Conseil Cri de la santé et des services sociaux de la Baie James
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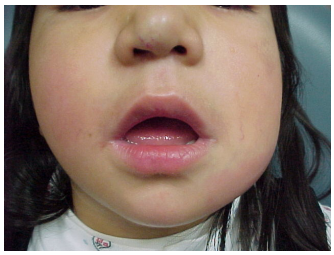
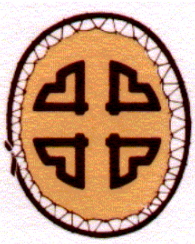
Cree Board of Health and Social Services of James Bay

Report on Cree Dental Health in Eeyou Istchee (Northern Quebec)





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Cree Board of Health and Social Services of James Bay

Report on Cree Dental Health in Eeyou Istchee (Northern Quebec)

Novembre 2001

Copies of this report may be obtained for $20 from the Cree Board of Health and Social Services of James Bay, Public Health Directorate, 277 Duke Street, Suite 101, Montreal, Quebec H3C 2M2. Telephone: (514) 861-2352 (27); fax: (514) 861-2681
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The masculine gender prevailing in this document is used in order to simplify the text; it applies equally to the masculine and feminine gender.

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LIST OF ABREVIATIONS

CBHSSJB : **Cree Board of Health and Social Services of James Bay**

CHR : **Community Health Representative**

dmfs : **Decay, Missing, Filled Surface (Primary Surface)**

DMFS : **Decay, Missing, Filled Surface (Permanent Surface)**

dmft : **Decay, Missing, Filled Tooth (Primary Tooth)**

DMFT : **Decay, Missing, Filled Tooth (Permanent Tooth)**

ECC : **Early Childhood Caries**

ENT : **Evident Need of Treatment**

HV : **Home Visitors**

IPK : **Individual Prevention Kit**

JBNQA : **James Bay and Northern Quebec Agreement**

MSSSQ : **Ministère de la Santé et des Services Sociaux du Québec**

NIHB : **Non-Insured Health Benefits**

PP 1 : **Pilot Project Phase I**

RAMQ : **Régie de l'Assurance Maladie du Québec**

WBC : **Well Baby Clinic**

WHO : **World Health Organisation**

INTRODUCTION

This report contains information based on data that have been gathered by way of a pilot project, questionnaires, consultations and visits to each community. Our intent was to unite two realities: public dental health and dental services in clinics.of the territory. We believe that they are both interdependent, if we wish to address the acute disease of dental caries on Cree territory.

A year and a half ago, when the first Public Health Dentist was hired, it became essential to get a clear picture of the dental health of the Cree population. To achieve this goal, a pilot project was launched. A protocol was prepared and explained to two resident dental hygienists, which thus provided us with the most extensive – in terms of client participation – dental epidemiological investigation on Cree territory. The pilot project objectives reflected two main themes: to gather dental health indicators, allowing the analysis of the present situation, and to verify the feasibility of some activities related to the prevention of dental caries. In addition, we describe how the present existing dental clinics operate at the local level. This information was gathered during a round of visits initiated by Dr. Hilal Sirhan, Head of Department of Dental Medicine for the CBHSSJB and Dr. Gerard Bouger, dental representative of the Government of Quebec.

We present to you results according to the clientele and according to services. Consequently, we shall describe the following indicators: the prevalence of caries, the manifestation of caries and the dental care required by children between the ages of 12 to 24 months, 4 to 5 years, 7 to 8 years and 11 to 12 years. We shall end this chapter with an overall evaluation of these indicators, by combining all the age groups. We shall arrive with an overall evaluation of these indicators by combining all the age groups and continue with a trip through time by following the evolution of the Cree dental health during the last 20 years. In addition, we shall compare these results to those of other population groups in Quebec and other First Nations and subsequently, we shall describe the present state of dental clinics in terms of available resources, waiting lists, physical limitations of clinics, dental treatment needs and other urgent issues. We shall then repeat the comparison between clinical indicators and those related to similar clinics. Finally, we shall formulate recommendations based on these results, so that the latter can be used as a cornerstone for a long-term action plan, following an extensive consultation.

We believe more than ever that this document contains valuable information that can spur efficient and time proven activities. Furthermore, this innovative document addresses the needs of very young children and their families. We would give them our full attention, if we had to accomplish only one task in our efforts to stem the present caries epidemic. The aim of these efforts in the James Bay region is a healthy smile on all Cree faces for generations to come!

Enjoy the reading and many thanks to all who have been and will be concerned with the dental health of the Cree population.

SUMMARY

This report is based on the completion of a pilot project and on visits paid to dental clinics within the territory. One objective of the pilot project was to study the feasibility of activities related to dental care, for instance: is it possible to reach out to the very young children and their parents? Another objective was to gather data that would allow us to draw a clear picture of the children's dental health. This new information is presented in tables, mainly in Chapter II and III.

A round of visits at clinics allowed us describe their present mode of operation. This information will be used to start a discussion on practical solutions for a significant reduction of caries in the Cree population and to ensure that the coming generations bear a healthy smile.

The first chapter deals mainly with the context that provided the stimulus for this report.

The second chapter provides the epidemiological data according to age group. These data relate to the dental health, the feasibility of preventing dental caries and are then compared to their equivalents in other populations.

The third chapter describes the situation around the need for treatment. Finally, Fourth chapter summarizes the state of the dental clinics: tables describe the context of dental care during recent years.

The fourth chapter summarizes the state of the dental clinics: tables describe the context of dental care during recent years.

Finally the fifth chapter is dedicated to a series of recommendations that have been foreseen at this moment. It provides a solid base for more detailed discussions of proposed solutions.

The most important results are those related to dental caries. Thirty percent of 12 to 24-month-old children suffer from active caries (untreated). Based on the only available data in Quebec and Canada, this rate is 8 times higher than the equivalent rate in children other than aboriginal. Five-year-old Cree children run a risk of having caries that is 5 times higher than the equivalent risk factor in children other than aboriginal, elsewhere in Quebec. Between the ages of 4 to 12, on the average 9 Cree children out of 10 have experienced caries. This is not a new situation bearing in mind that no significant improvement has been observed since 1983: there was even a noticeable deterioration in the recent years. The need for treatment is enormous: for instance, 70% of 4 to 5-year-old children suffer from untreated active caries, on the average on 2.2 surfaces. The need for treatment in 12-year-old children has not changed since the beginning of 1990: there was a recent increased in the need for treating disease attaining the dentin and pulp. As a matter of fact, 5-year-old Cree children lag the dental objectives 2000 of the WHO. The dental clinics are overloaded due to an enormous demographic growth and accumulation of curative needs. There is an average of 11 months for treatment and 12 months for exam and cleaning. Resident teams can only deal with 50 % of the actual needs as they are presently understaffed.

The last chapter outlines possible solutions. Some of them advocate an increase in resources in parallel with a well-defined action plan. Other ideas consider a new policy for dental services, focusing a mid- and long-term integration of services providing treatment and prevention.

CHAPTER I: CONTEXT AND SCENARIO

1.1 Historical survey of oral health in Cree children

Recent epidemiological surveys in dental health, conducted in industrialized countries, are mainly concerned with the rapid evolution, and for the most part improvement, of dental health in young children. Usually we observe periodically the evolution of the prevalence (number of people with the disease, divided by the total number of participants in the study) of oral diseases in schoolchildren (from Grades 2 to 6), since a population's dental health is determined by the health of its children.

The Cree have often been the subject of provincial (1983 for Quebec) and national (1990, 1991, 1996 : in the context of First Nations in Canada) surveys, which do not correspond to their reality in terms of study design and implementation. This pilot-project is intended as the first genuine Cree dental epidemiological survey (2001). It was conceived and realized with the resources available, in spite of challenges, such as establishing an efficient plan of action. Its main innovation concerns the targeted age groups. Special attention was focused on very young children, with the intention of eventually implementing preventive programs. Furthermore, the main researcher responsible for the previous provincial survey mentions, after having established the cavity incidence of five-year-olds in Quebec, "This means that from the moment he begins school, the child has already experienced 60% of all the caries likely to affect his primary dentition. A preschool program will therefore have to be developed." Our intention is to suggest concrete guidelines.

1.2 Initial pilot project objectives which led to this final report

1.2.1 General objectives

Generally speaking, the pilot project will help to:

- Establish more specific programs in the future
- Improve available documentation of future interventions
- Verify more accurately the degree of acceptance by: establishments, caregivers, leaders, communities, etc.

1.2.2 Specific objectives

Feasibility

For activities concerning children between the ages of 12 and 24 months and their families (Fall 2000):
- Test the questionnaire on parents
- Test the preventive follow-up in the context of vaccination clinics (Well-Baby Clinic), either a positive or a negative outcome
- Evaluate the proportion of children who can be (time/number) examined
- Test the clinical procedure (examination, tooth-brushing demonstration, etc.) on young children
- Evaluate the required material (examination and Individualized Prevention Kit (IPK)

For activities concerning children between the ages of 4 and 5 years, at school (Fall 2000):
- Test the feasibility of identifying children with a high risk of caries.
- Test the possibility of providing a preventive follow-up, twice a year, on an individual basis, for high-risk children
- Test data collection and follow-up methodology

For activities concerning Grade 1 students (Winter 2001)
- Evaluate optimal group fluoride therapy implementation (mouthwash and topical application) for children in elementary schools who are not initially included in the study.

Upon approval

For activities concerning children between the ages of 12 and 24 months and their families (Fall 2000):
- Evaluate the proportion of parents who are willing to participate in the project
- Test the questionnaire intended for parents which is filled out by the hygienist
- Evaluate the acceptance of the Individualized Prevention Kit (IPK) by parents and children

Depending on certain variables

For activities concerning children between the ages of 12 and 24 months and their families (Autumn 2000):
- Evaluate the proportion of three (3) potential indicators (mother's education, presence or absence of dental plaque, manifestation of caries, dental pain, number of cavities) in order to identify children with a high risk of caries, by documenting their prevalence during the pilot project

For activities concerning children between the ages of 4 and 5 years, at school (Autumn 2000):
- Evaluate the proportion of high-risk children according to provincial criteria (refer to the program currently followed in other Quebec regions)

CHAPTER II: EPIDEMIOLOGICAL INDICATORS OF DENTAL HEALTH FOR THE CREE CHILDREN OF JAMES BAY

The first section of this chapter presents results related to data gathered by dental hygienists during the realization of the pilot project. These data are presented according to the age groups in question.

A total of 1079 Cree children between the ages of 12 months and 12 years were examined. This sample is the most important ever studied in the history of dental epidemiological investigations among the Cree.

2.1 Age group 12 to 24 months

Very young children, in most cases accompanied by their mother, were the first population group to be examined. While planning the course of the pilot project, we wanted to know the level of early childhood dental care and to find out how to communicate with their parents in various contexts. Our aim was to find the best approach for implementing dental care.

2.1.1 Demographical data (12-24-months-old)

Table 1: Number of examined children (12-24 months-old)

Number of examined children	Average age	Standard deviation
79	18.9 (months)	± 3.35

A total of 79 out of 161 children in this age group were examined in the Chisasibi and Mistissini communities. The average age of these children was 18.9 months and the proportion of boys and girls was evenly balanced. We chose to focus on these two communities because the dental hygienists were based in these villages. This factor contributed to the smooth running of the pilot project.

Table 2: Number and percentage of children examined in each village (12-24 months-old)

Caretaker / village	Number of births in year 2000	Children examined	
		Frequency	%
Dental Hygienist. Chisasibi	104	48	46.15
Dental Hygienist. Mistissini	57	31	54.38

A relatively large number of children could not examined, i.e. 51 %, in spite of numerous telephone calls and radio announcements. This emphasizes the need for a community approach (contribution of the population) in order to promote participation.

2.1.2 Overview of the dental health (12-24-months-old)

Explanation

The deft is the universal indicator that measures the dental health of a targeted population. For instance, if a 5-year-old child has a deft of 3 compared to a child of the same age who has a deft of 1, the dental health of the latter is better. In practical terms, this child has experienced caries on one surface of his teeth, while the other one has experienced caries on three surfaces of his teeth.

Similarly, let us consider the average deft of 5-year-olds in Quebec: children in kindergartens have experienced caries (past or present) on an average of 3.56 tooth surfaces per child. We shall make frequent reference to this indicator as a reliable description of dental health in a population under scrutiny. Finally, the prevalence of caries is another useful indicator: it is a rate describing the number of children who have experienced caries divided by the total number of children in the same age group. For instance, 42 % describes the percentage of 5-year-olds in Quebec who have experienced caries prior to starting kindergarten.

2.1.2.1 Prevalence of dental caries (12-24 months-old)

The prevalence of caries is found to be 30.4 %, indicating that at the average age of 18.9 months, more than 3 out of 10 very young children in Chisasibi and Mistissini are affected by active caries.

Table 3 : Prevalence of caries (12-24 months)

Number of children seen	Number of children seen with d, e, and f	Prevalence	Standard deviation
79	24	30.4%	± 5.17

* Prevalence established at the primary dentition stage.

2.1.2.2 The defs indicator (12-24 months-old)

Table 4 shows the deft indicator per dentition. It is an abbreviation that refers to the average number of **d**ecayed (active disease), **e**xtracted (extracted due to caries), and **f**illed (past disease) primary **t**eeth per child.

Table 4: The average defs (12-24 months-old)

Observed d	Observed e	Observed f	Average deft (79 children)	Standard Deviation
106 surfaces	0	0	1.34	2.90

* deft applicable to primary dentition

The average defs in very young Cree children consists mainly of d, the present decay, since there aren't any teeth with fillings. There is an average of 1.34 caried surfaces per child.

Investigators used the Pitts classification as examination criteria. The investigators were trained and the examination criteria used by each was standardized.

Explanation
Classification used in the caries diagnostic
C0: Healthy surface
C1: Initial caries without loss of enamel (i.e. loss of shine)
C2: Caries with loss of enamel
C3 + C4: Deeper caries penetrating into dentin and pulp

A classification matrix is shown in the attachment for the benefit of the interested reader. Please note that these results underestimate the caries rate, since they do not take into account the first stage (C1) of early childhood caries (ECC) in young children characterized by the loss of shine on the enamel. Only the C2, C3 + C4 were taken into consideration

The very young Cree children, who were part of our sample in the two villages, have an average of 1.34 caries. This shows that caries occur at a very young age among the Cree population.
Importantly, we found that among these 79 very young children, 24 of them had an average of 4.41 caries. This smaller group is a concentrated pool with advanced disease. The group is responsible for the majority of the problems with caries. This situation is similar to one described in widely published report, but for older children.

We would like to point out that in terms of severity (see Table 5), the majority of children (66 %) had caries that affected the enamel. However at the age of 18 months one third (33 %) have already had deep cavities.

Table 5 : Distribution of caries (virulence, 12-24 months-old)

Type de caries	Number of children with caries	Percentage
$C_{2:}$ perforated enamel	16	66 %
$C_{4:}$ perforated dentin/pulp	8	33 %
Total	**24**	**100%**

2.1.3 Overview of potential risk factors associated with Early Childhood Caries (ECC)

During the pilot project we collected data by distributing a questionnaire addressed to parents or legal guardians. This survey allowed us to determine in a short time the main potential risk factors associated with ECC. Table 6 shows, in the order of appearance, the highest frequency of risk replies related to each factor.

Table 6: Examples of potential risk factors

		Results	
Preventive measures	**Potential risk factor**	**Frequency**	**%**
Brushing teeth before bedtime	Teeth not brushed	45	56.96
Oral medication practice	(more than 3)	26	32.91
Source of water	Tap	18	22.78

Results provided by the questionnaire allow us to better define future preventive measures. For instance, according to these results 18 Cree families drink tap water: these are the first data gathered on this subject and they provide valuable information for the adoption of preventive measures for a population, such as water fluoridation on Cree territory. For the benefit of the interested reader, we included in the attachment a questionnaire submitted by hygienists to parents, mainly to mothers.

2.1.4 Intervention feasibility (12-24 months-old)

According to the testimonies of parents, caregivers (nurses, home visitors, etc) and the dental hygienists who collected the data, setting up preventive activities for young Cree children is feasible. Vaccination clinic personnel should be integrated (Well-Baby Clinics), as well as natural caregivers such as Home Visitors and Community Health Representative (CHR) personnel. Continuing education in the field and preventive practices specific to this clientele must be implemented.

According to the present situation, each village is different. Families are seen in their homes, at the dental clinic, at the vaccination clinic, or a combination of these.
We must also consider ways to book/confirm appointments: community radio is useful, especially for parents who do not have a phone. The secretary or dental clinic assistant can book the appointment.

The amount of time necessary for the procedure (examination, questionnaire, in vivo tooth-brushing demonstration, varnish application, information on healthy habits, etc.) is approximately 30 min. for the first visit and 20 min. for the following one. The material used for the examination and prevention education was pertinent (see details in the workbook), however a prevention committee, including Cree parents, should make suggestions to include tools which are more relevant to Cree culture, since children do not visit the clinics, and the clinics are overloaded.

2.1.5 Comparison of dental health indicators between Cree and other populations (12-24-months-old)

The defs is a useful indicator for comparing the dental health of different populations. Table 7 provides an overview by comparing the Cree sample to the non-representative sample comprising children from 4 regions of Quebec (1). We noted that the average deft of these populations is very different: hence, the defs of the two Cree communities is 8 times higher than that of the control group. Even though these results cannot be verified in terms of representation, they indicate a far greater defs and prevalence among Cree children compared to children from other regions. No other validated data is available in Quebec or the rest of Canada to further describe the present situation since all the studies completed concern older clients.

Table 7: Comparison with others regions (prevalence, deft; 12-24-months-old)

Study of Cree Territory 2001			**Study of 4 Regions in Quebec 2001**		
Number of children: 79 Average age: 18.9 months			Number of children: 301 Average age: 16.5 months		
Prevalence	**deft**		**Prevalence**	**deft**	
	All the children	Those with caries		All the children	Those with caries
30.38%	1.34	4.41	4%	0.16	3.62

Our desire to target very young children and their families during the Pilot Project stems from the fact that adopting healthy habits can prevent problems: the only public dental health program available is intended for children from kindergarten to Grade 3, when in fact (2) 42% of 5-year-olds in Quebec have already experienced dental cavities.

Table 8: Comparison of the Cree pilot project and the Phase I pilot project concerning certain risk factors (12-24-months-old)

	Visible plaque	Prevalence of ECC	Mother's education
Cree Territory: 79 children	36 (46%)	24 (30%)	43 (54%)
Phase I: 301 children	123 (41%)	18 (6%)	117 (39%)

In order to determine or predict the future potential risk of developing cavities (3, 4, 5), we must consider the following 3 variables: visual evidence of the presence of dental plaque on upper teeth, present and past cavity experience and mother's education. For Cree mothers, we set the level of education at Secondary III (completed), and Secondary V (completed) for mothers in the other 4 regions of Quebec. According to Table 8, we see a greater presence of risk factors among the Cree when compared to "non-native " population.

2.2 4-5-years-old (pre-K and kindergarten)

The school environment brings together children in the community, according to age and scholastic ability. In the Cree region, the school year is structured in such a way that 4-year-olds often go to school (pre-K). Everything is taught in Cree until Grade 3. We wanted to study all the children in this age group in all the communities within the territory to compile precise data concerning 518 children, the entire sample for this age group.
Data collection took place over a 5 month period. We thought that if we provided a dental prevention incentive similar to the one available in the rest of Quebec, we could more easily recognize this population's specific needs. We have therefore sampled prevalence, defs and deft, sorted high-risk children according to the "provincial criteria" of the present public school dental health program. We have equally determined the evident need for treatments (ENT) according to a new hierarchy (see description in the workbook) and have documented conditions concerning feasibility, especially when considering maximum fluoride treatment (adapted fluoride treatment: see details in the workbook) for the children with the **very** highest risk! All the data has been interpreted according to specific age, grade level and primary and/or permanent dentition.

2.2.1 Demographic data (4-5-years-old)

Table 9 describes the main characteristics of the population examined by the two dental hygienists on a regular basis. Thus, the number of boys and girls is well distributed, as it is in all other age groups. The average age for this group is 4.7 years.

The number of children seen by specific age shows that 5-year-olds are twice as likely to be seen as 4-year-olds (286 against 143). According to the present school system in Cree communities 3 and 4-year-olds are usually enrolled in pre-K: we therefore collected data in the middle of the school year so that most of the children were 4 or 5 years old. Most of the children in this age group are in kindergarten. Finally, Chisasibi has the largest number of 4 and 5-year-olds in all of the Cree communities of James Bay: almost one in four children (22%) belonging to this age group lives there. The distribution of caries of this age group should be monitored in the following context: Cree children aged 0-9 years presently represent the most rapid demographic progression in Quebec, with 24% more growth than the corresponding age group in the rest of the provincial population.

Table 9: Number of children examined (4-5 years-old)

Characteristics		Number of children	% (± s.d.)
Sex	Female	252	48.6 (± 2.2)
	Male	266	51.3 (± 2.2)
Specific age	3 years	1	N.R.
	4 years	143	27.6 (± 1.9)
	5 years	286	55.2 (± 2.2)
	6 years	23	4.4 (± 0.9)
Grade	Pre-K	236	56.0 (± 2.1)
	Kindergarten	281	54.2 (± 2.2)
Village	Chisasibi	151	22.1 (± 2.0)
	Wemindji	40	7.7 (± 1.2)
	Whapmagoostui	44	8.5 (± 1.2)
	Eastmain	21	4.1 (± 0.9)
	Mistissini	81	15.6 (± 1.6)
	Waskaganish	75	14.5 (± 1.6)
	Nemaska	19	3.7 (± 0.83)
	Oujé-Bougoumou	21	4.1 (± 0.9)
	Waswanipi	66	12.7 (± 1.5)

2.2.2 Overview of the dental health (4-5-years-old)

We shall again deal with conventional indicators to describe the dental health of a population, i.e. the prevalence and the defs/deft associated with primary and permanent teeth. In the last case this approach is only followed if it consolidates the description, since children in this age group have few permanent teeth.

2.2.2.1 Prevalence of dental caries (4-5-years-old)

The prevalence of dental caries – an infectious disease – is expressed in terms of a specific age: not one child in ten is exempt from caries. The disease has therefore epidemic proportions as soon as children start going to school. According to literature (6), as soon as more than 40 % of a group are sick, the whole population (100 %) is at risk. Under those conditions a preliminary screening is ineffectual. In most cases we found caries on the children's primary teeth; however in is interesting to note that even in that age group some permanent teeth were decayed (8 children). The communities seem to be severely affected: the prevalence ranges between 80.3 % (Waswanipi and Mistissini) and 92.5 % (Wemindji).

Table 10: The prevalence of caries according to age, dentition, village and school year (4-5 years-old)

Characteristics		Number of children seen	Number of children with def/DMF surfaces	Prevalence of caries	Standard deviation
Group	4-5 years	518	447	**86.29 %**	± 1.51
Age	4 years	143	118	**82.5%**	± 3.18
	5 years	286	249	**87.1%**	± 1.98
	6 years	23	20	**86.9%**	± 7.02
Dentition	Primary	518	443	**85.5%**	± 1.55
	Permanent	173	8	**4.6%**	± 1.60
Village	Chisasibi	151	138	**91.4%**	± 2.28
	Wemindji	40	37	**92.5%**	± 4.16
	Whapmagoostui	44	40	**90.9%**	± 4.33
	Eastmain	21	18	**85.7%**	± 7.64
	Mistissini	81	65	**80.3%**	± 4.42
	Waskaganish	75	61	**81.3%**	± 4.50
	Nemaska	19	16	**84.2%**	± 8.37
	Oujé-Bougoumou	21	19	**90.5%**	± 6.41
	Waswanipi	66	53	**80.3%**	± 4.90
Grade	Pre-K	236	199	**84.3%**	± 2.37
	Kindergarten	281	247	**87.9%**	± 1.95

2.2.2.2 defs/DMFS indicator (4-5 years-old)

The following Table 11 illustrates clearly the virulence of the disease, bearing in mind that a child of 5 years has an average of 19 surfaces which have experienced dental caries (present or passed, treated or untreated).

These figures emphasize the contagious nature of caries. An important cause for concern is the fact that the only 3-year-old child in the sample already has 12 active caries. Similarly, children in pre-K class are affected by caries. Each child of this grade has an average of 16 surfaces that demonstrate signs of decay.

Table 11 : The defs/DMFS according to clientele, age, dentition and grade (4-5 years-old)

Characteristics		Number of children	Nb.of surfaces with			defs	Std. deviation
			d	e	f		
Clientele	4-5 years	518	3184	2402	4087	18.67	± 19.27
Age	3 years	1	12	0	0	12	-
	4 years	143	921	467	880	15.86	± 17.05
	5 years	286	1562	1465	2506	19.35	± 19.84
	6 years	23	63	102	192	15.62	± 19.87
Dentition	Primary	518	2373	1475	3566	14.31	± 14.45
	Permanent	173	9	0	10	0.11	± 0.33
Grade	Pre-K	236	1532	778	1580	16.48	± 17.58
	Kindergarten	281	1650	1624	2500	20.55	± 20.46

The following Table 12 gives us a detailed breakdown of defs according to the percentage of children affected by caries in various communities. It shows that 148 children (28.6 %) had to have teeth removed because of caries. This means than one child out of four had to have at least one extraction due to caries.

Presently, 364 children (70 %) in the communities suffer from active caries that have not been treated. The treatment rate ((f) / (f + d)) applies to 56 % of present caries in 46 % of children (nb. of children (f) / nb. of children (f) + d)). Note that conditions corresponding to d, e or f are not mutually exclusive, since a child may be affected by one or more of these conditions.

Table 12 : Detailed analysis of defs according to communities (4-5-years-old)

Villages	Number of children examined	Number of surface with			defs	s.d.
		d	e	f		
Chisasibi	151	1268	920	1299	23.09	± 18.18
Wemindji	40	429	96	220	18.62	± 16.09
Whapmagoostui	44	341	457	550	30.63	± 23.87
Eastmain	21	155	115	182	21.52	± 22.10
Mistissini	81	215	226	597	12.81	± 16.71
Waskaganish	75	369	286	651	17.41	± 20.46
Nemaska	19	79	35	85	10.47	± 16.49
Oujé-Bougoumou	21	146	36	115	14.14	± 12.56
Waswanipi	66	182	231	388	12.13	± 14.81
Total	**518**	**3184**	**2402**	**4087**	**18.67**	± 19.27

2.2.2 Intervention feasibility (4-5 years-old)

Dental hygienists examined almost all the children (96 %) in pre-K and kindergartens of all communities. Each examination took an average of thirty minutes to determine the defs and to complete the screening according to the provincial criteria, (the presence of decay on one surface of an anterior tooth or on two interproximal surfaces on a posterior tooth). This in turn establishing the occurrence of caries (d,e or f)). Once the child is classified as being at risk, he is required to follow a preventive treatment twice a year at school. In the rest of Quebec, dental hygienists classify on the average 25 % of children in kindergartens as being at risk. The equivalent figure on the Cree territory is 77 %, which makes screening unnecessary. 56.17 % of children were classified as being at risk due to one or more affected surfaces on an anterior tooth. The visit follow-up consisted of reviewing teeth brushing techniques, checking oral hygiene and applying fluoridated varnish. This type of care, similar to that seen elsewhere in Quebec, is offered bearing in mind that 9 out of 10 children are suffering from the disease. Hygienists have also tested adaptive fluoride therapy.

Explanation

Adaptive fluoride therapy is a technique that consists in focusing on the fluoride treatment for children with a high risk of contracting caries. One approach would be to see a child once a week, during one month, and to apply to his teeth a fluoridated varnish or gel. Another approach would be to use a fluoridated mouth wash every day and to have a gel applied to his teeth every six months. The interested reader will find a protocol for the pilot project in the workbook, including several scenarios for the adaptive fluoride therapy

Dental hygienists closely observed ten high defs kindergarten children, over a period of three weeks. During this practical observation, 10 children with a defs of 34 or higher were singled out. The fluoride treatment was applied in the dental clinic and lasted 15 minutes per child. The compliance rate was very average : only 19 clients out of 30 (63 %) were present for the appointments. This example highlights once more the need for a community effort in which the population plays an **active** role in the patient's health.

2.2.4 Comparison of dental health indicators between Cree children and other populations (4-5-years-old)

As we previously mentioned, these data are rare in Canada. They are non-existent for the First Nations and rare for the remaining population of Quebec. The province of Saskatchewan has recently published the findings regarding the dental health of children including those who are 5 years old. Finally, the World Health Organization has defined, during the 1990's, a series of objectives in dental health to attain by the year 2000, of which one involves children who are 5 years old. The following tables compare these previous examples with the present situation for the Cree population (13, 14, 15).

Table 13 shows the prevalence and the average defs of Cree children aged 5 (4.7 rounded off), compared to those in the rest of Quebec. By comparing the DMFS, it could be said that a child who is born and reaches the age of 5 years within the James Bay region, is at risk for developing dental caries at a level FIVE TIMES that of a child in a comparable region.

Table 13: Comparison between Cree children with the rest of Quebec (prevalence and defs/DMFS on both dentitions: 5-years-old)

2001 survey on Cree territory			1998-99 survey in the rest of Quebec		
Number of children: 518 Average age: 5 years			Number of children: 2512 Average age: 5 years		
Prevalence	**Average defs/DMFS**		**Prevalence**	**Average defs/DMFS**	
	All the children	Those with caries		All the children	Those with caries
86.3%	18.7	23.2	41.8	3.47	N. A.

* N. A.: Not available

The following Table 14 compares the actual situation of Cree children with that of young children in the province of Saskatchewan.

Table 14: Comparison between Cree children with the province of Saskatchewan (deft/DMFT on both dentitions: 5-years-old)

Cree territory survey in 2001	Saskatchewan survey in 1998-99
Number of children: 518 Average age: 5 ans	Number of children: 11,383 Average age: 5 ans
deft/DMFT : 6.75	**deft/DMFT : 2.10**

A more positive indicator – a child without caries – is sometimes used to describe the dental health of a population. Table 15 describes the current situation of Cree children in relation to the objectives of the WHO, for a given age group of young children. Looking at it we realize how far our situation is from the WHO objectives: as a matter of fact, the 'prevalence of children without caries' decreases as children grow older.

Table 15: Comparison between the present situation and the objectives of the WHO

	World Health Organization Dental health objectives for 2000	Cree territory in 2001
5 year-olds	50% without caries	12.9% without caries
6 year-olds	50% without caries	13.0% without caries

2.3 7-8 years-old (2nd grade)

Data on children in grade 2 were collected, as part of the pilot project, in order to make a comparison with epidemiological investigations conducted during the previous years. Schools in nine communities were visited and 255 grade 2 children were examined.

2.3.1 Demographic data (7-8-years-old)

Table 16 provides information on the number of children of this group.

Table 16: Average age of children (7-8-years-old)

Total number	Average age	Standard deviation
255	7.13 (years)	± 0.37

2.3.2 Overview of the dental health (7-8-years-old)

We shall concern ourselves briefly with the prevalence and the defs/DMFS of this population. We shall also use the deft/DMFT to study the mixed dentition (primary and permanent) in this age group.

2.3.2.1 Prevalence of caries (7-8-years-old)

If these results establish any relationship between the risk factor and dental caries, it would be the fact that having caries at an early age exposes you to the danger of having them when you are older. The prevalence of caries in grade 2 children is close to 100%.

Table17: Prevalence of caries according to age and village (mixed dentition, 7-8 years-old)

Characteristics		Number of children	Children with d, e or f	Prevalence
Clientele	7-8 years	255	250	98.0%
Age	6 years	3	3	100.0%
	7 years	214	210	98.1%
	8 years	35	35	100%
Village	Chisasibi	62	60	96.8%
	Wemindji	22	22	100%
	Whapmagoostui	23	23	100%
	Eastmain	15	15	100%
	Mistissini	53	53	100%
	Waskaganish	36	35	98.2%
	Nemaska	8	8	100%
	Oujé-Bougoumou	6	6	100%
	Waswanipi	30	28	93.3%

Table 18 demonstrates an unusually high prevalence of caries (45.67 %) in the Primary dentition for this age group. Furthermore, by the age of 7, Cree children already have caries on permanent teeth.

Table 18: Prevalence of caries (7-8 years-old)

Dentition	Number of children	Children with d, e and f	Prevalence
Primary teeth	255	248	97.64%
Permanent teeth	255	116	45.67%

2.3.2.2 The defs/DMFS (7-8 years-old)

Table 19 describes the defs/DMFS that applies to 7-year-olds. It shows that a grade 2 child in a Cree community experienced caries on 24 surfaces. Of these, approximately 4 surfaces are affected by active decay.

Table 19: The defs/DMFS according to age (7-8 years-old)

Characteristics	Age	Number of children	d	e	f	defs	Std. dev.
Clientele	7-8 years	255	988	1343	3911	24.48	± 16.85
Age	6 years	3	16	0	7	7.67	± 5.03
	7 years	214	813	1108	3304	24.41	± 16.65
	8 years	35	151	235	585	27.74	± 17.81

Table 20 contains complementary information on the defs/DMFS as a function of dentition. The DMFS applicable to permanent teeth is quite high in 7-year-olds, since on the average, each child experienced caries on more than one surface

Table 20: The defs/DMFS according to dentition (7-8 years-old)

Characteristics	Number of children	d	e	f	defs	Std. dev.
Primary teeth	255	763	971	3283	19.67	± 13.29
Permanent teeth	255	63	44	238	1.35	± 2.22

2.3.3 Intervention feasibility (7-8-years-old)

We did not document the treatment feasibility, since our procedures only consisted in gathering indicator data (prevalence and defs/DMFS). We do not foresee preventive activities any different from those applied to 4 to 5-year-olds.

2.3.4 Evolution and comparison of dental health with other populations (7-8-years-old)

The grade 2 group has been subjected to many epidemiological studies since 1980. The state of dental health and the evolution of primary dentition in time, is based mainly on a study of this group. We are presenting a series of comparisons that highlight the evolution of the particular dental health situation of the Cree Nation.

2.3.4.1 Evolution during the last 20 years (7-8-years-old)

The evolution of the Cree dental health during the last 20 years can be followed relatively easily thanks to a series of investigations. First, there was a provincial survey in 1983-84 in which a Cree sample was studied. In 1990-91 a Canadian survey of aboriginal children also took into consideration the Cree in James Bay. Furthermore, in 1991 and 1996 a Canadian survey took place involving the First Nations, the Inuit and some aboriginal Nations of Quebec, however without the participation of the Cree.

Our survey is the most recent one in this evolutionary trend. Table 21 highlights the evolution of the Cree dental care by taking into account the deft applicable to primary and permanent teeth and by reviewing this factor over a period of the last 20 years. The deft of 7-year-old Cree children changed from 7.27 (1983) to 7.46 (2001), whereas in the rest of Quebec it decreased substantially (1983: 5.12 and 1998: 3.16). Surveys of Canadian First Nations other than James Bay Cree in Quebec demonstrated that a comparable deft had slightly decreased, although it remained the highest among the three populations (most likely this deft has continued to decrease during the last five years). Consequently, the Cree deft was the only one to increase during the years shown in the table.

Table 21: Evolution of Cree dental health between 1983 and 2001 (deft, 7-8-years-old)

Region	Level of caries (deft) and evolution in time			
	1983	1990	2001	%
Quebec population	5.12	N.A.	3.16	▼ 39 %
Cree population	7.27	N.A.	7.46	▲ 3 %
Other First Nations	9.5	8.2	N.A.	▼14 %

Table 22: Evolution of the deft of 7 to 8-year-olds (primary teeth only) during the period 1983 to 2001 (Cree population vs rest of Quebec)

Region	Year and level of caries (deft)			
	1983	**1998-99**	**2001**	**Increase or decrease** of caries
Cree population	4.90	N.A.	7.71	▲36 %
Quebec population	4.41	2.65	N.A.	▼40 %

Table 22 compares the improvement of dental health in children (7 to 8-years-old with primary teeth) in the rest of Quebec with the deterioration of the dental health in Cree children between 1983 and 2001. These data reveal that the two populations started off with comparable deft values in 1983. However, the evolution of the deft during these years resulted in one case, in an improvement (40% reduction in caries) and in the other case, in deterioration (36% increase in caries). This difference of 76% in the evolutionary process constitutes certainly a salient fact that is bound to make us think about the strategies we should adopt to improve this situation.

The most recent documented evolution of the average defs associated with 7-year-olds demonstrates predictably that the dental health of Cree Nations is similar or worse than that of non-aboriginal people of Quebec in 1983. Table 23 illustrates according to dentition the similarity and the divergence between these two time frames.

Table 23: Evolution of the deft according to dentition in Cree children and other children in Quebec, between 1983 and 2001 (7-years-old)

	Quebec 83-84	**Cree 2001**
Primary teeth	10.77	24.41
Permanent teeth	1.41	1.47

2.3.4.2 Comparison of dental health between Cree and other populations (7-8-years-old)

For the sake of comparison, the population in the Abitibi-Témiscamingue region of Quebec, will be added to the three populations previously considered. This region is classified as 'remote'. According to certain criteria of the MSSS, it has a status similar to that of James Bay. The defs related to primary and permanent teeth of 7-year-old children will be compared, in

terms of seriousness, within the context of several surveys and specific populations. Table 24 clearly demonstrates that the average defs of 7-year-old children in the remote Abitibi-Témiscamingue region is much closer to the one in the rest of Quebec than to the one in James Bay. The average defs of Canadian First Nations other than Cree is the highest one, however it is decreasing according to data collected between 1991 and 1996.

Table 24: Comparison of average defs with other populations (mixed dentition, 7-years-old)

Region	Primary and Permanent dentition	
	defs	Year
First Nations of Canada	**9.52**	1996
Cree population of Quebec	**7.46**	2001
Abitibi-Temiscamingue region	**3.12**	1998-99
Quebec population	**2.83**	1998-99

2.4 11 to 12-years-old (grade 6)

Data on grade 6 children have finally been collected within the framework of the pilot project: a total of 227 children were examined.

2.4.1 Demographic data (11-12-years-old)

Table 25 provides information on the number of children examined in this age group. The number of children examined is similar to that of the 7 to 8-year age group.

Table 25: Number of children examined (11-12-years-old)

Total number	Average age	Standard deviation
227	11.53 (years)	± 0.63

2.4.2 Overview of the dental health (11 to 12-years-old)

We shall briefly discuss the prevalence and the defs/DMFS in this population. We shall also use the DMFT to take into consideration the permanent teeth in this age group.

2.4.2.1 Prevalence of dental caries (11-12-years-old)

Table 26 shows that the prevalence of caries, in spite of the fact that the children are growing older, remains high even if the children have most of their permanent teeth (see Table 27). In grade 6 more than 9 children out of 10 have experienced caries.

Table 26: Prevalence of caries according to clientele (11-12-years-old) and specific age

Characteristics		Number of children	Number of children with d, e, f	Prevalence
Clientele	11-12 years	227	223	92.83%
Age	10 years	1	1	N.R.
	11 years	120	112	93.33%
	12 years	87	79	90.80%
	13 years	16	15	93.75%

N. R. Non representative

Table 27: Prevalence of caries according to dentition (11-12-years-old)

Characteristics	Number of children	Number of children with def/DMF	Prevalence
Primary teeth	46	36	78.26%
Permanent teeth	227	199	87.67%

2.4.2.2 The defs/DMFS (11-12-years-old)

The average defs\DMFS of children in this age group remains very high. According to data in Table 28 it remains stable before increasing substantially close to the age of 13. However, we should take into account that the 13-year-olds are underrepresented.

Table 28: The defs\DMFS according to clientele (11-12-years-old) and by specific ages

Characteristics		Number of children	d	e	f	defs	(s. d.)
Clientele	11-12 years	227	260	162	1363	7.86	± 6.51
Age	10 years	1	0	0	19	19.00	-
	11 years	120	151	84	684	7.65	± 6.27
	12 years	87	86	36	506	7.21	± 5.91
	13 years	16	21	36	135	12.00	± 9.37

Table 29 illustrates the importance of the average defs/DMFS: it becomes apparent that permanent teeth, although they are recent and bearing in mind the age, are the dominant factor in the occurrence of caries.

Table 29: The defs/DMFS according to dentition (11-12-years-old)

Characteristics	Number of children	d	e	f	defs	(s. d.)
Primary teeth	46	57	0	183	5.22	± 5.68
Permanent teeth	227	150	126	878	5.08	± 4.71

2.4.3 Intervention feasibility (11-12-years-old)

We did not document the treatment feasibility, since our procedures only consisted in gathering indicator data (prevalence and defs/DMFS). We do not foresee preventive activities any different from those applied to 4 to 5-year-olds.

2.4.4 Evolution and comparison of dental health of Cree Children with other populations (11-12-years-old)

The essential factors in the analysis of the evolution associated with the Cree dental health were derived from data related to the 7 to 8-year-olds. However, we can briefly analyze by means of Table 30 the status quo in the evolution of defs applicable to 12-year-olds who have been living on the territory of Cree Nations for the last 20 years. The average defs associated with permanent teeth of 12-year-old children has changed from 5.18 (1983) to 5.08 (2001). Furthermore, the only data concerning the rest of Quebec, comparable to those of Cree Nations in James Bay, reveal a defs that is quite close to the one determined 20 years ago.

Table 30: Evolution and comparison of DMFS related to permanent teeth, (11-12-years-old)

Region	DMFS – permanent teeth	
	1983	2001
Cree population	5.18	5.08
Quebec population	3.80	3.1*

* Research 1996-1997 for children 11-12 years-old

CHAPTER III: OVERALL ASSESSMENT OF THE MAIN INDICATORS ACCORDING TO AGE AND OVERVIEW OF EVIDENT NEEDS FOR TREATMENTS

This chapter provides an overview of the current dental health of all age groups. The evolution of dental health among Cree children over the last 20 years, comparing them with other populations, will also be presented.

This chapter will address the indicators of needs for clinical treatment. Traditionally, associated clinical activities, the findings will be described from the start through the description of the present situation to then be compared to situations of the past. The evident need of treatment (ENT) of the Cree children will also be compared to that of other populations.

This section will make the transition to the following chapter which portrays the actual situation of the dental clinics, in terms of clinical operation indicators.

3.1 Overall assessment of the main indicators according to age

Table 31 reviews the prevalence and defs allocated to the preceding age groups. The reader will notice immediately the rhythm associated with the progress of the disease. The following situation prevails in James Bay: caries in the early childhood reach their peak just before the loss of primary teeth and start decay in permanent teeth. It is important to understand this cycle in order to implement preventive measures before these problems occur. This approach eliminates the disease at the source as well as its causal factors. The right-hand column highlights the present situation compared to the rest of Quebec.

Table 31: Overview according to clientele, prevalence and defs/DMFS

Age group	Prevalence of caries	defs/DMFS	
		Per dentition (Cree Children)	Comparison factors with Quebec
12-24 months	30.4%	Primary: 1.34	8 times higher
4-5 years	86.3%	Primary: 18.67	5 times higher
7-8 years	98%	Both: 24.47	4 times higher
11-12 years	92.8%	Permanent: 7.86	3 times higher

3.2 Overview of Evident Need for Treatments (ENT)

Section 3.1 summarized the present state of dental health In this section of Chapter 3.2 we shall address mainly the extent of the 'present disease'.

3.2.1 The evident need for treatment during the '90s (11-12-years-old)

Resident hygienists in the nineties had to produce an annual report with a specific reference to the village and to the instructions given to children, encouraging them to see a dentist. Table 32 describes the evolution of the evident need for treatment (ENT) for Cree children (excluding the preventive treatment) by dental hygienists during the annual check-up. In summary, the ENT arose frequently and remained elevated throughout the years. An apparent peak in the demand for treatment appears to be related to the percentages of the most recent years. This stability of the disease in 11 to 12-year-olds during the last years, indicates clearly the necessity for new preventive solutions.

Table 32: Evolution of the ENT throughout the years, according to village

Communities	% of children with an evident need for treatment						
	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Chisasibi	48%	n. a.	81%	75%	61%	77%	86%
Wemindji	64%	n. a.	61%	67%	29%	63%	88%
Whapmagoostui	56%	n. a.	83%	73%	45%	65%	89%
Eastmain	62%	n. a.	62%	66%	51%	70%	91%
Mistissini	53%	42%	44%	38%	41%	63%	n. a.
Waskaganish	59%	n. a.	63%	77%	50%	76%	84%
Nemaska	42%	40%	43%	55%	69%	82%	n. a.
Oujé-Bougoumou	n. a.	50%	57%	52%	48%	62%	n. a.
Waswanipi	56%	45%	38%	43%	53%	68%	n. a.
Average	**55%**	**44%**	**59%**	**60%**	**50%**	**69%**	**87%**

n. a.: not available

3.2.2 2001 version of ENT

While gathering data generated by the pilot project, dental hygienists were trained to verify the ENT by means of a new methodology. By creating a new description of ENT, the consulting dentist aimed at establishing a clinical reference (classification according to seriousness) and to distinguish between the urgent cases and those that can wait, bearing in mind the strong demand.

The categories were classified according to the Pitts classification of caries. C2 and C4 indicate the depth (dentin and pulp respectively), while the + and – minus signs characterize the frequency of occurrence (one tooth versus several teeth). Table 33 describes the ENT for 4 to 5-year-olds and 7 to 8-year-olds in the 2000 – 2001 time frame. For the 4 to 5-year-olds the ENT is obviously urgent since it falls in the categories of maximum seriousness (many teeth and deep cavities). Furthermore, 93.7% of ENTs applicable to 7 to 8-year-olds fall in the categories C2+ to C4+, meaning that the teeth of these children are affected by caries in the dentin and the pulp.

Table 33: 2000 – 2001 version of ENT (4-5-years-old, 7-8 years-old)

Clientele	Co		C2-		C2+		C4-		C4+	
	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%
4-5 years	161	**31.76**	71	**14.00**	134	**26.43**	3	**0.59**	138	**27.22**
7-8 years	94	**37.3**	26	**11.1**	84	**32.9**	0	**0**	50	**19.6**

3.2.3 ENT according to affected surfaces

The following Table 34 illustrates the ENT in terms of active caries according to the children's age. As an example we would like to point out that a 5-year-old child had on the average 2.2 decayed dental surfaces (untreated), at the completion of the pilot project report (May 2001)

Table 34: ENT according to specific age

Num. of surfaces to be restored	4 yrs	5 yrs	6 yrs	6 yrs	7 yrs	8 yrs	11 yrs	12 yrs	13 yrs
1 surf. to be rest.	12	35	5	0	43	6	24	21	4
2 surf. to be rest.	20	45	4	1	28	3	6	11	0
3 surf. to be rest.	13	26	2	0	20	5	2	0	0
4 surf. to be rest.	15	26	3	0	11	3	1	0	0
5 surf. to be rest.	7	19	0	0	12	0	1	0	0
6 surf. to be rest.	8	12	0	0	5	1	0	0	0
7 surf. to be rest.	8	5	0	0	3	0	0	0	0
8 surf. to be rest.	5	7	0	1	3	0	0	0	0
9 surf. to be rest.	5	5	0	0	0	0	0	0	0
10 surf. to be rest.	2	4	0	0	1	0	0	0	0
11 surf. to be rest.	1	0	0	0	0	1	0	0	0

Table 35 shows an example of a different distribution relating to 4 to 5-year-old children suffering from various degrees of caries. Children with 5 to 9 caries are part of the largest group (163 children representing 36.5% of the sample).

Table 35: Percentage of children according to number of affected surfaces (mixed dentition, 4-5-years-old)

Number of surfaces affected	Freq. of children	%	Standard deviation
1 surface	16	3.58	0.88
2 to 4 surfaces	103	23.04	1.99
5 to 9 surfaces	163	36.46	2.28
10 or more surfaces	32	7.16	1.22

3.2.4 Overview of dental surfaces according to clientele and clinical conditions

Table 36 gives an overview of clinical conditions associated with children's teeth. (3 age groups : 4-5, 7-8, and 11-12 years-old). Once more we recognize the extent of the disease (dental caries) after becoming aware of its presence. The tabulated data indicate the high rate of recurrence after the treatment. For instance, active caries in conjunction with other clinical conditions occur in 70.3% of 4 to 5-year-old children.

Table 36: Dental surfaces according to clientele and clinical conditions

Clinical Conditions	Clienteles					
	4-5 years		7-8 years		11-12 years	
	Freq.	%	Freq.	%	Freq.	%
Healthy teeth	71	13.7	5	1.96	17	7.5
Only have caries	114	22.0	17	6.66	15	6.6
Only have caries and extractions due to caries	20	3.8	3	1.17	1	0.44
Have caries, fillings and extractions due to caries	94	18.1	56	21.96	11	4.84
Only have caries and fillings	136	26.2	83	32.54	64	28.19
Only have fillings and extractions due to caries	34	6.6	34	13.33	7	3.08
Only have fillings	49	9.4	56	21.96	112	49.3
	Total: 518		**Total: 255**		**Total: 227**	

3.2.5 Sites of decay

Table 37, the last in this section, describes the sites most frequently attacked by decay in young Cree children. We have observed that the site of decayed surfaces varies with age: in 4 to 5-year-olds, the front teeth are most likely to be affected, while in 7 to 8-year-olds, the back teeth are more prone to decay. This sequence follows the teething stage. This is explained by the eruption of more teeth and that these offer more possible caries sites since they have more fissures. Nevertheless according to the public health classification, decay on the front teeth indicates a high risk of future caries.

Table 37: Manifestation of caries (surfaces) per anterior and posterior sites (4-5-years-old and 7-8-years-old)

	Anterior teeth		Posterior teeth	
Age	**Average**	**Standard deviation**	**Average**	**Standard deviation**
4-5 years	5.73	± 8.25	4.36	± 5.10
7-8 years	2.17	± 5.47	7.74	± 6.60

CHAPTER IV: PRESENT STATE AND OPERATION OF DENTAL CLINICS OF THE CREE BORD OF JAMES BAY

Over the past year, there have been two questionnaires distributed to each of the nine community clinics that are responsible for providing dental health services to the population of Eeyou Istchee (James Bay Territory). These documents were generally reviewed and completed by the dental service teams of each community. Furthermore, the Head of Department of Dental Medicine visited most communities in the months of September and October of 2001, to review the information acquired from these documents as well as other statistics. The data were tabulated and used to provide adequately the following information regarding the present situation of the dental clinics of the Cree Board of Health and Social Services of James Bay.

It is very important to note that the members of the dental team for the most part have been with the C.B.H.S.S.J.B. or in the community for a significant period of time (multiple years). Thus, it is safe to say that the members of the dental team have a very good grasp as to the situation of their particular community when it comes to dental health and services related thereof.

N.B. A copy of the original questionnaires and the tabulated data is available in the Annex section (number 6, 7, 8, 9)

4.1 A profile of the dental service team

The dental service team is composed of two sectors: the Clinic component and the Public Health component. The former deals generally on a more individual basis (as in a clinical environment) while the latter deals more often at a population or group level.

4.1.1 Clinical Sector

- 8 dentists which serve the nine communities (one dentist is shared half-time with the Inulitsivic Health Board, thus 7.5 effective dentists),
- an equivalent number dental assistants,
- 2 receptionists (1.5 effective),
- 3 dental hygienists that function in both clinically and in public health sectors (1.5 effective clinical dental hygienist)
- occasional dental specialists (Orthodontist, Oral Surgeon, Endodontist, and Denturologist)
- dental residents (these are certified dentists who are furthering their training in the field)

Increases in the number of dentists occurred most recently in the early or mid 1980's and in 1993-94. The latter increase was of 0.5 effective dentists. The number of assistants has always remained in accordance with the number of effective dentists. There has been an increase of 1.0 dental hygienist (combined for both the clinical and public health sectors) as well as 0.5 receptionists in the past year.

In general, most dental clinics found throughout the province and country have the following staff in terms of the dental team:

Recommended Dental Clinic Team

Position	Main Function
Dentist	Treatment of Patient's Dental Health Needs.
Hygienist	Treatment of Patient's Dental Health Needs limited to acts under supervision of dentist (eg: Exam, Cleaning, etc.)
Assistant	Assists Dentist and responsible for equipment preparation.
Receptionist	Manages schedules, clinic and inventories.

This situation is very efficient with all members working together and doing their particular task. In addition, a significant number of today's dental clinics have additional dental team staff such as office managers, nurses, full time specialists, lab technicians and nutritionists.

Unfortunately the majority of the dental clinics in the cree villages have the following scenario:

Actual Situation

Position	Main Function
Dentist	(assumes tasks of dentist, hygienist and some of receptionist)
Assistant	(assumes tasks of assistant and most of receptionist)

In this instance there is overlapping of tasks and decrease of efficiency as these two individuals are overwhelmed with tasks that normally would fall to another team member. Moreover, this situation is NOT cost- efficient.

4.1.2 Public Health Sector

- 1 part time public health dentist (0.5 effective)
- the same 3 dental hygienists previously mentioned (1.5 effective)
- 11 Community Health Representatives (with approximately 10%-15% of their time allotted to Dental Health Programs)

For this sector we have the recent arrival of the public health dentist and the previously noted increase in dental hygienists.

4.2 Demographic Findings regarding the clinical sector

The following table (Table 38) demonstrates the increase in population in this specific region of James Bay. It is important to note that the population figures have been acquired from the "Registre des Autochtones" of the MSSSQ. The figures for 2001 also include the non-beneficiaries living in the region and the beneficiaries who are registered out of territory.
The two groups regularly receive treatment in the communities of the region (usually when visiting the communities or on an emergency basis).

Table 38: Population

Years	1986	1991	1996	2001 (approx)
Population	8792	10310	11370	14250
%	**0 %**	**▲ 17.27 %**	**▲ 29.32 %**	**▲ 62.08 %**

It is important to note how this population growth compares to other regions of the province. It is clear that population growth in this region is very high. Table 39 below reviews specific trends in the population from 1991 to 1996 and helps us determine which portion of the population is increasing and how it compares to the provincial average.

Table 39: Specific Trends In Population Growth

Age group	**Region (James Bay) (%)**	**Quebec (%)**
Total	**10.0**	**2.9**
0-14	7.0	-1.1
15-64	13.6	2.7
65+	-21.8	10.6

4.3 Clinical Environment

This section will review important aspects of nine community dental clinics in term of the present situation.

4.3.1 Services Provided

It is essential to review dental health operations to determine if dental services rendered to the population are sufficient or insufficient. The findings of Table 40 reveal the average need treatment and the portion of dental needs that are satisfied for each village of the territory. This information was based on waiting lists, treatments plans, the severity of dental health problems for each portion of the population, rate of recurrence dental disease as well as limitation of the physical locations/equipment and clinical management. Each of these aspects will be further described in this section.

Table 40: Services Provided

Village	Need of tx Hours/patient Average	Portion of Clinical Dental Needs (%)	
		Satisfied	Unsatisfied
Chisasibi	**6**	60-70	30-40
Mistissini	**5**	60-70	30-40
Waskaganish	**10**	60-70	30-40
Waswanipi	**8**	60-70	30-40
Wemindji	**6**	60-70	30-40
Whapmagoostui	**6**	50	50
Ouje-Bougoumou	**7**	50	50
Nemaska	**11**	30-40	60-70
Eastmain	**6**	30-40	60-70
Average	**7.5**	**Less than 50% of needs are satisfied**	

A great portion of the services provided is treatment that addresses emergency situations. The rate of emergency dental treatment (Emergency and Consultation: réf. to Annex 10) has increased significantly over the past years; thus, one can appreciate that the needs remain under serviced. Prescriptions for medication (antibiotic and analgesic for the most part), dental extractions (both primary and permanent dentition) and pulpotomies (a treatment usually rendered when decay has reached the nerve of the tooth) remain very prevalent in the routine clinical practice. This has been documented and tabulated over the past eight years in each of

the communities. These details can be further reviewed and compared to other regions of the province or country as they are provided in the annual report of the department of dental medicine of the C.B.H.S.S.J.B.

4.3.2 Waiting Periods

The waiting periods and the list of patients requiring treatment are an indication of the effectiveness of the dental clinic team in providing the essential services for the community. The lists can help determine whether the dental team services are sufficient or insufficient. That being said, it remains important to realize that at times, waiting lists become unmanageable and the only solution is to abandon the list to ensure that the patients with more severe dental disease are treated with the least possible delay. This eventually leads to a situation where patients are "lost in the cracks" and proper services are no longer rendered.
Prior to 1995, waiting lists were not maintained. In most villages, patients presented themselves at the clinics mostly out of their own interest to seek dental treatment. Since 1998, waiting lists have been put into effect and within 3 years there has been a dramatic increase from approximately 3 weeks to 11 months.
The waiting periods reviewed in the following table (Table 41) are regarding Basic and Sanative treatment. Basic treatment entails dental procedures such as direct restorations ("fillings"), extractions, etc. Meanwhile, Sanative treatment refers more to the appointments when patients receive an examination, "cleaning", hygiene instruction, fluoride treatment, etc.

Table 41: Delays In Receiving Dental Treatment

Village	Delays in Receiving Dental Treatment (months)	
	Basic	Sanative/Preventive
Chisasibi	10	12
Mistissini	7	12
Waskaganish	12	12
Waswanipi	9	12
Wemindji	10	12
Whapmagoostui	9	12
Ouje-Bougoumou	12	12
Nemaska	12	12
Eastmain	12	12
Average	**11 Months waiting time to receive treatment**	

A “normal” waiting time for Basic treatment in other areas of the province is approximately 4 weeks, while Sanative is usually rendered every 6-9 months.

When dealing with more specialized services or the need to have treatment performed by a dental specialist, the waiting periods are greater. For example, to receive orthodontic (“braces”), removable prosthetic (dentures) or endodontic (“root canal”) treatment with a specialist or denturologist, most patients have to wait 16-20 months. In addition, certain treatments are not available in most communities such as fixed prosthodontic (“caps” and bridges) and cosmetic/esthetic (veneers or bleaching) treatment.

4.3.3 Limitations of the Clinical Environment

Efficiency of the operation of a dental service team is limited in all villages by the physical layout of the dental clinics. The following table (Table 42) demonstrates the actual and required number of offices and dental clinic operatories (fully equipped treatment rooms) by considering the required staff, waiting lists, and evident dental services required in each community.

Table 42: Limitations of The Physical Settings

Village	Number of Offices Available/Required	Number of Chairs (operatory) Available/Required	Room for Expansion Yes/No
Chisasibi	4/9	3/8	N
Mistissini	3/7	3/6	N
Waskaganish	2/5	2/3	Y
Waswanipi	2/5	2/3	Y
Wemindji	0/5	1/3	N
Whapmagoostui	2/4	2/3	N
Ouje-Bougoumou	0/4	1/3	Y
Nemaska	0/4	1/3	N
Eastmain	0/4	1/3	N
Total	**13/47**	**16/35**	

4.4 Comparison of Clinical Services between Cree population and other First Nations

4.4.1 Background

The following section outlines and depicts certain relevant comparisons between the Cree population and other First Nations of the province of Quebec (eg: Algonquins, Mohawks, Hurons, Micmacs, Montagnais). Statistics for this comparison were obtained from two main sources: firstly the tabulated data from the dental medicine department collected throughout the Cree territory, and secondly from statistics collected from Health Canada: Non-Insured Health Benefits Division (specifically, the First Nations of the province of Quebec that are eligible for these direct federal benefits).

All the Native populations of the province of Quebec share multiple common traits. Among these are demographic components, social issues, historical background and cultural influences. That being said, it is much more indicative when comparing aspects of health services between populations that are similar in many respects. Similarly, one must also be aware of certain differences between these populations. Specifically, the demographic growth for the Cree populations is similar but still greater than the average growth of the NIHB-Eligible First Nations found throughout Canada.

Table 43: Population Growth: Cree vs. NIHB-Eligible First Nations (Canada)

Year	1986	1991	1996	2001
Cree Population	8792	10310	11370	14250 (app)
% Increase	0 %	▲ 17.27 %	▲ 29.32 %	▲ 62.08 %
NIHB-Eligible First Nation (Canada)	500 000 (approx.)	535 807	621 864	706 338
% Increase	0 %	▲ 8.61 %	▲ 24.32 %	▲ 41.28 %

Today we are dealing with the population of NIHB-Eligible Quebec First Nations that equals 51 593 (2001). This population has financial coverage for clinical dental services through the NIHB Program. Furthermore, it is also important to note that a portion of this population has access to dental services financial aide or coverage for dental health services through the R.A.M.Q. (majority of dental treatments for children under the age of 10, and social aide) as well as certain insurance companies (eg. SSQ, Aetna, Great West, Canada Life, etc.). This is an important detail to consider since just about the entire Cree population has access to clinical dental health services only through the C.B.H.S.S.J.B.(funded by the MSSSQ). Thus for the purpose of this exercise, the populations to compare are the following (approximated):

Cree:	**14 250**
NIHB-Eligible (Quebec):	**42 500**

Prior to the advent of the JBNQA (1975), health services, including dental, were similar if not identical between the populations in question. According to the Section 14.0.28 of the JBNQA, 'financial support for services which at least maintain existing scope, range, extent and conditions' was to remain the right of the Crees. Thus, the following comparisons are essential to ensure that a proper analysis of the present dental health services is completed.

4.4.2 The Profile of Clinical Services Provided: 'Cree vs. NIHB-Eligible(Quebec)'

For the purpose of determining the profile of dental health services provided within these two populations, the clinical services have been grouped into specific categories. This will permit for a valid comparison.

The following clinical dental services categories are to be compared between the two populations:

1. **Preventive Services:** These include complete and recall examinations usually at six month intervals, as well as prophylaxis dental polishing and fluoride treatment.

2. **Emergency Services:** The services of this category include emergency examinations and consultations. They are generally associated with advanced pain, infections, swelling, inability to eat, inability to sleep, etc. This category of service relates to the first or immediate service provided to a patient upon presentation to the clinic and for the vast majority include a initial intervention of a pharmaceutical nature such as pain-control and antibiotic medication prescriptions.

3. **Control of Severe Dental Disease:** This category includes services which are provided in the hopes of at the very least controlling the sequalae of the dental disease. Using the Pitts Classification, the patients presenting for this category of service have already attained the Class IV and treatment includes dental extractions (removing the tooth) or dental pulpotomy or pulpectomy (removing the nerve inside the tooth). It is important to note that this category of interventions should not be considered the final treatment in controlling the dental disease since the need to replace the tooth (with a bridge, denture, or implant) or the nerve (through root canal treatment) is paramount in eventually attaining sound dental health.

4. **Advanced Treatment Plan Services:** This category of clinical dental services includes services that are not always available in the Cree region due to tremendous waiting lists as well as other factors such as access to certain equipment, laboratory and specialist services. The actual services to be compared are dental prosthodontics (in this case crowns and bridges) and endodontic (root canal treatment), both of which are readily available for the NIHB-Eligible population.

The following table compares the four previous categories of clinical dental services for the two populations in question. The statistics associated with the CBHSSJB Department of Dental Medicine represents the services provided in the Cree territory where upon approximately 99% of the total Cree population resides. The statistics provided by the NIHB department include all treatments of that nature that were invoiced by private dentists and invoiced to the NIHB program. These statistics do not include the treatment of patients who, despite being NIHB-eligible, are covered by dental insurance. Thus, when comparing different categories of clinical dental services per capita, the figures are based on realistic calculations that represent the population which is benefiting from each respective dental service coverage.

Table 44 : Profile of dental clinic services "per capita"

Category		Crees (Dental coverage by the CBHSSJB and MSSSQ)		NIHB Eligible Quebec (Dental coverage by Health Canada)	
		No/1000	Evolution	No/1000	Evolution
1	**PREVENTIVE**				
	Complete Exam, recall	307.5	τ 3%	277.8	σ11.5%
	Prophylaxis	273	σ 2%	382.3	τ 2%
2	**EMERGENCY**				
	Emergency Exam and consultation	317	σ 9%	92.2	τ 2%
3	**SEVERE DENTAL DISEASE**				
	Pulpectomy, pulpotomy (permanent teeth)	23.8	σ 12%	6.3	σ 9.5 %
	Simple extraction	113.4	0%	62.7	τ5 %
	Surgical extraction	56.6	σ 11%	25.6	τ11 %
4	**ADVANCED TREATMENT PLAN SERVICES**				
	Crowns, Bridges (Number of units)	2.9	τ 7%	11.4	σ 8%
	Endodontics	16.9	τ 11%	26.7	σ 2%

It is evident that the profile of clinical dental services for the two populations are comparable when considering preventive clinical services but differ tremendously with regards to the other three categories. It comes as no surprise that the emergency and control of dental disease services (category 2 and 3) are significantly greater in the Cree population while the advanced treatment plan service (category 4) is significantly higher in the NIHB-eligible group.

4.4.3 Annual expenditures for clinical dental services per capita: cree vs. NIHB-eligible (Quebec)

Through the following calculations, the annual expenditures per capita may be determined and compared between the two populations. Annual expenditures from Health Canada for the NIHB-eligible First Nations of Quebec has been calculated as being $ 9 574 000 (NIHB Program Annual Report 2000-2001). This amount includes costs of services (dental treatments) provided by private dentists. These dentists are paid according to the act (fee for service). Limitations of services are determined by the patient's dental health needs and the norms established by the NIHB program.

Once again it is important to note that a portion of the NIHB-eligible First Nations has access to dental services that are financed through the R.AM.Q. and private insurance companies associated with employment. The annual expenditures do not include the cost of transportation to attain services neither the salaries of the employees that manage the NIHB expenditures, nor other related expenses.

The annual expenditures for dental services provided to the Cree population are not calculated according to fee for service but according to the sum of all salaries of dental staff as well as cost of equipment and supplies involved in dispensing the clinical dental services for the region. Limitations of services are determined by access to dental services (waiting period, equipment and physical limitations, human resources) and available professionals (speciality services).

Salaries of Dental Staff	1 750 000
Supplies and Equipment	300 000
Total Annual Expenditures	2 050 000

Thus for comparisons sake, we must convert these figures into 'per capita' ratios. This is seen in the following Table which indicates the portion of the respective population which benefits from the respective annual expenditures.

Table 45: Comparison of annual expenditures for dental clinic services. Crees vs NIHB Eligible (Quebec)

First Nations Quebec	Total Annual Expenditures	Beneficiary Population	Expenditures "per capita"
NIHB Eligible	9 574 000.00 $	42 500	225.00 $
Crees	2 050 000.00 $	14 000	146.00 $
Difference			**79.00 $**

From the above table, it is clear that a discrepancy exists between the two populations. The difference of annual expenditure per capita is equal to $ 79.00. Thus in order for the Cree population to attain the equivalent total annual expenditures, an additional 1 106 000 $ would be required in the Cree clinical dental services annual expenditures.

4.4.4 Waiting period to receive clinical dental services: Cree vs. NIHB-Eligible First Nations (Quebec)

It has been noted in the previous chapter that the average waiting time to receive basic clinical dental services, is in the range of 11-12 months for the Cree population. Moreover, this period has been shown to be steadily increasing over the past 3-4 years and the situation is no longer manageable. Access to more advanced treatment in most communities has become practically impossible. Thus the waiting period for these services can be considered indefinite at this time.

The general waiting period for NIHB-eligible First Nations patients, has been determined to be approximately 2-4 weeks for basic treatment. With regards to the advanced treatment, waiting periods have been calculated according to the delay between the date of submission of the predetermination (estimate) for a patient's clinical dental needs and the date of reception of the dental treatment invoice from a private dentist. We presume the delay is approximately 1-3 months.

4.4.5 Summary of comparison of services: Cree vs. NIHB-Eligible First Nations (Quebec)

It suffices to say that there exists an enormous discrepancy between the two populations at the levels of the profile of clinical dental services, financial expenditures, and access to clinical dental services. The results coincide with the findings of long waiting lists and demonstrate a great discrepancy with regards to scope, access, extent and conditions of dental health services. The need for intervention at these and other levels is paramount.

4.5 Urgent Issues to consider

During the process of completing the questionnaires and upon visiting the communities as described at the start of this section, certain issues were brought to the foreground for reflection and rapid rectification. The following points describe these particular issues that must be addressed with the least possible delay to ensure that the population will no longer continue to suffer.

4.5.1 Outdated Equipment

Older equipment is present in most of the nine communities. Some equipment date back to the 1970s. Despite the present technical service contract, the lack of emergency replacement equipment often indicates a significant decrease in efficiency and serious interruptions to

patients undergoing dental treatment. The physical distance between the communities and any technical service renders the situation very difficult

4.5.2 Insufficient Lodging

Over half of the communities have insufficient lodging to support an increase in dental manpower. This issue pertains to both housing of permanent staff and the transitory lodging for replacement or temporary staff.

4.5.3 Access to General Anaesthesia

It is becoming more and more difficult to have patients with extensive needs, receive dental treatment under general anaesthesia in certain hospitals. This issue is related to lack of hospital staff such as anaesthetists and nurses.

4.5.4 Petitions

In excess of 2000 petitions which represent approximately 6000 people have been accumulated throughout the communities. These documents have as their main request an increase in the dental services provided in their communities and a reduction in the waiting periods for such services.

4.6 Overall productivity in dental clinics

We have tabulated all the treatments rendered in the communities' dental clinics over the past 8 years. These data have been clearly demonstrated in the previous annual reports of the Department of Dental Medicine. The previous fiscal year's report includes detailed information regarding the dollar value per treatment rendered (theses values have been calculated based upon the Fee Guide for Dental Services of the Q.D.S.A., R.A.M.Q. and F.D.S.Q.). A summary of these findings includes:

1) Total number of appointments for treatment rendered is 16133.

2) Total number of patients seen during the Fiscal year is 6134

3) Total dollar value of treatments rendered is over $2 400 000.00 (Annex Statistics of Fiscal Year 2000-2001. Department of Dental Medicine)

CHAPTER V: RECOMMENDATIONS

5.1 Priority Indicators

(To consider)

1. Affects the General Health / Quality of Life
   eg: Early Childhood Caries, Biological Cost

2. Respect Cultural Values
   eg: Intervention by Native / Cree representatives

3. Best Possible Solution
   eg: Increasing number of dentists vs. transporting patients

4. Addresses the Equity in Dental Services with the other Regions of the province
   eg: Waiting lists, Access to Services

5. Impact on the whole of Eeyou Istchee
   eg: Reducing the Incidence of Dental Diseases

5.2 Specific Recommendations for the Public Dental Health

1. The deployment of a true public dental health team throughout the territory, with a native representative in each community. (Provide the necessary funds)

2. Give priority to interventions at the level of very young children and their families to succeed in diminishing the incidence of early childhood caries. (evaluation of early intervention)

3. Establish a process of evaluation for the activities in preventive dental services for validation purposes in the particular context of the region. Once validated, ensure the proper implementation of these activities into all communities of Eeyou Istchee. (Evaluation in Eeyou Istchee territory)

4. Augment the human resources related to prevention of dental disease and promotion of dental health through the department of public dental health. (eg: Increase in public health dentist, dental health representative and public health hygienist resources)

5. Put into effect the preventive strategies in dental health which respect the traditional and cultural aspect of Eeyou Istchee. (Consider the historical context / "Dr Pull")

6. Develop training programs to meet the needs of the public dental health representative in each community. (Dental Health Education)

7. Provide suitable information services to communities of Eeyou Istchee (ie. radio, newspaper, workshops, leaflets, newsletter, etc.).

8. Consider the agendas of the public health department, Community band councils, and CLSCs for the integration of the preventive dental services with other health or social issues. (eg: Multi-Departemental Meeting)

9. Be a leader in preventive dental services at an international level with regards to native/aboriginal populations. (Create International Website)

10. Implement a monitory system for the evolution of dental health of Cree children and the impact of the prevention activities. (Surveillance Plan)

11. Develop a curriculum, with emphasis on current technologies, to meet the specific needs of Eeyou Istchee with regards to the role of the public dental health representative. (eg: Teleconference for continuing education)

5.3 Specific Recommendations for the Dental Clinics

1. Provide the human resources required in the clinical environment that will satisfy the needs of each community of Eeyou Istchee. (eg: Increase in dentist, specialist, hygienist, assistant and receptionist resources)

2. Provide the material resources required in the clinical environment that will satisfy the needs of each community of Eeyou Istchee. (eg: Increase in dental chairs, equipment, etc.)

3. Ensure that each community of Eeyou Istchee is furnished with a full time and fully functional dental clinic with appropriate staff. (eg: Smaller villages full time dental service)

4. Ameliorate the dental department by reducing the waiting periods and introducing specialised services in all communities that are comparable with other regions. (2 to 4 weeks / G.A., orthodontist)

5. Install a developed statistical computerised system for the monitoring and management of clinical activities which may be used in comparison with other regions of the country (both native and non-native). (NIHB / Scheduling / Statistics / Internet / teledentistry)

6. Provide sufficient funding for the continuing education of all members of the dental department as a means to provide the best services to the population. (Dental conferences)

7. Implement a full time Dental Residency Rotation Program that will ensure the best possibilities in terms of recruitment. (eg: Chisasibi Pilot Project)

8. Recognise the administrative and non-clinical responsibilities of the chief dentist of the department.

5.4 General Recommendations for Dental Health

1. Provide sufficient funds for necessary services and projects that will ensure an equitable situation for the overall dental health of Eeyou Istchee. (equitable with province)

2. Promote Dental Health Careers for the native population. (eg: future native / Cree dentist)

3. Ensure better quality of dental service through the retention of all permanent employees and improvement of work conditions. (eg: retention/installation premiums)

4. Provide the necessary lodging to accommodate the increases in human resources. (Permanent / transit housing)

5. Foresee providing the necessary increases in resources to accommodate the likely increase in needs for Eeyou Istchee. (The future needs will increase with regard to demographic situations)

ANNEXES

ANNEX 1 : Pilot project workbook of hygienists who colected data

(Available upon request)

ANNEX 2: Questionnaire for Parents of Children 12-24 months

Are you the primary caregiver (primary responsible for caring for the child) ?

No :	2	3 %
Yes :	60	75 %
No response :	17	21 %

Is your child bottle fed ?

No :		33	42 %
Yes :		45	57 %
No response :		1	1 %
If No	-Breast only :		0
	-Cup only :	15	45 %
	-Mixed (breast and cup) :	18	55 %
If Yes	-Exclusively bottle fed :	2	4 %
	-Mixed (breast and bottle fed) :	8	18 %
	-Mixed (cup and bottle fed) :	35	78 %

What is most often in the bottle ?

Milk only (all types of milk) :	29	37 %
Juice (e.g. : orange, apple, etc.) :	2	3 %
Milk or juice :	11	14 %
Milk or water :	3	4 %
No response :	34	43 %

How many times does your child drink from a bottle per day ?

Once :	7	9 %
Twice :	10	13 %
3 times :	13	16 %
4 times & more :	15	19 %
No response :	34	43 %

Have you ever given your child the bottle when you put him/her to bed ?

No :	7	9 %
Yes :	36	45 %
No response :	36	45 %

If yes, do you do this now ?

No :	1	3 %
Yes :	34	94 %
No response :	1	3 %

How often in a week do you put your baby to bed with the bottle ?

Every day :	28	35 %
Not every day :	3	4 %
No response :	48	61 %

If no, how old was your baby when you stopped this practice ?

12 months :	3	4 %
No response :	76	96 %

How often in a week did you put your baby to bed with the bottle ?

O times :	1	1 %
9 times :	5	6 %
No response :	73	93 %

Presently giving child a bottle at night what do you put in the bottle ?

Milk (all types) :	30	38 %
Juice :	4	5 %
No response :	45	57 %

Approximately how long does your child have the bottle each time ?

Less than 15 min. :	6	6 %
15 to 30 min :	25	32 %
More than 1 hr :	1	1 %
No response :	47	60 %

Used to give child a bottle at night. What did you put in the bottle ?

Milk (all types) :	3	4 %
Juice :	1	1 %
No response :	75	95 %

How long did you leave the bottle with your child?

Less than 1 hour :	2	3 %
No response :	77	97 %

How many times does the child eat (liquid or solid) per day ?

times or less :	60	76 %
7 times or more :	19	24 %

Does your child use a pacifier ?

No :	57	72 %
Yes :	20	25 %
Sometimes :	1	1 %
No response :	1	1 %

Do you regularly dip your child's pacifier into something when she/he uses it ?

No :	19	24 %
No response :	60	76 %

Did your child have to use prescribed medication(s) for health problems, at least more than 3 times during the previous year ?

No :	44	56 %
Yes :	26	33 %
No response :	9	11 %

If yes, what medication(s) ?

Antibiotic :	9	35 %
Anti-inflammatory :	2	7 %
No response :	15	58 %

If yes how many times ?

3 to 5 times :	10	38 %
5 to 10 times :	3	12 %
10 times and more :	5	19 %
No response :	8	31 %

Were his/her teeth brushed or cleaned before going to bed last night ?

No :	45	57 %
Yes :	26	33 %
No response :	7	10 %

Did she/he drink or eat before going to bed last night ?

No :	2	3 %
Yes :	73	92 %
No response :	4	5 %

If yes, what did your child eat or drink ?

Juice :	8	11 %
Bottle / breast :	55	75 %
Water :	1	1 %
Fruits :	1	1 %
Cariogenic :	8	11 %

Do you use toothpaste to clean your child's teeth ?

No :	28	35 %
Yes :	48	61 %
No response :	3	4 %

Does your child take vitamins with fluoride ?

No :	46	58 %
Yes :	24	30 %
No response :	9	12 %

If yes, what are they?

Trivisol :	12	50 %
Flinestone :	1	4 %
No response :	11	46 %

Does your child take fluoride supplements ?

No :	52	66 %
Yes :	9	11 %
No response :	18	23 %

If yes, what type?

Solid :	3	33 %
Liquid :	6	67 %

What is the main source of water for you child ?

Tap water :	18	23 %
Bottled water :	21	27 %
Spring water :	33	42 %
No response :	7	8 %

For the parents : When was the last time you consulted a dentist ?

Less than 1 year :	54	68 %
Between 1 and 2 years :	9	11 %

More than 2 years :	12	15 %
No response :	4	5 %

The last time you vent to the dentist, did you need to get your teeth repaired ?

No :	12	15 %
Yes :	58	73 %
No response :	9	12 %

If yes what treatments ?

Filling :	25	43 %
Extraction :	9	16 %
Denture :	2	3 %
Cleaning/exam :	22	38 %

Are the child's teeth brushed ?

No :	11	14 %
Yes :	63	80 %
Sometimes :	5	6 %

If yes, the brushing is done by:

The child :	3	5 %
Another person :	35	56 %
One or the other :	15	24 %
No response :	10	16 %

How many times per week are the child's teeth brushed ?

0 to 7 times / week :	31	39 %
Less than once a day :	1	1 %
Once a day :	23	29 %
2 times or + a day :	10	13 %
No response :	14	18 %

Has the child already visited the dentist's ?

No :	70	89 %
Yes :	8	10 %
No response :	1	1 %

If yes, for what reason ?

Routine :	2	25 %
Emergency :	2	25 %
Filling :	1	12 %
No response :	3	38 %

ANNEX 3 : Pitts's Classification For Decay

Specific criteria (Pitts)

CRITERIA FOR DIAGNOSING CARIES THROUGH THE FULL RANGE OF LESION DEVELOPMENT (THE "D1-D3"SCALE)
DIAGNOSIS THROUGH THR FULL RANGE OF CARIES (THE "D1-D3"SCALE): **0.** Surface Sound**. No evidence of treated or untreated clinical caries (slight staining allowed in an otherwise sound fissure).** D1. **Initial Caries**. No clinically detectable loss of substance. For pits and fissures, there may be significant staining, discoloration, or rough spots in the enamel that no catch the explorer, but loss of substance cannot be positively diagnosed. for smooth surfaces, these may be white, opaque areas with loss of luster. D2. **Enamel Caries**. Demonstrable loss of tooth substance in pits, fissures, or on smooth surfaces, but no softened floor or wall or undetermined enamel. The texture of the material within the cavity may be chalky or crumbly, but there is no evidence that cavitation has penetrated the dentin. D3. **Caries of dentin**. Detectably softened floor, undermined enamel, or a softened wall, or the tooth has a temporary filling . On approximal surfaces, the explorer point must enter a lesion with certainty. D4. **Pulpal involvement**. Deep cavity with probable pulpal involvement. Pulp should not be probed. (Usually included with D3 in data analysis.)

ANNEX 4: Dental Consultation with Eeyou Istchee with regards to the recommendations

NEMASKA

From Bertie Wapachee

Get the Board of Directors to priorize Dental Health by resolution and request to present this issue to the section 14 table ASAP. MSSSQ should put some funding for start-up costs. Negotiate with MSSSQ to bring in more dentists in the first 5 years to try and stabilise the situation and establish prevention campaigns.

From Brenda V. Jolly

Sell toothbrushes at the store
Educate parents
Show Kid Dental Disease

From Kristy Mettaweskum

I think it is very important to inform young mothers of how it is important not give young infants something sweet and to make sure they brush their child's teeth and a young age. It is also important not to give sweet drinks in the baby's bottle.
We have a dental health program where the students brush their teeth daily, sometimes it would be better for the students to brush their teeth at home because they should learn to brush right after they ate.
May be also some students or patients think because the students already brush their teeth at school, they don't need to brush their teeth at home any more.
Having your child learn to brush their teeth regularly is a parent's responsibility.

CHISASIBI

From Juliana Snowboy

- More staff, expand dental clinics (bigger)
- Dental personnel should be hired to give information on dental health.
- Concentrate on prevention and awareness (such as prevention programs, information sessions developed for parents) rather than having these activities developed by the CHR's who are not part of the dental program.
- Young parents be given more information on Baby Bottle Tooth Decay.
- Dental Health should be made a priority and become part of every visit to the doctor.

- Make more pamphlet distributed in the Community via Mail, Radio, Posters
  - 1) simple ones (not too long, just enough info.)
  - 2) More info. (Detailed and pictures)
- Monthly programs on Radio
  - 1) Inform people of seriousness of the problem
  - 2) Sending to radio announce information- facts- statistics.
- Give info through prenatal classes.
- Home visits for pregnant mothers at least 1 / month prior to delivery.
- Inform mothers that pacifiers are better than bottles with milk at bedtime.
- Inform parents that they should take turns in brushing children's teeth
- Prevention programs within schools.
- Give parents training cups? Instead of jojo bottle.
- Sell toothbrush, toothpaste, etc. at lower prices.
- Grocery store : Increase in veggies, fruits, replace junks food.
- Promotion campaigns, radio, Nation special features on dentistry using quotes from the report along with more statistics again outline impact on the young generation and the community.
- Social problems is a greater issue than dental disease.
- Do presentations to local health and social Committees.

MISTISSINI

From population

- Dental hygienists should be serving one community only.
- Dental Hygienists should be consider to hold that position for at least 4-5 years.
- Dental Assistants should be consider to hold that position since they are all natives assistant.
- Dental assistant to work with Dental Hygienists.
- To establish for working group to promote the problem in community.
- Use radio for information, prevention.
- Put pressure on the C.H.B. to established a larger dental clinic for larger communities.

ANNEX 5: Bibliography

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ANNEX 6: Questionnaire autour de la réalité dentaire clinique: Indicateurs de besoins

(Voir résumé de la compilation dans Annexe No 7)

A-Informations générales

1. Nom du village:
2. Population du village: Réf. Document # 1 (tableau de population démographie):
3. Nombre de chaises/salles d'op:
4. Salle d'attente (partagée/exclusive):
5. Appareil de radio (intra-oral/Panoramique/Céphalique):

B-Personnel / Ressources humaines

1. Nombre de dentistes (permanents) effectif:
2. Nombre d'hygiéniste dentaires effectif:
   Clinique
   Santé Publique
3. Nombre d'Assistantes dentaires :
4. Nombre de Réceptionnistes, Commis:

*5. Autres: (ex: Spécialistes)

C-Roulement clinique

1. Dentiste
   a. Permanent:
      Travail clinique_____jours/année.
      Travail administratif_____hrs/sem.
      Autre (eg: nombre de visites par année dans ce village)
      Journées voyagées pour rendre au village_____jours/an

   b. Remplaçant (résident):
      Travail clinique_____jours/année.
      Travail administratif_____hrs/sem.
      Autre (eg: nombre de visites par année dans ce village)
      Journées voyagées pour rendre au village_____jours/an

   c. Endodontiste:
      Travail clinique_____jours/année.
      Travail administratif_____hrs/sem.
      Autre (eg: nombre de visites par année dans ce village)
      Journées voyagées pour rendre au village_____jours/an

   d. Denturologiste:

Travail clinique_____jours/année.
Travail administratif_____hrs/sem.
Autre (eg: nombre de visites par année dans ce village)
Journées voyagées pour rendre au village_____jours/an

e. Chirurgien B.M.F.
Travail clinique_____jours/année.
Travail administratif_____hrs/sem.
Autre (eg: nombre de visites par année dans ce village)
Journées voyagées pour rendre au village_____jours/an

f. Orthodontiste:
Travail clinique_____jours/année.
Travail administratif_____hrs/sem.
Autre (ex: nombre de visites par année dans ce village)
Journées voyagées pour rendre au village_____jours/an

2. Hygiéniste Travail clinique_____jours/année
Travail Santé Publique_____jours/année
Autre (ex: nombre de visites par année dans ce village)
Journées voyagées pour rendre au village_____jours/an

3.Listes d'attente de patients (en mois/semaine/nombre de patients)

a. Avec Dentiste:
b. Avec Hygiéniste (pour traitement d'hygiène):
c. Spécialistes i. Endo:
ii. C.B.M.F.:
iii. Ortho:
iv. Prostho. Amov.
v. Anesth. Gen.
d. Autres Listes: (ex: Urgence/Antibiotiques)

D-Productivité des Ressources Actuelles: Dentistes, Hygiénistes, Assistantes, Réceptionnistes, Spécialistes Réf. document # 2 (Rapport annuel 99-00)

Profil des soins dispensés: Donner la moyenne de nombre d'heures minimum requises pour chaque patient /année selon les groupe d `age suivant.

1. 2-10ans (considérant tx avec sédation, taux de caries est 5X la moyenne du reste de la province, patient a risque 80%, caries de biberon, difficulté. de comportement, etc.)
___hrs/annees

2. 11-20ans (Considérant dentition permanente, dent.op., rappels, spécialistes en ortho, etc,)

___hrs/annees

3. 21+ (considérant incidence de paro., d.o., spécialistes en C.B.M.F., endo, etc.)

___hrs/annees

4. Moyen (2ans et plus)

___hrs/années

E-Votre perceptions du besoin d'augmenter les ressources humaines

But: dispenser les services selon les normes trouvés dans d'autres régions du pays

(c.a.d.: listes d'attentes, accès aux services spécialisés, etc.)

1-Dentistes effectifs (minimum requis):___ Hrs/sem
2-Hygiénistes effectifs (minimum requis) : Clinique:
Santé Publique:
3-Assistante (minimum):
4-Réceptionniste (minimum):

F- Votre perception du besoin d'augmenter les ressources mécaniques (équipements):

But: améliorer et augmenter le roulement clinique

1-Salle d'op: (Chaise , Instruments a main (kits complètes), lampes, chaise de dentistes et assistante, etc.)
2-Pièces a Mains:
3*-Equipement dépanneur: (ex:. Statim/autoclave, compresseur, Machine/ pompe salive, etc.)
4*-Autres:

ANNEX 7 : Compilation des données du Questionaire autour de la réalité clinique dentaire: Indicateurs de besoins

The following table is the summary from a compilation of questionaires distributed to each of the villages providing dental services to the population of Region 18
*: REFER TO DOCUMENT (Questionnaire Autour la Réalite Clinique Dentaire, Indicateur de Besoins)

Quetion⇓ A-1. name	**Chisasibi**	**Mistissini**	**Waskaganish**	**Waswanipi**	**Wemindji**	**Whapmagoostui**	**Ouje-Bougoumou**	**Nemaska**	**Eastmain**	**Total**
A-2. Popultn	3821	3047	2278	1657	1352	789	657	642	623	14217
A-3. #operat	3	3	2	1	1	2	1	1	1	15
A-4. Salled'atP/E	P	P	E	P	P	E	P	P	P	
A-5 #radio.	5	3	2	1	1	1	1	1	1	16
B-1. #d.m.d	2	2	.70	.70	.70	.5	.30	.30	.30	7.5
B-2.* #hygien.	1 Hygienist for coastal villages and 1 Hygienist for inland villages									2
B-3. #assist	2	2	1	.75	.75	.50	.25	.20	.25	9.20
B-4. #recept.	1	.5								
B-5.* special	Oral maxillofacial Surgeon (4 visits total/year), Endodontist (2 visits for coastal communities/ year), Denturologist (3 visits in coastal communities/ year), Orthodontist (16 visits total/year)									
C-1.a. dmd trav clin jrs/annee	415	365	165	95	105	102	40	55	40	1382
trav adm hrs/sem	30	10	17	10	5	5	10	15	7	104
#visit/an	-	-	-	-	-	-	8	8	8	24
jrs voya	8	8	12	14	13	12	8	8	8	91
C-1.b. dmdrem trav clin jrs/anne	120	140	50	70	85	45	40	5	40	595
trav adm hrs/sem	5	5	3	2	2	2	2	3	2	26
#visit/an	6	7	4	3	4	4	2	2	1	33
jrs voya	12	14	8	6	8	8	4	4	2	66

Quetion⇓ A-1. name	**Chisasibi**	**Mistissini**	**Waskaganish**	**Waswanipi**	**Wemindji**	**Whapmagoostui**	**Ouje-Bougoumou**	**Nemaska**	**Eastmain**	**Total**
C-1.c. Endo trav clin jrs/annee	10	-	-	-	-	-	-	-	-	10
trav adm hrs/sem	4	-	-	-	-	-	-	-	-	4
#visit/an	2	-	-	-	-	-	-	-	-	2
jrs voya	4	-	-	-	-	-	-	-	-	4
C-1.d. denturo trav clin jrs/annee	20	-	12	-	7	8	-	5	6	58
trav adm hrs/sem	4	-	6	-	4	2	-	3	4	23
#visit/an	3	-	3	-	3	3	-	3	3	18
jrs voya	6	-	6	-	6	6	-	6	6	36
C-1.e. OMFS trav clin jrs/annee	6	6	-	-	-	-	-	-	-	12
trav adm hrs/sem	2	2	-	-	-	-	-	-	-	4
#visit/an	2	2	-	-	-	-	-	-	-	4
jrs voya	4	4	-	-	-	-	-	-	-	8
C-1.f. ortho trav clin jrs/annee	32	32	-	-	-	-	-	-	-	64
trav adm hrs/sem	5	5	-	-	-	-	-	-	-	10
#visit/an	8	8	-	-	-	-	-	-	-	16
jrs voya	16	16	-	-	-	-	-	-	-	32
C-2. Hygien trav clin jrs/annee	50	50	5	1	1	7	1	1	1	117
trav adm hrs/sem	160	160	10	8	7	7	4	4	3	364
#visit/an	-	-	2	2	2	2	2	2	2	14
jrs voya	12	12	4	4	4	4	2	2	2	46

Quetion⇓ A-1. name	**Chisasibi**	**Mistissini**	**Waskaganish**	**Waswanipi**	**Wemindji**	**Whapmagoostui**	**Ouje-Bougoumou**	**Nemaska**	**Eastmain**	**Total**
C-3.a. list atent dds mois	10	8	6	8	5	3	5	9	8	62
b. hyg moi	11	3	3	3	3	2	4	4	3	36
c.i Endo#pt	40	-	2	-	12	6	-	?	3	33
c.ii Omfs#pt	22	40	3	5	6	10	5	2	4	97
c.iii Ortho#pt	18	35	4	16	16	32	10	1	1	133
c.iv Dentr#pt	20	3	11	1	5	8	1	2	4	55
c.v. a.g.#pt	4	15	10	2	8	15	1	6	5	61
d.* Autr#pt	Replacement List (total):218 Emergency /AntibioticList (total):121									
D-1. hrs/anee 2-10yrs	6-7	5	8	9	6	5	8	9	6	
D-2. 11-20yrs	5-6	5	12	9	7	5	8	13	7	
D-3. 21+	4-6	6	10	7	6	6	7	11	6	
D-4. moyen	6	5	10	8	6	6	7	11	6	Moyen 7.5
E-1. Perceptn #dmd	2.5	3	1.5	1	1	.75	.75	.66	.5	11.66
E-2 #hyg c/s.p.	1/1	1/1	.5/.5	1/.5	.5/.5	.25/.25	.25/.25	.25/.25	.25/.25	5/4.5
E-3. #assist	2	2	1.5	1	1	.75	.75	.66	.5	10.166
E-4. #recept	1.5	1	.5	1	1	.25	.25	.25	.25	6
F-1. Equip ↑#sal op	+1	+1	+1	+1	+1	0	0/+1	0/+1	0	+6
F-2. ↑Turbin	+2	+2	+2	+2	+2	+2	+1	+1	+2	+16
F-3.* Equip depanur	Compresseur/Suction, Lampe, Lampe a Polymerization, Ultrasonic/Prophyjet, Developpeur de Radio, Statim									
F-4.* Autre	Panoramic Radiograph, Quantec									

P/E: P=Partagee, Shared, E=Exclusive
c/s.p: clinique/sante public

ANNEX 8: MSSSQ Questionnaire Regarding Dental Services

A-General Information

1. Village:
2. Dentist:
3. Dental Assistant:
4. Receptionists:

B-Personnel

		Actual	Required for best efficiency
1. No. of dentists effectif:			
2. No. hygienists :	Clinic	__	__
	Pub. H.	__	__
3. No. of Assistants :		__	__
4. No. of Receptionists:		__	__
5. No. of CHRs:		__	__

Have or are you, in any way, involved in the training of the Community Health Representatives:

Have you or could you visit your community school to discuss prevention?

C-Patients:

1.Waiting Lists (in months / weeks / no. of patients)
   a. For Operative Dentistry:
   b. For Recalls / Sanative:
   c. Endo:
   d. Oral Surgery:
   e. Ortho:
   f. Removable Prostho.
   g. General Anesth.
   h. Fixed Prostho:
   i. Other : (ex: Emergency/Antibiotics)

Missed or Cancelled Appointments (DNA):

1. What is the percentage of missed or cancelled appointments in your community?

2. Do you have a list of patients that can be reached at the last minute? If yes how do you reach these patients? Please send a copy of the list

D- Equipment:

If you have indicated a need to increase the number of operatories during the previous investigation, would there be enough space in the present clinic for such an increase?

Please list the equipment presently at your disposal:

1-Number of operatories: (Chair, Hand Instruments, curing lights, dentist and assistant, etc.)

2-Handpieces:

3-Large Equipment: (ex:. Statim/autoclave, compressor, Suction, etc.)

4-Other:

Suggestions:

ANNEX 9: Compilation of Data from " MSSSQ Questionnaire Regarding Dental Services"

Department of Dentistry (01-10-01)

This document is presented to the C.P.D.P. of the C.B.H.S.S.J.B. for revision and recommendations to the Board of Administration. Furthermore, this information may be included in any resolutions by the board regarding the increase and improvement of dental services for the region.

The following table is the summary from a compilation of questionnaires distributed to each of the villages providing dental services to the population of Region 18
*: REFER TO DOCUMENT (MSSSQ Questionnaire regarding Dental Services)

Question⇓ A-1. name	**Chisasibi**	**Mistissini**	**Waskaganish**	**Waswanipi**	**Wemindji**	**Whapmagoostui**	**Ouje-Bougoumou**	**Nemaska**	**Eastmain**	**Total**
B-1. #d.m.d Actual/ Require	2/ 3	2/ 3	.70/ 1.0	.70/ 1.0	.70/ 1.0	.5/ 1.0	.30/ 1.0	.30/ 1.0	.30/ 1.0	7.5/ 15
B-2.* #hygien-clinic Actual/ Require	0.25/ 1.0	0.25/ 1.0	0.25/ 1.0	.04/ .50	.04/ .50	.04/ .50	.04/ .50	.04/ .50	.04/ .50	1.0/ 6
B-2.* #hygien-santepubActual/ Require	0.50/ 1.0	0.45/ 1.0	0.45/ 1.0	.10/ .50	.10/ .50	.10/ .50	.10/ .50	.10/ .50	.10/ .50	2.0/ 6
B-3. #assist Actual/ Require	2.0/ 4.0	2.0/ 4.0	1.0/ 1.5	.70/ 1.0	.70/ 1.0	.50/ 1.0	.30/ 1.0	.30/ 1.0	.30/ 1.0	7.8/ 15.5
B-4. #recept. Actual/ Require	1.0/ 2.0	0.5/ 1.5	0/ 1.0	0/ 1.0	0/ 1.0	0/ 1.0	0/ 1.0	0/ 1.0	0/ 1.0	1.5/ 10.5
C-1.a. list attent op/dent (mois)	10	7	12	9	10	9	12	12	12	10.5
b. hyg/ recalls (mois)	12	12	12	12	12	12	12	12	12	12
c. Endo #pt:mois	40/ 10+9	45/ 7+3	10/ 12+9	2/ 9+2	5/ 10+9	6/ 9+9	2/ 12+2	4/ 12+9	7/ 12+9	131/ ~17

Question⇓ A-1. name	**Chisasibi**	**Mistissini**	**Waskaganish**	**Waswanipi**	**Wemindji**	**Whapmagoostui**	**Ouje-Bougoumou**	**Nemaska**	**Eastmain**	**Total/ Averag**
d OMFS #pt:mois	22/ 9	40/ 9	8/ 9	5/ 9	4/ 9	8/ 9	5/ 9	2/ 9	4/ 9	98/ 9
e Ortho #pt:mois	18/ 10+8	35/ 7+12	3/ 12+8	9/ 9+12	6/ 10+8	18/ 9+8	6/ 12+12	1/ 12+12	1/ 12+12	97/ ~21
f Denturo#pt: mois	20/ 10+4	3/ 7+1	7/ 12+4	2/ 9+2	5/ 10+4	8/ 9+4	1/ 12+1	4/ 12+4	4/ 12+4	54/ ~12
g. G.A. #pt:mois	4/ 14	15/ 12	7/ 14	6/ 12	4/ 14	15/ 14	3/ 12	4/ 14	5/ 14	63/ ~13
i.* Autr#pt	Replacement List (total):378 Emergency /Antibiotic list (total):181									
Increase in # of operatories	+2	+2	+1	+1	+2	+1	+1	+1	+1	+12
Addition of Handpieces	+6	+6	+6	+4	+4	+4	+2	+2	+2	+36
Back-up Equipment	Compressor/Suction, Overhead lamp, Polymerization light, Ultrasonic/Prophyjet, Radiograph Developer de Radio, Statim, Autoclave									
Need for Pano-cephalo radiogra	no	yes	yes	yes	yes	yes	no	yes	yes	+7
Require # of Desktop/ Laptop comp.	2/ 5	2/ 5	2/ 3	2/ 2	2/ 2	2/ 2	1/ 2	1/ 2	1/ 2	15/ 25

The following are other suggestions that were proposed by the majority of the community dental clinics:

1 - Waiting rooms with recent and applicable Audio-Visual material (ie. Television, VCR, Tapes, Cassettes, etc.)

2 - Modern filing systems and cabinets

3 - Dental Clinic Computer software (re: scheduling, pt filing, intraoral digital photography, and radiology)

4 - Digital Cameras

5 - Recurrent Budgets for Dental Staff Training Programs

6 - Recurrent Budgets for Auxiliary staff during administration of sedative medication

7 -Recurrent Budgets for Dental Specialists: Endodontist
Pedodontist
Periodontist

8 - Facilities for Dental Treatment under General Anaesthesia

9 - Recurrent Budget for High Technology equipment

10 - Air Conditioning and Evacuation systems

11 - Recurrent Budget or Alteration of existing "Entente" regarding:
A: billing time for administrative activities/duties
B: ability to work weekends if the dentists only occasionally visiting certain communities dentists

12 - Recurent budget for Residency Rotation Program.

ANNEX 10 : Dental Department Statistics comparison, CBHSSJB: 2000-2001

ANNEX 11 : Quebec Statistical Comparison for Dental Treatments (01-04-99 to 31-03-00, 01-04-00 to 31-03-01)