta</th>
<th>Sask</th>
<th>Manitoba</th>
<th>Ontario</th>
<th>Quebec</th>
<th>New Brunswick</th>
<th>Nfld/Labrador</th>
<th>Nova Scotia</th>
<th>Prince Edward Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>At what percentage is the Ministry fee guide paying in relation to the dental association fee guide in 2011</td>
<td>Approx 62%</td>
<td>No fee guide to compare to</td>
<td>90%</td>
<td>90%</td>
<td>57%</td>
<td>Approx 65%</td>
<td>Varies from 40%-70%</td>
<td>Approx. 95%</td>
<td>Data unavailable</td>
<td>Varies 65-90% with 20% co-pay (low-income exempt from co-pay)</td>
</tr>
</tbody>
</table>

Information received from: Jim Gray Director/ Lynn Checkley Bernie White Rafi Mohammed Dr. S. Bennett, Program & Benoit Desrosiers Lia Anthony Patey: Darlene Cook Brian Barrett
<table>
<thead>
<tr>
<th>Date information received:</th>
<th>Member Services BCDA</th>
<th>Member’ Services Coord. ABDA</th>
<th>Registrar SDA</th>
<th>Ex. Director MDA</th>
<th>Standards Advisor, Health-Dentistry. Ministry of Health &amp; Long Term Care</th>
<th>ACDQ</th>
<th>NBDS</th>
<th>Ex Director NLDA</th>
<th>NSDA</th>
</tr>
</thead>
</table>

Information supplied by the 10 provincial dental associations (with the exception of Ontario where information was supplied by a government official).
Appendix C: Interview Script

Before the interview begins the co-investigator will review each section of the consent form with the subject to ensure the subject fully understands all aspects of the form. After signature is obtained the interview process begins.

1. Introduction:

“I want to begin the interview by confirming that <name of interviewee> has read and signed the consent form meaning <name> has agreed to participate in this audio taped interview. Do you have any questions before we begin?”

2. Demographics:

“My first set of questions gathers some background information about the make-up of your family.”

a. How many children (along with their ages) do you have on the Healthy Kids dental program?

b. What level of premium assistance do you receive from MSP? (a chart showing the levels of premium assistance will be provided to the participant)

c. The age and gender and marital status of the interviewee

d. The education level of the interviewee

3. Beliefs:

“The next set of questions asks about some of your beliefs about dentists and dental treatment, and about your views on keeping your child’s teeth healthy.”

a. Can you briefly tell me about your own dental health
   i. How do you rate your dental health on the following scale: very poor, poor, average, good, very good or excellent
   ii. Tell me about your own experiences of going to the dentist?

b. What are some reasons people might not take their children to the dentist?

c. What do you do to help your child/children keep their teeth healthy?

d. What do you think are the things that play a part in your child’s dental health?

e. How do you decide if your child is in need of dental care?

4. Dental Care Pathway:

“This next set of questions is about getting dental care for your child. When a child needs to see a dentist there are many steps involved from the time the parent first knows they need to get the care until it is completed. I would like to walk through with you the steps you went through the last time one of your children needed dental care.”
If the participant has more than one child on the HK program: “If you have more than one child on the HK program that has recently been involved in seeing a dentist please choose which child’s experiences we will discuss. If there is time and you want to discuss a second child’s experience we can do that.”

Probes:
- When/how did you find out your child needed dental care?
- What happened next?
The probes will continue to take the interviewee along the steps of the dental care pathway asking what happened at each stage and why they believe events unfolded as they did. Here the interviewer is looking specifically at relationships with the dentist, financial problems affecting access, and beliefs of the caregiver towards the need for treatment.
  a. What will happen when your child again needs to see the dentist?

5. Healthy Kids dental program:
“The BC Healthy Kids program helps low income families with the costs of basic dental care” (Taken from the HK website). “The next set of questions will ask specifically about using the Healthy Kids dental program.”

  a. How did you learn about and become enrolled in the HK dental program?
  b. How long have you been involved in the HK dental program?
  c. What has been your experience with the program?
     i. Were there challenges getting enrolled?
     ii. How well is the program meeting your needs?
  d. What are some reasons people might not take their child to the dentist in spite of the financial help from the HK program?
  e. Do you have any suggestions to improve the program?

6. Wrap-up:
- Is there anything else we haven’t discussed so far that you feel is important to include?
- Are there any questions you have for me?

7. Conclusion:
“The interview is complete and I thank-you for your time and have a $20.00 honorarium for the time you spent today speaking with me. I will be using the tape recording of the interview to type up our conversation. I would like you to review my typed version of our interview to make sure I have properly captured what you said. Please tell me the best way for me to send you a copy of the interview so you can review it and give me your feedback.”
Appendix D: Consent Form

The Experiences of Caregivers whose Children Access Dental Care under the Healthy Kids Dental Program

Consent Form

Principal Investigator: Colin Reid, PhD
Assistant Professor, Health Studies
University of British Columbia, Okanagan Campus
Phone: (250) 807-9910
Email: Colin.Reid@ubc.ca

Co-investigator: Sharon Melanson, RDH, BSc(DH), Master’s student
Interdisciplinary Graduate Studies
University of British Columbia, Okanagan Campus
Home phone: (250) 546-9196
Email: meltara@telus.net

Purpose of the Study
The purpose of this study is to learn about the experiences of parents (and other caregivers) who are seeking dental care for their children and who are enrolled in the BC Healthy Kids program. You are being invited to participate in an interview because you have the experience of using the Healthy Kids dental program. We think talking to caregivers is the best way to understand how the program is working. Basically we want to know how the Healthy Kids dental program is meeting the dental needs of children in B.C.

Participation is Voluntary
Taking part in the interview is voluntary and you can end the interview at any time without any consequence to you or your children.

Study Procedures
The aim of this study is to interview enough caregivers to find the full range of dental access experiences. Interviews will be done until no new information is being found and we expect this to be about 12 to 15 interviews. If you agree to be part of the study you will have an interview that is either face-to-face or is conducted over the phone with the co-investigator Sharon Melanson who is a dental hygienist. Sharon does not work for any dental office or for the Healthy Kids program; she is a full time student. The interview will involve Sharon asking a number of questions about your experiences. She will review your child’s treatment plan if it is available. The interview is expected to last about one hour. You will be given $20.00 to thank you for your time. Sharon will audio-tape the interview and will type up a report of everything.
that is said. When she has the report of your interview finished you will be asked to review it to be sure it is correct.

**Potential Risks and Benefits**

There are no known risks to you or your child. You will only be asked to describe your experiences of getting dental treatment for your children. No service will be denied to you if you decide not to participate or want to end the interview early. It is our hope that the information we gather can be a step towards improving dental access for children on the Healthy Kids program.

**Protection of your Privacy**

Privacy is important and we will protect your identity. All documents will be identified by a code instead of your name, so your name will not be on any tapes or reports. Reports of the study shall be written in such a way that no person or family can be identified. Sharon, the co-investigator, will protect the information she collects. She will keep all the print information in a locked cabinet and any electronic information will be stored on a computer that is password protected. After completing work with the data the computer files will be downloaded onto a disc that will be stored in a locked cabinet with the print data, and the computer files will be wiped clean. When we have finished working with the data, all material will be moved to secure storage at the University and after five years the data will be destroyed following University policy.

Because the information we collect is part of a research project for a Master’s thesis a report and a journal article will be written and presentations about the findings will be given. Theses at the University of British Columbia become public property and are kept in the University Library. If you are interested in the results of this research you can access the information through the University Library. Please remember your name will NEVER be included in any reports, presentations or articles.

**Contact Information**

If you have any questions or concerns about this study you may contact either Sharon Melanson (250-546-9196) or Colin Reid (250-807-9910). If you have any concerns about your treatment or rights as a research subject, you may contact the Research Subject Information line in the UBC Office of Research Services at 1-877-822-8598, or the UBC Okanagan Research Services Office at 250-807-8832, or you can email RSIL@ors.ubc.ca. You may also contact the Chair of the Interior Health Research Ethics Board through the Research Office at 250-870-4649. (Both the UBC Okanagan Behavioural Research Ethics Board and the Interior Health Research Ethics Board carried out an ethics review for this research project and made a determination that it met ethical requirements for research involving human subjects.)
Consent
Your participation is entirely voluntary and you may refuse to participate or withdraw from the study at any time without consequences. If you want to withdraw before the interview is complete any data collected may be used as research data. However if you request that it not be used then we will not use your data. Your signature means you are saying YES to taking part in this study and that you agree to an interview that will be audiotaped, and to having your child’s treatment plan reviewed. Your signature also means that you have received a copy of this consent form for you to keep.

_________________________     ___________________________________     ____________
Printed name of participant    Signature   Date

We might have a question about what you said in the interview once the interview is over. If we have any questions, we would like to call you to make sure that we properly understand what you said. In addition we will need to contact you about sending the report for your review. Please sign below if you agree that we can contact you once the interview is over.

_________________________     ___________________________________     ____________
Printed name of participant    Signature   Date

The research is support by a grant from CIHR
(Canadian Institutes of Health Research)
Appendix E: The Dental Care Process

The Dental Care Process (adapted from Grembowski D, Anderson R, Chen M. 1989)

Figure E.1 The Dental Care Process
Appendix F: Exits from Dental Care Pathway (N=37)

- Referral to have treatment in hospital or under sedation (N=12)
  - Family dentist refers due to age of child (N=11)
    - Age 2 – N=1
    - Age 3 – N=1
    - Age 3.5 – N=2
    - Age 4 – N=5
    - Age 5 – N=2
  - Amount of treatment required and misunderstanding of less cost if done in hospital (N=1)
  - Family dentist attempts treatment but is unsuccessful (N=2)
  - Referral made without any attempt at treatment (N=8)
  - Referring dentist revises treatment plan. Is able to do treatment in office without referral (N=1)

- Family cannot pay the balance bill or other billing procedures (N=20)
  - 3 children have 2 exits from pathway, each time due to inability to pay billing
    - Treatment occurs only after charitable funding is located (N=9)
      - Five of the 8 pathways use a combination of two charitable organizations
        - Cy & Emerald Keyes (N=7)
        - Save-A-Smile (N=4)
        - Kelowna Gospel Mission Dental Clinic (N=1)
        - Elks Royal Purple Fund (N=1)
  - Child refuses to attend due to fear (N=4)
  - Referral made without any attempt at treatment (N=8)
  - Family dentist attempts treatment but is unsuccessful (N=2)
  - Referral made without any attempt at treatment (N=8)
  - Referring dentist revises treatment plan. Is able to do treatment in office without referral (N=1)

- Child refuses to attend due to fear (N=4)
  - A bad experience at the dentist results in child refusing to return. Pathways begin again after several years and child is older (N=3)
  - Very young child has fear of dental office. Overcomes fear at age 4 (N=1)
  - Discharged with treatment not completed (N=1)
  - Child re-enters pathway after referral to hospital privileged dentist

- Discharged with treatment not completed (N=1)
  - Very young child has fear of dental office. Overcomes fear at age 4 (N=1)

- Child is not scheduled to receive treatment until family can obtain the money to pay the bill (N=7)
  - Family is able to locate a dentist who does not balance bill for the treatment, family changes dentist to avoid balance bill (N=3)
  - Very young child has fear of dental office. Overcomes fear at age 4 (N=1)

- Family gets onto Healthy Kids program which covers the first appt. Pathway begins (N=1)
  - A number of children have more than one exit from their treatment pathway:
    - 0 exits – N=3
    - 1 exit – N=1 (total of 1 exit)
    - 2 exits – N=13 (total of 26 exits)
    - 3 exits – N=2 (total of 6 exits)
    - 4 exits – N=1 (total of 4 exits)
Appendix G: Dental Care Pathways (N=20)

- Family cannot afford the balance bill for child's treatment (N=16)
  - Child not scheduled for treatment (N=5)
    - Child referred to hospital privileged dentist (HPD) (N=4)
    - Child to see family dentist (N=1)
  - Charitable funding organization paid the balance bill (N=8)
    - Hospital used due to young age and severity of treatment needs (N=5)
    - Hospital used due to severity of treatment and misunderstanding of costs (N=1)
    - Behaviour issues and amount of treatment requires sedation and specialist (N=1)
    - Severe treatment needs, uses regular dentist (N=1)
  - Found dentist who did not balance bill (N=3)
    - Young child had been referred to HPD* but family dentist modified treatment (N=1)
    - Older children (do not need HPD to perform treatment) (N=2)
- Family pays balance bill and receives treatment (N=4)
  - Children see regular dentist, have minimal treatment needs (N=3)
  - Hospital used due to young age and severity of treatment needs (N=1)

*HPD = Hospital Privileged Dentist

Figure G.1 Dental Care Pathways (N=20)
Appendix H: Participant Profile

Table H.1

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N= 16</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Parent</td>
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<tr>
<td>Education level of Parent</td>
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<td>Level of Premium Assistance</td>
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<tr>
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<td>37.50</td>
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<tr>
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<tr>
<td>separated</td>
<td>3</td>
<td>18.75</td>
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<tr>
<td>divorced</td>
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<td>12.50</td>
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<tr>
<td>widowed</td>
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</tr>
<tr>
<td>single</td>
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<td>6.25</td>
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<tr>
<td># of children on Healthy Kids Dental Program</td>
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<tr>
<td>2</td>
<td>5</td>
<td>31.25</td>
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<tr>
<td>3</td>
<td>4</td>
<td>25.00</td>
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<tr>
<td>4</td>
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<tr>
<td>5</td>
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<tr>
<td># of years enrolled in HK</td>
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<td>1 – 5 years</td>
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<tr>
<td>&gt; 10 years</td>
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</tbody>
</table>

*in two of these four families one other child is no longer on HK due to age. After age 19 a child is no longer eligible for the HK Dental Program.
\[+\] In this family three other children are no longer eligible for HK due to age.
## Appendix I: Treatment Needs of Participant 9a

### Illustration I.1

<table>
<thead>
<tr>
<th>Tooth</th>
<th>Surface</th>
<th>Description of Treatment</th>
<th>Patient Fee</th>
<th>Insurance Fee</th>
<th>Total Fee</th>
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<tbody>
<tr>
<td>17</td>
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<td>Perm Molar Amalgam 1 Surf</td>
<td>$32.84</td>
<td>$64.16</td>
<td>$97.00</td>
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<tr>
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<tr>
<td>22</td>
<td>M</td>
<td>Prm. Ant. Acid Etch/ 1Surf</td>
<td>$34.53</td>
<td>$75.47</td>
<td>$110.00</td>
</tr>
<tr>
<td>23</td>
<td>N/A</td>
<td>1 Rct Perm Retain Prim</td>
<td>$126.83</td>
<td>$254.17</td>
<td>$381.00</td>
</tr>
<tr>
<td>23</td>
<td>M</td>
<td>Prm. Ant. Acid Etch/1Surf</td>
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</table>

TOTAL ESTIMATED FEE: $3149.00

ESTIMATED AMOUNT COVERED by INSURANCE: $1237.53

ESTIMATED AMOUNT to be PAID by PATIENT: $1911.47